

GIFT

# **Sustainable Development and Livelihood in Selected River Basins of Bangladesh**

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**449959**

A Thesis Submitted to the University of Dhaka in accordance with  
the requirements for the degree of Doctor of Philosophy (Ph.D.)

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## DECLARATION

This thesis has not previously been submitted in whole or in part to any other University or Institute for the award of any degree. The thesis is the result of my own investigation, except where otherwise stated. A bibliography has been appended.

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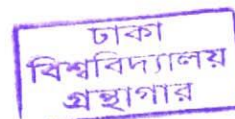
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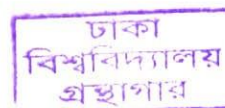
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## ABSTRACT

Despite decades of development interventions, especially by the non-governmental organizations (NGOs) in the '*char*' (the lands located in active river basins) areas, there has not been adequate evidences of any significant large scale change in the status of 'vulnerability' of the *char* dwellers (Ericksen, Ahmad, and Chowdhury, 1993; Haque and Zaman, 1994; Hutton and Haque, 2004; Edgeworth and Collins, 2006, Hassan 2000). In order to understand the problem, this thesis seeks to provide an insight into the 'consequences' of selected NGO interventions in terms of their 'implications' for 'sustainable livelihood' (SL) and 'sustainable development' (SD). Here, SL refers to livelihoods which can cope with and recover from stress and shocks; livelihoods which maintain or enhance capabilities and assets, simultaneously, contribute to all aspects of short and long term capabilities at the local level. SD indicates positive outcomes of the selected asset enhancement and vulnerability reduction interventions, in terms of SL, that are maintained over time and space. Moreover, the study attempts to reveal the extent to which the interventions are relevant to people's choices.

In more specific terms, the main objectives of the study are to-

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1. Identify and explain the field level realities in the studied *char* communities in terms of settlement and displacement, observed unique changes, trends in government, NGO, and other interventions, assets and vulnerabilities;
2. Assess the 'consequences' and 'implications' of the development interventions (selected asset enhancement and vulnerability reduction interventions) in terms of SL and SD, and
3. To reveal the 'topicality' of the interventions and people's priorities.

Particular interventions of *Chars* Livelihoods Programme and River Basin Programme were studied in a river *char* (RC) community named Pepulia, located in Fulchhari Union at Fulchhari Upazila in Gaibandha District. Likewise, in *Char* Wadel

which is a river estuarine *char* (REC) community in Nazirpur Union at Bauphal Upazila of Patuakhali District, interventions of Specially Targeted Ultra Poor (STUP) programme of BRAC and Disaster Preparedness and Rehabilitation Management (DPRM) project of SLOPB were studied.

In the present time, ensuring SL is considered to be the way of ‘reducing vulnerability’ of the people living in the realities of RC and REC areas. In this context, ‘Sustainable Livelihoods Approach’ (SLA), based on the ‘Sustainable Livelihoods Framework’ (SLF) is considered, not only as a comprehensive way of thinking about the objectives, scope and priorities for development, but also as a tool for analyzing situations and assessing the likely impact of project interventions. In contrast to this a good number of limitations of the SLAs has been identified by recent scholars (e.g. Scoones, 2009; Norton and Foster 2001; Ludi and Slater, 2008; Cleary, 2003; Albu and Scott, 2001; Tanner, *et al.* 2006; Norfolk, 2004; Barnett, 2005). Accordingly, to attain the objectives of the study, using the major elements of the SLF, an operationalized conceptual framework named ‘Sustainable Livelihoods at the Local Level’ (SLLL) has been developed and used for empirical investigation in the study.

The study relies predominantly on qualitative methods and these data has been collected using community profiling, focus group discussions (FGDs), key informant interviews (KIIs), household (HH) level interviews, observations, and case studies. The questionnaire survey has generated quantitative data to supplement the qualitative findings. In this way, the use of both qualitative and quantitative tools and data has been used in a complimentary way to provide a basis for a more thorough understanding of the research queries.

The central argument of the study is that the interventions targeted to SL through ‘enhancing asset base’ and ‘reducing vulnerability’ of *char* dwellers are leading to mixed consequences, both positive and negative, and are leading to temporary and transient solutions only to some of the problems of a small number of beneficiaries. They are neither leading to any substantial ‘SL solution’ for the majority of the people nor to a ‘SD solution’ towards ‘enhancement of asset-base’ and ‘reduction of vulnerabilities’. For a few HHs, the study demonstrates that the interventions result in ‘asset-base enhancement’ and ‘vulnerability reduction’ to some extent. For others, the interventions work merely as a safety net leading to temporary solutions to the targeted problem. The findings of the study also reveal that a number of critical issues



are vital for consideration in order to improve the efficiency of development interventions in terms of SL and SD. These include the following-

- Intervention characteristics i.e. type, duration, frequency, intensity and topicality;
- Simultaneous interventions from different agencies and partnership or collaboration among different organisations (public, NGO, private, etc.);
- Community level realities in terms of cultural norms and practices, existing opportunities and vulnerabilities;
- HH level experiences, expertise, assets and vulnerabilities; mind set of the HH head as the main decision maker and determinant of HH level behaviour;
- Natural and social disasters and vulnerabilities due to disasters, lack of accessibility and absence of assets as sources of HH level vulnerabilities and
- Interactions between the HH and community level cultural factors.

Besides the identification of the abovementioned crucial issues for consideration, the study also recommends specific measures for better delivery of interventions based on principles such as people-centred, context specific interventions, responsive and participatory, multi-level, conducted in partnership, sustainable and dynamic.

Drawing on the experience of the application of the operationalized framework (SLLL), the study further revises and modifies the framework with a view to provide a more comprehensive framework, namely 'Understanding Sustainable Livelihood and Development at the Community Context' (USLDCC) which provides food for thought for future studies on the subject.

The study's practical significance lies in the fact that it provides an indepth understanding of 'implications', 'consequences' and 'sustainability of consequences' of selected NGO interventions in the *char* areas and offers a key to better development practice along with the USLDCC framework and clues on future research with respect to SL and SD.

## **ACKNOWLEDGEMENTS**

I have accumulated an enormous debt of gratitude to many individuals for their various contributions to the success of my research, and also to this thesis. My feelings, at this point, are overwhelming. Many remain unnamed for the sake of brevity alone. However, I do hope that they will accept my sincere gratitude, because they know who they are.

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The data for this study was collected between 2007 and 2010 in the *char* communities of Kurigram, Gaibandha, Bagerhat, and Patuakhali districts. Final data collection was conducted in *Char* Wadel in the Nazirpur Union of Bauphal Upazila of Patuakhali District and Pepulia in the Fulchhari Union of Fulchhari Upazila of Gaibandha District where some of the most vulnerable and assetless people reside. I am especially grateful to all the women and men living in these communities, for their tolerance and generosity, and wish to thank them for the willingness with which they answered my questions and helped to build my understanding. I convey my heartfelt thanks to the UP Chairman, UP members, local elites, and villagers who helped me by providing information as key informants. I also extend my sincere thanks for the help I enjoyed from many employees of SKS Foundation, Stichting Land Ontwikkelings Project Bangladesh (SLOPB) and BRAC and some of the Government Officials. My appreciation goes to those associated with the arrangement necessary for the research.

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I feel somewhat embarrassed at this point, because this thesis contains many references of shortcomings of the studied interventions of the selected programmes and projects. Such criticism may be considered as inappropriate on my part while I benefited enormously from them. Yet, I decided to be probing and truthful about the realities. I avoided diplomacy while writing the thesis and tried to depict a sincere and authentic picture of what I understood during field study. In no way do my field discoveries diminish my personal debt to the employees of the project implementing NGOs.

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*Shuchita Sharmin*

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## **LIST OF ACRONYMS**

|            |                                                                            |
|------------|----------------------------------------------------------------------------|
| AC (Land)  | Assistant Commissioner (Land)                                              |
| AIDS       | Acquired Immune Deficiency Syndrome                                        |
| ATP        | Asset Transfer Programme                                                   |
| BBS        | Bangladesh Bureau of Statistics                                            |
| BCCSAP     | Bangladesh Climate Change Strategy and Action Plan                         |
| BRAC       | Bangladesh Rural Advancement Committee                                     |
| CARE       | Cooperative for Assistance and Relief Everywhere                           |
| CBACC-CF   | Community Based Adaptation to Climate Change through Coastal Afforestation |
| CBO        | Community Based Organization                                               |
| CCDB       | Christian Commission for Development in Bangladesh                         |
| CCSLR      | Climate Change and the Sea Level Rise                                      |
| CDO        | Community Development Organiser                                            |
| CDS        | Community Development Supervisor                                           |
| CDSP       | <i>Char</i> Development and Settlement Project                             |
| CEQ        | Council on Environmental Quality                                           |
| CFPR-TUP   | Challenging the Frontier of Poverty Reduction/Targeting Ultra Poor         |
| CGIAR      | Consultative Group on International Agricultural Research                  |
| CIDA       | Canadian International Development Agency                                  |
| CLP        | <i>Chars</i> Livelihoods Programme                                         |
| CSD        | Commission on Sustainable Development                                      |
| DfID       | Department for International Development (UK)                              |
| DHTW       | Deep Hand Tubewell                                                         |
| DMB        | Disaster Management Bureau                                                 |
| DPHE       | Department of Public Health Engineering                                    |
| DPRM       | Disaster Preparedness and Rehabilitation Management                        |
| DRR & VLHs | Disaster Risk Reduction & Vulnerable Livelihoods                           |
| ED         | Executive Director                                                         |
| EGIS       | Environment and Geographical Information Services                          |

|           |                                                                                                      |
|-----------|------------------------------------------------------------------------------------------------------|
| ERD       | Economic Relations Division                                                                          |
| ESCOR     | Energy Strategies Corporation                                                                        |
| FAO       | Food and Agriculture Organization                                                                    |
| FAP       | Flood Action Plan                                                                                    |
| FCD       | Flood Control, Drainage                                                                              |
| FCD/I     | Flood Control and Drainage/Irrigation                                                                |
| FCDI      | Flood Control and Drainage and Irrigation                                                            |
| FGD       | Focus Group Discussion                                                                               |
| FPCO      | Flood Plan Coordination Organization                                                                 |
| FSR       | Farming Systems Research                                                                             |
| GO        | Government                                                                                           |
| GoB       | Government of Bangladesh                                                                             |
| GUK       | Gana Unnayan Kendra                                                                                  |
| HH        | Household                                                                                            |
| HIES      | Household Income and Expenditure Survey                                                              |
| HYV       | High Yielding Variety                                                                                |
| IBRD      | International Bank for Reconstruction and Development                                                |
| ICCO      | Interchurch Organisation for Development Co-operation                                                |
| ICDP      | Integrated conservation and development project                                                      |
| ICZM      | Integrated Coastal Zone Management                                                                   |
| ICZMP     | Integrated Coastal Zone Management Plan                                                              |
| IDS       | Institute of Development Studies                                                                     |
| IFAD      | International Fund for Agricultural Development                                                      |
| IFRC      | International Federation of Red Cross and Red Crescent Societies                                     |
| IGA       | Income Generating Activity                                                                           |
| IIED      | International Institute for Environment and Development                                              |
| IISD      | International Institute for Sustainable Development                                                  |
| IISD-CASL | International Institute for Sustainable Development-Community Adaptation and Sustainable Livelihoods |
| ILO       | International Labour Organisation                                                                    |
| IMF       | International Monetary Fund                                                                          |
| IMO       | Implementing Organisation                                                                            |
| I-PRSP    | Interim Poverty Reduction Strategy Paper                                                             |
| IRD       | Integrated Rural Development                                                                         |



|              |                                                                                           |
|--------------|-------------------------------------------------------------------------------------------|
| ISDR         | International Strategy for Disaster Reduction                                             |
| ISPAN        | Irrigation Support Project for Asia and the Near East                                     |
| IUCN         | International Union for Conservation of Nature                                            |
| KI           | Key Informant                                                                             |
| KII          | Key Informant Interview                                                                   |
| LFH          | Lifebuoy Friendship Hospital                                                              |
| MDG          | Millennium Development Goal                                                               |
| MoFDM        | Ministry of Food and Disaster Management                                                  |
| MoU          | Memorandum of Understanding                                                               |
| NFP (school) | Non Formal Primary (school)                                                               |
| NGO          | Non-governmental Organizations                                                            |
| NSAPR        | National Strategy for Accelerated Poverty Reduction                                       |
| ODG          | Overseas Development Group                                                                |
| ODI          | Overseas Development Institute                                                            |
| OECD         | Organisation for Economic Co-operation and Development                                    |
| OECD-DAC     | Organisation for Economic Co-operation and Development – Development Assistance Committee |
| OED          | Operations Evaluation Department                                                          |
| OSHE         | Occupational Safety, Health and Environment                                               |
| OTUP         | Other Targeted Ultra Poor                                                                 |
| PDO-ICZMP    | Project Development Office for Integrated Coastal Zone Management Plan                    |
| PIP          | Policy Institutions and Processes                                                         |
| PRA          | Participatory Rural Appraisal                                                             |
| PRS          | Poverty Reduction Strategy                                                                |
| PRSP         | Poverty Reduction Strategy Paper                                                          |
| RBP          | River Basin Programme                                                                     |
| RC           | River <i>Char</i>                                                                         |
| RD           | Rural Development                                                                         |
| RDRS         | Rangpur Dinajpur Rural Service                                                            |
| REC          | River Estuarine <i>Char</i>                                                               |
| REIS         | Renewable Energy and Island Sustainability                                                |
| SAARC        | South Asian Association for Regional Cooperation                                          |
| SD           | Sustainable Development                                                                   |

|           |                                                                               |
|-----------|-------------------------------------------------------------------------------|
| SDC       | Swiss Agency for Development and Cooperation                                  |
| SDG       | SAARC Development Goal                                                        |
| SHOUHARDO | Strengthening Household Ability to Respond to Development Opportunities       |
| SID       | Society for International Development                                         |
| SIDA      | Swedish International Development Cooperation Agency                          |
| SL        | Sustainable Livelihood                                                        |
| SLA       | Sustainable Livelihoods Approach                                              |
| SLCP      | Sloping Land Conversion Program                                               |
| SLF       | Sustainable Livelihoods Framework                                             |
| SLLL      | Sustainable Livelihood at the Local Level                                     |
| SLOPB     | Stichting Land Ontwikkelings Project Bangladesh                               |
| SLR       | Sea level rise                                                                |
| SOD       | Standing Orders on Disasters                                                  |
| SPSS      | Statistical Package for the Social Sciences                                   |
| SSNP      | Social Safety Nets Programme                                                  |
| STUP      | Specially Targeted Ultra Poor                                                 |
| TNO       | Thana (Subdistricts are called Upazila/ thana) Nirbahi (Executive) Officer    |
| TUP       | Targeting Ultra Poor                                                          |
| UN        | United Nations                                                                |
| UNCED     | United Nations Conference on Environment and Development                      |
| UNDP      | United Nations Development Programme                                          |
| UNEP      | United Nations Environment Programme                                          |
| UNICEF    | United Nations Children's Fund                                                |
| UNIFEM    | United Nations Development Fund for Women                                     |
| UP        | Union Parishad                                                                |
| USAID     | United States Agency for International Development                            |
| USLDCC    | Understanding Sustainable Livelihood and Development at the Community Context |
| VGD       | Vulnerable Group Development                                                  |
| VGf       | Vulnerable Group Feeding                                                      |
| WB        | World Bank                                                                    |
| WCED      | World Commission on Environment and Development                               |
| WFP       | World Food Programme                                                          |

|      |                                         |
|------|-----------------------------------------|
| WHO  | World Health Organization               |
| WSSD | World Summit on Sustainable Development |
| WWII | World War II                            |
| WWF  | World Wildlife Fund                     |



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## CHAPTER 1

### Setting the Scene

#### 1.1 Introduction

This introductory chapter is an overview of the contextual setting and the research design of my study. Throughout this study, I refer to the term ‘river basin’ as ‘chars’<sup>1</sup> in the active river basins. *Char* is a Bengali term. *Char* land is land located in an active river basin that is subject to erosion and accretion (International Fund for Agricultural Development, IFAD, 2007<sup>2</sup>). My discussion on contextual setting starts with the uniqueness of ‘river chars’ (RCs) and ‘river estuarine chars’ (RECs) in Bangladesh. It also incorporates discussion on relevant strategies and policies of the government along with different programmes and projects by non-governmental organizations (NGO) in *char* areas.

Despite decades of development interventions, especially by the NGOs in the *char* areas, there have not been adequate evidences of any significant large scale change in the status of ‘vulnerability’ of the *char* dwellers (Ericksen, Ahmad and Chowdhury, 1993; Haque and Zaman, 1994; Hutton and Haque, 2004; Edgeworth and Collins, 2006, Hassan, 2000). Moreover, some researchers have reported the direct or indirect negative consequences of different development interventions on the vulnerabilities and livelihoods of the *char* dwellers. My contextual discussion then demonstrates selected examples of interventions found to have brought negative consequences which subsequently lead to the research problem. For a thorough comprehensive understanding of the themes and the major arguments, this chapter ends with a section on organization of the thesis.

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<sup>1</sup> Chars are areas of new land formed through the continual process of erosion and deposition in the major rivers and coastal areas. See Kabir, 2006.

<sup>2</sup> Making a difference in Asia and Pacific. Special Issue, October 2006. Contact: ifad@ifad.org, www.ifad.org. Retrieved on 02.10.09.

<http://www.enrap.org/resources/newsletters/ifad-country-newsletters/Bangladesh%20Newsletter-%20Knowledge%20sharing%20for%20development%20effectiveness-%20October%202006/Bangladesh%20Newsletter-%20Knowledge%20sharing%20for%20development%20effectiveness-%20October%202006>



## 1.2 Uniqueness of River *Chars* and River Estuarine *Chars* in Bangladesh

This section starts with the operational definition of the term ‘river basin’ for this study. The unique features of RCs and RECs as parts of active river basins are then elaborated as the context. Through a literature survey, RCs and RECs are established to be unique in terms of physical characteristics, ecology, exposure to different disasters, accessibility, vulnerability and in terms of several other dimensions. Drawing on those discussions, this section then ends with the indication that special development interventions are needed to ensure development in these unique spaces.

Bangladesh is a country of the deltaic basin within the flood plains of three great rivers (Roy, Syed, and Azim, 2007), the Ganges, the Brahmaputra<sup>3</sup> and the Meghna river. It is one of the largest deltas in the world, with a total number of about 700 rivers including tributaries (a total length of about 24,140 kilometres)<sup>4</sup>. The rivers of Bangladesh are the most significant features of its landscape. Moreover, Bangladesh has a coastline of 710 kilometres<sup>5</sup>. About 10% of Bangladesh is hardly 1 metre above the mean sea level and one-third is under tidal excursions<sup>6</sup>. Rainfall in neighbouring India, Nepal, Bhutan, and China and snowmelt in the Himalayas are major determinants of the flow of water through Bangladesh into the Bay of Bengal (Del Ninno, 2001).

The Brahmaputra-Jamuna River originates in Tibet on the northern slope of the Himalayas and drains snowmelt and rainfall from China, Bhutan, India, and Bangladesh. Before its confluence with the Ganges River at Aricha in Bangladesh, the river travels a length of 2,740 Kilometres. Its total catchment area is 570,000 Kilometres, of which only 7% is within the Bangladesh<sup>7</sup> territory.

Riverine Bangladesh is situated at the interface of two contrasting settings with the

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<sup>3</sup> The main course of Brahmaputra in Bangladesh is known as Jamuna.

<sup>4</sup> River and Drainage System. Banglapedia: National encyclopaedia of Bangladesh. Retrieved on 28.11.10.

[http://www.banglapedia.org/httpdocs/HT/R\\_0208.HTM](http://www.banglapedia.org/httpdocs/HT/R_0208.HTM)

<sup>5</sup> Climate Change and Sea Level Rise: Issues and Challenges for Coastal Communities in the Indian Ocean Region, by Golam Rabbani, A. Atiq Rahman, and Nazria Islam. In Coastal Zones and Climate Change, edited by, David Michel and Amit Pandya.

Retrieved on 28.11.10.

<http://www.stimson.org/images/uploads/research-pdfs/Nazria.pdf>

<sup>6</sup> Hossain, M.A. Global Warming induced Sea Level Rise on Soil, Land, and Crop Production Loss in Bangladesh. 2010 19th World Congress of Soil Science, Soil Solutions for a Changing World. 1 – 6 August 2010, Brisbane, Australia. Published on DVD.

Retrieved on 27.12.10.

<http://www.iuss.org/19th%20WCSS/symposium/pdf/0419.pdf>

<sup>7</sup> Riverine Chars in Bangladesh, environmental dynamics and management issues. The University Press Ltd. 2000.

Bay of Bengal and the North Indian Ocean to the south and the Himalayas to the north. This brings the country to life giving monsoons, on one hand, and to catastrophic disasters like tropical cyclones, storm surges, floods, droughts, and erosions, on the other. These disasters cause huge losses of lives and properties and impede the development activities directly in the rural areas, as a result affecting the whole country. Some geographic locations are more vulnerable to adverse consequences resulting from climatic variations than others, such as the coast and active floodplains (Erickson, Ahmed and Chowdhury, 1993); these are the relatively more vulnerable parts of the rural Bangladesh. Approximately, half of the population of Bangladesh lives below the poverty line. Poverty trends indicate that improvements in the livelihoods of the rural poor have lagged behind those of their urban counterparts; poverty is not uniform throughout the country<sup>8</sup>:

— 73.57 percent (Household Income and Expenditure Survey, HIES, BBS<sup>9</sup>, 2005<sup>10</sup>) of the poor live in rural areas. The rate of extreme poverty there remains twice as high as in urban areas;

— Poverty is geographically stratified; the most deprived districts<sup>11</sup> are found in northern Bangladesh. In Rajshahi division poverty is 51.2 percent and in Barisal Division it is 52.0 percent using upper poverty line (HIES<sup>12</sup>, BBS, 2005).

The land in this delta has a slight slope resulting in rapid silt deposition on the riverbeds; this further results in occasional floods due to reduced carrying capacity of the river channels. During monsoon periods particularly, due to the gradual or sudden shifting of river courses, which occur between half a mile to one mile annually, floods wipe out hundreds of village settlements and valuable cultivable land (Zaman, 1988; Haque, 1988). The river systems thus change the landscape of the country so much and so often, and at such a rate that “there is nothing like an up-to-date map of Bangladesh” (Mydans, 1987). The changes in the river systems have influenced human settlements and the way of life of the people in the Bengal delta since time immemorial (Zaman, 1991). New delta areas grow. These are accreted lands in the

---

<sup>8</sup> Ministry of Finance, 2009, ‘Chapter 13: Poverty Alleviation’ in Bangladesh Economic Review, 2009, Government of Bangladesh, pp 189.

<sup>9</sup> BBS is Bangladesh Bureau of Statistics

<sup>10</sup> Bangladesh, 2005 - HH Income and Expenditure Survey (HIES).

Retrieved on 12.07.10.

<http://surveynetwork.org/home/index.php?q=activities/catalog/surveys/ihsn/050-2005-001>

<sup>11</sup> Bangladesh is divided into seven major administrative regions called divisions. The divisions of Bangladesh are divided into 64 districts.

<sup>12</sup> HIES means Household Income and Expenditure Survey



river basins. In this study, the term ‘river basin’ indicates these accreted lands. These are the lands formed through sedimentation of silt coming from the Ganges-Brahmaputra-Meghna River System in the Bengal Basin. Due to erosion and the high amount of flood discharge of the rivers, islands and bars grow and these are the new delta areas or accreted lands. These are very common features of river basins known as ‘char’ in Bangladesh. For this study, the ‘island chars’ are considered the ‘river basins’ where people live in unique physical characteristics, ecology, vulnerability, disasters, accessibility and in terms of several other dimensions of the chars. In Bangladesh, the term *char* is used for “areas of new land formed through the continual process of erosion and deposition in the major rivers and coastal areas” (Roy, Syed, and Azim, 2007).

As described in Banglapedia (the national encyclopaedia of Bangladesh), *char* is,

...a tract of land surrounded by the waters of an ocean, sea, lake, or stream; it usually means, any accretion in a river course or estuary<sup>13</sup>. It includes all types of bars including both lateral (point-bars)<sup>14</sup> and medial (braid-bars)<sup>15</sup>. In the dynamics of erosion and accretion in the rivers of Bangladesh, the sand bars emerging as islands within the river channel (island chars) or as attached land to the riverbanks (attached chars), often create new opportunities to establish settlements and pursue agricultural activities on them. A distinction should be made between island chars, which are surrounded by water year-round and attached chars, which are connected to the mainland under normal flow. Once vegetated, such lands are commonly called chars in Bangladesh.

The Irrigation Support Project for Asia and the Near East (ISPAN) (1993) study indicates that the chars that are not eroded in the first four years of their emergence could be used for either cultivation or settlement by the end of these four years.

The *char* lands of Bangladesh can be divided into five sub areas such as the Jamuna, the Ganges, the Padma, The Upper Meghna, and the lower Meghna River. According to ISPAN, as reported in their publication- ‘Riverine Chars in Bangladesh in 2000’

<sup>13</sup> Estuary is the tidal mouth of a large river formed by an interaction of sea, land, and fresh water forming a transition zone between fresh water and marine environment. An estuary is a semi-enclosed coastal body of water with one or more rivers or streams flowing into it, and with a free connection to the open sea. Estuary is a productive place where many of the marine and fresh water organisms occur at particular phases of their life cycle. Hydrological features of an estuary are so dynamic that variations take place monthly, daily, and even hourly.

<sup>14</sup> Point bars are deposits of alluvium (water deposited sediment) found on the inside bank of a meander (stream that exhibits many bends or meanders and turns). Point bars form when alluvium is eroded from the outside bend or cut bank (where erosion is concentrated) and deposited on the inside bend of a meander.

<sup>15</sup> Braided rivers have a multithreaded plan form comprising many confluences and diffluences (Miall, 1977). Braid bars and channels can be classified as a hierarchy depending upon their relative size, and three orders of braiding can be seen in preglacial rivers with constant discharge (Williams and Rust, 1969). First-order braid bars are those largest bars which are separated by major channels. First-order bars are made up of a series of smaller, second-order braid bars, which are separated by smaller channels. Third-order braid bars are contained within second-order bars.



Bangladesh has around 1722.89 Square kilometres of *char* land on the 05 major rivers (Roy, Syed and Azim, 2007). However, estimates of the number of *char* dwellers vary widely (Lein, 2009). Studies conducted for the 1990–95 Flood Action Plan 1 (FAP1), estimated that 6,31,000 people were living on *char* lands in and along the main rivers in 1993; of these, 65 percent (397000) were living on *char* lands of the Jamuna (EGIS<sup>16</sup>, 2000; Sarker, Huque, and Alam, 2003). Lein (2009) also focused to the fact that other authors referring to FAP documents have suggested that *char* dwellers numbered 4.5 million (Hutton and Haque, 2004), and that 1.8 million were located on the Brahmaputra-Jamuna alone (Brammer, 1996). ISPAN (1995) study indicated that over 4 million people in Bangladesh live in the *chars* of the country's principal rivers. Ashley *et al.* (2000) estimated that 5 to 10 million people live on the *chars* and associated flood-prone areas in Bangladesh. The *Chars Livelihoods Programme* (CLP) claimed to benefit specifically 2 million *char* dwellers in the Jamuna River<sup>17</sup>. The present website of CLP says:

The CLP faces an enormous task if it is to significantly reduce poverty on the Jamuna *chars*. Our programme area is home to approximately 3.5 million people, many of whom live in conditions of extreme poverty. The CLP's approach is to focus its efforts on the 55,000 poorest households, known as core beneficiary households, living on island *chars* (approximately 220,000 people)<sup>18</sup>.

Lein (2009) finally concluded saying:

In the absence of any standard definition for what is or is not *char* land, the discrepancy in numbers may be attributed to different criteria being adopted – the higher figures possibly including inhabitants of 'unprotected mainland', and the lower figures resulting from narrower definitions.

The changes in the river systems have influenced human settlements and the ways people lead their lives in the Bengal Delta since time immemorial (Zaman, 1991). Zaman (1991) has reported several geographical and historical accounts (Ahmad, 1968; Spate, 1954; Morgan and McIntire, 1959; Bristow, 1987; Hunter, 1877; O'Malley, 1923) that recorded the channel migration of the major systems of Bangladesh. He further reported studies (Hunter, 1875; Pargiter, 1885; Carstairs,

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<sup>16</sup> EGIS means Environment and Geographical Information Services

<sup>17</sup> Hodson, R. 2006. The Chars Livelihood Programme: The Story and Strategy So Far. Retrieved on 14.15.10.

<http://www.bracresearch.org/publications/clp.pdf>

<sup>18</sup> Chars Livelihoods Programme (CLP). 'Our Approach'.

Retrieved on 25.11.09.

[http://www.clp-bangladesh.org/index.php?option=com\\_content&task=view&id=80&Itemid=160](http://www.clp-bangladesh.org/index.php?option=com_content&task=view&id=80&Itemid=160)

1895; Mukerjee, 1938) that demonstrated that the new delta areas were considered to constituting a construct of ‘new frontiers’ in terms of extension of cultivation, migration, and development of new settlements.

For Nicholas (1962: 80)

...population pressure and competition for land in the older settled portion of the delta forced groups of poor cultivators to search for new land in the south and east, to take their families into the newly opened territory, and to develop new communities there.

Availability of extremely fertile alluvial soil, the opportunities provided by the rivers for transportation and commerce, and new land resources attracted settlers from other areas. All these promoted migration into the new delta areas (Haque 1988: 157; Mukherjee, 1938). According to Mukerjee (1938) (as reported in Zaman, 1991), the majority of the early inhabitants were primitive agricultural tribes and casts who used to make their livelihood by clearing forests and jungles along the riverine areas (O'Donnell, 1893; Bourdillion, 1883).

Haque (1997), Haque and Zaman (1989) and Ali (1980) have provided detailed analyses of the role of land tenure and legal system in Bangladesh, the then Bengal in British India. These authors showed how the land tenure and legal system had been causing social vulnerability of millions of floodplain inhabitants.

Further elaboration was made by Hutton and Haque (2004) who explained the system and the consequences of different government decisions. In 1825, ‘The Bengal Alluvion and Diluvion Regulation’ was passed and was started being implemented.

The regulation demonstrated that, claims and disputes over emerged *char* land would be decided upon by considering the local use of payasty (alluvion) and sikosty (diluvion) in cases of clearly recognisable and established matters. Consequently, land gained by the gradual accretion from receding rivers was annexed to the tenure of the person whose estate it adjoined (Ali, 1980: 296), but a submerged estate that subsequently became attached to an adjoining estate would not fall under the legal control of the latter estate upon re-emergence. Reign of property owners were thus established who were enhancing the process of deteriorating the vulnerability status of the marginal landowners to further human-induced and environmental risks and were making (Hutton and Haque, 2004).

Later, during Pakistani Reign, the Act of 1950 abolished the permanent settlement with the landlords, and established legal rights for the marginal, smaller landholders,



who were mainly the Muslim peasant cultivators. Though, in reality, the larger landowners used to determine the settlement of alluvial land upon re-emergence from the river beds (Malik, 1983; Zaman, 1991). The lengthy and complicated settlement procedure — which requires surveying, enquiry and verification, recording of land — still benefits the powerful landowners, in most cases at the expense of marginal peasants (Hutton and Haque, 2004).

In 1950s, the Krug Mission was established, which recommended a massive construction work of river-bank and coastal embankments for preventing floods and actions started to take place accordingly. In the period, between 1971 and 1988, a shift from large-scale structural-engineering projects to small-scale schemes was noticeable, although the focus concerning flood protection remained on engineering schemes such as embankments, dykes and cross-dams (Hutton and Haque, 2004). Until the late 1980s, mainly physical and engineering aspects of flood control, protection, and management existed while, social, economic, demographic, and other human issues were inadequately addressed, and, only in the 1990s did these aspects of the faced disasters come into focus (Elahi, Ahmed, and Mafizuddin, 1991; Haque, 1997).

Hunter (1875) (as reported in Zaman, 1991), found that the *zamindars*<sup>19</sup> used to introduce tenants in order to establish control over additional tax-free land, and to appropriate surplus from those tenants who used to turn the waste land into a productive asset (Gupta, 1940).

Zaman (1991) in his study revealed the complications regarding settlement and land ownership rights in the *char* areas. For him:

Settlement and ownership rights over accretion land in the riverine areas were always complicated by the fact that it was difficult to ascertain ownership of the new land – whether it belonged to the estate to which it may have been annexed or to some other riparian proprietor upstream who had lost his land due to erosion or even to people on the other side of the river. As a result, inhabitants of both banks of the river became very quickly involved in disputes, which often ended in battle and bloodshed for the disputed land. However, in the riparian areas, the traditional view is that the first step in establishing ownership rights in new *char* land is to get ‘possession’.

Zaman (1989) reported, “Chars are settled upon by people of both banks as new settlement frontiers and remain sources of perennial dispute among conflicting

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<sup>19</sup> *Zamindar*, legally, a proprietor of land, acting as an intermediary between the state and the tenants in rent collection.



claimants.” During Bangladesh period, the government established absolute control over the ownership rights of accretion land through the Presidential Order of 1972. Though legally the new accretion land is supposed to be redistributed for resettlement of the displaced population, very few people have actually gained share of land in the newly emerged land (Haque and Zaman, 1989).

To express their understanding about the *char* dwellers Roy, Syed, and Azim (2007) illustrated saying that,

The riverine *chars* in Bangladesh offer, on a continuous basis, significant areas of new land for settlement and cultivation. Living and working conditions on these newly emerged lands are harsh in terms of social and environmental context. The *chars* are poorly connected to the mainland and are prone of acute erosion flooding which makes the inhabitants feel vulnerable. Some *char* lands are old, having much population living there; some are newly born *chars* where few families have started settling.

In the present time, with a population of over 150 million<sup>20</sup> living in an area of 147,570 square kilometres (1,045 persons per square kilometre), Bangladesh is one of the most densely populated countries in the world<sup>21</sup>. In this country, between 15 and 20 million people are at risk from the effects of erosion (Rogge and Haque, 1987). “About 9,000 hectares of mainland and 5,000 hectares of *char* land are reworked each year by erosion” and over 60,000 people become landless due to river-bank erosion problems along the main rivers of Bangladesh. Moreover, 4.3 million *char* dwellers are the most vulnerable group in Bangladesh (Flood Plan Coordination Organization, FPCO, 1995: 7).

The *char* lands, as mentioned by Baqee (1998:3), are inhabited by some of the most desperate people in the country, locally known as *chouras* (i.e. denizens of the *char*).

To express his realization about the *chouras*, he elaborated saying:

The *chouras* have distinct way of lifestyle. As they live at the edge in perspective of environmental and social context the way of life there in *char* is little different then to mainland people. The major characteristics of *char*land people are their settlement pattern, way of living, professional disturbance due to absence of principle occupation, coping strategies against the social and natural hazards, uneven mobility pattern due to river erosion. In common way

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<sup>20</sup> Bureau of Statistics of the Government of the People's Republic of Bangladesh. 2001. Population Census Preliminary Report (2001–2008)

<sup>21</sup> Bangladesh: Char Development and Settlement Project Design Completion Report – Appraisal, Main Report, 2009.

Retrieved on 22.10.10

<http://www.ifad.org/operations/projects/design/99/bangladesh.pdf>

the choura people known as tuff and daring as they face too much natural and social hazards. But the fact is most of the choura people live under the threat of natural hazards and also the threat of local power elite. The choura people settle there in case of gambling with their life and families. If they can ensure their settlement in spite of such hazards the landless people can become landowner.

People started living in the *chars* as population increased and the importance of *char* areas is increasing as these are the home to some of the poorest and most vulnerable people in Bangladesh who become the victims of both flood and river erosion regularly. Due to its geographical location, Bangladesh has to undergo severe flooding every year. The people living in the *chars* are the worst affected by the devastating flood. According to Schmuck (1996), erosion of the *chars*, i.e. disappearance of the *char*, is much more disastrous to *char* dwellers than floods. According to studies collated by Baqee (1998), Mamun and Amin (1999), the scale of the disruption caused by river erosion is enormous, with 2,400 kilometres of riverbank experiencing erosion annually, and around 1 million people in approaching 100 Upazilas<sup>22</sup> being directly affected. There are significant differences in the degree of such hazards faced by *chars* in different rivers and different stretches of the same river, thus offering wide variation in opportunities and constraints for settlement and cultivation. Some *chars* are washed away in a single day and others can become more or less permanent for decades<sup>23</sup>. Erosion and floods affect the lives of the *char* dwellers so much more frequently and intensely than the people in other parts of the country that these hazards dominate the social and economic life of the *char* dwellers. *Chars* in Bangladesh are mostly in the rural areas but dwellers of the *chars* are reported in the abovementioned studies to be more vulnerable than the mainland dwellers in the rural Bangladesh.

People living in the *chars* are deprived of almost all the facilities available even in the remotest part of the main land. According to Ministry of Food and Disaster Management, the *chars*, 'move with the flow' and are extremely sensitive to changes in the river conditions. Regular river floods affect 20% of the country increasing up to

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<sup>22</sup> The districts of Bangladesh are divided into subdistricts called Upazila Parishad (UZP), or Thana. Upazilas are similar to the county subdivisions found in some Western countries. The Upazilas are the second lowest tier of regional administration in Bangladesh.

Retrieved on 12.11.09.

[http://en.wikipedia.org/wiki/Upazilas\\_of\\_Bangladesh](http://en.wikipedia.org/wiki/Upazilas_of_Bangladesh)

<sup>23</sup> Some *chars* are washed away in a single day and others can become more or less permanent for decades.

Retrieved on 12.11.09.

<http://www.albaeco.com/sdu/08/htm/main.htm>



68% in extreme years. Erosion processes are highly unpredictable, and not compensated by accretion (Government of Bangladesh, GoB, 2007).

To explain the situation facing the *char* dwellers, Baqee (1998: 2) wrote,

Helplessness, resignation and surrender to forces unleashed by them in their struggle for existence – but over which they have no control – mark the lives of *char*-lands denizens. Their attitudes bespeak passivity towards the misfortunes that befall them. Blind unquestioned acceptance of ‘whatever will be, will be’ pervades the *char*-land ethos.

To identify the root causes behind settling in such vulnerable locations as *char* areas, Burton, Kates, and White (1993) and Wisner *et al.* (2004: 234) agreed upon the fact that people live there because they have no other options; that increasing population pressure, unequal access to land, rural power structures, lack of employment opportunities and poverty lead to economic and social marginalization resulting in spatial marginalization. These factors force the marginalized people to settle in high-risk areas such as the active floodplains of Bangladesh. Lein (2009) summarized saying “economic and social marginalization” are the causes that lead to spatial marginalization.



Photograph 1.1 A River *Char* in Jamuna River (taken by the author)



The social and economic lives of *char* dwellers are in large part determined by the ever-changing nature of the lands upon which they live. *Char* lands are not all alike and the social structures of *char* people vary somewhat from people in the rest of Bangladesh. *Char* people, therefore, need to be understood within their own context (ISPAN, 1995).

The combination of physical and social characteristics makes the *chars* one of the poorest parts of rural Bangladesh, with the people being amongst the most vulnerable. *Char* dwellers are said to have a *choura* subculture, which is somewhat different from the ways of the people living in the main land (Zaman, 1989). For Baqee (1998), a cultural distinction is noticeable possibly because of the hard uncertain lives led by the *char* dwellers and their risks involved in residing in the perpetually hazard prone *char* lands.

The opposite picture, however, has also been focused. As stated by Schmuck (1996):

The perception of the *char* dwellers of their living conditions is fundamentally different from the view taken by outsiders. Life stories and accounts clearly suggest that flood and erosion do not have the character of catastrophe to them, contrary to the reports of press agencies and development institutions. They are recurring events, forming part of the *char* dwellers' life-world. The people have adjusted and are not helpless victims of their environment. (Schmuck, 1996: 76)

Island *chars* are also found in the coastal areas in the river estuaries. The coastal waters are a big source of marine and coastal fisheries and inland and marine transport. Shrimp farming has been a very lucrative business. There are two sea ports located in the coastal area, namely Chittagong and Mongla. A number of industrial complexes are situated in the coastal area. The Sundarbans mangrove area is a big source of the country's economy<sup>24</sup>. The coastal area is very fertile and perfect for rice production. Above all, the country has a big prospect of oil and gas in the coastal area. Three geo-physical characteristics that distinguish the coastal zone from rest of the country include interplay of tidal regime, salinity in soil and water, and cyclone and storm surge, with economic and social implications on the population (Project Development Office for Integrated Coastal Zone Management Plan, PDO-ICZMP,

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<sup>24</sup> Climate Change and Conflict in Bangladesh by Matthijs van der Hoorn. Master Thesis, for Master of 'Conflict, Territories, and Identities' at the Radboud University Nijmegen.  
Retrieved on 17.10.10.  
<http://geography2.ruhosting.nl/masterthesis/scripties/HoornMatthijsvander.pdf>

2004). Total population living in the coastal zone is 35.1 million that represent 28 percent of the total population of the country (Bangladesh Bureau of Statistics, BBS, 2003). Population density in exposed coast is 482 persons per square kilometre whereas the number is 1,012 for the interior coast. There are about 6.8 million households (HHs) in the zone of which 52 percent are absolute poor according to Islam (2004). In a southern direction, further compartmentalization of the coastal zone is observed. These are<sup>25</sup>:

- old land: more integrated with the mainstream economy, consolidated human habitat, some are vulnerable to erosion and drainage congestion;
- *char* land: newly accreted land, new settlements, lack of social cohesion, higher salinity level and low access to services; and
- offshore island: isolated, exposed to natural calamities and little access to services.

PDO – ICZMP (2003) classified the coastal areas of Bangladesh under two broad categories namely, ‘interior coast’ and ‘exterior coast’. Out of 19 coastal districts that include 147 Upazilas, a total of 48 Upazilas in 12 districts that are exposed to the sea and/ or lower estuaries are defined as the ‘exposed coast’. The remaining 99 Upazilas of the coastal districts are termed ‘interior coast’. The ‘exposed coast’ includes among others all the *chars* and more than 50 islands. The rest of the area, mainly constituted by old and stable lands, is considered as the ‘interior coast’ (see Map 1.1).

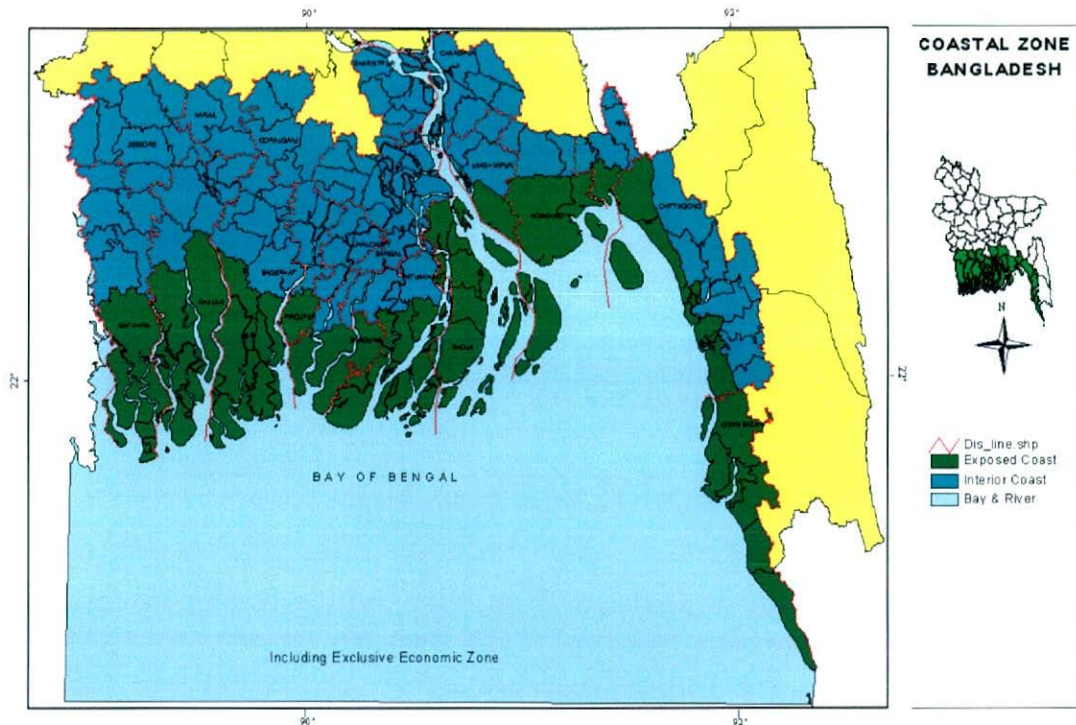
The coastal zone in Bangladesh is lagging behind in many respects. However, the variation within the zone is high, implying that there are areas within the coastal zone that are the most disadvantaged in terms of infrastructure and accessibility. Coastal *chars*<sup>26</sup> belong to this category. There are both offshore islands and RECs. For the present study, only the RECs were considered as part of active river basin in the coastal area. The national strategy (Economic Relations Division, ERD, 2003) considers the vulnerability of the *char* dwellers and it is reflected in the statement that “to reach out to the poorest and remote rural areas, which are vulnerable to adverse ecological processes (including *chars* and river erosion affected areas).”

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<sup>25</sup> Program Development Office for Integrated Coastal Zone Management Plan (PDO-ICZMP) project initiated a series on ‘Living in the Coast’ to enhance knowledge base on communities, issues, processes and dynamics in the coastal zone of Bangladesh. This part is from the first document in the series with focus on coastal livelihoods published in 2004 by PDO-ICZMP.

<sup>26</sup> In the coastal region, there are offshore islands and chars in the river estuaries. The major river systems annually deposit enormous amounts of silt into the Bay of Bengal. These silt deposit create islands locally called ‘chars’ which people settle on virtually the moment they emerge above the sea level (Gillespie, no date). Offshore Islands are islands (char) located near a coast or an offshore area. The RECs are in the active river basins which have a free connection to the open sea in the coastal area.





Map 1.1 Coastal zone of Bangladesh (Source: Islam, 2004)

In coastal Bangladesh, the major land uses comprise agriculture, shrimp, and fish farming, forestry, urban development and other settlement needs. There is demand for expansion of all current land use. Moreover, land is being degraded or lost due to the effects of increased salinity, flooding, and erosion. In the post World War II scenario, structural measures to address these problems had been popular. Although, new *char* lands is grow through accretion those are captured by local power-brokers. In this context, even the government's land allocation, more specifically *khas* land (public land) allotment programme, is found to be implemented slowly. There exists evidence asserting that different government policies- Land Use Policy (2001), Coastal Zone Policy (2005), Tsunami Vulnerability Map (2005), and Coastal Development Strategy (2006), etc. are lagging behind in terms of implementation. The government has also accepted an indicative land zoning plan. However, much remains to be done in implementing the Coastal Zone Policy and in establishing Integrated Coastal Zone Management (ICZM) that include: coordination, demarcation of land zoning, mangrove afforestation through community participation, better preparedness against



disaster and the introduction of modern land management systems<sup>27</sup>.

As noted by Scura *et al.* the coastal zone represents the interface between the land and the sea, "but concern and interest are concentrated on that area in which human activities are interlinked with both the land and the marine environments" (Scura *et al.* 1992: 17). For them, the coastal zone has the following characteristics.

- Coastal habitats and ecosystem (such as estuaries, coral reef, sea grass beds) provides goods (e.g. fish, oil, minerals) and services (e.g. natural protection from storms and tidal waves, recreation) to coastal communities.
- Characterized by competition for land and sea resources and space by various stakeholders, which often resulting in severe conflicts and destruction of the functional integrity of the resources system.
- Serves as the source of backbone of the national economy of coastal states where a substantial proportion of the gross national product depends on activities such as shipping, oil and gas development, coastal tourism, and the like.
- Usually is densely populated and is a preferred site for urbanization.

The coastal area of the country consists of fresh water fisheries, estuarine fisheries, marine fisheries, and aquaculture. The fisheries sector is a major source of nutrition, income, employment, and foreign exchange earnings for Bangladesh<sup>28</sup>.

The coastal zone with its coastal offshore islands is of immense importance to the country's development. There are *chars* in the river estuary in the coastal zone. As reported in Banglapedia, the main stream of Padma and the Meghna (Upper Meghna), is reinforced by the Dhaleshwari lead to Lower Meghna. The Lower Meghna (160 kilometres) is considered to be from the south of Chandpur to as far as the Tentulia. There are several small *chars* (braid-bars) in the Lower Meghna estuary, which create two main channels, of which the larger is the eastern channel which is 5 to 8 kilometres wide and the western channel is about 2 km in width. Further south, the Lower Meghna runs into three channels: west to east flowing Tentulia (Ilsha) river, the Shahbazpur and the Bamni. The Ilsha is a 5 to 6.5 kilometres wide channel separating Bhola Island from the Barisal mainland and the estuary of the Lower Meghna may be considered as extending between the Ilsha (Tentulia) and Shahbazpur

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<sup>27</sup> 'Pre-and post-tsunami coastal planning and land-use policies and issues in Bangladesh'- by Rafiqul Islam. Retrieved on 17.1.11.

<http://www.fao.org/forestry/13138-098e3e2e57aa60088543a509788445c8d.pdf>

<sup>28</sup> Fisheries Land Use.

Retrieved on 25.7.10.

<http://www.landzoning.gov.bd/image/report/Chapter-05.pdf>

rivers which together have a width of about 40 kilometres at the sea-face<sup>29</sup>. In the active basins of these rivers, there are many *chars* where people live.

In the coastal area that have no protection from the storms that sweep across the Bay, people live on these RECs and become the victims of different forms of disasters. Many people die due to these disasters. The cyclone of 29 April 1991 in Bangladesh coast caused a death toll of 138,882 lives and the economic loss of Bangladesh was US\$ 1,780 million (Chowdhury, 1998). Integration of natural hazards to the development plan of Bangladesh could have reduced number of death toll and economic loss significantly (Sarwar, 2005). People of Bangladesh, especially those of the coastal areas also experienced cyclone SIDR in 2007 and Aila in 2009. The losses were enormous. Still, a very large number of poor in Bangladesh are compelled to live in the vulnerable REC areas.



Photograph 1.2 A River Estuarine *Char* in Tentulia River (taken by the author)

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<sup>29</sup> Banglapedia 'Meghna River'.  
Retrieved on 11.12.10.  
[http://banglapedia.search.com.bd/HT/M\\_0207.htm](http://banglapedia.search.com.bd/HT/M_0207.htm)



Again, Bangladesh is likely to be affected by the biggest ever, long-lasting and global scale manmade disaster, i.e. the climate change and the sea level rise (CCSLR)<sup>30</sup>. The geographical location, low and almost flat topography, very high population density, etc. have made Bangladesh one of the most vulnerable countries of the world to be affected by CCSLR. This is more so for the coastal area of the country<sup>31</sup>. As Bangladesh is not large in area, consequences in the coastal area are likely to be felt by the whole country.

To describe the difference between RCs and coastal RECs, Banglapedia provides the following description:

Known for centuries Bangladesh is a typical model of natural hazards. Some of the devastating natural hazards in Bangladesh are caused by floods, induced by the on-shore movement of cyclonic winds in coastal regions and excessive runoff water and rise in river water levels in flood plain areas. Coastal flooding associated with storm surges is always considered as a hazard irrespective of the scale of surges. This is because of the suddenness of the storm surges and the damages to lives and properties resulting from such events. Whereas, river floods in floodplain areas assume the proportion of hazards only according to the scale of the flood. Low (normal) floods are considered as a blessing because they contribute vital fertility (silt) and moisture to the land. Only an unusually high (abnormal) flood may cause widespread damage to lives, properties and crops<sup>32</sup>.

Comparing RCs and coastal RECs, Saussier (1999) observed:

Human lives, however, are rarely lost on *chars* along the Jamuna, unlike those on the coastal belt, because dwellers can forecast floods several days in advance by observing weather conditions. The *char* people constantly keep monitoring the water level and when the river starts to rise during the monsoon season they leave the islands with their belongings and return only after the water recedes.

The above discussion clearly shows the uniqueness of RCs and RECs in rural Bangladesh. The mainstream RCs and coastal RECs are unique in terms of many dimensions such as, living, cultural, working, social and environmental context,

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<sup>30</sup> Factors of Climate Change: Global Warming is the Major Ground. COAST Position Papers I. Retrieved on 11.12.10.

[http://www.equitybd.org/English/Seminar\\_24-11-07/Position%20Paper.pdf](http://www.equitybd.org/English/Seminar_24-11-07/Position%20Paper.pdf)

<sup>31</sup> Vulnerability of Bangladesh coastal region to climate change with adaptation options by Anwar Ali. Retrieved on 18.11.2008

<http://www.survas.mdx.ac.uk/pdfs/3anwaral.pdf>

<sup>32</sup> Banglapedia 'Flood Action Plan (FAP)'. Retrieved on 09.12.09

[http://www.banglapedia.org/httpdocs/HT/F\\_0104.HTM](http://www.banglapedia.org/httpdocs/HT/F_0104.HTM)

settlement, land rights, geo-physical characteristics, disasters, vulnerabilities, accessibility, etc. The vulnerability to different types of disasters along with climate change and the respective impacts in terms of loss of lives, properties and effect of disasters on development activities play an important role in the lives and livelihoods of the *char* dwellers, which in turn lead towards a distinct way of life. Though, both RCs and RECs grow in active river basins, and grow as a result of erosion and accretion, there are variations in terms of the abovementioned dimensions. Because of the unique characteristics of the *chars* and the unique dimensions of vulnerability of the dwellers in these areas, special development interventions are essential.

### **1.3 Strategies of the Government of Bangladesh and NGO Programmes in *Char* Areas: The Context and Background**

In almost all the RCs and RECs, unique physical characteristics and unique lifestyles of inhabitants determine introduction of unique development projects by the GoB and different NGOs.

On the completion of the Fifth Five Year Plan in 2002, the GoB changed its development strategy; instead of Five Year Plans, it adopted poverty reduction strategy paper (PRSP) with a view to reduce poverty on a fast track basis. The Interim Poverty Reduction Strategy Paper (I-PRSP) titled 'A National Strategy for Economic Growth, Poverty Reduction and Social Development' was accomplished in March 2003. The grass-roots consultations in preparation of this strategy document, I-PRSP, demanded additional attention to the problems of environmentally fragile settings such as *char* areas, river-erosion areas, salinity and flood-prone areas (Integrated Coastal Zone Management Plan, ICZMP, 2004)<sup>33</sup>.

At this point, it is worth mentioning that, the I-PRSP recognized considerable regional variation, and district-level variations in poverty along with sectoral variation. International Monetary Fund (IMF) in its Country Report No. 03/177 (2003) further elaborated that the regional variation in poverty is influenced by the incidence of natural hazards and tends to be higher in disaster-prone areas. There is a considerable interface between the persistence of chronic poverty and unfavourable agricultural environments (e.g., salinity prone, flood-prone, river erosion prone, drought-prone areas. The level of poverty is typically higher for the landless. The incidence of

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<sup>33</sup> Contribution of Integrated Coastal Zone Management Plan: Project towards formulation of the Poverty Reduction Strategy Paper (PRSP) for Bangladesh, 2004.  
Retrieved on 20.12.2009.  
<http://www.warpo.gov.bd/rep/prsp/prsp&iczmp.PDF>



extreme poverty is generally higher for the female -headed, female -managed and female supported HHs. I-PRSP recognized the necessity and promised “policies would be taken to strike a realistic balance between the livelihoods requirement of the people and sound environmental management that can ensure sustainability”.

The I-PRSP (GoB, 2003: 28) stated,

The above interventions<sup>34</sup> will have maximum consequence on poverty, especially in minimizing the severity of poverty, when these are targeted to the poor regions and with special focus on the needs of the most disadvantaged population and ethnic groups. Policies and institutional actions delineated under the proposed poverty reduction strategy will be designed to reach out to the poorest and the remote rural areas, which are vulnerable to adverse ecological processes (including the cyclone-prone coastal regions, *chars* and river erosion affected areas) and those with high concentrations of socially disadvantaged and marginal ethnic groups.

The I-PRSP also recognized the following facts:

- 1) There exist regional variations and district-level variations in poverty.
- 2) The regional variation in poverty is influenced by the incidence of natural hazards and tends to be higher in disaster-prone areas.
- 3) There is a considerable interface between the persistence of chronic poverty and unfavourable agricultural environments (e.g., salinity prone, flood-prone, river erosion prone, drought-prone areas.
- 4) The level of poverty is typically higher for the landless.

The I-PRSP then suggested that Policies and institutional actions delineated under the proposed poverty reduction strategy will be designed to reach out the poorest and the remote rural areas vulnerable to adverse ecological processes (including the cyclone-prone coastal regions, *chars*, and river erosion affected areas). They also included areas with high concentrations of socially disadvantaged and marginal ethnic groups. For accelerating RD, I-PRSP reported about an integrated approach “covering the deprived population of *char* areas, coastal and hard-to reach areas under special RD programmes through both government and NGO/ Community Based Organisation (CBO) efforts”- which would be taken (IMF, 2003).

After an extensive, participatory process, and building on the Interim Poverty

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<sup>34</sup> The paper (I-PRSP) proposed five measures for long-term poverty reduction and social development. These are: (i) Pro-poor economic growth for increasing income and employment of the poor; (ii) human development of the poor for raising their capability through education, health, nutrition and social interventions; (iii) woman's advancement and closing of gender gaps in development; (iv) social safety nets for the poor against anticipated and unanticipated income/consumption shocks through targeted and other efforts; and (v) participatory governance for enhancing voice of the poor and improving non-material dimensions of well-being including security, power and social inclusion by improving the performance of anti-poverty institutions and removing institutional hurdles to social mobility.

Reduction Strategy Paper (I-PRSP-GoB, 2003), the Government of Bangladesh finalized the first Poverty Reduction Strategy entitled ‘Unlocking the Potential - National Strategy for Accelerated Poverty Reduction’ (NSAPR) in October 2005. The NSAPR-I was put into implementation during FY 2005-FY 2007 and subsequently it was extended up to June 2008. The first Poverty Reduction Strategy Paper (PRSP) (GoB, 2005) re-uttered the important components pointed out in the I-PRSP that are relevant to the present study.

It is worth mentioning that, it emphasized consolidation of the gains for moving to the next challenges,

...ensuring coverage of specific sub-categories of the poor who may have been bypassed by generic anti-poverty programmes such as minority ethnic groups, people living in remote and ecologically vulnerable areas, people who have lost their traditional occupations, and people suffering from disabilities. Dealing with these sub-categories will require active targeting, both geographic and social. (PRSP-GoB, 2005: 41).

It also asserted,

...the general gains on seasonal hunger needs to be supplemented by a more determined focus on the so-called monga<sup>35</sup> areas i.e. persisting poverty pockets in the ecologically vulnerable low-lying belts along the major rivers. ... safety net programmes which have demonstrated success in containing major disasters such as the floods of 1998 and 2004 and now need to be extended to address less visible priority groups such as the elderly, pregnant mothers, disabled and river-eroded HHs. (PRSP-GoB, 2005: 41)

In the national PRSP (2005-2007) under- Section 3.40, with the subheading ‘Island, *Char*, Coastal and *Haor*<sup>36</sup> Areas’ the special problems and constraints of some areas e.g. islands, *char*, coastal and *haor* areas had been recognized and supplemented with recommendation. It said,

...these areas have more resource constraints, problem of accessibility and more vulnerability to natural disasters. These problems warrant special attention and endeavours for the development of these areas, especially concerning poverty reduction (PRSP-GoB, 2005: 30).

For environment, it (PRSP-GoB, 2005) asserted,

...resources like land, water, air and biodiversity must be kept pollution-free for ‘Sustainable Development’ (SD). Pollution affects health, education, energy, livelihood, amenities and heritages and in this way increases poverty as well as the severity of poverty.

<sup>35</sup> Lean season or time of seasonal food insecurity.

<sup>36</sup> A marsh wetland ecosystem.



As a supporting strategy in the PRSP (2005-2007), under the heading ‘Caring for the Environment and Sustainable Development’ the links between livelihoods and nature was asserted strongly. Again, it was recognized that, no process of development and eradication of poverty could be conceived of without putting caring for environment and SD at the centre-stage. Accordingly the indicators for monitoring and evaluation and Policy Matrix on ‘Environment and Sustainable Development’ were included in it (Annex-01) 234-236, 338-339 of PRSP-I.

However, in the ‘Millennium Development Goals: A People’s Progress Report Bangladesh’<sup>37</sup>, the authors identified that, there are some missing perspectives which need to be considered, such as vulnerability of marginalized groups including among others, those in geographically backward / or isolated *char* (coastal islands, *chars*) or remote areas (ecologically vulnerable).

National Strategy for Accelerated Poverty Reduction II (NSAPR II) (FY 2009-11) was approved by the then Caretaker Government in 2008. But, as the Democratic Government came to power in January 2009, the NSAPR II was aligned with the development vision and election manifesto in terms of poverty reduction, economic growth, efficiency through use of science and technology as well as other socioeconomic goals. As a result, a revised Poverty-Reduction Strategy Paper (PRSP-II) is formally launched on 14<sup>th</sup> Feb 2010 which considered education, infrastructure development and social protection as priority areas to be addressed. The revised NSAPR II has been prepared after extensive consultations with the members of ‘Independent PRS (Poverty Reduction Strategy) and MDGs (Millennium Development Goals) Monitoring Committee’, Ministries/Divisions and Sector Divisions of the Planning Commission, academia, researchers, NGOs, civil societies and other relevant stakeholders (NSAPR II-GoB, 2009). In this respect, due considerations has been given to the Millennium Development Goals (MDGs) and the South Asian Association for Regional Cooperation (SAARC) Development Goals (SDGs) as well as to the need for sustained efforts towards achieving these goals (NSAPR II-GoB, 2009). The government has also adopted a long term vision for the development of the country which will be reflected in the long term Perspective Plan (2010-2021), under preparation by the government. For realizing the Vision, the

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<sup>37</sup> Rahman, Arifur *et al.* (2005), Millennium Development Goals: A People’s Progress Report Bangladesh, Unnayan Shamannay/MJ/Social Watch Bangladesh/CAMPE, Dhaka.

government has started the implementation of the Sixth Five Year Plan (FY: 2011-2015) from July 2010.

The poverty reduction strategy framework of the revised NSAPR II consists of five strategic blocks and five supporting strategies (NSAPR II-GoB, 2009), these are: (i) macroeconomic environment for pro-poor growth; (ii) critical areas for pro-poor growth; (iii) essential infrastructure for pro-poor growth; (iv) social protection for the vulnerable; and (v) human development. The supporting strategies, on the other hand, comprise of: (i) ensuring participation, social inclusion, and empowerment; (ii) promoting good governance; (iii) ensuring efficient delivery of public services; (iv) caring for environment and tackling climate change; and (v) enhancing productivity and efficiency through science and technology.

Under section 2.3 with the heading ‘Extreme and Chronic Poverty’ in the revised NSAPR II (NSAPR II-GoB, 2009: xiv) it has been recognized that “People living in remote and vulnerable areas like river banks and *char* areas, remote hilly areas, and certain groups of indigenous and disadvantaged people are the usual victims of extreme poverty”. NSAPR II (NSAPR II-GoB, 2009: 11) acknowledged this mentioning:

The persistence of extreme poverty in some specific geographic locations has been a stark reality in Bangladesh. People living in remote *char* areas with few assets and limited employment opportunities especially during the lean seasons become the usual victims of persistent poverty.

To indicate the ways of improving the present situation, NSAPR II (NSAPR II-GoB, 2009) identified “Investments in infrastructure, creation of employment opportunities during the lean periods, and increased coverage of Social Safety Nets Programmes (SSNPs)” for these disadvantaged groups.

In the NSAPR II (NSAPR II-GoB, 2009: xvii) under the heading: ‘Water Resources Development and Management’, the strategies of water resources development and management are decided to be grouped below six major heads:

(i) dredging the main rivers and their development for the multipurpose use of water resources, management for navigation, erosion control, and development of hydropower; (ii) flood protection and storm-water drainage measures will be undertaken with the rehabilitation and maintenance of existing flood control, drainage (FCD) and flood control, drainage and irrigation (FCDI) systems in a participatory manner and protection of rural and urban areas from floods; (iii) disaster management programmes will include provisions of cyclone protection, early warning and forecasting systems with



adequate lead time, flood proofing shelters, control of riverbank erosion, drought management and rationalization of groundwater resources and climate change adaptation; (iv) adequate provisions will be made for water management for agriculture through public sector irrigation development and flood management and drainage; (v) protection of the natural environment and aquatic resources will be ensured with water pollution monitoring and control, water management for fisheries and ecologically sensitive areas and raising awareness of all stakeholders to support environmental measures; and (vi) development of institutions in the water sector will be ensured.

A major development objective of the government is to ensure a pro-poor growth (Economic Relations Division, ERD, 2003). Along with pro-poor growth, the government further aims to achieve other objectives as has been asserted in different documents<sup>38</sup> -

...other objectives mentioned in the national strategy for poverty reduction and the millennium development goals, it is necessary to target resources for the poorer and vulnerable sections of the population on a priority basis, thereby enabling and empowering them to reduce their vulnerabilities.

The aim is to reap fruits of development in a sustainable manner. Again, while setting priorities, there is no alternative to identifying the vulnerabilities (exclusion of the peripheral communities) and opportunities (potential sectors) as well.

The Coastal Development Strategy (2006: i)<sup>39</sup> indicates nine strategic priorities that evolved through a consultation process and these strategic priorities guide interventions and investments in the coastal zone. The strategic priorities are also vital for the dwellers of the RECs. These are:

- ensuring fresh and safe water availability
- safety from man-made and natural hazards
- optimizing use of coastal lands
- promoting economic growth emphasizing non-farm rural employment
- sustainable management of natural resources: exploiting untapped and less explored opportunities
- improving livelihood conditions of people; especially women
- environmental conservation
- empowerment through knowledge management
- creating an enabling institutional environment Implementation of these

<sup>38</sup> Living in the Coast: People and Livelihoods, 2004.  
Retrieved on 12.12.09.

<http://www.warpo.gov.bd/rep/liv/live1.PDF>

<sup>39</sup> Coastal Development Strategy, February 2006.

Retrieved on 02.11.2009.

<http://www.mowr.gov.bd/Documents/COASTAL%20DEVELOPMENT%20STRATEGY%20%28English%29.pdf>

strategic priorities contributes to national poverty reduction strategy nationally and Millennium Development Goals globally.

At this point, it is worth mentioning that, through all the above mentioned strategies for poverty reduction, water resources development and management, disaster management, ‘sustainable development’ (SD) and ‘sustainable livelihoods’ (SL) are believed to be realized for the citizens of the whole country especially for the marginalized people living in remote vulnerable locations. The government, in most cases, receives support from the donor agencies to realize these strategies. Different NGOs alongside the government undertake different interventions under different programmes and projects to achieve these goals. Different abovementioned strategies demonstrate the importance of both SL and SD as the priority. However, the achievement of SD- “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”<sup>40</sup> – although had always been and still is considered to be a highly important priority, it had always been admitted to be a very difficult goal to achieve for Bangladesh. Moreover, challenges to attaining environmental sustainability are evident in the forms of water and air pollution, land degradation, extreme degradation of terrestrial and aquatic ecosystems, unsustainable agricultural practices and unplanned urban growth<sup>41</sup>. The additional challenge is that of overcoming weak environmental governance in the present scenario of climate change. In Bangladesh, ‘Integrated Coastal Zone Management’ is directed by the ‘Coastal Zone Policy 2005’ and ‘Coastal Development Strategy 2006’. The goal of integrated coastal zone management also belongs to the same line: “to create conditions, in which the reduction of poverty, development of sustainable livelihoods and the integration of the coastal zone into national processes can take place” (Coastal Zone Policy, GoB, 2005: 3). The coastal estuarine *char* dwellers’ lives and livelihoods are supposed to be influenced by such relevant strategies and their implementation.

The Ministry of Food and Disaster Management (MoFDM)<sup>42</sup> of the GoB has the responsibility for coordinating the government disaster management efforts. Other

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<sup>40</sup> From the World Commission on Environment and Development’s (the Brundtland Commission) report *Our Common Future* (Oxford: Oxford University Press, 1987).

<sup>41</sup> Implementation in Asia and the Pacific of the Brussels Programme of Action for the Least Developed Countries for the Decade 2001-2010: progress made, obstacles encountered and the way forward. Economic and Social Commission for Asia and the Pacific, Ministry of Finance, Government of Bangladesh. Retrieved on 13.12.10.

<http://www.unescap.org/LDCCU/Meetings/BPOA-Jan2010/CountryReports/Bangladesh-Rev27Apr2010pdf.pdf>

<sup>42</sup> Formerly known as the Ministry of Disaster Management and Relief.



government agencies dealing with disasters include the Disaster Management Bureau (DMB), the Directorate of Relief and Rehabilitation, Disaster Management Committees at all administrative levels and the Emergency preparedness and response mechanism from health sector (World Health Organization, WHO, 2006). In January 1997, the Ministry of Food and Disaster Management of the Government of Bangladesh issued the Standing Orders on Disasters (SOD). The purpose of it was to guide and monitor disaster management activities in Bangladesh. A series of inter-related institutions, at both national and sub-national levels<sup>43</sup>, exist to ensure effective planning (you might want to add a footnote here explaining what is effective planning) and coordination of disaster risk reduction and emergency response management. Several international, local, and national NGOs along with the Government work in the *chars* and coastal estuarine *chars* of Bangladesh with a view to support the dwellers toward development.

GoB's 'Comprehensive Disaster Management Programme' envisages bringing a paradigm shift in disaster management from conventional response and relief practices to a more comprehensive risk reduction culture. Tropical cyclones, storm surges, and similar processes cause loss of life especially in the RECs. But, when assessing the consequences of natural disasters the implication of only how many lives were saved is limited. The other concerns include the losses in terms of livelihoods, HH assets, newly disabled, etc. As a result, a broader perspective is considered recently that takes a long-term approach and emphasizes not only saving lives, but also preserving livelihoods. While this view is already shared among most relief and development agencies, making it a more explicit goal would have significant programming implications in all aspects of disaster mitigation, including prevention, preparedness and response. Emphasis on livelihood preservation in natural disasters is particularly relevant in Bangladesh, where not only flooding, but also several other natural disasters are annual shocks to the livelihood security of the majority of the population (de Haan, 2000). The Government of Bangladesh is extensively involved in all stages of prevention, preparedness and response. There are many possible flood mitigation interventions, and between the government, NGOs

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<sup>43</sup> National Disaster Management Council, Inter Ministerial Disaster Management Coordination Committee, National Disaster Management Advisory Council, Directorate of Relief and Rehabilitation, Disaster Management Bureau, District Disaster Management Committee, Upazila Disaster Management Committee, City Corporation Disaster Management Committee, Municipal Disaster Management Committee, Union Disaster Management Committee, Directorate of Food, etc.

and the United Nations there are thousands of such projects. However, in practical terms, the consideration of the issue of livelihood is still in the inception phase.

The above discussion, although, points to the issues of disasters and disaster management, it does not simply mean that management of RCs and RECs should be confined to disaster management. Since RCs and RECs have different kinds of resources for exploitation, it is also important to develop and execute appropriate plans for management of these resources. The social structure of the people in the RC and coastal RECs has been found to be somewhat different from that of the people in the rest of the country. Therefore, their vulnerabilities, possessed assets, possibilities, cultural practices, livelihood, etc. need to be understood within the especial physical and socio-economic context in which they live. Moreover, we cannot ignore what Currey (1992: 142) has pointed out,

The question as to whether famine is a discrete event, or merely the tip of an iceberg of underlying social, economic and political processes, is not merely a matter of semantics. The decision affects the whole allocation of resources for 'magic bullet' disaster responses in which accountability is relaxed and allocation for the long, hard task of rural development may be reduced.

To remember again, it is not only the government but also different NGOs that have undertaken special type of development interventions in the island *char* areas. Using different participatory techniques, the NGOs identify the necessary interventions in these areas. These identified necessities are also found to be changing in focus at different time periods (Chapter 2). In the present trends, interventions which aim to improve and sustain livelihoods are focused by most of the major NGOs. A few large scale projects are currently being carried out in different *char* areas of Bangladesh. *Char* Development and Settlement Project (CDSP) IV is the fourth phase of a project (proposed for approval) that has been implemented since 1994 by the Government of Bangladesh, specifically the Ministry of Water Resources. The overall objective of CDSP is poverty reduction through improving the economic situation and living conditions improvement in the coastal areas of south-eastern Bangladesh, with special reference to the poorest segment of the population. The project seeks to achieve this objective through three specific objectives: i) promote an institutional environment that sustains interventions as proposed in CDSP; ii) accumulate and disseminate data and knowledge on coastal *char* development; iii) directly improve the economic and



social situation of people in the coastal *chars* in a sustainable way<sup>44</sup>.

The *Chars* Livelihoods Programme (CLP) works in the Jamuna *chars*. One million inhabitants of the five riverine districts of the Northern Jamuna live on riverine islands and bars, commonly known as *chars*.

In the CLP website, to describe the '*chars*' they have said<sup>45</sup>,

The *chars* are formed as a result of river erosion and silt deposition, and are surrounded by water throughout the year. Near-annual flooding of the Jamuna region regularly forms and re-forms these *chars*, making them highly prone to acute erosion. These floods can force thousands of families to move their households each year, as floodwater either submerges their homes or erodes the land on which they live. It is estimated that *char* households often relocate between five to seven times in a generation, with poorer *char* households invariably moving many more times due to the inferior quality and location of the land they move to and from.

The goal of the programme is to halve the extreme poverty in the riverine areas of Bangladesh by 2015. Its purpose is improved livelihood security for poor and vulnerable women, men, and children living within the riverine areas of 5 districts of the northern Jamuna. Along with other aims, the major aim is to improve the capacity of the extreme poor to sustain their livelihoods (Blackshaw, 2004). A programme to transfer assets to the extreme poor has been introduced and it has now assumed central importance in the CLP as a whole (Howes, 2006).

Cooperative for Assistance and Relief Everywhere (CARE) Bangladesh is implementing the Strengthening Household Ability to Respond to Development Opportunities (SHOUHARDO) program in different geographical locations in Bangladesh. The SHOUHARDO program intends to improve livelihood opportunities of poor and extreme poor through its various interventions. The Program Goal is to sustainably reduce chronic and transitory food insecurity of 400,000 vulnerable HHs in 18 districts of Bangladesh, by 2009. Program Goal is to sustainably reduce chronic and transitory food insecurity of 400,000 vulnerable HHs in 18 districts of Bangladesh, by 2009. Among the different geographic locations, the *char* areas where the program is being implemented include, North *Chars* and Middle *Chars* Region.

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<sup>44</sup> Char Development and Settlement Project Phase III, Bangladesh.

Retrieved on 13.04.09.

<http://www.euroconsult.mottmac.nl/files/page/217223/BangladeshCharDevelopment.pdf>.

<sup>45</sup> Chars Livelihoods Programme (CLP), 'The Chars'.

Retrieved on 15.10.10.

[http://www.clp-bangladesh.org/index.php?option=com\\_content&task=view&id=131&Itemid=153](http://www.clp-bangladesh.org/index.php?option=com_content&task=view&id=131&Itemid=153)

The northern *chars* includes the 5 Districts of Nilphamari, Lalmonirhat, Rangpur, Kurigram and Gaibandha in the Brahmaputra River drainage while the middle *chars* includes the 5 Districts of Bogra, Jamalpur, Tangail, Sirajganj, Sherpur, and Pabna in the Jamuna River drainage and the north bank of the Padma River.

The focus of Oxfam's River Basin Programme (RBP) in Bangladesh is to reduce people's vulnerability to floods. The programme also works to ensure that small producers and farmers are able to improve their livelihoods in river basin areas, through better disaster management, and access to markets<sup>46</sup>. The River Basin Programme (RBP) intends to demonstrate a robust intervention model that reduces the vulnerability of people, particularly women, living in *char* and *haor* areas. The goal is "To ensure improved livelihoods through better land and water management practices, access to markets and better disaster management".

Concern Worldwide Bangladesh, in partners with seven local organizations, has initiated the Island *Chars* Resource Mobilization, or the Nodi o Jibon (meaning River and Life) project. The northern riverine *char* lands in Bangladesh are of the most vulnerable areas in the country. Large population of the poor faces an uphill struggle to sustain livelihoods. They will be implemented on 83 island *chars* in 24 Unions<sup>47</sup> of Nilphamari, Lalmonirhat and Pabna districts. The purpose of the project is to improve livelihood security of 10,000 extreme poor families living on the island *chars* of the three riverine districts of northern Bangladesh. The Nodi o Jibon project is aims to achieve services or investments of comparable quality to those provided on the main land and proportional to the levels of poverty that exist in the island *chars*. The ultimate aim of this project is to have consequence on the MDGs that targets poverty and hunger. The project will work with selected local NGO partners to enable them to become established on island *chars* providing services to support the strengthening of the livelihood of the extreme poor. The project will be implemented over a five-year period from April 2006 to March 2011.

Many NGOs operate in the coastal districts. However, not many NGOs are found to be working in the RECs. Although it is well recognised that people in these areas have distinct vulnerabilities as they live with recurrent disasters (cyclones and erosion) and

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<sup>46</sup> Oxfam's work in Bangladesh in depth River Basin Programme.  
Retrieved on 08.01.2008.

[http://www.oxfam.org.uk/resources/countries/bangladesh\\_riverbasin.htm](http://www.oxfam.org.uk/resources/countries/bangladesh_riverbasin.htm)

<sup>47</sup> Unions constitute the lowest administrative tier in Bangladesh



are deprived of basic services (because of isolation)<sup>48</sup>.

Some of the aid agencies working in the RCs and RECs of Bangladesh through their programmes are Department for International Development (DFID), United Nations Development Programme (UNDP), Canadian International Development Agency (CIDA), Swedish International Development Cooperation Agency (SIDA), World Bank (WB) and CARE under United States Agency for International Development (USAID). Other NGOs include ASA, Grameen Bank, Bangladesh Rural Advancement Committee (BRAC), Christian Commission for Development in Bangladesh (CCDB), Oxfam, Water Aid, Action Aid, Rangpur Dinajpur Rural Service (RDRS), Worldvision, Gana Unnayan Kendra (GUK), Helen Keller International, Bangladesh Red Crescent Society, and many others.

The government and different agencies work individually (some work with other groups), having almost the same few focal objectives, i.e., to increase preparedness to respond to different disasters (flood, erosion, cyclone, and others); to improve livelihood options of the dwellers in the *chars* for reducing the vulnerability of the poorest community. These indicate the interventions are not only for saving lives, but also for preserving livelihoods and development.

All the efforts to realize the GoB strategies and NGO initiatives will certainly have effects on the lives and livelihoods of the *char* dwellers. However, a preliminary literature review reveals that unfortunately, in many cases the good will turns out to be another form of disaster for the poor of the country. As reported by Ericksen, Ahmad and Chowdhury (1993: 8) with references of Task Force (1991), Ahmed, *et al.* (1990), Maloney (1988) and Sen (1981),

....over much of the recent past, the country has been buffered from the worst consequences of climate-induced disasters by liberal foreign aid, including: food-aid; food-for-work; post-disaster relief; project aid for irrigation and flood protection; fertilizers; and support for prices, etc. (Task Force, 1991). While other socio-economic groups perhaps benefit the most from aid that the country receives on a regular basis, it is the marginalized disaster-hit poor who are most reliant upon it for survival in the wake of a disaster. They have few resources with which to buffer themselves against adversity, whether induced by climatic variations, such as droughts and floods, or socio-economic change, such as escalating population and rural landlessness.

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<sup>48</sup> NGOs in Coastal Development. Working Paper WP022, Prepared by Mohiuddin Ahmad in 2003 for Program Development Office for Integrated Coastal Zone Management Plan (PDO-ICZMP)

Thus, it is frequently found that poor pay the price for development. The interventions for development are always welcome by the poor people. However, the fact noted in the introduction of this chapter that despite decades of development interventions especially by NGOs in the *char* areas, there have not been adequate evidences of any significant large scale change in the status of vulnerability of the *char* dwellers, draws attention. In this line of discussion, therefore, this section demonstrated that both the government and donor agencies recognise that poor, remote, disaster prone and socially disadvantaged rural areas need to be specially addressed to ensure poverty reduction. This fact is demonstrated not only in the PRSPs and other government policies and strategies, but also in the goals and purposes of different NGO programmes and projects. It is also recognised that in these remote areas, resources need to be optimally utilized along with disaster management, disaster mitigation, prevention, preparedness, and response and livelihoods security, to reduce poverty. The above discussion further draws attention to the reality that many undertaken interventions turned out to be another form of disaster. Focusing on that crucial reality, in the next section, an attempt is made to provide accounts of a few interventions as examples that were initiated by the government and other agencies, but instead of serving to ensure development, turned out to be disasters.

#### **1.4 ‘Development Disasters’ and Other Threats to the *Char* Dwellers**

There had been many development interventions that directly or indirectly had negative consequences on the lives of the *char* dwellers. Again, several other factors as climate change, sea level rise, etc. are emerging that demand immediate focus as otherwise these may have severe negative consequences for the *char* dweller. A few examples are discussed here.

The devastating floods of 1987 and 1988 resulted in renewed international interest in controlling floods that were being caused by the major rivers of Bangladesh (World Bank, WB, 1989). As a result, a vast work had been carried out that started from 1989. The Flood Action Plan (FAP) which was launched aimed to formulate and implement technically, financially, economically, and environmentally sound solutions to flooding problems in Bangladesh. The objectives of the FAP were to safeguard lives and livelihoods, improve agro-ecological conditions to increase crop production, enhance development of public facilities, commerce and industry,



minimize potential flood damage, create flood-free land to accommodate the increasing population, and meet the needs of fisheries, navigation, communication and public health<sup>49</sup>. To achieve these goals, the FAP focused mostly on controlling floodwaters through a series of large-scale projects. The 5 year FAP was initiated at the request of the Government of Bangladesh and with the support of many international donors i.e. World Bank, Asian Development Bank, United Nations Development Programme (UNDP), the United States, European Community, and Japan and the World Bank as executing agency. The FAP constructed embankments and dikes to protect humans and industries from floods. The dominant theme of FAP was the flood control and drainage rather than integrated water management. The FAP construction had surprising consequences for water flow in the rivers, actually leading to increased *char* erosion in many places (Brammer, 1996). By blocking fish migration paths between rivers and submerged floodplain fields, the FAP-funded embankments have also hurt fisheries. Again, FAP neglected the most pressing flood danger, that posed by cyclone-driven coastal floods. River channelization by FAP embankments increased the risk of flood damage for downstream areas and for land and populations between embankments. Lack of emphasis on helping the rural poor to cope with floods, lack of environmental analysis, and lack of consultation with various stakeholders had been the issues received much criticism. Learning through FAP established that planning must be participatory and that consultation at all levels is essential to correctly identify development needs and interventions. Furthermore, greater emphasis on participation has led to the recognition that as people's lives are not compartmentalized by sectors, so too must planning be multi-objective and multi-sectoral<sup>50</sup>.

There had been a steady expansion of flood control and/or drainage projects since the 1960s (Eriksen, Ahmad and Chowdhury, 1993). The second example to show how development initiative turned out to be a disaster is given through the findings of a study of six flood control and drainage/irrigation (FCD/I) projects. As reported by Eriksen, Ahmad, and Chowdhury (1993), the study showed that some projects provided clear positive socio-economic consequences while others resulted in

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<sup>49</sup> Policy Context.

Retrieved on 21.6.08.

<http://www.bicn.com/wei/resources/nerp/regplan/05-chapter2.htm>

<sup>50</sup> Flood Action Plan in Bangladesh.

Retrieved on 24.10.09.

<http://www.slideshare.net/willwilliams7/bangladesh-flood-action-plan>

negligible consequences or new problems (Hunting Technical Services Limited, 1991). One project, Chalan Beel Polder D, in Rajshahi district, showed no evidence of having reduced the environmental variability faced by farmers (Hunting Technical Services Limited, 1991). Across all projects, the distribution of income benefits from increased economic activity varied. Larger cultivating HHs were better off than smaller HHs, and they were better off than non-cultivating HHs. The people who were worse off were poor labourers, fishermen, and boatmen (Ericksen, Ahmad and Chowdhury, 1993). Despite benefits from the FCD/I projects, they turned out to be responsible for increased conflicts of interest between various groups both inside and outside of the project areas (Adnan *et al.* 1991; Hunting Technical Services Limited, 1991; Naqi, 1990). While some provided protection from flooding to property and infrastructure, other project areas experienced frequent flooding, due to embankment failure, cuts, or greater than design standard levels of flooding. It resulted in drainage problems and consequently local peasant mobilisation to breach the embankments. Generally, the incidence of damaging floods does not appear to have been that different between project and non-project (study control) areas. But in the large floods of 1987 and 1988, HH losses were greater inside four of the project areas than in the study control areas; while crop damage was less in three of the projects compared with study control areas (Hunting Technical Services Limited, 1991).

Again, in another case it was found that due to the construction of the 20 kilometre long embankment along the west side of the river Kangsa, artificial water logging occurred behind the embankment. As a result, some 5 thousand acres of field crops had been destroyed. In response to people's complaints, the Bangladesh Water Development Board constructed regulators as alternative drainage facilities, yet the water logging problem continues, and paddy production suffers<sup>51</sup>. Another similar example is the consequence of the built embankment along two rivers bordering the Zakiganj area of Sylhet that resulted in disrupting the traditional distribution of muddy water via canals into the interior. Consequently, the area became permanently

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<sup>51</sup> Developmental Feminism and Peasant Women's Labour. In Bangladesh.

Retrieved on 24.09.10.

<http://docs.google.com/viewer?a=v&q=cache:zhG4KCexrOsJ:www.petercusters.nl/file/62+20+kilometer+long+embankment+along+the+west+side+of+the+river+Kangsa,+not+far+from+Netrakona+town,+some+5+thousand+acres+of+field+crops+have+been+destroyed+due+to+artificial+water+logging+behind+the+embankment.+In+response+to+people%27s+complaints,+the+Bangladesh+Water+Development+Board+%28successor+to+WAPDA%29+constructed+regulators+as+alternative+drainage+facilities,+yet+the+water+logging+problem+persistence,+and+paddy+production+suffers&hl=en&pid=bl&srcid=ADGEESjUNZazcbzKyeFPJ1A9qeHloR74hkmGTxqOXXK8mhtwxOtp2vwpaOPY5AkVDVJACcC6a7t34la1zW2bUMcrW1Z-Xornn-xkp6VUbLoSumLrAecrnv6pz0cQ2hNktQNkCliJvAKK&sig=AHIEtbRYIlschaRD0WBWYrdX9z-IBYYsg>



waterlogged. In July 1994, thousands of people tried to cut one of the embankments blocking entrances to the canals. Clearly, the non-indigenous structures like watertight embankments and polders are highly questionable as methods of water management. Yet a powerful thrust exists to construct them at any cost (Custers, 1997). Custer (1997: 208) pointed out the reality that:

According to a law promulgated in 1989, development projects cannot be challenged in court by the rural population and where people question such projects in action - such as was done in Zakiganj in July 1993 - they find the armed forces of the Bangladeshi state blocking their way. For the appropriation of the commons, of people's free access to water and fish-resources, is as essential to paving the way for capitalist accumulation, as is the expulsion of the peasantry from their privately held plots of land. Unannounced by 'development' institutions, and hidden behind a barrage of rhetoric, the history of original accumulation repeats itself in Bangladesh.

Again, Integrated Rural Development (IRD) approach, constitute another example. IRD, though appeared to bring high level of enthusiasm, lasted only one decade and was considered by the World Bank as failure (Mkandawire, 2006). The IRD Projects had been found to be less successful for several reasons. Producers' low earning and less access to subsidized services along with the over ambitious and complex nature of the projects, cumbersome bureaucracies, top-down management and implication, negligible consideration of local circumstances and few links to local government structures are found to be the major reasons.

The case of well-established Vulnerable Group Feeding (VGF) system can be considered in this context as comprising another instance. VGF cards are distributed to selected HHs, which entitle each HH 16 kg of wheat per month for five months. De Haan (2000) reported that the amount of wheat that should be distributed among the card holders was a source of disagreement between the government and World Food Programme (WFP) and other agencies. It was widely felt that 16 kg/month was highly inadequate given the severity of the situation and that the government actually had more food stocks. The government, however, was concerned about reducing national grain supplies as well as setting a pattern of wheat distribution that could not necessarily be repeated in the future. Not only the amount of food, but also the targeting of VGF cards was also controversial. Certainly, there were pockets of greater need in the country during the floods; however, the government insisted on a more or less even distribution throughout the country. There were also reports of Union-level officials distributing cards based on criteria other than need.



Cyclonic storms have always been a major concern to coastal plains and RECs of Bangladesh. The cyclone accompanied with heavy rain and devastating tidal surge causes havoc to lives and property in the cyclone path, and the environment in the affected area. In the RECs, off shore islands and coastal mainlands of Bangladesh the major aftermaths of a cyclone are loss of human lives, livestock, fishes, agricultural properties and production, inundation of land and ponds by saline water, loss of houses, break-down of sanitation system, non-availability of safe drinking water and food stuff. The weather warning messages produced by the Meteorological Department is designed to help save people's lives and properties. But in Bangladesh, the signals hosted, are sometimes not considered serious by the courageous fishermen. Though signals are hosted frequently, often the meanings of the signals are not properly understood by the fishermen and local people. Sometimes, as a result of this, many fishermen and trawlers are found to be missing after such storm attacks in the coastal belt of Bangladesh. Though the signalling system exists to save lives and property, it is not working effectively in many cases. As an example, the September 19, 2006 cyclonic storm can be considered. The warning message produced by the Meteorological Department was such that "a monsoon low has formed over northwest bay and adjoining area. Its associated steep pressure gradient lies over North Bay. Monsoon is moderate to strong over North Bay. Squally weather may affect the ports". But according to newspaper reports and expert opinions the signal hosted was local danger signal number 3 and the severity of the storm was very high, some 3,500 fishermen, and about 500 fishing boats and trawlers were missing after storm attack in the coastal belt of Bangladesh on September 20, 2006.

Another formidable challenge to all development efforts of Bangladesh - is the adverse consequences of global warming. The Stern Report (Stern, 2007) warns that the very poor in the low-lying coastal areas of Bangladesh will be one of the worst victims of a rise in the sea-level. According to some estimates, the sea level in the Bay of Bengal is rising by about 3 millimetres a year and, if so, as much as one fifth of the total land of this densely populated coastal country will go under water if the sea level rises by just one meter. It is further estimated that as a consequence, 13 to 30 million people will have to be displaced and the capacity for rice production will also be reduced by as much as 30 per cent. It is worth mentioning that, World Bank (2000) showed 10 centimetres, 25 centimetres, and 1 metre rise in sea level by 2020, 2050 and 2100; affecting 2%, 4% and 17.5% of total land mass respectively (Table 1.1).



Table 1.1 Sea level rise (SLR) in Bangladesh and its possible consequences

| Year           | 2020                                                    | 2050                                                                                                                                                        | 2100                                                                                                                                                                      |
|----------------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sea level rise | 10cm                                                    | 25cm                                                                                                                                                        | 1 m (high end estimate)                                                                                                                                                   |
| Land below SLR | 2 % of land (2,500 km <sup>2</sup> )                    | 4 % of land (6,300 km <sup>2</sup> )                                                                                                                        | 17.5 % of land (25,000 km <sup>2</sup> )<br>Patuakhali, Khulna and Barisal regions will be most affected                                                                  |
| Storm surge    | -                                                       | 1991 cyclone happens again with a 10 % increase in intensity, wind speed increases from 225 to 248 km/h; storm surge goes from 7.1 to 8.6 m with 0.3 m SLR. | Storm surge goes from 7.4 to 9.1 m with 1 m SLR                                                                                                                           |
| Flooding       | 20% increase in inundation                              | Increase flooding in Meghna and Ganges Floodplain Monsoonal floods increase yield loss                                                                      | Both inundation area and flood intensity will increase tremendously                                                                                                       |
| Agriculture    | Inundate 0.2 Mmt. of production; < 1 % of current total | 0.3 m SLR inundate 0.5 Mmt. of production; 2% of current total                                                                                              | Devastating flood may cause crop failure for any year                                                                                                                     |
| Ecosystem      | Inundates 15% of the Sundarbans                         | Inundates 40% of the Sundarbans                                                                                                                             | The Sundarbans would be lost. Loss of the Sundarbans and other coastal wetlands would reduce breeding ground for many estuarine fish, which would reduce their population |
| Salinity       | Increase                                                | Increase                                                                                                                                                    | Increase                                                                                                                                                                  |

Source: Adapted from World Bank, 2000

United Nations Environment Programme (UNEP) (1989) showed as an outcome of 1.5 m rise in the sea level in Bangladesh coast by 2030, 22,000 Sq. km (16% of total landmass) area with a population of 17 million (15% of total population) will be affected. As reported by Sarwar (2005),

At present expected rates, this situation will occur in about 150 years from now. However, number of potential population affected by the projection of World Bank by one metre sea level rise (17.5 million) and that of UNEP by 1.5 metre sea level rise (17 million) is similar.

The anticipated climate change impact in Bangladesh will be manifested in two ways in contrasting regions, such as,

- (i) in the Southern part towards the sea there will be drainage congestion due to higher water and river-bed levels, salinisation of the soil and water resources due to lower river flows, sea-level rise and more intense disasters including cyclones and storm surges with higher risks because of the higher water level; and (ii) the other part of the country in the North-Western region will be subject to scarcity of water leading to drought condition and aridity with less rainfall and higher temperature. (NSAPR-II- GoB, 2009: 90).

The abovementioned examples are indications of the negative consequences of different interventions that directly affected the RC and coastal REC dwellers. Moreover, the present and future challenges posed by sea-level rise due to climate change are also discussed. The long-term goals of FAP: productivity (economic development); stability (insulation of incomes against minor disturbances); sustainability (continued growth over time despite flooding); and equity (gains evenly distributed over the population) all were found to be unfulfilled and rather adverse consequences were the final outcomes. The interventions to control flood and water management are found to have negative consequences in the long run. The food support program also resulted in an inefficient system, as the necessity of the poor in different vulnerable locations with different severity of need was not considered. Again, due to biased targeting the poor who needed the support, the most, were in many a cases left out. In the coastal estuarine *chars*, where the fishermen and the inhabitants rely very much on Meteorological Department for weather warning messages, encounter disaster unprepared for inadequate or inappropriate information. Other serious matters of concern are global warming, sea level rise, climate change and related consequences on the people of Bangladesh especially those in the RECs and RCs. These specific examples set the ground for the present study.

In the scene set above, the next section points to the research problem.

At this point, it is worth pointing to the present time 'rural development' (RD) focus that include SL good governance, decentralization, critique of participation, sector wide approaches, social protection and poverty eradication (Ellis and Biggs, 2001). In Bangladesh also, SL has received momentum in the present time interventions by both the government and the NGOs. However, with the abovementioned examples of development disasters and in the existing realities and future threats posed by climate



change, sea level rise, etc., the extent of implementation of the government and NGO strategies and initiatives toward SD and SL pose question. The concerns grow about the implications, consequences, and sustainability of the interventions and their relevance to people's priorities or topicality.

## **1.5 The Research Problem**

The above discussion sets the stage of the present study which attempts to reveal the consequences of selected NGO interventions in terms of their implications for SL and SD, in the *char* areas- the unique parts of rural Bangladesh. The rationale of the study is as follows.

First, many different government and NGO interventions implemented earlier resulted in development disasters. Such examples, pose the necessity of the analyses of NGO initiatives in terms of their actual consequences toward SL and SD (maintenance of positive development outcomes in both temporal and spatial scale; discussed in Chapter 3) and also in terms of their relevance to people's priorities.

Second, despite decades of development interventions by NGOs in the *char* areas, there have not been adequate evidences of any significant large scale change in the status of 'vulnerability' of the *char* dwellers. In order to understand the problem, this thesis seeks to provide an insight into the 'consequences' of selected NGO interventions in terms of their 'implications' for SL and SD and attempts to reveal the extent to which the interventions are relevant to people's choices.

Third, in this densely populated country, the importance of RC and REC areas is very high. As identified correctly in the 'Millennium Development Goals: A People's Progress Report, Bangladesh' (People's Forum on MDG, Bangladesh, 2005) these areas are unique in many different ways from the rest of the country and on many occasions are missed out from the focus of attention. With the MDGs in the centre of all GoB-NGO activities, the missing perspectives which need to be considered include vulnerability of marginalized groups including among others, those in geographically backward / or isolated *char* or remote areas (ecologically vulnerable), the report asserted. Achieving MDGs by 2015 will highly depend on the development of all the citizens of Bangladesh including all marginalized groups. This understanding was central for choosing the vulnerable marginalized groups of RCs and RECs for the present study.

Fourth, in these isolated spaces, different disasters are primarily the known causes of vulnerability for the people. Many prior researches also drew the conclusion that these communities in the *char* areas are amongst the poorest, most vulnerable, least served, and chronically marginalized which require a 'different approach' by the service providers like government, NGOs, etc. (Roy, Syed, and Azim, 2007<sup>52</sup>; DFID, 2002; Brocklesby and Hobley, 2003 ). Concern about forced migration due to riverbank erosion and (re)settlement of emerging *char* land was highlighted in several publications coming out of the Renewable Energy and Island Sustainability (REIS) project (Zaman, 1987; 1989; 1991; 1994; Haque and Hossain, 1988; Haque and Zaman, 1989; Elahi, Ahmed, and Mafizuddin, 1991; Haque, 1997; Hutton and Haque, 2004). Mamun and Amin (1999) dealt mainly with the physical planning aspects on a *char* located in Barisal District in the lower Meghna. In many research, vulnerability factors have been found to be central (Khan, 1974; Burton, Kates, and White, 1993; Hewitt, 1997; Weichselgartner, 2001, Wisner *et al.* 2004; International Federation of Red Cross and Red Crescent Societies, IFRC<sup>53</sup>, 2006). Other research showed that issues of land dislocation and population displacement due to riverbank erosion in Bangladesh have not been focused by social scientists or by government (Islam, 2009; Zaman and Wiest, 1985; Islam, 1995; Abrar and Azad, 2004; Rahman, 1986; Chowdhury and Kabir, 1991; Halli, 1991; Haque, 1991; Mahbub and Islam, 1991; Rogge, 1991). Nonetheless, despite good progress in cyclone preparedness, exemplified by the existing comprehensive disaster management policies of the Government of Bangladesh, localised vulnerability factors in the RECs are recognised generally without much contextual considerations. In a remote *char* land village in Barisal region, Adnan (1976) conducted a study on the dynamics of power and power relation. Ali (1980) in his research work showed the evolution of the laws that operate in the *char* areas. Zaman (1988), through his anthropological study discussed the conflicts that are characteristics the *char* lands and with special focus to local politics attempted to look at the nature and causes of the conflicts. Baqee (1998) showed the peopling process in the *char* areas along with describing the uncertainties of the lives of *char* dwellers in Bangladesh and their survival strategies. Vulnerability and disaster

<sup>52</sup> Settlement of a Charland Community: A Study on Social Crisis and Coping Pattern.

Retrieved on 14.08.10.

<http://bdeconassoc.org/userfiles/pdf/5%20Settlement%20of%20a%20Charland%20Community-Mihir%20Kumar.pdf>

<sup>53</sup> IFRC means International Federation of Red Cross and Red Crescent Societies



response in Bangladesh have been studied in some other research (Zaman, 1988; Haque and Zaman, 1994; Hutton and Haque, 2003, 2004; Edgeworth and Collins, 2006, Hassan, 2000, Haque and Zaman, 1989) that assert no significant and ended positive change in the vulnerabilities of the *char* dwellers. Others revealed that public adjustments occur, but less so with regard to people's perceptions or behaviour; these were cited as important factors responsible for the failure of past hazard mitigation strategies (Khan, 1974; Paul, 1984; Haque and Zaman, 1993; Hutton and Haque, 2004). These studies also have focused on the reality that, only geographic similarities are not enough to consider communities to be homogeneous. It is thus, not only the consequences of the natural disasters that received focus, but also issues like local power and politics, power relations, and localised vulnerability factors had been studied by some. Although in the present time, 'enhancing the asset base', and therefore 'reducing vulnerability', is perceived to be the best possible way to ensure SL of the people in the *char* areas. Therefore, development projects are being introduced accordingly. However, no academic research on the consequences of these projects in terms of SL can be found. Baumann (2002) pointed to the fact that the SLA has not been discussed in the academic literature. The literature available includes mainly documents, reports produced by donor agencies, NGOs, independent reports contracted by these organizations, and discussions posted on web-sites (Baumann, 2002). As a result, due to non-availability of academic research on this matter, the issues of relevance of the interventions, the consequences they lead to, in terms of SL and SD, remain either unresolved or superficially/unsatisfactorily addressed. The present study aims to fill this gap by providing a meaningful analysis of the asset-base enhancement and vulnerability reduction interventions' relevance to people's choices in the *char* areas and of their consequences in terms of their implications for SL and SD and thus to reveal issues of applied and academic importance.

At this point, it is worth mentioning that the study builds up a number of inter-related themes. These themes guided the way toward the total research work and led to the organisation of the thesis.

The first of these themes is from a development perspective, emergence, and evolution of SD and SL. The notion of 'development' or it is better to say 'the notion of conscious development' or 'the idea that development can be fostered' is relatively new. This theme, 'Sustainable Development and Sustainable Livelihood: A

Conceptual Preview’- discusses development discourse and shows the emergence of SD focus. The thinking in RD is also found to have changed focus in course of time. Consequently, the theme then tracks down the emergence of SL in the RD discourse. In this context, the theme points to the many different existing explanations of SD and SL. The discussion reveals how SD and SLs are linked but again how ‘sustainability’ is used differently in the two concepts. The theme concludes with the brief overview of the SLA and drawing attention to the limitations pointed out by many scholars.

The second theme elaborates on the limitations of SLA and challenges on the way of implementation of SL indicated by different authors. This theme, ‘Deriving the Sustainable Livelihoods at the Local Level (SLLL) Framework for the Present Study and Other Methodological Considerations’- recognises the SLA as a useful research tool. However, pointing to the limitations of the SLA, the study proposes an operationalized framework ‘Sustainable Livelihoods at the Local Level’ (SLLL). This SLLL framework relies on the major elements of the ‘Sustainable Livelihoods Framework’ (SLF) (DFID, 2000) but is framed in a way to best fit the objectives of the present study and to direct field level data collection. Here, in the present study, why, how and to what extent the SLLL framework is used to evaluate the asset-base enhancement and vulnerability reduction interventions in terms of SL and SD is discussed. The theme then operationalizes other relevant terms- development, SD, and vulnerability. The theme then elaborates the methodological considerations of the research under different phases of empirical data collection.

The third theme, ‘Field Level Context of the Programme and Project Interventions in the Studied *Chars*’- relies on the empirical findings. It focuses on the empirical findings regarding the realities of the studied *chars* and *char* areas in general. It incorporates issues like history of settlement and displacement; unique changes observed in course of time and in the recent years; trends in government, NGO and other interventions in the *char* areas; assets available and vulnerabilities confronted by the *char* dwellers.

The fourth theme, ‘Consequences and Implications of the Development Interventions in terms of Sustainable Livelihood and Sustainable Development’- intensively focuses on the consequences and implications of selected development interventions in terms of SL and SD. This theme looks for answers to questions such as, what unique contextual features are observed? What are the ‘consequences’ and ‘implications’ of the development interventions in terms of socio-economic status, land, HH level



assets, etc.? What factors explain intervention ‘consequences’ and ‘sustainability of consequences’?

The fifth theme, ‘Topicality of Interventions, People’s Priorities, and Recommendations’- relates on both people’s priorities and field findings. It addresses such questions as, whether the current interventions are topical to people’s choices? What are people’s own priorities? What are the key components identified for SL and SD? etc. based on the field findings, the theme provides a further revised and modified comprehensive framework, namely ‘Understanding Sustainable Livelihood and Development at the Community Context’ (USLDCC). This theme allows the thesis to conclude with specific recommendations and to provide clues on necessary future research.

In following the sequential flow of interrelated themes, the study proceeds with a number of objectives. The first objective is to track the emergence and evolution of SD focus in the development discourse. The second objective is concerned with the emergence and evolution SL within the context of rural development. The third objective is to provide a brief overview of the SLA. The fourth objective is to examine the usage of the concept SL, SLA and SLF for different purposes. The fifth objective is to reveal the linkages between SD and SL as found in literature. The sixth objective is to explore the reasons why different agencies have lately reduced using the SLA. The seventh objective is to derive and justify the SLLL Approach for the present study. The eighth objective is to operationalize the other relevant terms. The ninth objective is to explain the methodological considerations of the research: purpose of the research, different phases of the field study, study areas, programmes and projects, sample, tools of data collection, procedure and constraints and limitations.

The rest of the objectives concentrate on the empirical findings of the research. Those are mainly to-

1. Identify and explain the field level realities in the studied *char* communities in terms of settlement and displacement, observed unique changes, trends in government, NGO and other interventions, assets and vulnerabilities;
2. Assess the ‘consequences’ and ‘implications’ of the development interventions (selected asset enhancement and vulnerability reduction interventions) in terms of SL and SD, and
3. To reveal the ‘topicality’ of the interventions and people’s priorities.

## 1.6 Organization of the Thesis

Following this introductory chapter, there are 5 chapters organized around the abovementioned four themes. The chapters and contents are shown in Table 1.2.

Chapter 2 illustrates the emergence and evolution of SD focus in development discourse and SL in the RD discourse. Discussing the emergence of SD focus in development in the first part, the idea of SD is critically evaluated in line with its evolution till the present time. Exemplifying the emergence of the concept SL, the links between SD and SL as discussed by different scholars and institutions are elaborated. Drawing upon the discussed links between SD and SL, the present study endorses that ‘sustainable’ is used in two different senses in SL and in SD. The relation between these two is only a kind of conceptual necessity, since both SD and SL are defined in terms of the long-term satisfaction of basic human needs. The chapter concludes with the discussion on SLA, SLF and the use of the concept SL, SLA and SL framework for different purposes in different studies in different contexts, relevant to this study.

Chapter 3, commences with an elaboration on why different agencies have recently reduced using the SLAs. Indicating a good number of limitations of the SLAs that has been identified by recent scholars, the chapter proposes an operationalized conceptual framework named ‘Sustainable Livelihoods at the Local Level’ (SLLL). This SLLL framework is proposed based on the major elements of the SLF to attain the objectives of the study. Operationalizing different terms relevant to the present study, the chapter addresses other methodological considerations, such as, purpose of the research, different phases of the field study, study areas, programmes and projects, sample, tools of data collection, procedure and constraints and limitations.

Chapters 4 through 6, present the empirical findings of the study. In line with the uniqueness of RCs in Bangladesh (as discussed in this chapter), Chapter 4, portrays the field level context of the studied *chars* and of the *char* areas in general in terms of settlement and displacement, unique changes observed, trends in government, NGO and other interventions, assets and vulnerabilities. Chapter 5 then assesses the ‘implications’ and ‘consequences’ of the development interventions (asset enhancement and vulnerability reduction interventions) in terms of SL and SD. The argument developed is that the interventions targeted to SL through ‘enhancing asset base’ and ‘reducing vulnerability’ of *char* dwellers are leading to mixed



consequences, both positive and negative, and are leading to temporary and transient solutions only to some of the problems of a very few beneficiaries. They are neither leading to any substantial 'SL solution' for the majority of the people nor to a 'SD solution' towards 'enhancement of asset-base' and 'reduction of vulnerabilities'. For a few households (HHs), the study demonstrates that the interventions result in 'asset-base enhancement' and 'vulnerability reduction' to some extent. For others, the interventions work merely as a 'safety net' leading to temporary solutions to the targeted problem.

Chapter 6 examines the 'topicality' of the interventions to people's choices. Discussing the considerations that people think are necessary in their specific situation for maintaining development over time, the chapter then focuses on the gaps in the practice of the studied programmes and projects to propose the recommendations. On the basis of field level experience, the study further revises and modifies the SLLL framework with a view to provide a more comprehensive framework, namely 'Understanding Sustainable Livelihood and Development at the Community Context' (USLDCC). The chapter concludes providing clues on future research with respect to SL and SD.

Table 1.2 The organization of the thesis: a summary

| Broad Themes                                         | Objectives                                                                    | Questions                                                                   | Tools             | Ch. |
|------------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------|-----|
| Part A Theoretical Considerations                    |                                                                               |                                                                             |                   |     |
| Sustainable Development and Sustainable Livelihoods: | Introduction                                                                  |                                                                             |                   | 2.1 |
| A Conceptual Preview                                 | To track the emergence and evolution of SD focus in the development discourse | What are the different explanations and meanings of SD?                     | Literature review | 2.2 |
|                                                      | To track the emergence and evolution SL within the context of RD              | What are the different explanations of SL?                                  | Literature review | 2.3 |
|                                                      | SLA, framework, and principles                                                | What are the SLF and SL principles?                                         | Literature review | 2.4 |
|                                                      | To examine uses of the concept SL, SLA, and SLF for different purposes        | What are the usages of the concept SL, SLA, and SLF for different purposes? | Literature review | 2.5 |
|                                                      | To reveal the linkages between SD and SL as found in literature               | How SD and SL are linked?                                                   | Literature review | 2.6 |
|                                                      | Conclusion                                                                    |                                                                             |                   | 2.7 |



| Broad Themes                                                                                                                           | Objectives                                                                                                                                                                                                                                 | Questions                                                                                                                                                                                                                                                                                                                            | Tools                                                                                                 | Ch. |
|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----|
| Deriving the Sustainable Livelihoods at the Local Level (SLLL) Framework for the Present Study and other Methodological Considerations | Introduction                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                      |                                                                                                       | 3.1 |
|                                                                                                                                        | To explore the reasons why different agencies have lately reduced using the SLA                                                                                                                                                            | Why different agencies, of late, do not prefer to use the SLA?                                                                                                                                                                                                                                                                       | Literature review                                                                                     | 3.2 |
|                                                                                                                                        | To derive and justify the SLLL Approach for the present study                                                                                                                                                                              | Why, how and to what extent the SLLL Approach is used to evaluate the consequences of development Interventions in terms of SL and SD to guide the field data collection?                                                                                                                                                            | Literature review                                                                                     | 3.3 |
|                                                                                                                                        | To operationalize relevant terms                                                                                                                                                                                                           | How relevant terms are operationalized for the present study?                                                                                                                                                                                                                                                                        | Literature review                                                                                     | 3.4 |
|                                                                                                                                        | To explain the methodological considerations of the research: purpose of the research, different phases of the field study, study areas, programmes and projects, sample, tools of data collection, procedure, constraints and limitations | What purposes does the present research serve? What were the different phases? What were the study areas? How different programme and project were selected for the present study? What was the sample size? What tools had been used? What procedure was followed? What were the constraints and limitations for the present study? | Literature review, maps, community information, project documents, other government and NGO documents | 3.5 |
|                                                                                                                                        | Conclusion                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                      |                                                                                                       | 3.6 |

| Broad Themes                                                                               | Objectives                                                                                                                                                                                                                                       | Questions                                                                           | Tools                                                                                                                                                                                    | Ch. |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Part B Empirical Findings                                                                  |                                                                                                                                                                                                                                                  |                                                                                     |                                                                                                                                                                                          |     |
| Field Level context of the Programme and Project Interventions in the Studied <i>Chars</i> | Introduction                                                                                                                                                                                                                                     |                                                                                     |                                                                                                                                                                                          | 4.1 |
|                                                                                            | To focus on the field level realities of the studied <i>chars</i> and of the <i>char</i> areas in general in terms of settlement and displacement, unique changes, trends in government, NGO and other interventions, assets and vulnerabilities | What is the settlement & displacement history in the studied <i>chars</i> ?         | Questionnaire survey, KII: Executive Director (ED), project manager, AC-lands, knowledgeable elderly <i>char</i> dweller, Focus Group Discussion (FGD), case studies, HH level interview | 4.2 |
|                                                                                            |                                                                                                                                                                                                                                                  | What are the unique changes observed in the course of time and in the recent years? | KII: ED, elderly <i>char</i> dweller, project manager, FGDs, HH level interview, case studies                                                                                            | 4.3 |
|                                                                                            |                                                                                                                                                                                                                                                  | What trends in government, NGO and other interventions can be traced?               | Questionnaire survey, FGDs, KII: ED, Thana Nirbahi Officer (TNO), project manager, elderly <i>char</i> dweller; other government documents                                               | 4.4 |
|                                                                                            |                                                                                                                                                                                                                                                  | What are the assets and vulnerabilities of the <i>char</i> dwellers?                | Questionnaire survey, FGD, KII: ED, project manager, knowledgeable elderly <i>char</i> dweller, HH level interview, case studies and observation                                         | 4.5 |
| Conclusion                                                                                 |                                                                                                                                                                                                                                                  |                                                                                     |                                                                                                                                                                                          | 4.6 |



| Broad Themes                                                                                                                  | Objectives                                                                                                                                                                    | Questions                                                                                                                                                                                       | Tools                                                                                                                                            | Ch. |
|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Consequences and Implications of the Development Interventions in Terms of Sustainable Livelihood and Sustainable Development | Introduction                                                                                                                                                                  |                                                                                                                                                                                                 |                                                                                                                                                  | 5.1 |
|                                                                                                                               | To assess the consequences and implications of the development interventions (asset enhancement and vulnerability reduction interventions) in the field in terms of SL and SD | What unique contextual features are observed?                                                                                                                                                   | KII: ED, Project manager, knowledgeable elderly <i>char</i> dweller, FGD, observation, HH level interview and case studies                       | 5.2 |
|                                                                                                                               |                                                                                                                                                                               | What are the 'consequences' and 'implications' of the development interventions in terms of socio-economic status, land, HH level assets, HH level livestock and trees, income and expenditure? | Questionnaire survey, KII: ED, Project manager, knowledgeable elderly <i>char</i> dweller, FGD, observation, HH level interview and case studies | 5.3 |
|                                                                                                                               |                                                                                                                                                                               | What factors explain intervention 'consequences' and 'sustainability of consequences'?                                                                                                          | Questionnaire survey, KII: ED, Project manager, knowledgeable elderly <i>char</i> dweller, FGD, observation, HH level interview and case studies | 5.4 |
|                                                                                                                               | Conclusion                                                                                                                                                                    |                                                                                                                                                                                                 |                                                                                                                                                  | 5.5 |

| Broad Themes                                                         | Objectives                                                                                                                                                                           | Questions                                                                                                                                                                                   | Tools                                                                                                                                             | Ch. |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Topicality of Interventions, People's Priorities and Recommendations | Introduction                                                                                                                                                                         |                                                                                                                                                                                             |                                                                                                                                                   | 6.1 |
|                                                                      | To assess the studied programme and project with the Sustainable Livelihood at the Local Level Principles                                                                            | Where do the studied programmes and project stand in terms of the SLLL principles?                                                                                                          | Questionnaire survey, KII: ED, PC, Project manager, knowledgeable elderly <i>char</i> dweller, FGD, HH level interview, case studies, observation | 6.2 |
|                                                                      | To reveal whether the current interventions are topical to people's choices                                                                                                          | Whether the current interventions are topical to people's choices. What are people's own priorities?                                                                                        | Questionnaire survey, KII: ED, PC, Project manager, knowledgeable elderly <i>char</i> dweller, FGD, HH level Interview, case studies, observation | 6.3 |
|                                                                      | To reveal what people's own priorities are                                                                                                                                           |                                                                                                                                                                                             |                                                                                                                                                   | 6.4 |
|                                                                      | To reveal the key components for SL and SD                                                                                                                                           | What are the key components identified for SL and SD?                                                                                                                                       |                                                                                                                                                   | 6.5 |
|                                                                      | To revise and modify the SLLL framework and providing a more comprehensive framework namely 'Understanding Sustainable Livelihood and Development at the Community Context' (USLDCC) | What is the revised framework on the basis of the factors identified to be crucial to determine 'consequences' of interventions and 'sustainability of consequences' in terms of SL and SD? |                                                                                                                                                   | 6.6 |
|                                                                      | To propose the conclusions and recommendations                                                                                                                                       | What are the recommendations in the conclusion, based on the major findings?                                                                                                                |                                                                                                                                                   | 6.7 |
|                                                                      | To propose clues on future research                                                                                                                                                  | What are the issues revealed through this study for future research?                                                                                                                        |                                                                                                                                                   |     |



**PART A**

**Theoretical Considerations**

## CHAPTER 2

### Sustainable Development and Sustainable Livelihood: A Conceptual Preview

#### 2.1 Introduction

Chapter 1 included discussion on how the ‘river *chars*’ (RCs) and the ‘river estuarine *chars*’ (RECs) are unique, the development strategies undertaken by the government and major development programmes and projects being implemented by different NGOs in these unique spaces in terms of ‘sustainable livelihoods’ (SL) and ‘sustainable development’ (SD). Discussing examples of development disasters and the existing realities and future threats posed by climate change, sea level rise, etc., I explained the contextual setting which led to the research problem. I then provided the themes and objectives and a total picture on how the thesis is organized with a view to offer a comprehensive understanding of the whole thesis. In this chapter, I demonstrated the emergence and evolution of SD focus in development discourse and SL in the ‘rural development’ (RD) discourse. Through different international events, research and literature, I attempted to show the evolution of the concepts SD and SL. Here, with the detailed account on SD and SL, I revealed that the term ‘sustainable’ is used in two distinct meaning in the two concepts, SD and SL.

At the beginning, the chapter concentrates on the emergence of SD focus in development. The idea of SD is critically evaluated in line with its evolution till the present time. In the post World War II (WWII) context, the idea that ‘development can be fostered’ got momentum and plans for conscious development initiatives started to emerge. Although, the concern for environment was not new, the suppression of the issue in the wave of technological modernization gave it a new life with the concept of SD. With its first appearance in the fostered development efforts around 1980s, SD is found to have generated hundreds of interpretations in relation to many different contexts in course of time. Importance of the concept continues despite persisting debates and controversies along with the concerns like, ‘pillars’, ‘core issues’, ‘essential requirements’, ‘needs’, ‘limitations’, ‘intergenerational sustainability’, ‘intra-generational sustainability’, ‘strong sustainability’, ‘weak



sustainability’, etc. Twenty years of intensive activities till the turn of the new millennium throughout the globe and in different nations that included seminars, policy making, books, research articles, published documents, etc. continue to sustain debates on these concerns about SD along with strongly reaffirmed necessity for ensuring SD. In this new millennium, the focus has shifted to achieving the Millennium Development Goals (MDGs). However, SD initiative is yet to be realized in a realistic way. Interestingly, with the popularization of the concept of SD, the term ‘sustainable’ became a buzz word not only in development sector, but also in every possible sector, that started to use the term with its literal meaning. Consequently, at a point, it came to be that SD referred to “maintaining development over time” (Elliott, 2006).

SD also triggered the emergence of the concept SL. Actually, SD and SL flourished simultaneously but in two specialism, development and rural development respectively. In the RD initiatives, focus had always been on ‘livelihoods’ along with the fulfilment of all other basic needs and service provisions. In the years after the WWII, initiatives had been commenced to modernize the underdeveloped through agricultural modernization, diversification in livelihoods, free market, etc. Although agriculture and food production got priority in the rural development agenda throughout, inadequate attention was paid to the complexity of rural livelihoods. Lack of consideration of the multiple dimensions of rural poverty led to the failure of many initiatives that were carried out. By the 1990s, SL appeared as a reasonable alternative with the ‘focus on the enhancement of peoples’ capacities to secure their own livelihoods’. From then on, the concepts, approaches, and frameworks of SL had been explained, expanded, and elaborated extensively through different seminars, publications and events. The next part of this chapter traces the emergence of the concept SL followed by the discussion on sustainable livelihoods approach (SLA), sustainable livelihoods framework (SLF) and the use of the concept SL, SLA and SL framework for different purposes in different studies in different contexts, relevant to this study. It is established that, similar to SD, the definition and explanation of SL also varied in different studies and the diverse practice of SL concept SLA and SLF demonstrate their importance.

Consequently, with an analysis on how different scholars and institutions have showed the links between SD and SL, the chapter draws the conclusion that ‘sustainability’ is an inherently dynamic, indefinite and contested concept and the

explanation of SL failed to capture the ecological aspects of sustainability, and thus the full sense of ‘sustainable’, as is presented in the World Commission’s keynote phrase ‘Sustainable Development’. In this context, the chapter upholds the fact, pointed out by Attfield, Hattingh, and Matshabaphala (2004) that ‘sustainable’ is used in two different senses in SL and in SD. Again, it is endorsed that the relation between these two is “in some respects one of conceptual necessity, since both sustainable development and sustainable livelihoods are defined (in part) in terms of the long-term satisfaction of basic human needs” (Attfield, Hattingh and Matshabaphala, 2004). This chapter ends by pointing to the limitations associated with the SLA and SLF that are further elaborated in Chapter 3.

## **2.2 Different Explanations and Meanings of Sustainable Development**

Development is,

a comprehensive economic, social, cultural and political process which aims at the constant improvement of the well being of the entire population and of all individuals on the basis of their active, free and meaningful participation in development and in the fair distribution of benefits resulting therefrom. (Office of the High Commissioner for Human Rights, 1986<sup>54</sup>)

The notion of ‘development’ or it is better to say ‘the notion of conscious development’ or ‘the idea that development can be fostered’ is relatively new. After the WWII, on 20 January 1949, Harry S. Truman in his inaugural speech as the president of the United States introduced the concept of ‘fair deal’ for the entire world. Using the word ‘underdeveloped’, Truman, identified the problem of this huge portion of the world and indicated the solution to be modern scientific and technical knowledge of the developed. The Truman doctrine initiated a new era in the understanding and management of world affairs, particularly those concerning the less economically accomplished countries of the world (Escobar, 1995). As a result, economic development and poverty reduction in the ‘underdeveloped’ parts of the world became an international agenda. The United Nations and other international organizations like, International Bank for Reconstruction and Development (International Bank for Reconstruction and Development, IBRD; the now World

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<sup>54</sup> Declaration on the Right to Development. Office of the High Commissioner for Human Rights, 1986. Retrieved on 21.02.10.  
<http://www2.ohchr.org/english/law/rtd.htm>



Bank), the International Monetary Fund, etc. were formed with the single focus of improving and reforming the economies rather than bringing political and social changes. By the end of the Second World War, perceptions and policies changed drastically. Only economic growth became a major concern of governments. Social and institutional improvement existed in theory and policy but in a very small scale. As decolonization (occurred between 1945 and 1962) occurred, the international agenda of developing the underdeveloped was extended to all the poorer nations of the world.

In 1960, W.W. Rostow published 'The Stages of Economic Growth: A Non-Communist Manifesto'. In this ambitious overview of economic development, he put forward a scheme of five stages which all developing countries would pass. Starting from the 'traditional' stage a society passes through 'preconditions for take off', economic 'take-off', 'drive to maturity' and finally reaches the 'age of high mass consumption'. Rostow and other modernization theorists saw development as the 'process of change towards those types of social, economic and political systems' created in Europe and the USA from the 17th century, (Eisenstadt, 1966) that they believed to be essential to elevate living standards with more goods and services to an expanding population. Donors and the elites of most newly independent countries alike were committed to an almost missionary task, namely development through technical modernisation (Simon, 2000).

Escobar (1995) reported that in one of the most influential documents of the period. Prepared by a group of experts convened by the United Nations with the objective of designing concrete policies and measures 'for the economic development of underdeveloped countries', the report mentioned:

There is a sense in which rapid economic progress is impossible without painful adjustments. Ancient philosophies have to be scrapped; old social institutions have to disintegrate; bonds of caste, creed and race have to burst, and large numbers of persons who cannot keep up with progress have to have their expectations of a comfortable life frustrated. Very few communities are willing to pay the full price of economic progress. (United Nations, Department of Social and Economic Affairs, 1951).<sup>55</sup>

Escobar (1995) summarized saying that "the statement exemplified a growing will to transform drastically two-third of the world in the pursuit of the goal of material prosperity and economic progress".

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<sup>55</sup> See, Escobar, *Encountering Development: The Making and Unmaking of the Third World*, 1995

Development conceived of as economic growth is a quantitative concept and basically means more of the same (Szirmai, 2005). But economic development is not economic growth alone. Economic development refers to growth accompanied by qualitative changes in the structure of production and employment, generally referred to as structural change (Kuznets, 1966).

In the early 1950s, structuralist theories located the causes of underdevelopment in lingering colonial trade patterns and recommended import substitution as a solution. It is considered to be the era of engineers. The goal of development was to build infrastructure (roads, electricity, dams) in developing countries<sup>56</sup>. The great industrial resurgence, which gathered momentum in the 1950s, was state directed, disciplined by targets, and frequently led by the public sector. The retreat from the first globalization, which began in 1914,<sup>57</sup> entered a new phase as capitalist and socialist economies and newly independent colonies embraced inward-looking growth policies (Findlay and O'Rourke, 2008).

With the emergence of the idea that 'development can be fostered' and belief in 'development through technical modernisation', 'development' was being used synonymously with economic growth. It is in the 1960s that this conception came under growing criticism. Many authors such as Dudley Seers, Gunnar Myrdal, Paul Streeten, Hollis Chenery, Mahbub ul Haq and institutions like International Labour Organization (ILO) pointed out that despite the impressive growth records in the post-WWII period developing countries, much changes had not occurred in the living conditions of the masses of the poor (Szirmai, 2005; Chenery *et al.* 1974; ILO, 1976; Myrdal, 1971; Seers, 1979; Streeten, 1972; ul Haq, 1976). The conclusion drawn was that development involves more than economic growth and changes in economic structures (Szirmai, 2005). 1960s is the era of 'Green Revolution'. The belief was, 'technology improves farming'. The goal was to plant better crops to wipe out world hunger<sup>58</sup>.

In the late 1970's a focus on basic needs was advocated by Paul Streeten, Mahbub Ul Haq, Amartya Sen and others. Their advocacy for education, nutrition, health,

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<sup>56</sup> Development. Retrieved on 22.2.09. <http://youthink.worldbank.org/issues/development/>

<sup>57</sup> Scattered evidence of global integration as a result of advances in shipbuilding and the growth of trade begins accumulating from the 15th century onward (on 'archaic' globalization, see Bayly, 2002). One scholar maintains that the Roman Empire was a major globalizing force because it expanded markets; imposed peace; and integrated culture, technologies, and ideas (Hitchner, 2008).

<sup>58</sup> Development.

Retrieved on 12. 03.09.

<http://youthink.worldbank.org/issues/development/>



sanitation, and employment for the poor, reflected an acknowledgment that the benefits of development did not necessarily 'trickle down' to the deprived (Harris, 2000). Education was the main focus and actions were concentrated on promoting education.

With a shift in focus to 'structural adjustment', experience of 1980's also included liberalization of trade, eliminating government deficits and overvalued exchange rates, and dismantling inefficient parasitical organizations. International institutions imposed liberal development policies to the Third World countries during the post-WWII period. Between 1970s and 1980s, those proved to be wrong. Many countries were found to have chronic payment problem that indicated that those countries were fallen into economic crisis. The institutions, such as, World Bank and International Monetary Fund, which imposed liberal development policies earlier came up with the Structural Adjustment Policies (SAPs)<sup>59</sup> to address the then economic crisis in several African, Latin American, Caribbean and Asian countries between 1980s and 1990s. Through condition-based loan packages, SAPs were introduced "to push countries to the economic growth based on efficiency and stability" (Abbasoglu, Aysan, and Gunes, 2007). On one hand, SAPs required poor countries to reduce spending on things like health, education and development, on the other hand, debt repayment and other economic policies were prioritized. In effect, the IMF and World Bank have demanded that poor nations lower the standard of living of their people<sup>60</sup>.

The significant focus in development was then shifted to SD. Concern about environment was not new. Environmentalists in the late 1960s and 1970s argued that exponential growth could not be sustained without seriously depleting the planet's resources and overloading its ability to deal with pollution and waste materials (Beder, 2005). For environmental problems industries, Western culture, economic growth and technology were blamed. Even at that time, the environmentalists questioned Western paradigms and strongly criticized inequitable distribution of wealth and resource use. Rachel Carson's 'Silent Spring' (1962), Paul Ehrlich's 'The Population Bomb' (1968), and Donella Meadows's 'The Limits to Growth' (1972) showed the serious harmful effects of accelerating industrial growth and the chemical-

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<sup>59</sup> Structural Adjustment Policies are also known as The Washington Consensus, the Economic Reconstruction Programmes, New Economic Policy, Economic Adjustment Programme and so on.

<sup>60</sup> Structural Adjustment—a Major Cause of Poverty.

Retrieved on 15.1.10.

[http://www.electricprint.com/edu4/classes/readings/327readings\\_fall09/r18\\_struc\\_bank.pdf](http://www.electricprint.com/edu4/classes/readings/327readings_fall09/r18_struc_bank.pdf).

dependent agriculture of the green revolution. By questioning the very possibility of progress, environmentalism then undercut the rationale and methods of development (Cullather, 2002).

SD has evolved from philosophical concerns about humankind's responsibility for nature (Passmore, 1974) into locally- and nationally-based environmental groups demanding more attention to the environment (Lowe and Goyder, 1983).

The United Nation's (UN's) first major international conference on international environmental issues 'The United Nations Conference on the Human Environment'<sup>61</sup> was held in Stockholm, Sweden, from June 5-16, 1972. It became a strong guiding force for the development of international environmental politics at that time (Baylis & Smith, 2005). The Stockholm Conference came up with the framework for future environmental cooperation and consequently the global and regional environmental monitoring networks (Baylis and Smith, 2005) were created. Not only was the awareness of environmental issues among public and governments increased (for example, many governments subsequently created Ministries for the Environment and/or national agencies for environmental monitoring and regulation), but also, later in 1972, a small secretariat 'United Nations Environment Programme' (UNEP) was established in the United Nations as a focal point for environmental action and coordination within the UN system<sup>62</sup>. Stockholm articulated the right of people to live "in an environment of a quality that permits a life of dignity and well-being"<sup>63</sup>. Following the Stockholm Conference, about 50 governments worldwide were instrumental in adopting instruments or national constitutions that recognize the environment as a fundamental human right (Chenje, Mohamed-Katerere and Ncube, 1996). National legislation regarding the environment was also recognized by several different organizations. During 1971-75, 31 major national environmental laws were passed in the countries of the Organization for Economic Cooperation and Development (OECD), compared to just 4 during 1956-60, 10 during 1960-65 and 18 during 1966-70 (Long, 2000). Again, it is worth mentioning that, in 1972, before the

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<sup>61</sup> United Nations Conference on the Human Environment is also known as the Stockholm Conference as it was held in Stockholm, Sweden.

<sup>62</sup> The recommendation for a secretariat in the United Nations as a focal point for environmental action and coordination within the UN system came from the Stockholm Conference. 'The United Nations Conference on the Human Environment'.

Retrieved on 17.12.09.

<http://www.grida.no/publications/other/geo3/?src=/geo/geo3/english/040.htm>

<sup>63</sup> Principle 1, Stockholm Declaration on the Human Environment, Report of the United Nations Conference on the Human Environment (New York, 1973), UN Doc. A/CONF.48/14/Rev.1. See L.Sohn, The Stockholm Declaration on the Human Environment, 14 Harv. ILJ (1973), 451-455.



Stockholm Conference, there were only about 10 ministries of environment; but by 1982, some 110 countries had such ministries or departments (Clarke and Timberlake, 1982)<sup>64</sup>.

The idea of SD was proposed in a 1981 report of the U.S. Council on Environmental Quality (CEQ), 'Global Futures: Time to Act'. In this report, SD was introduced as a key concept. Economic development, if it is to be successful over the long term, must proceed in a way that protects the natural resource base of developing countries (p. xxi) (Hecht, 1999). However, reviewing literature, it is found that definitions of SD were given by authors even before 1981; to mention, Coomer (1979) wrote, "The sustainable society is one that lives within the self-perpetuating limits of its environment. That society... is not a 'no growth' society... It is rather, a society that recognizes the limits of growth... [and] looks for alternative ways of growing".

International Union for Conservation of Nature (IUCN), World Wildlife Fund (WWF) and UNEP in the World Conservation Strategy (IUCN-UNEP-WWF, 1980) defined SD as the "maintenance of essential ecological processes and life support systems, the preservation of genetic diversity, and the sustainable utilization of species and ecosystems".

Allen (1980) summarized the World Conservation Strategy and suggested that SD is "development that is likely to achieve lasting satisfaction of human needs and improvement of the quality of human life".

In 1983, the United Nations assigned a commission on environment and development under Norwegian Prime Minister Gro Harlem Brundtland to reconcile the objectives of environmental health and economic growth. The Brundtland Report, 'Our Common Future' (United Nations, 1987), issued in April 1987, popularized the term SD.

Brundtland defined SD as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, WCED, 1987). The Brundtland report further noted that this definition relies on two key concepts: one is that of 'needs', 'in particular the essential needs of the world's poor, to which overriding priority should be given'. The other is "the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and

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<sup>64</sup> The United Nations Conference on the Human Environment.  
Retrieved on 19.06.10.  
<http://www.unep.org/geo/geo3/english/040.htm>

future needs” (OECD, 2001).

The apparently simple definition of SD forwarded by the Commission is soon seen to encompass some very challenging notions, such as those of inter-generational equity, needs and limits (Elliott, 2006).

The core issues and necessary conditions for SD as identified by WCED (1987)<sup>65</sup> are given below:

Core issues:

- Population and development
- Food security
- Species and ecosystems
- Energy
- Industry
- The urban challenge

Pursuit of SD requires:

- A political system that secures effective citizens participation in decision-making
- An economic system that provides for solutions for the tensions arising from disharmonious development
- A production system that respects the obligation to preserve the ecological base for development
- A technological system that fosters sustainable patterns of trade and finance
- An international system that fosters sustainable patterns of trade and finance
- An administrative system that is flexible and has the capacity for self-correction

Subsequent elaborations and analyses have converted the simple Brundtland concept into a sophisticated system with three pillars – one each for the economic, environmental, and social aspects of SD (Pearce, Markandya, and Barbier, 1989; World Bank, 1992, 2003)<sup>66</sup>.

In broad terms as Tolba (1987) identified, the concept of SD encompasses:

- Help for the very poor because they are left with no option other than to destroy their environment;
- The idea of self reliant development, within natural resource constraints;
- The idea of cost-effective development using differing economic criteria to the

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<sup>65</sup> Reported in Jennifer A. Elliott in 1999 in ‘An introduction to sustainable development’.

<sup>66</sup> Sustainable Development: The Road towards the 2007 Session of the Commission on Sustainable Development (CSD-15).

Retrieved on 16.02.10.



traditional approach; that is to say development should not degrade environmental quality, nor should it reduce productivity in the long run;

- The great issues of health control, appropriate technologies, food self-reliance, clean water and shelter for all;
- The notion that people- centred interventions are needed; human beings, in other words, are the resources in the concept.

In 1992, leaders at the United Nations Conference on Environment and Development (UNCED) (unofficially known as the 'Earth Summit') (United Nations, 2007), built upon the framework of Brundtland Report to create agreements and conventions on critical issues, such as climate change, desertification and deforestation<sup>67</sup>. Agenda 21; the Rio Declaration on Environment and Development; the Statement of Principles for the Sustainable Management of Forests; United Nations Framework Convention on Climate Change and the Convention on Biological Diversity were adopted by more than 178 Governments at the Conference (UNCED) held in Rio de Janeiro, Brazil, 3 to 14 June 1992<sup>68</sup>.

The broad action strategy—Agenda 21— was drafted as the work plan for environment and development issues for the coming decades in 21<sup>st</sup> century. This was prepared as a comprehensive plan of action to be taken globally, nationally and locally by organizations of the United Nations System, Governments, and Major Groups in every area in which there has been human impacts on the environment<sup>69</sup>.

Built on ideas from the Stockholm Declaration, with a vision to guide future SD around the world, 'The Rio Declaration on Environment and Development' offered 27 principles. These principles defined the rights of people to development along with their responsibilities to protect the common environment. The Rio Declaration states that the only way to have long term economic progress is to link it with environmental protection. This will only happen if nations establish a new and equitable global partnership involving governments, their people and key sectors of societies. They must build international agreements that protect the integrity of the global

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<sup>67</sup> Introduction to Sustainable Development.

Retrieved on 06.04.09.

<http://sustainus.org/docs/SD.Gateway.Presentation.pdf>

<sup>68</sup> Sustainable Development Conventions and Treaties.

Retrieved on 23.01.10.

<http://ces.iisc.ernet.in/hpg/envis/sdev/conv.htm>

<sup>69</sup> History of ESD (Education for sustainable development).

Retrieved on 06.04.09.

<http://www.unescobkk.org/education/esd-unit/history/history-of-esd/>

environmental and the developmental system<sup>70</sup>. Consequently, to ensure effective follow-up of UNCED, the Commission on Sustainable Development (CSD) was created in December 1992. CSD was thus responsible to monitor and report on implementation of the agreements at the local, national, regional and international levels<sup>71</sup>.

Throughout the 1990s, all the governments who adopted the Rio Declaration on Environment and Development worked for their promises, and regional and sectoral sustainability plans were developed. A wide variety of groups—ranging from businesses to municipal governments to international organizations such as the World Bank—adopted the SD concept and gave it their own particular interpretations<sup>72</sup>. These interpretations have increased our understanding of SD within many different contexts. Unfortunately, the Earth Summit +5<sup>73</sup> review, as expressed in the Special Session of the General Assembly of the United Nations in 1997, “progress on implementing sustainable development plans has been slow”<sup>74</sup>. The identified key trends for the identified ‘uneven’ progress included increasing globalization, widening inequalities in income, and a continued deterioration of the global environment<sup>75</sup>. It was a disappointing progress review with single success stories outweighed by the overall failure of countries to give appropriate political weight to meaningful implementation (Brown, 1997).

In the OECD publication ‘Sustainable Development: Critical Issues’ (2001), with the identified international goals<sup>76</sup>, the consequences in action were criticised as follows:

International goals for emissions of greenhouse gases, protection of biodiversity, and preventing desertification have been established since the Rio Summit in 1992. A range of other conventions and protocols at the regional level set emission limits for a range of pollutants. Unfortunately the

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<sup>70</sup> Rio Declaration on Environment and Development.  
Retrieved on 07.05.09.

<http://www.iisd.org/rio%2B5/agenda/declaration.htm>

<sup>71</sup> It was agreed that a five year review of Earth Summit progress would be made in 1997 by the United Nations General Assembly meeting in special session. Till now 18 sessions of the CSD has been taken place.

<sup>72</sup> United Nations Environment Programme, United Nations Conference on Trade and Development. Training module, Introduction to Capacity Building for Environment, Trade and Sustainable Development.  
Retrieved on 06.07.09.

<http://www.unep.ch/etb/publications/capacityBuilding/TrainingModule148.pdf>

<sup>73</sup> Special session of the General Assembly to review and appraise the implementation of Agenda 21.

<sup>74</sup> Introduction to Sustainable Development.

Retrieved on 06.06.09.

<http://sustainus.org/docs/SD.Gateway.Presentation.pdf>

<sup>75</sup> Consequent to the report of ‘uneven’ and slow progress was a new General Assembly Resolution (S-19/2) that promised further action.

<sup>76</sup> the goals identified in the Rio Summit



simple existence of these conventions and treaties does not mean that concrete actions leading to their achievement are underway, as lags in implementation have translated into a growing gap between goals and outcomes.

The reality was such that, despite decades of 'development', poverty in the South continued to increase. Existing development approaches offered elegant models, but they were not working, not bringing the expected outcomes. Alternative paths<sup>77</sup> were urgently needed, with this understanding, at the beginning of the twenty-first century there was general agreement, at the global as well as national level, that poverty is unacceptable as part of the human condition (Naseem, 2002<sup>78</sup>). Thus, globally it has been recognized that the coexistence of pervasive poverty, with the affluence of a much smaller segment of the population, is ethically unacceptable, economically inefficient, and politically unsustainable. With this reality of inequality and the unacceptability of it, the eight Millennium Development Goals (MDGs) were agreed upon at the United Nations Millennium Summit in September 2000 by 190 countries in ten regions. It is adopted as a framework for the development activities.

The next milestone on the way forward to ensure SD was the World Summit on Sustainable Development (WSSD) (also named the Earth Summit 2002), that was held in Johannesburg, South Africa from 26 August to 4 September 2002.

Nitin Desai, the Secretary-General of the World Summit on SD<sup>79</sup>, in his introductory note 'Johannesburg and Beyond: Making Sustainable Development a Global Reality' of the publication 'Global Challenge, Global Opportunity: Trends in Sustainable Development'<sup>80</sup> started with the following paragraph to clarify what the issue is all about:

Since the Rio Earth Summit in 1992, sustainable development has emerged as a new paradigm of development, integrating economic growth, social development and environmental protection as interdependent and mutually supportive elements of long-term development. Sustainable development also emphasizes a participatory, multi-stakeholder approach to policy making and implementation, mobilizing public and private resources for development and

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<sup>77</sup> SD Gateway. Retrieved on 29.1.09. <http://sdgateway.net/livelihoods/introduction.htm>

<sup>78</sup> Rural development and poverty in South Asia. 2002. This paper was prepared while the author was a Visiting Fellow at the Yale Centre for International Area Studies (YCIAS) and the Economic Growth Center (EGC) of Yale University.

Retrieved on 29.1.09.

[http://www.unescap.org/pdd/publications/dp23/chapter\\_1.pdf](http://www.unescap.org/pdd/publications/dp23/chapter_1.pdf)

<sup>79</sup> World Summit on Sustainable Development was held from and on 26 August 2002 to 4 September 2002

<sup>80</sup> United Nations Department of Economic and Social Affairs (UNESA). Global Challenge, Global Opportunity: Trends in Sustainable Development Nitin Desai, August 2002. State of the Environment in Asia and the Pacific 2000. August 2002.

making use of the knowledge, skills and energy of all social groups concerned with the future of the planet and its people.

With the strengthened commitment to 'full implementation' of Agenda 21 and achievement of the Millennium Development Goals and other international agreements, the 'Johannesburg Plan of Implementation' was adopted at the Earth Summit. There, the full implementation of Agenda 21, the Programme for Further Implementation of Agenda 21 and the Commitments to the Rio principles, were strongly reaffirmed<sup>81</sup>.

In reality, even the governments had been found to try hard to establish what they promised at the Earth Summit in 2002. The concept of SD has established itself successfully as a central guiding principle for many different political institutions at all levels of public and corporate decision making. Nevertheless, different studies confirmed that sustainable development's meaningful translation into concrete action proves to be a much more difficult challenge (Lafferty, 2004; Lafferty and Meadowcraft, 2000; OECD, 2002; Volkery *et al.* 2006).

The definition of SD, as was given in the Brundtland Report, 'Our Common Future', became the only acceptable 'true' definition of SD (Jepson, 2004) and still continues to be the most preferred definition.

Unfortunately, from the very inception, the concept SD, with its vague descriptive definition, was left open to different possible interpretations and different possible meanings. Consequently, interpretations of the concept exploded with different users proposing different study-specific or context specific definitions. Again, numerous treatments have been highly critical of 'Our Common Future'; the report has been seen as both ambiguous and contradictory and incapable of specifying the mechanisms and changes necessary to realize SD (Langhelle, 1999).

Langhelle (1999) pointed to the limitations of the definition saying,

... the relationship between sustainable development and economic growth had been over-emphasized, and that other vital aspects of the normative framework were neglected. Social justice (both within and between generations), humanistic solidarity, a concern for the world's poor, and respect for the ecological limits to global development, constitute other aspects of sustainable development; aspects which are indeed relevant for the growing disparity between North and South.

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<sup>81</sup> UNITED NATIONS AGENDA 21.

Retrieved on 30.1.10.

[http://www.solarnavigator.net/united\\_nations\\_agenda\\_21.htm](http://www.solarnavigator.net/united_nations_agenda_21.htm)



Literature shows that considerable attention had been devoted to the idea of SD itself and even to the broader conceptual framework of the idea. But, the effort of Brundtland Commission, to integrate environmental policies and development strategies in order to create a foundation for the intergenerational concept had been left out neglected as found in those literatures (Langhelle, 1999). Volkery *et al.* 2006 in their study on 19 countries found that regarding the inter-generational principle of SD, setting long-term objectives contributes to a better inter-generational objective. But only five of the countries (Sweden, Denmark, Germany, the Philippines, and Mexico) considered a strategy outlook that was explicitly intergenerational, that is, spanning upwards of 25–30 years into the future.

The issues of weak and strong sustainability also came up to explain the ways of considering the needs to ensure that future generations can supply their needs. As put in Beder's (2000) words:

There are two different ways of looking at the need to ensure that future generations can supply their needs. One is to view the environment in terms of the natural resources or natural capital that is available for wealth creation, and to say that future generations should have the same ability to create wealth as we have. Therefore, future generations will be adequately compensated for any loss of environmental amenity by having alternative sources of wealth creation. This is referred to as 'weak sustainability'. The other way is to view the environment as offering more than just economic potential that cannot be replaced by human-made wealth and to argue that future generations should not inherit a degraded environment, no matter how many extra sources of wealth are available to them. This is referred to as 'strong sustainability'.

In the discussion of intergenerational perspective of SD, along with debate of "whether the weak sustainability or the strong sustainability is acceptable", the issues of intergenerational and intra-generational<sup>82</sup> had also been being raised by some (Benton 1999:202; Paul-Marie Boulanger<sup>83</sup>; Brian J Preston<sup>84</sup>) and finally, the conclusion drawn was the meaning literally comes "sustainable development refers to

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<sup>82</sup> Is sustainability an inter-generational or intra-generational issue?

Retrieved on 09.01.10.

[http://climatechange.thinkaboutit.eu/think4/post/is\\_sustainability\\_an\\_inter-generational\\_or\\_intra-generational\\_issue](http://climatechange.thinkaboutit.eu/think4/post/is_sustainability_an_inter-generational_or_intra-generational_issue)

<sup>83</sup> Sustainable development as practical intragenerational and intergenerational justice: interpretations, requirements, and indicators.

Retrieved on 11.01.10.

<http://users.skynet.be/idd/documents/divers/GlobJustSD.pdf>

<sup>84</sup> Principles of Ecologically Sustainable Development.

Retrieved on 11.01.10.

[http://www.lawlink.nsw.gov.au/lawlink/lec/ll\\_lec.nsf/vwFiles/speech\\_23Nov06\\_PrestonCJ.pdf/\\$file/speech\\_23Nov06\\_PrestonCJ.pdf](http://www.lawlink.nsw.gov.au/lawlink/lec/ll_lec.nsf/vwFiles/speech_23Nov06_PrestonCJ.pdf/$file/speech_23Nov06_PrestonCJ.pdf)

maintaining development over time” (Elliott, 2006).

In the reality of the countries in the south, the concept of intra-generational equity emerged. At this point, it is worth to note what Paul-Marie Boulanger<sup>85</sup> mentioned:

It is obviously impossible to compensate ex ante future generations for facing possible unfavourable circumstances. All can be done here is trying to make the case that the circumstances they will face will be as favourable as possible, within the limits of what is required by intra-generational equity.

The above discussion leads to a comprehensive understanding about the emergence of SD and its evolution. It also ascertains that SD is a complex concept that leads to many different interpretations in relation to many different contexts. Although, environmental component, along with the economic and social received recognitions in this concept concern issues such as, ‘pillars’, ‘core issues’, ‘essential requirements’, ‘needs’, ‘limitations’, ‘intergenerational sustainability’, ‘intra-generational sustainability’, ‘strong sustainability’, ‘weak sustainability’, etc. debates persist along with the controversies regarding interpretations of SD. The issue of intra-generational equity has gotten recognition. Before considering intergenerational equity and strong and weak sustainability, it is worth mentioning what Beder (2000) stated,

The reason that intra-generational equity is a key principle of sustainable development is that inequities are a cause of environmental degradation. Poverty deprives people of the choice about whether or not to be environmentally sound in their activities.

But till now, the consideration of intra-generational perspective of SD is least considered in the context of SD in the present day.

Moreover, with the popularization of the concept SD, the term ‘sustainable’ became a buzz word not only in development sector but also in every possible sector. They started to use the term with its literal meaning, and SD was thus referred to what Elliott (2006) mentioned, “maintaining development over time”.

### **2.3 Different Explanations of Sustainable Livelihood**

Poverty reduction is now at the core of development policy-making and a key commitment of the international community. Poverty in developing countries is

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<sup>85</sup> Sustainable development as practical intragenerational and intergenerational justice: interpretations, requirements, and indicators.

Retrieved on 07.03.10.

<http://users.skynet.be/idd/documents/divers/GlobJustSD.pdf>



predominantly a rural phenomenon. 75% of the world's poor live in rural areas<sup>86</sup>. The 2001 'IFAD Rural Poverty Report' states that of the 1.2 billion human beings who live in extreme poverty about three quarters live in rural areas<sup>87</sup>.

The poor nations of the developing world have been struggling hard for a long time to meet the basic needs of their people. As an overwhelming majority of the population in these countries live in the rural areas, attempts at alleviating poverty, creating employment opportunities and providing for better health, education and other social services have occupied an eminent place in the public policy agenda of the governments of these nations (Zafarullah and Khan, 1989). With more than half the world's people on less than a fifth of its surface, most of them in rural areas and being mainly small/ marginal farmers or landless, the Asia and the Pacific faces great challenges in balancing poverty-reducing agricultural and rural economic growth with sustainable natural resource use needed for such growth (Uniyal and Paudyal, 2007<sup>88</sup>). Concern about the challenges facing RD in developing countries has been expressed for a very long time. In such understanding, RD is considered to be an elusive phenomenon (Zafarullah and Khan, 1989). But this vagueness does not lead rural areas to experience neglect; rural areas rather received attention of the donors. By many empirical studies, it is confirmed that in rural areas, (a) the poor are small farmers and (b) agriculture acts as the engine of growth. Thus, the understanding derived was that investing in agriculture is a means of simultaneously addressing both growth and equity issues (Carney, 1999).

And this is why, donors are found to pour money, mostly in the form of support to agriculture and natural resources.

Naseem (2002)<sup>89</sup> pointed out:

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<sup>86</sup> Agriculture and rural development, The World Bank.

Retrieved on 09.05.10.

<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTARD/0,,menuPK:336688~pagePK:149018~piPK:149093~theSitePK:336682,00.html>

<sup>87</sup> Literature Review: Social Protection of the Rural Population (Draft) by Nicola Wermer.

Retrieved on 02.07.09.

<http://www.unrisd.org/unrisd/website/projects.nsf/%28httpAuxPages%29/70EF9931443FFEACC12577520046A92C?OpenDocument>

<sup>88</sup> An Assessment of Progress in Promoting Sustainable Rural Development in the Asian and Pacific Region by Mr. Mahesh Uniyal and Dr. Durga Paudyal, 2007.

Retrieved on 9.1.11.

[http://www.un.org/esa/sustdev/csd/csd16/rim/escap\\_rural.pdf](http://www.un.org/esa/sustdev/csd/csd16/rim/escap_rural.pdf)

<sup>89</sup> Rural development and poverty in South Asia. 2002. This paper was prepared while the author was a Visiting Fellow at the Yale Center for International Area Studies (YCIAS) and the Economic Growth Center (EGC) of Yale University.

Retrieved on 29.1.09

[http://www.unescap.org/pdd/publications/dp23/chapter\\_1.pdf](http://www.unescap.org/pdd/publications/dp23/chapter_1.pdf)

Although rural development has been a priority area for external donors its importance has increased in the second half of the last 50 years as concerns about food security, the population explosion, environment and climatic changes, as well as poverty, equality and social justice have come to be increasingly perceived as being in the purview of global, rather than national policy agendas. Rural development stood at the cross-cutting path of these concerns. However, the multiplicity of the objectives which rural development was expected to achieve often deprived it of a central focus and often contributed to its failure.

Again, it has been suggested that the rural poor are like other rural people, only poorer, while the ultra poor experience different patterns of poverty, and behave differently (Lipton 1983, Chambers 1988, Bernstein, 1992). Lipton also pointed to fact that due to hunger and illness the ultra-poor face a much greater risk than the poor face and behave differently. In trying to understand what happens to households (HHs) in crisis, or in other words, how the HH will behave in crisis, Crehan (1992) identified a crucial factor that is the way resources are distributed within HHs- which may be far from equitable. Through diversifying sources of income, including seasonal migration; drawing upon communal resources- village common lands and forests; drawing upon social relationships- patronage, kinship, friendship- and informal credit networks; drawing upon HH stores (of food, fuel, etc.) and adjusting current consumption patterns; and drawing upon assets are the coping strategies identified by Agarwal (1990) as undertaken by HHs.

Again, distinctions among the poor had been made by Chambers (1988). He distinguished between those who build a “repertoire of different petty enterprises and activities” - for whom diversification is the key motif of their livelihood strategy- and those who are locked into one predominant source of livelihood- such as the bonded labourers or sharecroppers. Moreover, when considering livelihood, analysing rural poverty is not just about economics. It is also about social relations that govern the distribution of property (land, others means of production, other economic activities), work, income and income between consumption and accumulation (savings for investment) (Bernstein, 1992).

The developing countries of the South Asia are predominantly agricultural economies



and RD is the ‘core issue of development’ in this part of the world (Naseem, 2002<sup>90</sup>). Though, farming is considered to be the means of livelihood, it is not the whole. Many rural people are unable to gain adequate and secure livelihoods from farming (as they are landless marginal farmers). They have to pursue livelihoods through a range of means (migration, non-agricultural wage employment, etc.) (Bernstein, 1992). It is further asserted by Bernstein (1992) that rural existence and struggle for livelihoods cannot simply be equated with farming, either as a means of survival or as a “way of life”. Thus, even though, RD is the core issue of development, understanding about the sets of RD ideas across different disciplines, centres of learning, influential think-tanks, international agencies and national governments is very uneven, as pointed out by Ellis and Biggs (2001). They further indicated existence of leads and lags in the transmission of new ideas across space and time. Development and RD did not go hand in hand if analyzed in terms of focus on ideas. It is common in development to characterize the 1950s and 1960s as modernization the 1970s as state intervention, the 1980s as market liberalization, and the 1990s as participation and empowerment. RD focus and the practices were not found to have undergone these transitions in such an orderly manner.

The following table is based on the RD timeline by Ellis and Biggs (2001) and newly created by the author showing the focus and the practices in both development (discussed in section 2.1) and RD. It includes substantive focus on ideas.

Table 2.1 Shift in major focus in development mainstream and rural development

| Decade | Development Mainstream                                                                                                            | Rural Development                                                                               |
|--------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1950s  | Modernization, development of infrastructure, industry and agriculture, economic growth, ‘trickle down’ import-substitution model | Modernization, increasing the production of staple crops, Green Revolution                      |
| 1960s  | Modernization, economic growth, improving scientific and technological levels, industrialization, Green revolution                | Modernization, increasing the production of staple crops, Green Revolution technology transfer, |

<sup>90</sup> Rural development and poverty in South Asia. 2002. This paper was prepared while the author was a Visiting Fellow at the Yale Center for International Area Studies (YCIAS) and the Economic Growth Center (EGC) of Yale University.

Retrieved on 12.03.09.

[http://www.unescap.org/pdd/publications/dp23/chapter\\_1.pdf](http://www.unescap.org/pdd/publications/dp23/chapter_1.pdf)

|       |                                                                                                                                     |                                                                                                                                                                                                                                                               |
|-------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       |                                                                                                                                     | mechanization,<br>diversification of economy -away<br>from agriculture / diversification<br>in livelihoods                                                                                                                                                    |
| 1970s | Basic needs,<br>growth with equity,<br>state intervention,<br>state-run programmes,<br>state policies                               | Diversification of economy -<br>away from agriculture /<br>diversification in livelihoods,<br>(CGIAR <sup>91</sup> ) centres;<br>more resources for increasing<br>food supply globally,<br>integrated rural development<br>(IRD),<br>green revolution (cont.) |
| 1980s | Structural adjustment,<br>privatization,<br>liberalization of trades<br>community participation                                     | Agricultural reforms or adjusts,<br>free markets,<br>retreat of the state rise of NGOs,<br>farming systems research (FSR),<br>RD as process not product,<br>sustainable livelihoods                                                                           |
| 1990s | Participation and empowerment<br>poverty reduction,<br>partnership, civil society,<br>human development,<br>sustainable development | Environment and sustainability,<br>poverty reduction,<br>sustainable livelihoods                                                                                                                                                                              |
| 2000s | Millennium development goals                                                                                                        | Sustainable livelihoods,<br>good governance,<br>decentralization,<br>critique of participation,<br>sector-wide approaches,<br>social protection,<br>poverty eradication                                                                                       |

Source: Based on the RD timeline by Ellis and Biggs (2001) and newly created by the author

Ellis, F. and Biggs, (2001) pointed out another interesting fact that ideas that first appear in one decade often gain strength in the following decade, and only begin to affect RD practice in a widespread way ten or fifteen years after they were first put forward. Carney (1998) considered the SLA as an example of what Ellis and Biggs (2001) pointed out. The SLA is considered as an idea of the current decade because this is the period when it is being widely deployed as a guiding principle for RD practice; but this approach originates from strands of livelihoods ideas developed through the 1980s and 1990s (Chambers, 1983; Chambers and Conway, 1992; Bernstein, 1992).

<sup>91</sup> CGIAR means Consultative Group on International Agricultural Research



The evolution of both development and RD agenda and development approaches is much more complex than can be captured in the outline above. At this point, the emergence of different sequential ideas (as those got focused) during the evolution of RD are discussed elaborately hereafter to show the path of emergence of SLA (matter of consideration for the present study) in the present day RD focus.

During 1950s–60s, modernization theory was influential and in the arena of RD, the focus had been on increasing the production of staple crops. The donors invested in agricultural research and related necessary technical services and these worked as the foundation for the ‘green revolution’. In spite of high success, drawbacks of green revolution could be revealed shortly. Green revolution was found to be benefiting the richer farmers as poor farmers could not afford High Yield Variety (HYV) seeds and all other necessary high inputs. In the 1960’s and early 1970’s, with the prominence of industrialization as the main vehicle of development (Wermer, 2008), Anriquez and Stamoulis (2007) reported the definition of RD as “a part of structural transformation characterized by diversification of the economy away from agriculture. This process is facilitated by rapid agricultural growth, at least initially, but leads ultimately to a significant decline in the share of agriculture to total employment and output and in the proportion of rural population to total population” (Johnston, 1970. Quoted in Anriquez and Stamoulis, 2007). Most developing countries were struggling to achieve food self-sufficiency and were emphasizing import substitution during that period. In the agricultural sphere, there had been supply-driven policies as a result.

In the 1970s, the famines that were taking place in Africa and Asia drew attention of many development practitioners that gave rise to a concerted effort to put more resources into increasing food supplies globally. Out of this concern, the Consultative Group on International Agricultural Research (CGIAR) centres were born and significant increases in food supplies were created through crop research<sup>92</sup>. But, 1970s observed very little positive change in the economic conditions of the poor farmers. During this period, donor spending patterns shifted quite considerably (Carney, 1999). Thus, Carney (1999) further noted, “The recognition that income generation would remain important and that increased crop yields would not alone solve rural problems” took this decade of 1970s as the decade of “integrated rural development”

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<sup>92</sup> A brief overview of sustainable livelihoods approaches.  
Retrieved on 06.08.09.  
<http://www.fao.org/docrep/003/x9371e/x9371e22.htm>

(IRD). New donor projects recognized the complexities of rural life and the importance of provision of social services to the rural poor and consequently incorporated social services and infrastructure in addition to agricultural production. However, the economic environment for rural people remained adverse (Carney, 1999).

The IRD approach lasted only one decade and was considered by the World Bank as failure (Mkandawire, 2006). IRD projects had been found to be less successful for several reasons. Producers' low earning and less access to subsidized services was one of the very basic reasons. Another reason was the over ambitious and complex nature of the projects. Cumbersome bureaucracies, top-down management and implication, negligible consideration of local circumstances and few links to local government structures are the other major reasons.

However, in the 1980s, it was evident that many HHs of different developing countries were yet to manage sufficient food necessary for HH consumption even when there were significant national-level surpluses in their countries. The problem was not the availability of food but the HHs' low income that was insufficient to enable those to buy necessary food. As a result, the concern shifted from national food security to the HH and individual level food security and nutritional status. Agricultural reforms or 'adjusts' started in 1980s. At the beginning, the attempt was to ensure highly efficient state enterprises. However, by the late 1980s, a shift in focus was marked by retreat of the state and rise of NGOs and the emphasis toward economic liberalization and privatization which resulted in increased inequality. In the rural development arena, therefore, the new focus shifted to participation and bottom-up development. Technological change continued to be considered as 'the basis for increasing rural prosperity' by many, but donors' focus at this point shifted to 'farming systems' approaches with a vision to gain a sound understanding of core interactions at the farm level (Carney, 1999).

In the RD literature, concern about 'livelihoods' used to be found in studies on survival, coping and accumulation strategies that people adopt in response to food insecurity problems in contexts of droughts, hunger and famine (Devereux, 2001). But, in the 1980s, a shift from food security to a livelihood perspective was also evident. The concern about livelihoods is not new and did not come up suddenly by the 1980s. Rather, many studies in many different fields can be named livelihood studies though were not labelled as such. Such studies became an important part of



development research in the 1980s (Moock, 1986) and also inspired a lot of work that followed. Research in the field of environment and development also raised concerns about 'livelihoods'. To explain the context in which the concept of SL emerged, Scoones (2009) mentioned:

...all these approaches – village studies, household economics and gender analyses, farming systems research, agro-ecosystem analysis, rapid and participatory appraisal, studies of socio-environmental change, political ecology, sustainability science and resilience studies (and many other strands and variants) – have offered diverse insights into the way complex, rural livelihoods intersect with political, economic and environmental processes from a wide range of disciplinary perspectives, drawing from both the natural and social sciences. Each has different emphases and disciplinary foci, and each has engaged in rural development policy and practice in different ways, with more or less influence.

In such context, the concept of SL appeared in the literature of RD and research. Consequently, conceptual link between food security concerns and broader human vulnerability concerns started to be drawn through the explanations of 'normal' living and survival in both food and non-food crises (Swift, 1989). In a non-famine situation, the concept of 'livelihood' can be broadened through the recognition that most lives are 'lives of struggle' and that there are no clear cut differences between the extreme and everyday or normal struggles (Chambers and Conway, 1992; Bernstein, 1992; Davies, 1996). With the appearance of the concept of SL in the literature of rural development and researchers' effort to widen their perspective on the issue<sup>93</sup>, the transformation in the understanding of 'food' as 'a commodity' to a 'social construct having many societal correlates' also began. To elaborate the RD agenda of the 1990s, Carney (1999) mentioned,

The 1990s has been characterized by two main themes: a strong emphasis on the environment and the protection of natural resources and a continued focus on macro policy, liberalization, the role of government in relation to the private sector and the importance of effective public management (a particular concern of advocates of agriculture sector programmes).

It was realized that during the prominence and practice of IRD, inadequate attention was paid to the complexity of rural livelihoods and the multiple dimensions of rural poverty (Carney, 1999), in this context, SL offered a fresh approach (Solesbury,

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<sup>93</sup> A brief overview of sustainable livelihoods approaches.  
Retrieved on 20.08.10.  
<http://www.fao.org/docrep/003/x9371e/x9371e22.htm>

2003). However, from then on, the shift from food-security based analyses to a wider view of 'livelihoods' is being conceptualised. Early accounts on rural development centered on the promotion of livelihoods through agriculture for the rural poor: large-scale agriculture and small farms (Chambers, 1983; Ellis, 1998; Ellis and Biggs, 2001; Ashley and Maxwell, 2001). Those studies used to focus on prior and current notions of how HHs and communities live from the land (Chambers 1983). Later, accounts on livelihoods diversification to promote the non-farm rural economy (Ellis, 1998; Ellis, 2000a; Davis and Bezemer, 2003; Start and Johnson, 2004), and finally sustainable rural livelihoods (Scoones, 1998; Carney, 1999; Ellis and Biggs, 2001a; Ashley and Maxwell, 2001; Scoones and Wolmer, 2003), consideration of the multiple facets of poverty (Carney, 1998; Scoones, 1998; Scoones and Wolmer, 2003), access to natural resources (Hobley and Shields, 2000; Ellis and Freeman, 2005) and the provision of social safety nets to support vulnerable rural families (Norton, Conway and Foster, 2000; Devereux 2001, 2006; Morduch and Shamar, 2002; Kabeer, 2002).

Therefore, from the 1990s until the present time, the "focus on the enhancement of peoples' capacities to secure their own livelihoods" (Maxwell, 1996) is prominent. The concept of SLA had first appeared in research literature in the 1980s, and its inclusion in the White Paper marked its transfer to the policy domain (Solebury, 2003). Livelihood type approaches emerged in the context of an increasingly complex rural reality, and have evolved with the objective of providing a mean to make sense of these complexities and a pragmatic system through which to identify development interventions. The focus got pushed by the utilization of participatory approaches in the activities for project diagnosis and design by various implementing agencies. Again, as a mobile and flexible term, Scoones (2009) mentioned,

... 'livelihoods' can be attached to all sorts of other words to construct whole fields of development enquiry and practice. These relate to locales (rural or urban livelihoods), occupations (farming, pastoral or fishing livelihoods), social difference (gendered, age-defined livelihoods), directions (livelihood pathways, trajectories), dynamic patterns (sustainable or resilient livelihoods) and many more.

Livelihoods have been put forward as a challenge to the reductionism and specificity of employment (Chambers, 1989). As pointed out by Chambers (2004) SL was embodied in the title of a conference (Conroy and Litvinoff, 1988), caught on as a phrase, and then was progressively explored and elaborated for meanings of



sustainable, of livelihood, and of the two words taken together (e.g. Chambers and Conway 1992; Bernstein *et al.* 1992).

Brundtland Commission on Environment and Development (1987) introduced the idea of SL as a way of linking socioeconomic and ecological considerations in a cohesive, policy-relevant structure<sup>94</sup>. The 1992 United Nations Conference on Environment and Development expanded the concept, especially in the context of Agenda 21 in Chapter 3 of 'Combating Poverty' through 'enabling the poor to achieve sustainable livelihoods'. Here it is asserted that<sup>95</sup>,

The long-term objective identified; of enabling all people to achieve sustainable livelihoods should provide an integrating factor that allows policies to address issues of development, sustainable resource management and poverty eradication simultaneously.

The paper titled 'Sustainable Rural Livelihoods: Practical Concepts for the 21<sup>st</sup> Century' by Chambers and Conway (1992) challenged the then (contemporary) analyses of rural production, employment and income that the authors felt, did not take into account the complex realities of rural life. They proposed the most popular probably the highest used definition of SL at the HH level (Chambers and Conway, 1992). For them,

A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term.

Subsequently, the focus was on rural HHs and their various functionalities. In relatively recent years, similar definitions of a livelihood have been offered by Adhikari (1996), Carney (1998), Scoones (1998), and Ellis (2000a), in their attempts to toward a better conceptualisation of the concept 'livelihood'. They appear to differ in their emphases on various aspects of the definition provided by Chambers and Conway (1992). The concept of SL was explored and the SLAs were developed within research institutes (e.g. the Institute of Development Studies), NGOs (e.g.

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<sup>94</sup> Moving the periphery to the centre: indigenous people, culture and knowledge in a changing Yunnan, by Xu Jianchu and Maruja Salas.

Retrieved on 20.08.10.

<http://www.mtnforum.org/oldocs/553.pdf>

<sup>95</sup> United Nations Department of Economic and Social Affairs (UNESA). Division for Sustainable Development, Agenda 21: Chapter 3. Retrieved on 14.08.10.

<http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21chapter3.htm>

CARE and Oxfam) and donors (Department for International Development and the United Nations Development Program) (Ashley and Carney, 1999).

The Brundtland Commission on Environment and Development, Agenda 21, the Social Summit, the Beijing Conference, Desertification Convention and United Nations Development Fund for Women (UNIFEM) have all incorporated and further developed the concept (UNDP, 1997 in Meikle, Ramasut, and Walker, 2001). Baumann (2002) further pointed out,

The SL approach has been used by FAO in its strategic framework (Altarelli and Carloni, 1999), by CARE in its ‘household livelihood security’ program (Drinkwater and Rusinow, 1999), and also by the UNDP and Oxfam (Neefjes, 1999). In the UK, the Department for International Development (DFID) increasingly uses SL approaches in the context of the commitment made in the Government White Papers on International Development (DFID, 2000) to work towards the International Development Target of eliminating poverty by 2015.

Scoones (2009) drew attention to the reality that “Livelihoods perspectives have been central to RD thinking and practice in the past decade”. At this point to understand the emergence and evolution of the SLA the main formal actions as outlined by Solesbury (2003) is presented in the following table.

Table 2.2 Sustainable livelihoods chronology

|      |                                                                                                                                                                                           |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1987 | The World Commission on Environment and Development publishes its report: Our Common Future (the ‘Brundtland Commission report’) (1987a)                                                  |
| 1988 | IIED publishes papers from its 1987 conference: The Greening of Aid: Sustainable Livelihoods in Practice (Conroy and Litvinoff, eds., 1988)                                               |
| 1990 | UNDP publishes the first Human Development Report                                                                                                                                         |
| 1992 | UN holds Conference on Environment and Development<br>IDS publishes ‘Sustainable Rural Livelihoods: Practical concepts for the 21st century’ (Chambers and Conway, 1992)                  |
| 1993 | Oxfam starts to employ the SL approach in formulating overall aims, improving project strategies and staff training                                                                       |
| 1994 | CARE adopts household livelihoods security as a programming framework in its relief and development work                                                                                  |
| 1995 | UN holds World Summit for Social Development<br>UNDP adopts Employment and Sustainable Livelihoods as one of five priorities in its overall human development mandate, to serve as both a |



- conceptual and programming framework for poverty reduction
- IISD publishes *Adaptive Strategies and Sustainable Livelihoods* (Singh and Kalala, 1995), the report of a UNDP-funded programme
- SID launches project on Sustainable Livelihoods and People's Everyday Economics
- 1996 *Adaptable Livelihoods: coping with food insecurity in the Malian Sahel* (Davies, 1996) is published by Macmillan
- DFID invites proposals for major ESCOR research programme on Sustainable Livelihoods. IDS led consortium wins the main award, with another award to ODG
- IISD publishes *Participatory Research for Sustainable Livelihoods: A Guidebook for Field Projects* (Rennie and Singh, 1996)
- 1997 New Labour administration publishes its first White Paper on international development, *Eliminating World Poverty: A Challenge for the 21st Century*
- 1998 DFID's Natural Resources Department opens a consultation on sustainable livelihoods and establishes a Rural Livelihoods Advisory Group
- Natural Resources Advisers annual conference takes Sustainable Livelihoods as its theme and later publishes contributory papers: *Sustainable Rural Livelihoods: What Contribution Can We Make?* (Carney (ed.), 1998)
- SID publishes *The Sustainable Livelihoods Approach, General Report of the Sustainable Livelihoods Project 1995–1997* (Amalric, 1998)
- UNDP publishes *Policy Analysis and Formulation for Sustainable Livelihoods* (Roe, 1998)
- DFID establishes the SL Virtual Resource Centre and the SL Theme Group
- IDS publishes 'Sustainable rural livelihoods: a framework for analysis' (Scoones, 1998)
- The FAO/UNDP Informal Working Group on Participatory Approaches and Methods to Support Sustainable Livelihoods and Food Security meets for the first time
- 1999 DFID creates the Sustainable Livelihoods Support Office and appoints Jane Clark as its Head
- DFID publishes the first Sustainable Livelihoods Guidance Sheets (DFID, 1999a); *Sustainable Livelihoods and Poverty Elimination* (DFID, 1999b); and *Livelihoods Approaches Compared* (Carney *et al.* 1999)
- Presenters at the Natural Resources Advisers' Conference report progress in implementing SL approaches and DFID later publishes these in *Sustainable Livelihoods: Lessons from Early Experience* (Ashley and Carney, 1999)
- ODI publishes 'Sustainable Livelihoods in Practice: early application of concepts in rural areas' (Farrington *et al.* 1999)

|      |                                                                                                                                                                                                                                                                   |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      | DFID establishes the Sustainable Livelihoods Resource Group of researchers/consultants                                                                                                                                                                            |
|      | Mixing it: Rural livelihoods and diversity in developing countries (Ellis, 2000b) is published                                                                                                                                                                    |
| 2000 | DFID commissions and funds Livelihoods Connect, a website serving as a learning platform for SLA                                                                                                                                                                  |
|      | FAO organises an Inter-agency Forum on Operationalising Sustainable Livelihoods Approaches, involving DFID, FAO, WFP, UNDP, and IFAD                                                                                                                              |
|      | DFID publishes Sustainable Livelihoods – Current thinking and practice (DFID, 2000a); Sustainable Livelihoods – Building on Strengths (DFID, 2000b); Achieving Sustainability: Poverty Elimination and the Environment (DFID, 2000c); and more SL Guidance Sheets |
|      | The Sustainable Livelihoods Resource Group establishes a subgroup on PIP (Policy, Institutions and Processes)                                                                                                                                                     |
|      | IDS publishes ‘Analysing Policy for Sustainable Livelihoods’ (Shankland, 2000), the final report from its ESCOR programme                                                                                                                                         |
|      | Oxfam publishes Environments and Livelihoods: Strategies for Sustainability (Neefjes, 2000)                                                                                                                                                                       |
|      | The Government publishes its second White Paper, Eliminating World Poverty: Making Globalisation Work for the Poor (DFID, 2000e)                                                                                                                                  |
| 2001 | DFID commissions research on further development of the SLA framework; practical policy options to support sustainable livelihoods                                                                                                                                |
|      | Sustainable Livelihoods: Building on the Wealth of the Poor (Helmore and Singh, 2001) is published                                                                                                                                                                |
|      | DFID organises SLA review meeting of officials, researchers and practitioners                                                                                                                                                                                     |

Source: Solesbury, 2003

From their emergence, SLAs had been in enormous use, to projects, programmes and policies, to design and review impact assessment. For Ashley and Carney (1999), SL is a way of thinking about the objectives, scope, and priorities for development, in order to enhance progress in poverty elimination. For Shen, Hughey, and Simmons (2008), SL is a way of thinking about rural development. Though, SL is found not to be confined within the boundary of rural development only. SL approaches are underpinned by a set of core principles, drawn on many tools (including the SL framework) and can be applied in different ways (Carney, 1998 and Ashley and Carney, 1999).



development work do not match with the techno centric development drive represented through SLA. Brocklesby, Fisher and Hintjens (2003) cautioned that a SLA may limit the potential for social transformation (Maru and Woodfor, 2001).

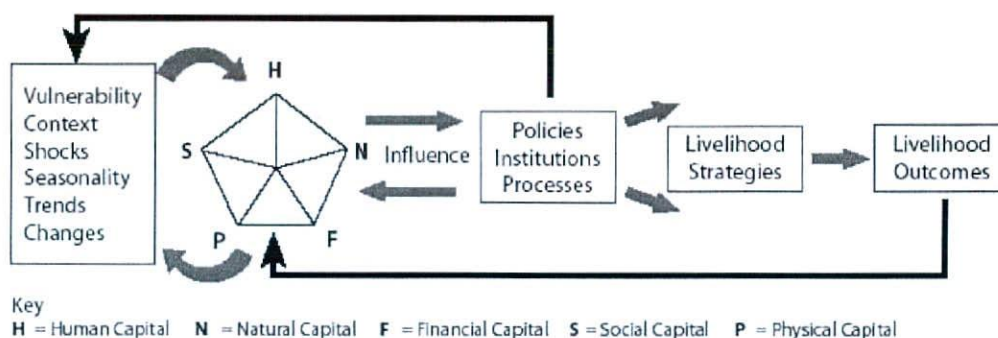
## 2.4 Sustainable Livelihoods Approach, Framework, and Principles

The SLA combines a conceptual framework with a set of operational principles to provide guidance on policy formulation and development practice (Allison and Horemans, 2006).

The ‘Sustainable Livelihoods Framework’ (SLF) is a tool for understanding how HH livelihood systems interact with the outside environment - both the natural environment and the policy and institutional context (Carloni and Crowley, 2005).

The framework follows:

### 2.1 Sustainable Livelihoods Framework (DFID, 2000)



The left hand section of the figure shows how the vulnerability context impacts on the livelihood assets of rural people - denoted by a pentagon. Livelihood assets are also influenced by outside policies, institutions, and processes. Livelihood strategies of different categories of HHs are shaped by their asset base and by the policy and institutional context in which they live. Livelihood outcomes of different types of HHs are influenced by the vulnerability context - people's exposure to unexpected shocks - and their ability to withstand the shocks, which depends on their asset base (Carloni and Crowley, 2005).

The assets that are generally recognised within SL theory, as summarized by McLeod

(2001)<sup>99</sup>, are:

- Natural (Environmental) Capital: Natural resources (land, water, wildlife, biodiversity, environmental resources).
- Physical Capital: Basic infrastructure (water, sanitation, energy, transport, communications), housing and the means and equipment of production.
- Human Capital: Health, knowledge, skills, information, ability to labour.
- Social Capital: Social resources (relationships of trust, membership of groups, networks, access to wider institutions).
- Financial Capital: financial resources available (regular remittances or pensions, savings, supplies of credit).

As Carloni and Crowley (2005) reported, the key linkages in the SLF can be pointed out as follows:

- The vulnerability context influences HH livelihood assets
- Policies and institutions also influence HH livelihood assets
- Policies and institutions can increase or decrease individual vulnerability
- HH asset ownership widens livelihood options
- Asset ownership decreases vulnerability and increases ability to withstand shocks
- The range of livelihood options influences livelihood strategies
- Different livelihood strategies lead to different livelihood outcomes (positive and negative)
- Livelihood outcomes influence the ability to preserve and accumulate HH assets.

The SL principles underlay the livelihoods approaches used by DFID, and other organizations:

- People-centred: focusing on poor people's priorities, understanding the differences between groups of people and working with them in a way that is appropriate to their current livelihood strategies, social environment and ability to adapt
- Responsive and participatory: listening and responding to the livelihoods priorities identified by poor people themselves
- Multi-level: working at different levels to reduce poverty- ensuring that micro level reality informs development of policy and an effective enabling environment, and macro level structures support people to build on their own strengths
- Conducted in partnership: with the public and private sector
- Sustainable: balancing economic, institutional, social and environmental sustainability

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<sup>99</sup> Reported in Majale (2002).

Retrieved on 27.07.10.

[http://www.dfid.gov.uk/r4d/PDF/Outputs/Urbanisation/R7850\\_Majale\\_RGUU02.pdf](http://www.dfid.gov.uk/r4d/PDF/Outputs/Urbanisation/R7850_Majale_RGUU02.pdf)



- Dynamic: recognising the dynamic nature of livelihood strategies and responding flexibly to people's changing situations<sup>100</sup>.

In addition to these principles, livelihoods approaches are based on a conceptual framework to aid analysis of the factors affecting peoples' livelihoods, including<sup>101</sup>:

- the priorities that people define as their desired livelihood outcomes
- their access to social, human, physical, financial and natural capital or assets, and their ability to put these to productive use
- the different strategies they adopt (and how they use their assets) in pursuit of their priorities
- the policies, institutions and processes that shape their access to assets and opportunities
- the context in which they live, and factors affecting vulnerability to shocks and stresses.

## **2.5 Uses of the Concept Sustainable Livelihood, Sustainable Livelihoods Approach and Sustainable Livelihoods Framework for Different Purposes**

Drawing on diverse disciplinary perspectives and cutting across sectoral boundaries, livelihoods perspectives provide an essential counter to the mono-valence approaches that have dominated development enquiry and practice (Scoones, 2009).

The concept of 'livelihood' is not new. Even in Marx's 'Capital' (1867), he noted about 'livelihood'. For him, economy determines the level of superstructure (culture/politics) and he wrote, "it is the manner in which the [ancient world and the Middle Ages] gained their livelihood which explains why in one case politics, and in the other case Catholicism, played the chief part" (Capital 1, Chapter 1 section 4). Studies on HH economy of pre-industrial peasant societies are also, to some extent, livelihood studies.

Studies can be found, conducted by Marxist scholars economists and later by anthropologists who made important contributions in the analyses of rural situations (Fardon, 1990), village studies (Lipton and Moore, 1972), micro-economics of farm production, diverse production patterns (Chayanov, 1966, Sahlins, 1972; Scott 1976), impact of Green Revolution (Farmer, 1977, Walker and Ryan, 1990) and patterns of

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<sup>100</sup> Livelihoods principles.

Retrieved on 25.04.10.

<http://www.eldis.org/go/topics/dossiers/livelihoods-connect/what-are-livelihoods-approaches/livelihood-principles>

<sup>101</sup> What are livelihoods approaches?

Retrieved on 13.04.10.

<http://www.eldis.org/go/topics/dossiers/livelihoods-connect/what-are-livelihoods-approaches>

HH accumulation (Scoones, 2009). Though not named 'livelihood', those, indeed, were studies of livelihood.

In his book 'Livelihood and Resistance: Peasants and the Politics of Land in Peru', Gavin Smith (1989) presented his study on the ways peasants make a living and engage in political resistance. In discussing, 'The Growth of a Culture of Opposition 1850–1947', he pointed out how his studied communities had been growing reliance on sources of livelihood beyond the village. In other words, livelihoods strategies and resilience along with the issues of social change of Peru were studied in 1947.

Russian agronomist A.V. Chayanov's work (1923, 1925) had been translated by R.E.F. Smith in English in 1966 and published together with an essay, 'On the theory of non-capitalist economic systems' (Chayanov, 1966). It is one of the most extensively used models of peasants and their economic behaviour in developing economies. His work also took livelihood related activities and strategies of the peasants into serious consideration.

Andrew Pearse (1980) employed a 'livelihoods approach' to study the impact of green revolution innovation on rural farming as early as 1980. Here he attempted to evaluate the impact of the introduction of new technology on rural people's welfare in a holistic manner (Bryceson *et al.* 2003).

As appeared in the post WW II scenario, in the 1990s, SLAs are considered to be the most useful as an analytical or heuristic tool (Clark and Carney, 2008). They had been used as a way to order information. In many studies, they were used to understand not only the nature of poverty but also the links between different aspects of people's livelihoods. In this way, they help users to comprehend complex and changing situations. Livelihoods perspectives offer an important lens for looking at complex rural development questions (Scoones, 2009). They broaden the policy dialogue and assist in identifying the relevance of programmes as well as identifying where key constraints and opportunities lie. To get such benefits, not only the SL Approach, but also the SL concept and SL Framework have been used by numerous researchers.

Livelihoods approaches now seemed to be applied to everything: livestock, fisheries, forestry, agriculture, health, urban development and more. A veritable avalanche of papers emerged, all claiming the sustainable livelihoods brand (Scoones, 2009).

In the study of rural poverty (Ashley and Carney, 1999; Carney, 1998; Ludi and Slater, 2008; Turton, 2000; Spanger-Siegfried *et al.* 2005; Orr and Mwale, 2001;



Barrett Reardon and Webb, 2001; Brown *et al.* 2006; Devereux, 2006; Ellis and Freeman, 2007; Babulo *et al.* 2008), urban poverty (Fouracre, Astrop and Maunder, 1999; Sohail, 2000; Meikle, Ramasut, and Walker, 2001; Farrington *et al.* 2002), livelihoods and transportation (Bryceson *et al.* 2003; Davis, 2000; Sohail, 2000; Tacoli, 2000); livelihoods and HIV/AIDS impact mitigation (Seeley and Pringle, 2001); challenges of post-conflict recovery (de Satgé, 2004); Participatory Policy Reform (Karl, Potters, Colatei, and Dohrn, 2002); livelihoods and tourism (Shen, Hughey and Simmons, 2008; Ashley, 2000; Ashley and Hussein, 2000); SL as a part of a multi-sectoral analysis of community life (Fouracre, 1999 ); increasing human resilience to climate change and climate change adaptation, (Spanger-Siegfried *et al.* 2005; Elasha *et al.* 2005; IUCN, IISD, SEI-B, Intercooperation, IUCN, IISD, SEI-B, Intercooperation, 2004<sup>102</sup>; Meena and O'Keefe, 2007<sup>103</sup>); river basin management (Cleaver and Franks 2005); natural resource management (Ashley and LaFranchi, 1997; Ashley and Hussein, 2000; Nicol, 2000; Warner, 2000; Pound *et al.* 2003), SL concept, approaches and framework had been used for programme planning and monitoring and assessment or as a programme in itself. These studies either used the SL concept, approach and/or framework to explain a prevailing situation and to identify necessary interventions. Or they attempted to report the possible outcomes of projects in terms of impacts on stakeholders due to a change that had bearing with livelihoods. They were also found to have made suggestions on the strategies the stakeholders might adopt, and the support required helping them adapt.

The livelihoods approach neither claim to provide a definitive solution to poverty eradication in low-income countries (Clark, 2006) nor a livelihoods analysis to provide a definitive answer to the development problem (Fouracre, 1999). But, on the basis of the experiences of those who have adopted a livelihood perspective, Tutton (2000), demonstrated usefulness of SL approach.

The SL approach as being useful for Tutton (2000):

- Strategic planning – formulation/reorientation of policies to support poverty alleviation objectives.
- Better targeting – understanding what makes up a livelihood for the poorest

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<sup>102</sup> Sustainable Livelihoods & Climate Change Adaptation - A Review of Phase One Activities for the Project on 'Climate Change, Vulnerable Communities and Adaptation'.

Retrieved on 29.12.09.

<http://www.iisd.org/publications/pub.aspx?pno=647>

<sup>103</sup> Sustainable Livelihoods in the Context of Vulnerability and Adaptation to Climate Change Impacts in Tanzania: A Case Study of Kilimanjaro Region by Meena and O'Keefe (2007)

and thus influencing how and what they do.

- Breaking down glass walls between sectors. Until now, they have implemented sectoral programmes in health, Natural Resource (NR), etc. How much they worked to a common result depended on the manager.
- Feeding in good information for planning specific elements of projects – e.g. Food for Work should be used to improve the livelihood base – family fishponds have worked.
- Advocacy – enabling them to understand local constraints and bring them to the attention of policy makers (see recent example of community forestry).
- For monitoring impact – tracking change – as an early warning system – to monitor changes in livelihoods.
- Making project learning more structured and quicker.

Different DFID reports and studies came up with different advantages of adopting the SLA. A SLA is claimed to provide a way to improve the identification, appraisal, implementation and evaluation (Adato and Meinzen-Dick 2002) of development programmes so that they better address the priorities of poor people, both directly and at a policy level. (DFID, 2000:5). A more recent review of DFID's experience with SL was done by Clark and Carney (2008). The researchers found that SLA can be used in the identification of development priorities and new activities. It can even be usefully applied to reviews of current activities that were not designed with SL principles in mind. Thus, it helps to identify problems such as an undue focus on physical outputs (e.g. trees, roads, wells) or sectoral objectives (e.g. revenues, markets), at the expense of a broader focus on livelihood improvement and poverty reduction. They further identified that within projects/programmes, SLAs can be used to sharpen the focus of monitoring and evaluation systems and in the development of log frames. Moreover, other authors (Orr and Mwale, 2001; Barrett, Reardon and Webb, 2001; Brown *et al.* 2006; Devereux, 2006; Ellis and Freeman, 2007; Babulo *et al.* 2008) emphasized the importance of SLAs. They asserted that SLAs are still essential within social and economic research on poverty and food security, either as embedded in research strategies or as a research tool.

## **2.6 Linking Sustainable Development and Sustainable Livelihood**

The word 'livelihood' literally means 'occupation' or 'employment' that refers to, a way of making a living. In the last few decades, through the introduction of the idea of SL in RD, the meaning of the term has been expanded in the development discourse. It has introduced the necessity of consideration of the broader systems that



encompass social, economic, and other attributes. People's assets, their work, other cultural activities, factors that help people get access (or stop people from gaining access) to these assets and activities are among the different factors that may lead to strength, resilience, and vulnerability in their lifestyle. External factors, such as policies, institutions and processes, also affect livelihoods. The poor survive in their precarious state by employing a variety of livelihood. Or they make use of survival strategies (Chambers, 1995, Rakodi, 1997, Wratten, 1995) defined by their asset base in their specific cultural context and in the existing specific policy, institution and process atmosphere. Livelihood approaches and livelihood analysis (the method of studying livelihoods in this 'holistic' way) use this broader definition of livelihoods.

On the other hand, 'sustainability' is an inherently dynamic, indefinite and contested concept. Due to the vagueness in possible meaning, many new definitions of the concept have been suggested and debated, which resulted in a broad and somewhat vague concept of 'Sustainable Development'<sup>104</sup>. In reality, the Brundtland Commission Report (1987) offered the first appearance of what was conceptualized later as SLA (Solesbury, 2003) in policy debate.

SD also triggered the emergence of the concept SL. Actually, SD and SL flourished simultaneously but in two specialism- developments and rural development respectively. The definition of SL is "a livelihood is sustainable which can cope with and can recover from stresses and shocks, maintain and enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels in the short and medium term" (Chambers and Conway, 1991). This partially explains the meaning of 'sustainable', as was indicated in the Brundtland Commission Report. The definition talks about the intergenerational dimension - as mentioned in the Brundtland Commission Report for SD: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

Again, it is worth mentioning what Attfield and co-authors (2004) identified. They pointed out that the explanation of SL that Chambers and Conway (1991) offered fails to capture the ecological aspects of sustainability, and thus the full sense of

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<sup>104</sup> In the Brundtland Commission report, 'Our Common Future' (1987), sustainable development is defined as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.

‘sustainable’, as in the World Commission’s keynote phrase ‘sustainable development’. In different following documents, many authors and institutions asserted to stress the fact that if livelihoods are to be sustained, they require the capability to respond to change (UNDP, 1997; Singh and Titi, 1994 cited in International Institute for Sustainable Development- Community Adaptation and Sustainable Livelihoods, IIDS-CASL, 1999; Rakodi, 1997; Chambers, 1995; Meikle, Ramasut and Walker, 2001).

On a further effort to confirm the linkage between SD and livelihoods, Solesbury (2003) reported,

Many of the ingredients that subsequently characterised the SLA were evident in the Brundtland and the Human Development reports: the focus on poor people and their needs; the importance of citizen participation; the emphasis on self-reliance and sustainability; the ecological constraint.

For Attfield and co-authors (2004) SL –

...involve the long-term maintenance and survivability, if not the enhancement, of stocks and flows of food and income adequate for basic human needs to be met, without undermining other such livelihoods, or potential livelihoods for the coming generation.

They further elaborated saying that the notion of SD involves ecological consideration and goes far beyond other resource interests only. This is how SL is no more than a necessary condition of SD. Finally, they ensured that ‘sustainable’ is used in one sense in SL and in another in SD. But the relation between SD and SL is in some respects one of conceptual necessity, since both SD and SL are defined partially in terms of the long-term satisfaction of basic human needs.

Rural people in different contexts engage in diverse and complex livelihoods strategies. SL and SD - meeting the needs of the present without compromising the ability of future generations to meet their own needs - implies that among many alternatives, it is important to try to find ways in which individuals and communities can make a living with economic activities that are "viable, restorative and protect ecological integrity". It is equally important to ensure issues like equity, ownership of resources, participatory decision making, conflict resolution mechanisms and security into the overall goals of HHs and communities (Singh and Titi, 1995).

The International Institute for Sustainable Development defines SL as being:

... concerned with people's capacities to generate and maintain their means of living, enhance their well-being and that of future generations. These



capacities are contingent upon the availability and accessibility of options which are ecological, socio-cultural, economic and political and are predicated on equity, ownership of resources and participatory decision making. Both notions of sustainable development and sustainable livelihoods incorporate the idea of change and uncertainty.<sup>105</sup>

Scoones (1998) further elaborated the “idea of change and uncertainty” saying, “it is necessary to recognize the concept of sustainable livelihood as the one always subject to negotiation”. A livelihood, Scoones (1998) mentioned, is sustainable if it is socially responsible, economically efficient, and environmentally viable to the people. This certainly results in a negotiation among different social, economic, environmental elements that come into contradiction, and leads to trade-offs. Various shocks or stresses, may result in different responses, including avoidance, repartitioning, resistance or tolerance mechanisms (Payne and Lipton 1994: 15). In the context of SL, Chambers and Conway (1991) defined stresses as pressures which are typically continuous and cumulative. Therefore, they are, to some extent predictable, such as seasonal shortages, rising populations or declining resources, while shocks are impacts that are typically sudden, unpredictable and traumatic, such as fires, floods and epidemics. Drawing on Chambers and Conway (1992), Krantz (2001) reported that to ensure livelihood sustainability, there is no alternative to having the ability to avoid, or more usually to withstand and recover from, such stresses and shocks.

For all the ‘Sustainable Development Program’ as identified by Grosjean and Kontoleon (2009), the duration of the financial incentives or subsidies provided is finite. This is because the aim is to induce a structural economic change at the local level such that this ‘win-win’ objective of poverty alleviation and environmental improvement becomes self-sustainable. These programmes received huge funding that led to their proliferation. Efforts have also been made to investigate the extent to which these programmes have been meeting their dual objective of addressing environmental externalities and economic development, Grosjean and Kontoleon (2009) reported. The sustainability of these SD programmes has been questioned through studying these programmes (Louviere, Hensher, and Swait, 2000; Mercer and Snook, 2004; Grosjean and Kontoleon, 2009).

The Sloping Land Conversion Program (SLCP) in China is the largest SD programs

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<sup>105</sup> Adaptive Strategies of the Poor in Arid and Semi-Arid Lands: Project Outline and Research Protocol. Retrieved on 19.07.10.  
<http://www.iisd.org/casl/caslguide/researchprotocol2.htm>

that simultaneously attempts to address rural poverty and externalities from deforestation. Analyses by Bennett *et al.* (2004), Uchida *et al.* (2005) and Uchida *et al.* (2007), Uchida, Xu, and Rozelle (2005), and Xu and Cao (2001) suggests that the SLCP impact on participating HH income levels and on shifts to noncrop related income generating activities (such as off-farm labour or livestock activities) is not sufficient to make a substantial and long lasting change to pre-program production decisions. Grosjean and Kontoleon (2009) pointed to the various program implementation issues that have been observed. For example, the often involuntary nature of the program, the poor quality and frequent irregularity of the compensation payments, the inadequate training and support to local farmers in replanting and maintaining trees, and the inappropriateness of some of the plots targeted for inclusion in the program have undermined the long-term viability of the program (Xu and Cao, 2002).

The above examples concerned the issue of sustainability in terms of evaluation. The OECD Development Assistance Committee glossary (Organisation for Economic Co-operation and Development - Development Assistance Committee, OECD-DAC, 1991), in this regard, states, “Sustainability is concerned with measuring whether the benefits of an activity are likely to continue after donor funding has been withdrawn. Projects need to be environmentally as well as financially sustainable”.

Operations Evaluation Department (OED) defines sustainability as “The resilience to risk of net benefits flows over time”, elaborating the definition with the following questions (White, 2005):

At the time of evaluation, what is the resilience to risks of future net benefits flows? How sensitive is the project to changes in the operating environment? Will the project continue to produce net benefits, as long as intended, or even longer? How well will the project weather shocks and changing circumstances?

Canadian International Development Agency (CIDA) (2002) in its publication, ‘Assessing sustainability’, stated, “Much remains to be done in terms of [sustainability’s] evaluation as an objective”.

## **2.7 Conclusion**

With the above discussion on SD and SL, in this chapter, I have raised a concern about ‘sustainability’ which is here established as an inherently dynamic, indefinite



and contested concept. Moreover, through literature review I have found that 'sustainable' is used in two different meanings in SL and SD. Again, I have endorsed with other scholars (Attfield, Hattingh, and Matshabaphala, 2004) that the relation between these two is "in some respects one of conceptual necessity, since both sustainable development and sustainable livelihoods are defined (in part) in terms of the long-term satisfaction of basic human needs". I have also demonstrated that the explanation of SL has failed to capture the ecological aspects of sustainability. As a result, the full sense of 'sustainable', as is presented in the World Commission's keynote phrase 'Sustainable Development' has not been captured in SL. In this context, I uphold the fact, pointed out by other scholars that 'sustainable' is used in two different senses in SL and in SD. The abovementioned status that I have endorsed, allows me to further focus on the SLA. The SLA appears to offer a practical way of bringing together a variety of concepts, lessons, and ideas (Ashley and Cornay, 1999). The SLA offers an opportunity to improve interventions by taking an all round view of the circumstances of the poor, as they themselves view them (Karki, 2003). SLA is most useful as an analytical or heuristic tool. But, SLAs have also been subject to many criticisms. Many scholars have claimed SLAs to be too complex, difficult in practice and impractical, over ambitious, incompatible with real-world challenges and decision-making processes, incompatible with existing sectorally-based organisations, inefficient to assess qualitative changes naïve, excessively micro-focused, limited value adding, lacking in political nous or sense, time and money consuming, and under-emphasising power relations (elaborated in Chapter 3). One of the main purposes of this research is to investigate the 'implications', 'consequences', and 'sustainability of consequences' of 'asset enhancing' and 'vulnerability reducing' interventions of selected NGO programmes and project in the RC and REC areas in terms of SL. To go forward in this line, I have traced the concept of SD and the debates around SD and persisting controversies and practical limitations. Similarly, I have pointed out explanations of the concept of SL, the SLA, and SLF, their emergence, evident different interpretations and explanations attached to these and different usages and the limitations (Which are further elaborated in Chapter 3). Such a summary which I have delineated in this chapter allow me to identify the term 'sustainable' having two distinct meanings in the two concepts, SD and SL. 'Sustainable', the buzz word dominates not only the development sector but also every possible sectors with the part of its literal meaning - "maintaining development

over time” (Elliott, 2006), as I have mentioned earlier. The other concern, SL, failed to capture the ecological aspects of sustainability. Hence, it failed to capture the full sense of ‘sustainable’, as was in the World Commission’s keynote phrase ‘sustainable development’. Summarizing all the above discussions, the only link I have revealed between SD and SL is both of their consideration of the ‘long-term satisfaction of basic human needs’. Revealing- SL, SLA, and SLF as useful for many different purposes and the link between SD and SL, at this point, it seems necessary to elaborate the limitations of SL, SLA and SLF. Accordingly, the limitations of SL, SLA, and SLF have been elaborated in Chapter 3. Subsequently, to attain the objectives of the study, using the major elements of the SLF, an operationalized conceptual framework named ‘Sustainable Livelihoods at the Local Level’ (SLLL) has been developed to guide the empirical investigation. The following chapter also operationalizes the other relevant terms and elaborates the methodological considerations for empirical data collection.



## CHAPTER 3

### Conceptual Framework and Methodology

#### 3.1 Introduction

In Chapter 2, I tracked the emergence of ‘sustainable development’ (SD) focus in the development discourse. Along with the discussion on the stages of evolution, I evaluated the idea of SD critically. Similarly, I traced the emergence of ‘sustainable livelihoods’ (SL) focus within the ‘rural development’ (RD) paradigm. Although, both the concepts SD and SL have received and continue to receive substantive attention, these concepts lack clear, unambiguous meaning and operational definition. Evolution of both the concepts of SD and SL lead toward the understanding that the term ‘sustainable’ is used in two different senses in the two concepts. The links between SD and SL had also been revealed in the last chapter. Both the concepts with the term ‘sustainability’ in them are considered to be related. The relation between these two is considered to be, in some respects, one of conceptual necessity, since both SD and SL are defined in terms of the long-term satisfaction of basic human needs.

SL as a concept, SLA, and SLF have also been discussed in the last chapter. Chapter 2 also demonstrated the different uses of the concept SL, SLA, and SLF for different purposes in different studies in different contexts, relevant to this study. Chapter 2 thus, provided the context for the study of interventions with a view to assess SL and SD. This chapter starts with a critique of the SLA and attempts to examine why different agencies have lately reduced using the SLA. A good number of limitations of the SLAs has been identified by recent scholars (e.g. Scoones, 2009; Norton and Foster, 2001; Ludi and Slater, 2008; Cleary, 2003; Albu and Scott, 2001; Tanner, *et al.* 2006; Norfolk, 2004; Barnett, 2005). Accordingly, to attain the objectives of the study, using the major elements of the SLF, an operationalized conceptual framework named ‘Sustainable Livelihoods at the Local Level’ (SLLL) has been proposed to guide the empirical investigation. Subsequently, other terms relevant to the present study have been operationalized. With the proposed framework and operationalized terms, this chapter introduces the other methodological considerations, such as, purpose of the research, different phases of the field study, study areas, programmes and projects, sample, tools of data collection, procedure, constraints and limitations.

### 3.2 Sustainable Livelihoods Approach: A Critique

Livelihoods perspectives have been central to RD thinking and practice in the past decade (Scoones, 2009). In spite of the enormous boom with which SL appeared in the 1990s, by the beginning of the new century many limitations of the SL concept, SLA and SLF had been identified. Livelihoods perspectives are no longer as prominent as they used to be even a decade ago. A good number of limitations of the SLAs has been identified by recent scholars (e.g. Scoones, 2009; Norton and Foster 2001; Ludi and Slater, 2008; Cleary, 2003; Albu and Scott, 2001; Tanner, *et al.* 2006; Norfolk, 2004; Barnett, 2005).

Livelihoods approaches were often dismissed as too complex, and thus not compatible with real-world challenges and decision-making processes. The various accusations include Idealism, complexity, naivety, lack of political nous and incompatibility with existing sector-based organisations (Scoones, 2009).

Farrington, *et al.* (1999)<sup>106</sup> recognized the limitations of SLA and wrote:

To its potential critics, a SL approach may appear excessively micro-focused, time-consuming and complex, with only limited value-adding. It does not obviate the need for existing methods and tools, and yet requires investment of time and resources to implement wider perspectives and achieve a degree of synergy among existing interventions. It can be regarded as useful in the abstract but difficult in practice because of: the complexity of conducting livelihood analysis; the difficulty of sharing a complex tool with partners; the reality that even if poor people do not live in sectors, professional partners do, particularly those in government; the long time-frame needed to make a difference to livelihoods; and the fact that qualitative results will be very difficult to assess.

Some others also argue that SL approaches are easier to apply at the micro-level than at the meso and macro levels. The issues of political processes and power relations are not brought out strongly (Norton and Foster, 2001: 10).

The adoption of the SLA approach presents challenges to development interventions including the future of projects; the project cycle; the monitoring and evaluation of interventions; and the development of sector wide approaches and SL programmes instead of, or, in addition to, a series of project interventions (Tonor and Kamuzora, 2003).

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<sup>106</sup> 'Sustainable Livelihoods in Practice: Early Applications of Concepts in Rural Areas' by John Farrington, Diana Carney, Caroline Ashley, and Cathryn Turton. ODI Natural Resource Perspectives, 1999. Retrieved on 12.12.10.  
<http://www.odi.org.uk/resources/download/2110.pdf>



The DFID SL framework, as identified by Eva Ludi and Rachel Slater (2008)<sup>107</sup>, do not explicitly:

- address social relations or social differentiation (the conditions, assets, and strategies of different social groups). This could be addressed by explicit attention being given to the implications of social difference (gender, class, ethnicity, etc.).
- integrate power relations and conflict, and do not help identify conflicting interests.
- integrate the exploration of cultural variables, such as worldviews, beliefs, traditions, status, and identity.
- integrate the historical experiences which shape people's livelihoods and strategies.

Ludi and Slater (2008) further asserted that the early versions of SLFs were not sufficient to address the fundamental questions of 'why' and 'how'. Those frameworks were identified by them as obstructions to investigations on a specific issue and they wrote,

...how decisions are made within a household; how societies deal with conflicting interests; how sustainability is negotiated, for whom and for how long; why specific institutions limiting access to assets for the poor have evolved and are maintained; or why different social groups are excluded from access to certain assets.

Among the most important causes for the decline and fall of livelihoods perspectives that Scoones (2009) identified were a) the lack of engagement with processes of economic globalization; b) the lack of attention to power and politics and the failure to link livelihoods and governance debates in development; c) the lack of rigorous attempts to deal with long-term secular change in environmental conditions (i.e. climate change); d) livelihood studies failed to grapple with debates about long-term shifts in rural economies and wider questions about agrarian change. Furthermore, for many, the prospects of a SL are worsening as population growth and economic growth accelerate environmental degradation.

Some challenges for advocates of livelihood approaches as identified by Carney (1999: 1)<sup>108</sup>

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<sup>107</sup> Using the Sustainable Livelihoods Framework to understand and tackle poverty by Eva Ludi and Rachel Slater, Briefing Note of The poverty-wellbeing platform, 2008.

Retrieved on 11.01.10. [www.poverty-wellbeing.net/document.php?itemID=2578&langID=1](http://www.poverty-wellbeing.net/document.php?itemID=2578&langID=1)

<sup>108</sup> 'Approaches to Sustainable Livelihoods for the Rural Poor' by Diana Carney. ODI Poverty Briefing, 2: January 1999.

Retrieved on 11.01.10.

<http://www.odi.org.uk/resources/download/2276.pdf>

- The new approaches have appeal. They build upon the lessons of past rural development efforts and the findings of various research studies. However, they will not become compelling until they have proved their worth at a practical level. The priorities are to develop tools for their implementation and accurate ways of measuring the contribution that they make.
- Food security remains a key concern. Over 850 million people in the world are undernourished. It is therefore important to ensure that the new approaches contribute to improved agricultural productivity and that they help increase the poor people's access to food.
- Resource degradation is an acute problem in rural areas. The new approaches stress the importance of sustainability. Sustainable rural livelihoods can only be achieved if natural resources are themselves used in sustainable ways. Maintaining objectivity in decisions about what constitutes sustainable use is likely to be an enormous challenge, particularly in areas where people are already extremely vulnerable and have few options other than increased use of resources.
- Livelihoods approaches have little to say about distributional issues, though there is an implicit assumption that the emphasis will be on the poorest. It will be important to ensure that this focus is maintained by the incorporating broader lessons about reaching the poor into livelihoods analysis.

Thus, along with many other concerns, existing challenges primarily included a) necessity to prove the livelihoods approaches worth at practical level; b) development of tools for implementing livelihoods approaches and measuring their impacts; c) necessity to ensure that the livelihoods approaches contribute to improve agricultural productivity and poor people's access to food; d) assurance of sustainable use of resources; e) necessity to maintain focus on the poorest regarding distributional issues.

Many practitioners, academicians, and researchers raise concerns saying that the livelihoods approaches have much in common with the Integrated Rural Development (IRD)<sup>109</sup>.

The livelihoods approaches are considered to be over-ambitious and due to insufficient practical guidance on the way forward (i.e. how the initial analysis should be conducted? level of resources? types of data? how collected? how to make the step

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<sup>109</sup> The IRD projects were found not to be successful and effective in most cases. Those were very costly, administratively complex, and difficult to implement effectively. In 1988 the World Bank undertook an evaluation of the integrated rural development projects that it had financed and supervised and the reasons for the poor results were found to be mainly: a) inappropriate project design, b) either inappropriate prices (i.e. wrongly fixed by Government) or fails in prices, were not predicted, c) inadequate attention given to marketing, e) insufficient attention given to land tenure issues, f) insufficient government support, resulted in a lack of commitment to the project.



from analysis to action?) many consider these to be ineffective (Carney, 1999). With a long practice of sector wise development, many expressed concern about the structural problems - whether it is possible to go beyond sectors in the way the livelihoods approach proposes. Again, the multi-faceted interventions that aim to support the livelihoods of the poor, in many cases generate qualitative change and thus, pose particular difficulties for performance assessment (Farrington, *et al.* 1999). Even at the early stage of the livelihoods approaches, Farrington *et al.* (1999: 12)<sup>110</sup> expresses their concern regarding measurement issues:

How will we know whether livelihoods have been improved, particularly given the qualitative, subjective and often transient nature of some aspects of livelihoods? For instance, it is difficult to assess levels of, or changes in, social capital or vulnerability. The difficulty is compounded by the fact that livelihood security is a matter of perception, which can change easily without any change in tangible outcomes. Yet the pressures in development agencies are towards quantifiable evidence of progress – particularly in the light of the widely accepted international poverty eradication targets. Experience so far suggests that a range of PRA-type and conventional tools are needed for assessing changes in livelihoods, but that the trade-off will remain: SLAs are more realistic in the complexity they depict, but less amenable to quantification than, for example, money-based approaches to poverty.

Again in the book ‘Sustainable livelihoods: Lessons from early experience’ the authors, Ashley and Carney (1999: 2), summarized DFID’s experiences and progress in implementing SLAs. They asserted that:

- While increasing the effectiveness of development activity, SL approaches can also increase costs. These need to be kept in check through mainstreaming SL and by managing information effectively.
- SL principles are more important than the SL framework. When working with partners, it is important to avoid over-emphasising SL and SL vocabulary and to proceed gradually by demonstration.
- Partners in overseas governments are likely to be sectoral ministries. Their ability to embrace the holism of SL may be limited. SL approaches can, nevertheless, encourage a focus on livelihood impacts, not sectoral outputs, and help build cross-sectoral links.
- Use of SL approaches does not necessarily ensure that sustainability is addressed. Environmental, social, economic and institutional aspects of

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<sup>110</sup> ‘Sustainable Livelihoods in Practice: Early Applications of Concepts in Rural Areas’ by John Farrington, Diana Carney, Caroline Ashley, and Cathryn Turton. ODI Natural Resource Perspectives, 1999. Retrieved on 12.12.10.  
<http://www.odi.org.uk/resources/download/2110.pdf>

sustainability all need to be addressed, and negotiated among stakeholders.

- Some issues – such as power relations – may be under-emphasised by SL approaches. Integrating various perspectives is therefore key.
- Any organisation adopting SL approaches is bound to face internal challenges. It will be important to review internal institutional procedures to ensure compatibility with SL. Staff will require support to develop new skills and to learn by doing.
- Use of SL approaches must be underpinned by a commitment to prioritising the needs of the poor, as the concepts are themselves distributionally neutral.

For practitioners, SL approaches appeared to be highly micro-focused and time-consuming (Cleary, 2003; Albu and Scott, 2001; United Nations Development Programme, 1999; Tanner, *et al.* 2006; Norfolk, 2004; Barnett, 2005). As a huge volume of data is generated by analysing information following the SLF, the SLAs were realized as too complex by many of those used it (The Forum on Operationalizing Sustainable Livelihoods Approaches, 2000). The realization was that the SLAs were very costly with limited value-adding.

Along with the use of the existing methods and tools, SL approaches required extensive efforts in innovation of proper ways to gather necessary data following the SLF and thus have been both time and money consuming. At the theoretical level, the SL approaches sounded to be useful but at the practical level difficult. Considering SLAs to be ‘difficult in practice’, Farrington *et al.* (1999: 13)<sup>111</sup> identified the following causes:

... the complexity of conducting livelihood analysis; the difficulty of sharing a complex tool with partners; the reality that even if poor people do not live in sectors, professional partners do, particularly those in government; the long time-frame needed to make a difference to livelihoods; and the fact that qualitative results will be very difficult to assess.

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Farrington *et al.* (1999: 13) further summarized some of the limitations identified through reviewing early experiences of the approach:

... compromises are needed in working with single sector partners, trade-offs between responsiveness to the needs of the poor and quantifiability of impact will remain. However, ways are being sought to: share the approach with partners, using simplified versions at the outset; to explore how to integrate SL

<sup>111</sup> ‘Sustainable Livelihoods in Practice: Early Applications of Concepts in Rural Areas’ by John Farrington, Diana Carney, Caroline Ashley, and Cathryn Turton. ODI Natural Resource Perspectives, 1999. Retrieved on 12.12.10.

<http://www.odi.org.uk/resources/download/2110.pdf>



approaches with other tools; and develop indicators. There are certainly no complete answers to these challenges yet.

Some scholars have expressed their views on what SL is or is not and they have identified those responsible for resulting in different interpretations of SL. It is as well asserted that the frequently specified interpretations of the term SL are leading to ambiguous meanings. As Carswell *et al.* (1997: 10) pointed out: “definitions of sustainable livelihoods are often unclear, inconsistent and relatively narrow. Without clarification, there is a risk of simply adding to a conceptual muddle...”.

The above discussion therefore, reveals all the different critiques of the SL concept, SLAs and SLFs pointed out by different scholars.

### **3.3 Sustainable Livelihoods at the Local Level (SLLL)**

Despite all the limitations and challenges, there are many advantages of the SLAs. The SLAs and SLFs have been used in many different fields of study for many different purposes (see Chapter 2). Still, considering the abovementioned limitations and challenges on the way to implementing SLAs, for the present study, SL is considered at the local level. The most popular definition of SL at the HH level (Robert Chambers and Gordon Conway, 1992) says,

A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term.

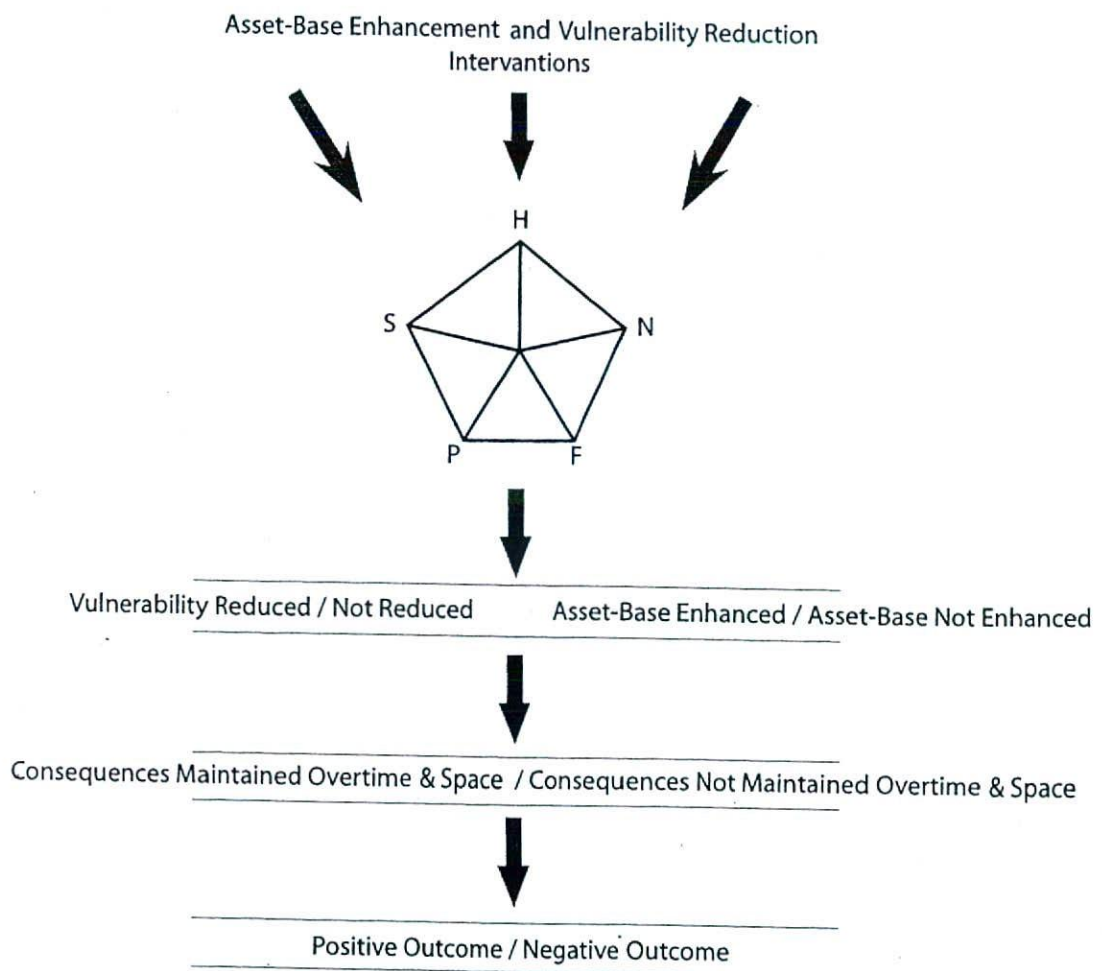
Sustainable Livelihood at the Local Level (SLLL) approach proposes the definition of livelihood and SL based on the abovementioned definition. For the present study, thus-

A livelihood is considered to be comprising of the capabilities, assets and activities required for a means of living (survival): SL refers to livelihoods which can cope with and recover from stress and shocks; livelihoods which maintain or enhance capabilities and assets, simultaneously, contribute to all aspects of short and long term capabilities at the local level.

The new operationalized framework SLLL is proposed considering both the advantages and the limitations of the SLF for use during the empirical investigation.

To attain the objectives of the present study, the SLLL framework is used as a framework to guide empirical data collection to reveal the ‘implications’, ‘consequences’ and ‘sustainability of consequences’ of NGO interventions at a local level in terms of SL. SLLL framework is operationalized based on the major elements of the SLF. At the same time, it is also an alternative in a limited scale (in terms of spatial consideration, local; and in terms of use, evaluative), it is apparently simple, not over ambitious, and rather practical, as it requires relatively less time and money. This framework can provide information in more depth and is appropriate for evaluating intervention consequences and their implications in terms of SL and SD at the local level. Thus, it is the best fit framework to lead empirical data collection in the remote isolated island *char* areas.

### 3.1 Sustainable Livelihood at the Local Level (SLLL) Framework



H= Human Capital N=Natural Capital F=Financial Capital S=Social Capital P=Physical Capital



The SLLL Framework shows the objectives of the NGO interventions to be asset base enhancement and vulnerability reduction (as considered for the present study). For other studies, it can be any other objective. The interventions are introduced with an aim to asset base enhancement and vulnerability reduction at the HH level and are undertaken at the local level for selected beneficiaries. The interventions may lead to either enhancement of asset base or no enhancement of asset base and either reduction of vulnerability or no reduction in vulnerability. These consequences either may be maintained over time or may not be. And only if these interventions result in asset base enhancement and vulnerability reduction and if these positive development outcomes at the HH level enable to cope with and recover from stress and shocks and are maintained overtime (maintained even after the development intervention phase is over, for the present study around one year after the implementation was over), these interventions can be said to be leading to SL (maintenance and promotion of livelihood) and SD in terms of intra-generational equity at the local level. If the interventions are not relevant to people's choices, the consequences may lead to negative consequences. Again, if the consequences are positive but are not enabling to cope with and recover from stress and shocks and maintaining and promoting livelihood (time may be set according to the intervention and feasibility) the interventions are not leading to SL. Moreover, if the positive consequences of the interventions are not maintained even after the development intervention phase is over (for the present study around one year after the implementation was over), the interventions cannot be said to be leading to SD in terms of intra-generational equity at the local level.

SLLL principles for the present study (can be compared with the principles given in Chapter 2 for an understanding of the deviations) hold that development activity should be:

- people-centred: development will be achieved only if external support focuses on what matters to people's lives;
- responsive and participatory: poor people themselves must be key actors in identifying and addressing development priorities and livelihood priorities, and 'outsiders' need to adopt processes that ensure they listen and respond;
- multi-level: the scale of the challenge of development, sustainable livelihoods

through asset enhancement and vulnerability reduction is enormous, and can only be achieved by working at multiple levels, for the present study in terms of special scale it considers local level and temporal scale it considers the after intervention sustainability of the consequences (after around one year);

- conducted in partnership: with both the public and the private sector (including civil society/ non-governmental organizations); for the present study, the interventions by the studied programme and project are considered and if there is any other public and private initiative to enhance asset base and to reduce vulnerability had been looked upon;
- sustainable: the interventions leading to positive consequences on asset bases and on reducing vulnerability must have a continued effect to persist after the intervention phase, in terms of SL and SD;
- dynamic: external support must recognize the dynamic nature of lives and livelihoods, respond flexibly to changes in people's situations, and develop longer-term commitments of support.

### **3.4 Operationalizing Relevant Terms**

The previous section provided the SLLL Approach. The definition of SL for the SLLL approach, the framework, SLLL Framework and the principles were also given. There are some other relevant concepts for the present study namely, 'Development', 'Sustainable Development' and 'Vulnerability' that are operationalized below.

#### **3.4.1 Development**

'Development' is something to which we all aspire (Elliott, 2006). In Chapter 2, starting from the 1950s, the evolving focus in development mainstream has been discussed. Table 2.1 showed that during 2000s, the Millennium development goals have become the central focus of all development activities in the developing countries, along with all the other focuses that prevailed in the previous decade<sup>112</sup>. At the same time, present understanding of RD recognises SL, good governance, decentralization, critique of participation, sector wide approaches, social protection,

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<sup>112</sup> The focus of 1990s had been on participation and empowerment, poverty reduction, partnership, civil society, accountability, governance, ownership, transparency, rights-based approach, human development, sustainable development



aim is to see whether asset base enhancement and vulnerability reduction interventions have short-term/ immediate or long-term/ after intervention future implications in terms of SL'. Due to time and resource constraints, after intervention future implication in terms of SL is studied after around one year of the completion of the intervention implementation.

**Spatial scale:** The spatial scale indicates the level at which SD is being considered at a local, regional, national, or global level in the hierarchical order? For the present study, due to time and resource constraints, 'outcomes of selected interventions in these remote isolated locations are only considered at the local level'.

Accordingly, for the present study, SD is maintaining development over time and space. In line with this operationalized definition, SD, 'sustainability of consequences' and 'sustainability' have been used synonymously in the following discussions.

### **3.4.3 Vulnerability**

"Risk and vulnerability have been rediscovered as key features of rural livelihoods and poverty" – Devereux (2001).

Robert Chambers, in his book, 'Rural Development: Putting the Last First' (1983: 113), introduced the deprivation trap and indicated 'vulnerability' to be a component in that trap. To explain 'vulnerability' in his analysis of rural poverty, he suggested,

It relates to poverty through the sale or mortgage of productive assets; to physical weakness because to handle contingencies, time and energy have to be substituted for money; to isolation through withdrawal – whether spatial (to a more distant marginal area) or social (to fewer reciprocal relations) – following shocks and contingencies; and to powerlessness through the dependence on patrons to which it gives rise.

The above description of Chambers (1983) certainly reveals vulnerability to be a complicated and complex concept. To define and operationalize 'vulnerability' is also reported to be difficult by many others as well (Cutter, 1996; Hogan & Marandola, 2005; Agder, 2006, Lein, 2009). All these authors further accepted the reality that despite the complexities and difficulties with define and operationalize, the term 'vulnerability' is adopted as standard vocabulary in development and poverty studies, global environmental change literature, and hazard and disaster research.

In another writing Chambers (1989: 1) wrote,

Vulnerability here refers to exposure to contingencies and stress, and difficulty

in coping with them. Vulnerability has thus two sides: an external side of risks, shocks, and stress to which an individual or household is subject; and an internal side which is defenselessness, meaning a lack of means to cope without damaging loss.

Relying on the abovementioned definition of Chambers, Devereux (2001) defined vulnerability as a concept that combines exposure to threat with susceptibility or sensitivity to its adverse consequences.

Poverty and vulnerability are not synonymous. But the link is established through the fact that the poor are more exposed to livelihoods threats, are more likely to live in the marginal locations (Wisner, 1993) and they are more susceptible to threats with weak asset base.

For Ellis (2003: i),

Vulnerability is not the same as poverty or food insecurity that describe livelihood states at a particular point in time. Vulnerability is a 'forward looking' concept that seeks to describe how prone individuals and families are to being unable to cope with uncertain adverse events that may happen to them, like prolonged lack of rainfall, or infection by the AIDS virus.

Vulnerability has also been defined by some in a taxonomic manner. But, the dangers associated with taxonomic definitions of vulnerability and the path of shift from more taxonomic definitions that focused on various groups' susceptibility to natural hazards to a more dynamic focus emphasizing issues of resilience and adaptive capacity has again been traced by some researchers (Wisner, 2005; Lein, 2009; Hewitt, 1997: 167; Bankhoff (2001: 29; Wood, 1985; Wisner *et al.* 2004: 11).

Wisner *et al.* (2004: 15) stressed the importance of analyzing the 'vulnerable situations' which people move into and out of over time. For them only a highly contextual approach for assessing vulnerability can lead to such understanding. Such an approach not only focuses on understanding the processes that contribute to vulnerability production but also on social capacity building. Kuhlicke *et al.* (2009), Dunning, (2009) and others also emphasized the usefulness of the local contextual approach in the study of vulnerability.

Typically, *char* dwellers are considered to be vulnerable to natural disasters. But, at this point it is worth mentioning what Agder (2006) (mentioned in Lein, 2009), said, "Vulnerability is manifest in specific places at specific times. Vulnerability, as hazards, will thus be differently perceived and experienced, and these experiential and perceptual dimensions are not easily apprehended or measured". With the realization



from the abovementioned (Agder, 2006; Kuhlicke *et al.* 2009; Dunning, 2009; Wisner *et al.* 2004) assertions, and of the importance of ‘local contextual approach’, for the present study, the operational definition of ‘vulnerability’ adopted was derived from the ‘char dwellers’ perception’. For them, it is “not only being vulnerable to natural disasters, but also to social disasters. The causes of both forms of disasters were attributed to lack of access to and possession of assets”. The NGO interventions also were found to be addressing those vulnerabilities in different ways.

### 3.5 Methodological Considerations

#### 3.5.1 The purpose of the research

Social research serves many purposes. The three most common and useful purposes are exploration, description and explanation whereby the researcher explores a new topic, describes a social phenomenon within the topic and then explains why something occurs (Jagger, 2007). The following table illustrates the distinctive features of the different types of research.

Table 3.1 Types of research

| Exploratory                                                                                                                                                                                                                                                                                                                                                                                                                       | Descriptive                                                                                                                                                                                                                                                                                                                                                                    | Explanatory                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>● Become familiar with the basic facts, setting and concerns</li> <li>● Create a general mental picture of conditions</li> <li>● Formulate and focus questions for future research</li> <li>● Generate new ideas, conjectures or hypotheses.</li> <li>● Determine the feasibility of conducting research.</li> <li>● Develop techniques for measuring and locating future data.</li> </ul> | <ul style="list-style-type: none"> <li>● Provide detailed highly accurate picture.</li> <li>● Locate new data that contradict past data.</li> <li>● Create a set of categories or classify types.</li> <li>● Clarify a sequence of steps or stages.</li> <li>● Document causal process or mechanism.</li> <li>● Report on the back ground or context of a situation</li> </ul> | <ul style="list-style-type: none"> <li>● Test a theory's predictions or principle</li> <li>● Elaborate and enrich a theory's explanation.</li> <li>● Extend a theory to new issues or topics.</li> <li>● Support or refute an explanation or prediction.</li> <li>● Link issues or topics with a general principle.</li> <li>● Determine which of several explanations is best.</li> </ul> |

Source: Neuman (2000: 22)

The present study is an attempt to address all these three purposes exploration, description, and explanation. The qualitative techniques are useful for exploratory or descriptive research which stresses the importance of context, setting, and the participants' frames of reference (Marshall and Rossman, 1999).

To address all the research enquiries, a combination of qualitative and quantitative methods seemed to be of highest benefit for the purpose of this study. A qualitative design can be defined as “an inquiry process of understanding a social or human problem based on building a complex, holistic picture, formed with words, reporting detailed views of informants, and conducted in a natural setting” (Creswell, 2003). In contrast, a quantitative design can be defined as an “inquiry into a human or social problem, based on testing a theory composed of variables, measured with numbers, and analysed with statistical procedures, in order to determine whether the predictive generalizations of the theory hold true” (Creswell, 2003).

Although, qualitative research and quantitative research differ in many ways; but they can successfully be utilized to complement each other (Veal, 1997; Neuman, 2000). In most cases, researchers employ a methodology which relies predominantly either on qualitative or on quantitative information, but content with support of the other methods (Sarandakos, 1997) that lead to a complete indepth understanding of the research query. Because it is important not only to know whether something worked or not, but also answering why something worked or did not work, combining qualitative and quantitative methods is essential. Qualitative research concentrates on understanding the thoughts and behaviours of individuals and groups in specific situations (Arksey and Knight, 1999). Such research should give authentic accounts of human thought, feelings and actions, whilst recognizing that these accounts cannot be generalized for a population of people (Iyavoo 2005). The present research is both quantitative and qualitative and it is hoped that one will compliment the other will lead to future research and further discussion.

Although it is said that qualitative and quantitative methods do not exclude each other in impact evaluation rather are often used in complementary relation, the question arises as to how to develop a research design to evaluate the impacts of development interventions, with the use of both qualitative and quantitative research methods?



Shillingford (2006: 9) again pointed to the fact that,

...rigorous data analysis and explanations in order to plan projects for people. Further, traditional theories of development, particularly in the fields of economics and sociology have influenced the traditional research methodologies preferring to define development theoretically and test these theories against reality.

For Liebenberg and Stewart (1998) these disciplines (economics and sociology) have both defined development “hypothetically, and then – using traditional research methodologies – test their hypotheses in order to substantiate their theories and plan strategies towards their realization” (Liebenberg and Stewart, 1998 quoted in Shillingford, 2006).

Khan (1998: 131-132) also pointed this issue correctly:

Development studies frequently seem to face a “methodological dilemma”; that is, how to effectively synchronize formal and informal methods, and quantitative and qualitative data.

Many researchers share the above concern about how to judiciously balance diverse information and methods, and to suit them to the demands of a particular study (White, 1992; Rahman, 1994; Ahmed, 1991, Khan, 1998). As a response to this concern White (1992 quoted in Khan, 1998: 132) administered a combination of formal and informal methods in her enquiry into class and gender in rural Bangladesh and remarked:

... this [concern] is not I think coincidental, or something specific to me, but rather reflects the ambiguous position of development studies. This both prescribes the need for quantitative data (such as details of landholding) and values anthropological methods of a more participatory style.

In line with ‘methodological pluralism’ as deployed by many other researchers, for the present study both qualitative and quantitative techniques had been used for two reasons. First, it provides more flexibility to researcher by offering choice of alternative techniques and useful combination of methods to obtain optimal results. Second, it reduces the adverse effects of any particular method.

This study is evaluative in nature. Neuman (2003 quoted in Shillingford, 2006: 30) stated,

Evaluation research is the most widely used type of applied research. Researchers use it to learn whether a program or activity accomplishes its

intended objectives. Most fundamentally, evaluation research is appropriate whenever some social intervention occurs or is planned. A social intervention is an action taken within a context for the purpose of producing some intended result. In its simplest sense, evaluation research is a process of determining whether the intended result was produced. Evaluative research therefore tends to employ a mix of quantitative and qualitative methods dependent on the type of program being evaluated and the perceived type of data to be generated.

The present study relies predominantly on qualitative methods and these data has been collected using community profiling, focus group discussions (FGDs), key informant interviews (KIIs), HH level interviews, observations and case studies. Questionnaire survey has generated quantitative data to supplement the qualitative findings. In this way, the use of both qualitative and quantitative tools and data has led to a more thorough understanding of the research queries.

As mentioned by others (Sarantakos, 1997; Burgess, 1984), use of the two methods allow the researcher to acquire a range of information on the same issue along with allowing

- The use of the strengths of each method to overcome the deficiencies of the other;
- Achievement of a higher degree of validity and reliability; and
- To overcome the deficiencies of single-method studies.

### **3.5.2 Different phases of the field study**

The themes (see Chapter 1) guided data collection. The SLLL framework is operationalized on the major elements of the SLF (DFID, 1999–2005<sup>114</sup>) to fit the research objectives and to facilitate fieldwork to explore, describe and explain the consequences of the selected asset base enhancement and vulnerability reduction interventions in terms of SL and SD (maintenance of the outcomes even after one year of completion of the programme and project). The interventions, at the HH level, are expected to cope with and recover from stress and shocks, maintain and enhance its capitals and assets. They are expected to produce outcomes that are positive in line with people's priorities and lead to SL maintaining intra-generational equity. In table 3.2 the different phases of the field study is presented.

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<sup>114</sup> Sustainable Livelihoods Guidance Sheet 2.1.

Retrieved on 12.10.09.

[http://www.proventionconsortium.org/themes/default/pdfs/tools\\_for\\_mainstreaming\\_GN10.pdf](http://www.proventionconsortium.org/themes/default/pdfs/tools_for_mainstreaming_GN10.pdf)



Table 3.2 Different phases of the field study

| Phases                             | Sample                                                                                          | Methods                                                                                                                                                                                                                                                                         | Objectives                                                                                                                                                                                      |
|------------------------------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Initial<br>Exploratory<br>Phase | NGOs, <i>char</i> dwellers                                                                      | Discussions and meetings with personnel of NGOs, Information and document collection, FGDs with <i>char</i> dwellers and Case Studies                                                                                                                                           | To select study area, programme, project and interventions for the study,<br><br>To identify feasibility and limitations, to plan data collection                                               |
| 2. Piloting<br>Phase               | Government officials and local government, representatives, NGO personnel, <i>Char</i> dwellers | KIIs with TNOs and AC Lands and local government representatives, Information and document collection, KIIs with personnel of NGOs, Community profiling, Observation, FGDs, KIIS with selected beneficiaries, Piloting the questionnaire, Conducting sample HH level interviews | To inform the authority and community about the purpose of the study,<br><br>To finalize the questionnaire and the issues for FGDs, KIIs, and HH level interviews for the Data collection Phase |
| 3. Data<br>Collection<br>Phase     | <i>Char</i> dwellers, NGO personnel                                                             | KIIs with personnel of NGOs, Community profiling, FGDs, KIIS with selected beneficiaries and elderly people in the community, Questionnaire survey,                                                                                                                             | To collect qualitative and quantitative data from the field                                                                                                                                     |

|                                             |                                 |                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                           |
|---------------------------------------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                             |                                 | HH level interviews,<br>Selected case studies,<br>Observation                                                                                                                                                                                                          |                                                                                                                                                                                                                           |
| 4. Follow-up<br>Data<br>Collection<br>Phase | Char dwellers,<br>NGO personnel | FGDs,<br>KIIS with selected<br>beneficiaries and<br>selected case studies,<br>Observation,<br>(Although follow up<br>questionnaire survey<br>and HH level<br>interviews were in the<br>plan but could not be<br>realized due to<br>unavailability of<br>beneficiaries) | To collect<br>qualitative data<br>from the field after<br>around 1 year of the<br>programme and<br>project<br>implementation was<br>over (though<br>planned,<br>quantitative data<br>collection could not<br>be realized) |
| 5. Validation<br>of Results<br>Phase        | Char dwellers,<br>NGO personnel | Dissemination of the<br>results and<br>verification of<br>accurateness of<br>findings and<br>understanding                                                                                                                                                             | To validate the<br>findings and<br>understandings                                                                                                                                                                         |

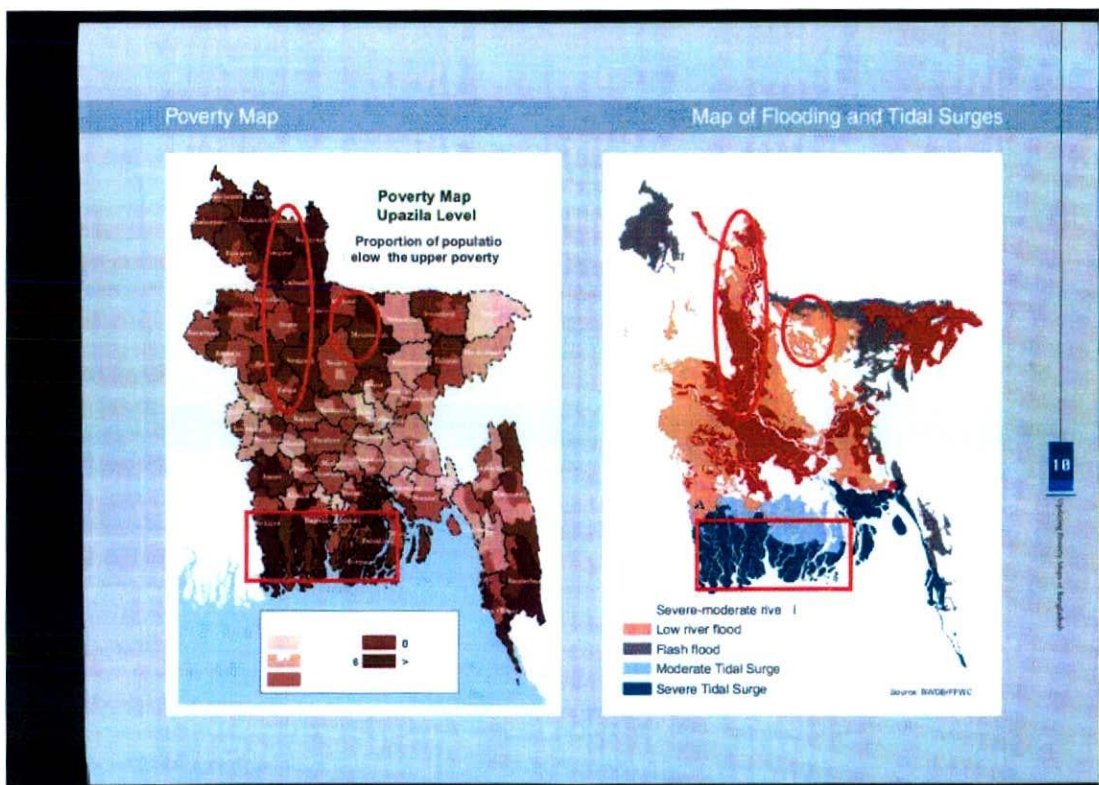
### 3.5.2.1 Initial exploratory phase

Secondary sources: I collected and reviewed the existing literature before selecting the programme and project appropriate to study for this research, and before planning the fieldwork. I considered various reports, articles, and chapters on the subject and documents of the Government and NGOs to collect necessary relevant information and data. After reviewing the programme and project profiles of different NGOs in the RC and REC communities, collected during the initial exploratory visits, I identified the programme and project and the interventions that I intended to study for the present research. Selection of the potential programme and project was done through such secondary literature, programme, and project document review. This also allowed access to useful information expressed on the programme and project proposals and other baseline information. Again, using the secondary literature and programme and project documents, I identified the key informants primarily, though the list of key informants was never limited to the primarily prepared list.



Initial exploratory visits: The areas were selected after initial exploratory visits of potential research areas. The exploratory visits were directed by the realities explored in the latest publication 'Updating Poverty Maps of Bangladesh: Key Findings' (2009: 09)<sup>115</sup> where it is said and also shown through maps that:

Floods and cyclones frequently cause severe damage to lives and livelihoods, especially for the poor. Poor households are often disadvantaged with regards to land access, and end up settling in vulnerable areas, such as low-lying regions near rivers or coasts... There are some areas where clear correlations exist between poverty and proneness to natural disasters. *Monga*<sup>116</sup> and Char areas are vulnerable to flooding and are also poor. The coastal areas, where the poverty rates are high, are prone to severe tidal surges and cyclones.



Map 3.1 The relationship between natural disasters and poverty incidence

(Source: Updating Poverty Maps of Bangladesh: Key Findings, 2009<sup>117</sup>)

Using this map (Map 3.1), a few potential research areas were visited for initial exploration. These potential research areas included island *chars* in Kurigram, Gaibandha, Bagerhat, and Patuakhali. Through the exploratory visits, the realisation

<sup>115</sup> World Bank, Bangladesh Bureau of Statistics and World Food Programme, 2009: 'Updating Poverty Maps of Bangladesh: Key Findings, 2005', Dhaka, Bangladesh.

<sup>116</sup> Lean season, *Monga* areas are the places where lean season is experienced by the dwellers in a worst for

<sup>117</sup> Updating Poverty Maps of Bangladesh.

Retrieved on 24.11.08.

<http://www.bbs.gov.bd/WebTestApplication/userfiles/Image/UpdatingPovertyMapsofBangladesh.pdf>

occurred that due to time and resource constraints, one RC community in Gaibandha and one REC community in Patuakhali district would be realistic to study.

The following information and relevant documents were collected during the initial exploratory phase:

- Different programme and project claiming to contribute to SL,
- Completed and ongoing programme and project profiles in different *chars* of those areas, and
- Accessibility information on different programme and project implementing *chars*.

After a few preliminary visits to the selected potential study areas, I selected the communities with the beneficiaries of the selected programme and project under study. The communities were selected on the basis of practicality (time, resource, transport availability) and after discussion with a few appropriate key informants.

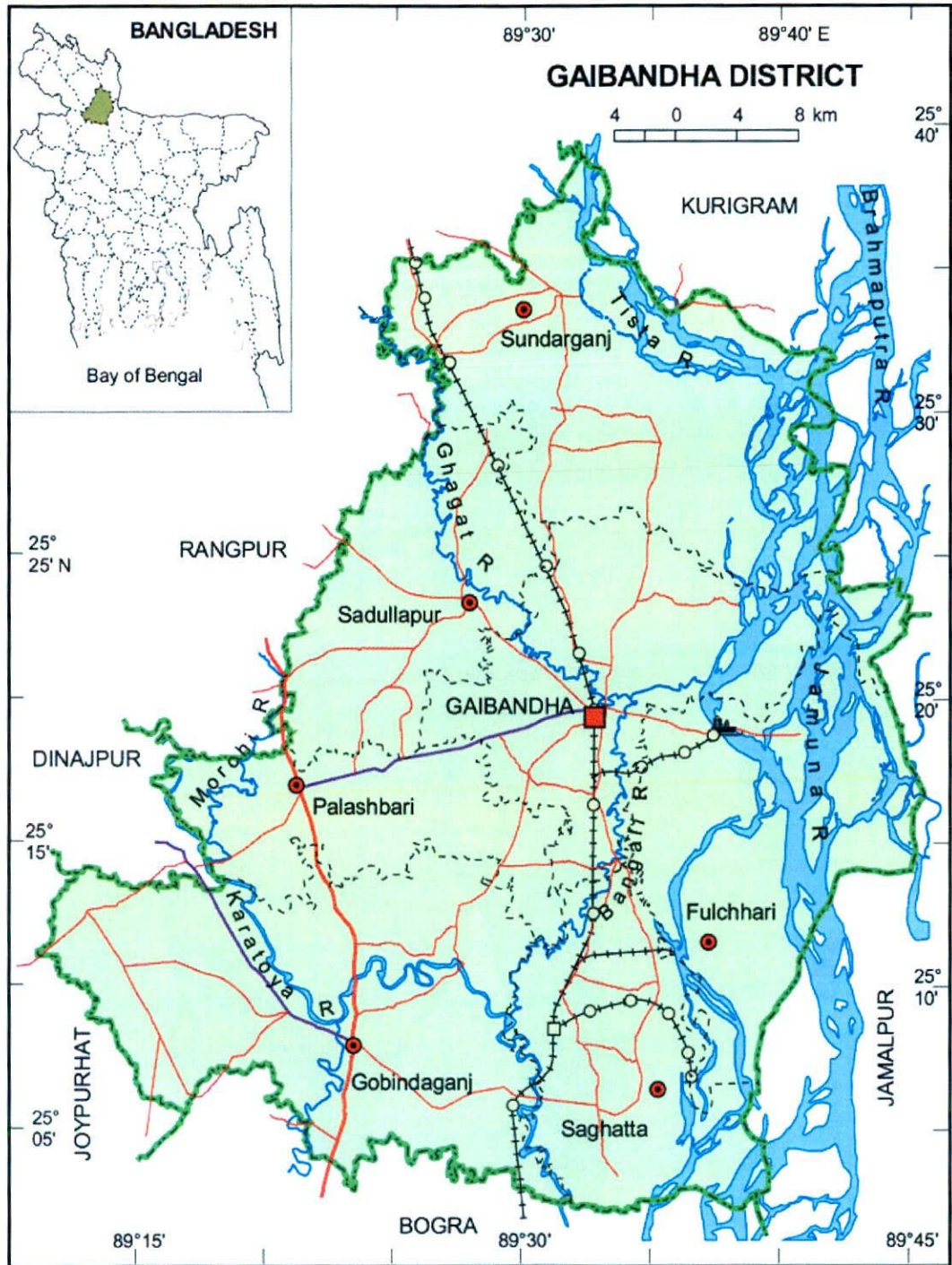
In the Gaibandha *char* areas, a number of programmes and projects of different national and international organizations were found to be operating. On the other hand, a very few programmes and projects were found to be operating in the coastal river estuarine islands. Although, in the offshore islands some NGOs had their interventions, finding any development programme or project in the island *chars* of river estuaries was very difficult.

Particular interventions of *Chars* Livelihoods Programme and River Basin Programme were studied in a RC community named Pepulia, located in Fulchhari Union at Fulchhari Upazila in Gaibandha District. Likewise, in *Char* Wadel which is a REC community in Nazirpur Union at Bauphal Upazila of Patuakhali District, interventions of Specially Targeted Ultra Poor (STUP) programme of BRAC and Disaster Preparedness and Rehabilitation Management (DPRM) project of SLOPB were studied.

Before starting the fieldwork in selected sites, the key informants in the NGOs were identified. Through consultation with them, the plan for piloting phase and data collection phase was finalized.

Through a literature review, FGD, and observation in the field, the key informants working at the NGOs, community, and government were identified. They are individuals who, because of their position or experience, were likely to have particularly broad or indepth knowledge about the community or programme or project. The programme and project profiles, stakeholder information and other relevant information were collected from the key informants. Informants also included programme coordinators or development associates in a local NGO and had been involved in the implementation of the specific programmes or project studied.

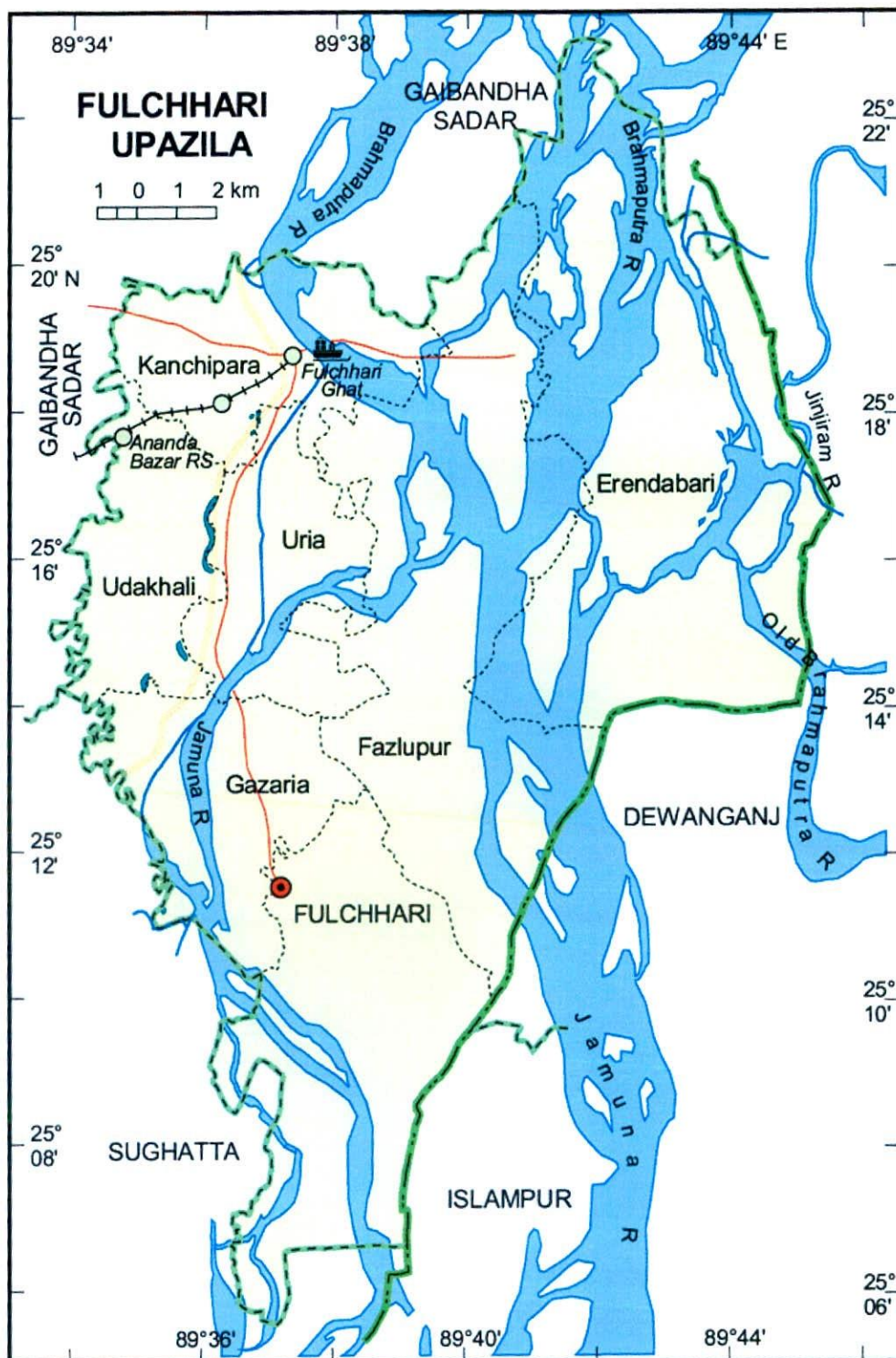




Map 3.2 Location of Fulchhari Upazila in Gaibandha District

Source: Banglapedia<sup>118</sup>

<sup>118</sup> Banglapedia: Gaibandha District. Retrieved on 21.04.2009.  
[http://www.banglapedia.org/httpdocs/HT/G\\_0004.HTM](http://www.banglapedia.org/httpdocs/HT/G_0004.HTM)

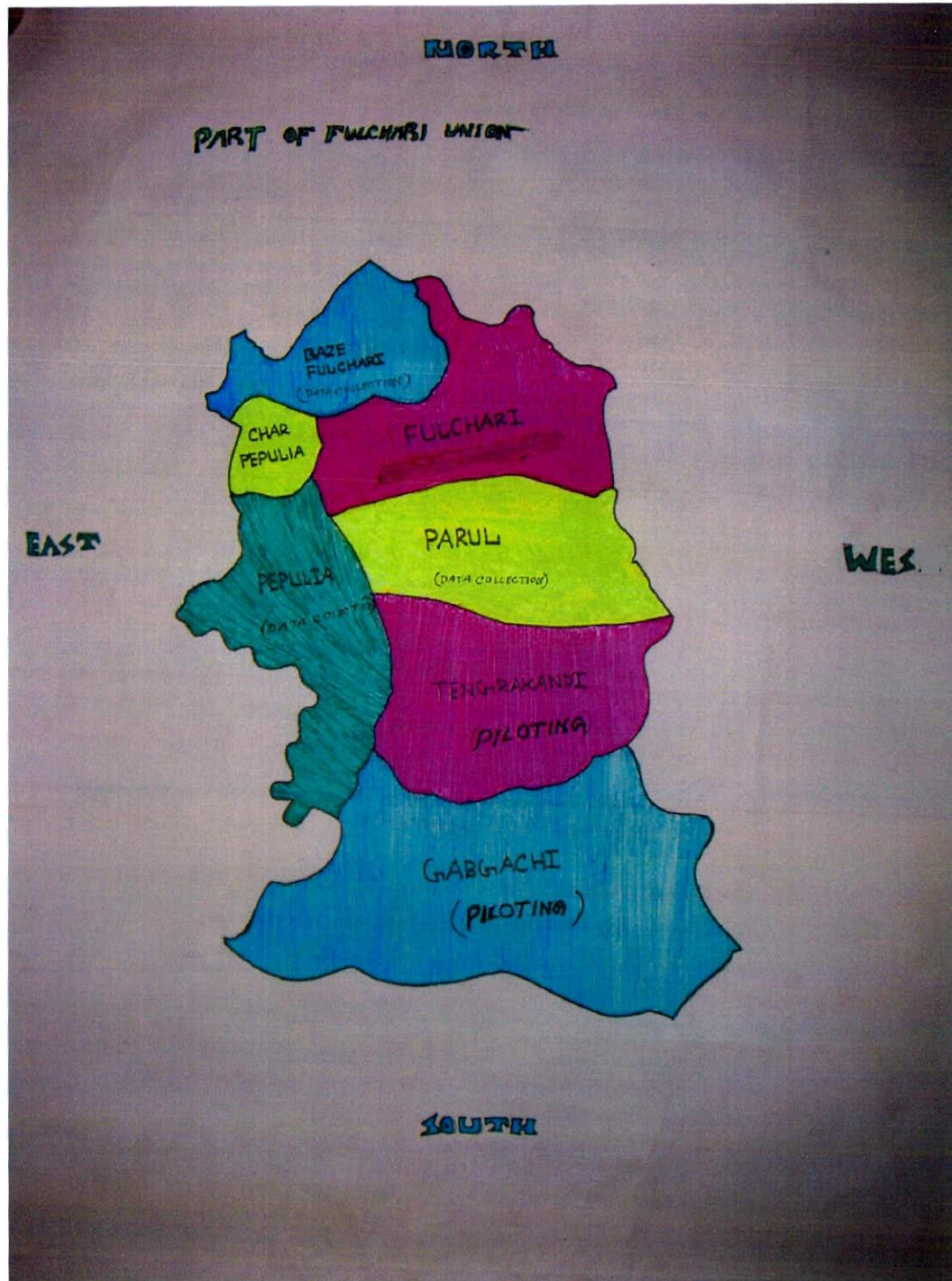


Map 3.3 Location of Fulchhari Union in Fulchhari Upazila

Source: Banglapedia<sup>119</sup>

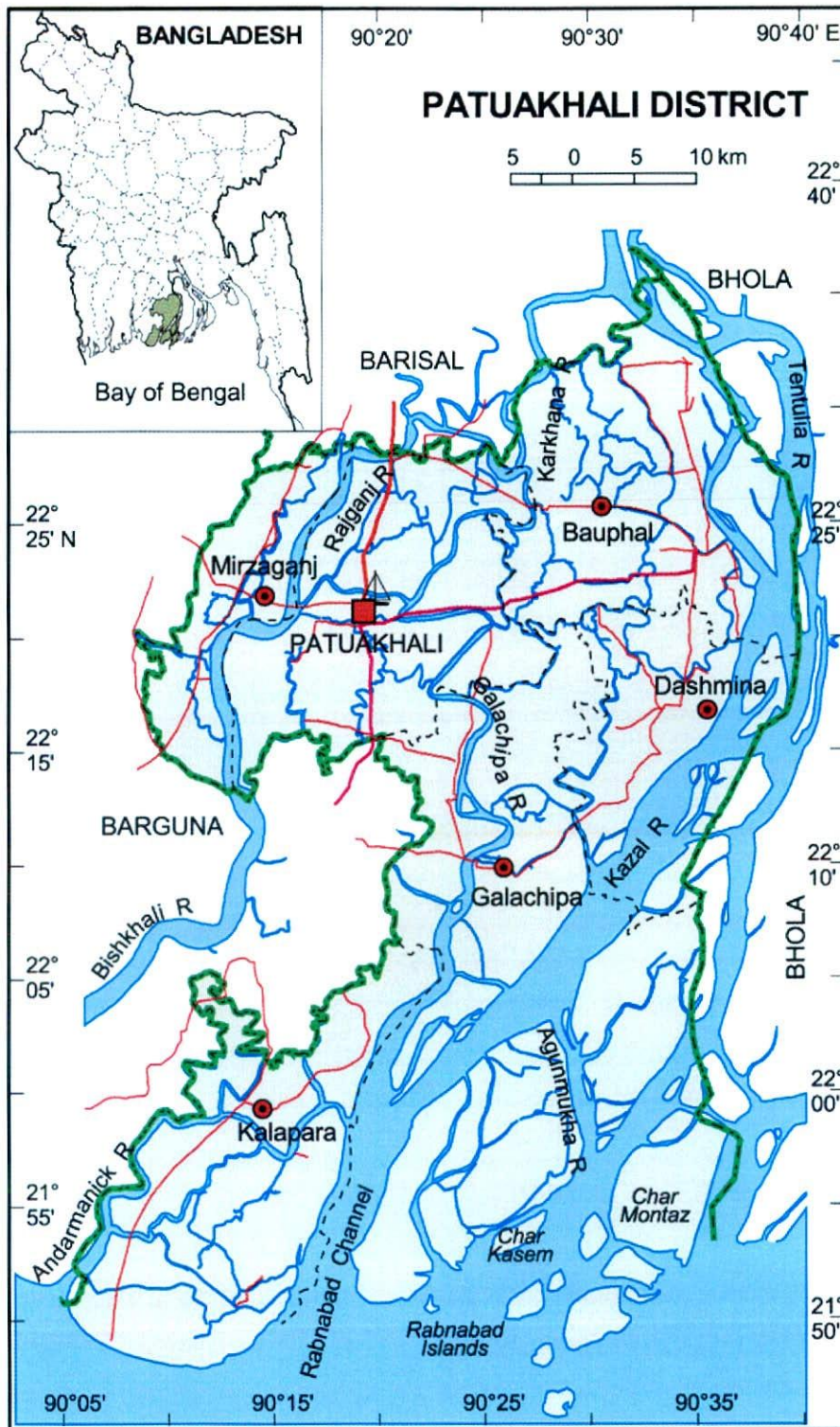
<sup>119</sup> Banglapedia: Fulchhari Union. Retrieved on 21.10.2008.  
[http://www.banglapedia.org/httpdocs/HT/F\\_0186.HTM](http://www.banglapedia.org/httpdocs/HT/F_0186.HTM)





Map 3.4 Location of the study community in Fulchhari Union (Pepulia, Parul, and Baje Fulchhari the communities are altogether been named Pepulia for the data collection phase of the present study)

Source: Based on Fulchhari Union Map (Appendix 4, Map 3.8 collected from SKS)



Map 3.5 Location of Bauphal Upazila in Patuakhali District

Source: Banglapedia<sup>120</sup>

<sup>120</sup> Banglapedia: Patuakhali District. Retrieved on 21.10.2008.  
[http://www.banglapedia.org/httpdocs/HT/P\\_0124.HTM](http://www.banglapedia.org/httpdocs/HT/P_0124.HTM)



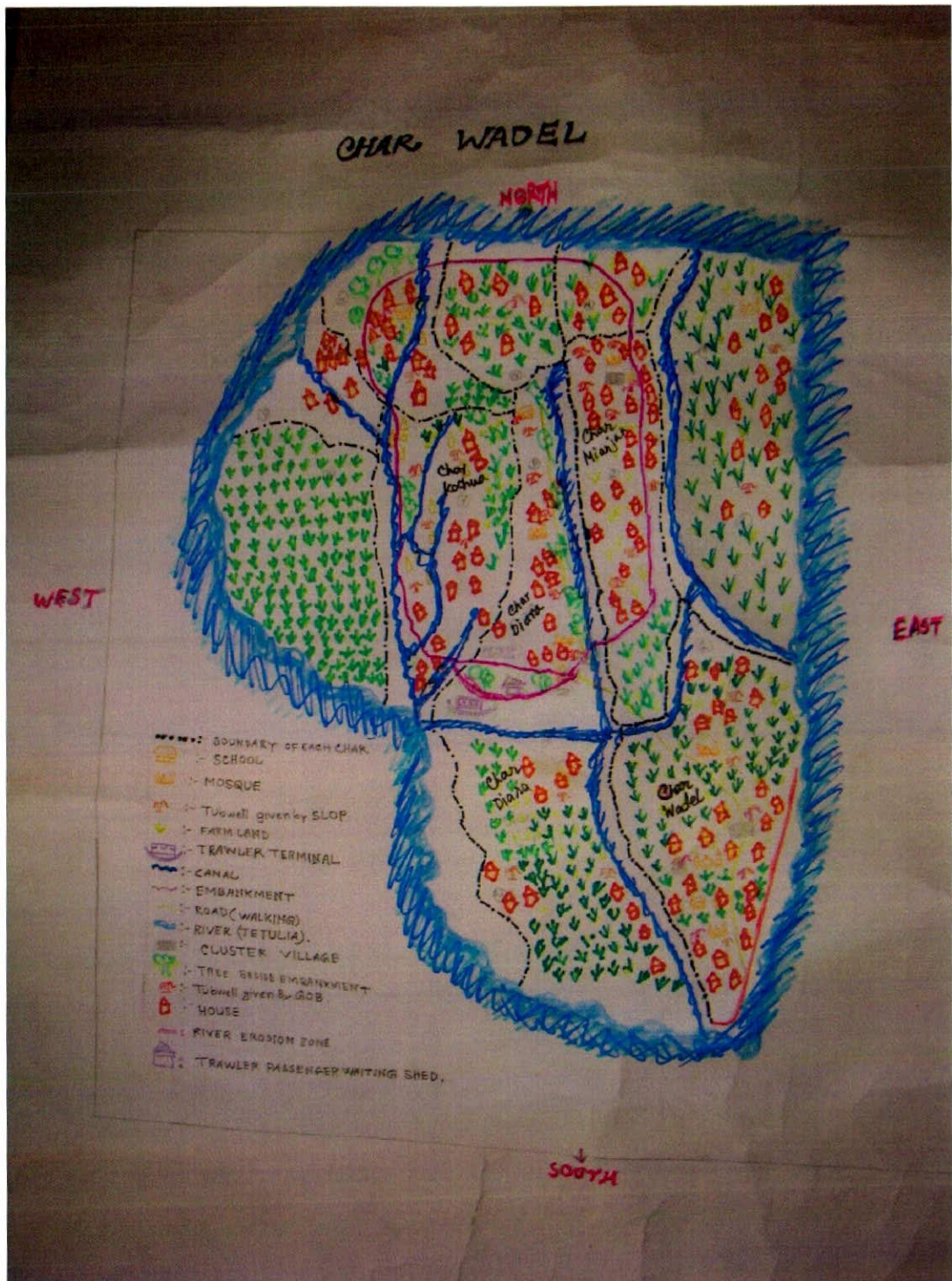


Map 3.6 Location of study community in Nazirpur Union in Bauphal Upazila

Source: Banglapedia<sup>121</sup>

<sup>121</sup> Banglapedia: Bauphal Upazila. Retrieved on 21.10.2008.  
[http://www.banglapedia.org/httpdocs/HT/B\\_0356.HTM](http://www.banglapedia.org/httpdocs/HT/B_0356.HTM)





Map 3.7 Location of the study community in Nazirpur Union (*Char Diara*, *Char Wadel*, *Char Kochua* and *Char Mianjan* are the communities altogether been named *Char Wadel* for the present study)

Source: Based on community map prepared by the participants during the fieldwork



For the present study, these programmes and projects were purposely selected considering the following:

- Programme implementation areas were the selected island *chars* located in two specific parts of the rivers: mainstream RC in Gaibandha and REC in Patuakhali that were feasible to access;
- These programmes and projects claimed to contribute to SL sustainably. The beneficiaries went through the interventions of four different programmes, project of asset enhancing or vulnerability reduction, and were at the end expected to have improved livelihoods. These community beneficiaries were representative of the beneficiaries that the present study aimed to study;
- Programme or project completion timing was feasible for data collection (as data had to be collected both just after completion of the implementation and around one year after completion of the implementation), and
- As these programmes and projects can be sufficiently studied to address major research objectives.

Studied programmes and project: The information on the studied programmes and project are collected from different programme and project documents collected from the NGO offices. Moreover, additional documents on the studied programmes and project from the Internet were also reviewed. Information on the studied programmes and project are provided below:

A. Specially targeted ultra poor (STUP) programme

|                           |                                                                                                                                                                                                                                                                                                                                        |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name of programme         | : Specially Targeted Ultra Poor (STUP) Program<br>(Phase II)                                                                                                                                                                                                                                                                           |
| Duration of the programme | : January 2008 to December 2009 (in <i>Char Wadel</i> )                                                                                                                                                                                                                                                                                |
| Implemented by            | : Bangladesh Rural Advancement Committee<br>(BRAC)                                                                                                                                                                                                                                                                                     |
| Funded by                 | : The entire Challenging the Frontier of Poverty<br>Reduction/Targeting Ultra Poor (CFPR-TUP)<br>programme is funded by a donor consortium<br>which contributed US\$105 million over the five<br>years (2007 to 2011) of the budget, during the<br>second phase, BRAC itself contributed over US\$5<br>million over the 2007-11 period |

Around 20% of the population of Bangladesh who fall well below the poverty line cannot take advantage of microfinance due to the rigorous repayment structure and the high risk they pose to lenders ('CFPR-TUP Targeting Social Constraints' 15). The bottom quintile of the population suffers from malnutrition, frequent diseases and illnesses, and poor housing. This portion of the population consists mainly of women. They are, in most cases, widows, elderly, abandoned, reliant on begging and property-less<sup>122</sup>. In 2002, with this understanding, BRAC decided to fill this desperate gap in development assistance by starting the 'Challenging the Frontiers of Poverty Reduction: Targeting the Ultra Poor' (CFPR-TUP) programme. The program is claimed to be highly comprehensive with four main components (CFPR-TUP Progress Report, 2006). The components of CFPR-TUP are as follows:

- Enterprise Development Training
- Asset Transfer
- Essential Health Care
- Social Development

The CRPF-TUP Program consists of two approaches. The Specially Targeted Ultra Poor (STUP) program is a grant-based approach and the Other Targeted Ultra Poor (OTUP) is a grant plus loan based approach. However, for the purpose of the present research, STUP was selected as one of the programmes studied in *Char Wadel*.

Ultra-Poor Selection procedure by BRAC: The selection procedure starts with Participatory Rural Appraisal (PRA) sessions. Consequently, the BRAC staff visits and fills out a questionnaire for each of the HHs identified during the PRA sessions as poor and ultra-poor by the community. Questions include but are not limited to family composition, income sources, HH level assets, involvement with other NGOs, outstanding loans, and health. Using the collected survey information, the staffs then identifies HHs that qualify the ultra-poor criteria and basic BRAC requirements. The next day, the area supervisor of BRAC visits the HHs identified as ultra-poor to verify their wealth standing. Instead of re-interviewing family-members, the supervisor triangulates by asking neighbours and other community members about the family's assets, income, and living standard. Thus, BRAC assures reliability of TUP beneficiary selection.

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<sup>122</sup> Borlaug-Ruan Internship by Julie Perkins, 2008.

Retrieved on 23.4.10.

[http://www.worldfoodprize.org/documents/filelibrary/images/youth\\_programs/2008\\_interns/PerkinsJ\\_BR08Report\\_1CD331520CF13.pdf](http://www.worldfoodprize.org/documents/filelibrary/images/youth_programs/2008_interns/PerkinsJ_BR08Report_1CD331520CF13.pdf)



The TUP programme aims “... to build a more sustainable livelihood for the extremely poor, by providing a solid economic, social, and humanitarian foundation, which would enable this group to overcome extreme poverty ...” (Hossain and Matin, 2007). Starting from January 2007, CFPR II has 200,000 STUP participants in 23 districts, and plans to expand to 17 more districts (as of November 2008).

In the BRAC Annual Report, 2009, the impact of the TUP Programme is compared between year 2002 and 2008. It is further mentioned that some other organizations working on extreme poverty are already replicating the TUP model with resources and experience support from BRAC.

Table 3.3 Impact of the TUP programme compared between Year 2002 and 2008 (BRAC Annual Report, 2009)

| Impact                                    | In 2002 | In 2008 |
|-------------------------------------------|---------|---------|
| Members who own productive assets         | 41 %    | 96 %    |
| Vulnerable to food insecurity             | 62 %    | 19 %    |
| Invited to visit non-relative neighbours  | 25 %    | 50 %    |
| Helped by non-relative neighbours in need | 16 %    | 55 %    |
| Able to lease land from other villager's  | 38 %    | 50 %    |

There are many potential lessons that might be drawn from TUP including both its design features and the process from which it has evolved and continues to evolve. On the ‘content’ side its major innovations are:

(i) the transfer of a substantial set of assets to very poor HHs – in effect, a redistribution of assets from the taxpayers of aid donor countries to the ultra poor in Bangladesh, and (ii) the recruitment of village level elites to local committees to support TUP participants and other very poor people. The latter is a radical idea in terms of the social engineering of a more pro-poor context in rural Bangladesh. In terms of ‘process’, the TUP, like most of BRAC’s other programs, has benefited from many of the elements idealized in ‘learning process approaches’ and ‘learning organizations’. It has built an experience, mounted carefully monitored experiments, standardized and scaled up its delivery systems, and gradually reduced the programs unit costs. While this process has listened carefully to TUP participants and field staff, it is far from the ‘participatory’ approach lauded by some development theorists. The

experiment is closely controlled by BRAC's upper levels<sup>123</sup>.

About STUP: Out of 64 districts, STUP program was continued in 23 and each district covered about 8 to 12 sub-districts. There were 3-4 branches per sub-district. Each branch covered around 60 to 100 villages or sots. The members of STUP are selected from HHs that meet at least three of the five following criteria (BRAC 2007 Annual Report).

- The HH is dependent upon female domestic work or begging.
- Ownership of less than 10 decimals (.1 acre) of land.
- No male adult member in the HH.
- Children of school going age have to take paid work.
- No productive assets in the HH.

STUP is a development program of BRAC (donor) which is implemented in 2 years and ended in December 2009 in *Char Wadel*. It gave 1 cow, 10 chickens, 3 pieces of Tin and some wood (to build shade for the cattle), 3 rings and 1 slab to most of its 46 members at *Char Wadel*.

At first, the beneficiaries were selected. Next, they were called in the office. They were given the choice of different asset packages (3 types)

- 1 cow 2 goats (17 people)
- 1 cow 10 birds (26 people)
- 4 goats 10 birds (3 people);

According to their equivalent / appropriateness, any of the abovementioned packages worth Taka 10,000 was delivered to each selected beneficiary.

The selected beneficiaries were also provided with training (25 people in a batch at a time for 4 to 6 days) necessary to maintain the assets before they were provided with the allotted asset package. The training covered issues such as, proper way of rearing cattle, poultry, way of gardening successfully etc. However, there was no training on disaster. However, the assets were transferred to those beneficiaries within 1 week after the training phase. There was a purchase committee to purchase the assets. Delivering money to the beneficiary instead of assets was not allowed. After handing over the assets, the beneficiaries were provided support of a subsistence allowance of around taka 15 per day in 2008 according to the asset package (enterprise specific)

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<sup>123</sup> Borlaug-Ruan Internship by Julie Perkins, 2008.

Retrieved on 23.4.10.

[http://www.worldfoodprize.org/documents/filelibrary/images/youth\\_programs/2008\\_interns/PerkinsJ\\_BR08Report\\_1CD331520CF13.pdf](http://www.worldfoodprize.org/documents/filelibrary/images/youth_programs/2008_interns/PerkinsJ_BR08Report_1CD331520CF13.pdf)



until income started from enterprise. The BRAC officer used to visit those 46 HHs throughout the month and aware them on 4 health and 6 social issues namely,

- Family planning,
- Prevention of Warm,
- Vitamin A campaign
- Water borne diseases,
- Child marriage,
- Dowry,
- Divorce,
- Marriage registration and
- Village court.

The BRAC officer was also used to collect savings from these beneficiaries (5 taka to 50 taka per week) according to their ability. The savings were used later to buy another asset for the family according to the criteria set by BRAC. The target was to upgrade these beneficiaries into a certain level within 2 years that, they should have at least 3 income sources. He/ she should also have at least 4 fruit trees, 10 birds, vegetable garden, etc.

B. Disaster preparedness and rehabilitation management (DPRM) programme

|                         |   |                                                                          |
|-------------------------|---|--------------------------------------------------------------------------|
| Name of Project         | : | Disaster Preparedness and Rehabilitation Management (DPRM)               |
| Duration of the Project | : | June 2008 to May 2009 (implementation was not completed within May 2009) |
| Implemented by          | : | SLOPB (Stichting Land Ontwikkelings Project Bangladesh)                  |
| Funded by               | : | ICCO, an Interchurch Organisation for Development Cooperation            |
| Budget                  | : | 50,000 EURO                                                              |

At the end of year 2007 on 15<sup>th</sup> November, the massive cyclone, SIDR hit Bangladesh that affected people of southern areas of Bangladesh severely. Stichting Land Ontwikkelings Project Bangladesh (SLOPB) then launched a relief operation to help the suffering people who needed foods, clothing, medicine, and drinking water support immediately for their survival. With the recognition that those people needed a rehabilitation program to overcome their losses and to stand upright for their economic struggle once again, SLOPB undertook a 12-month Rehabilitation activity under the Disaster Preparedness and Rehabilitation Management (DPRM) Project.

Project objectives: The overall objectives of the project were to improve island people's knowledge about disaster, develop the health & sanitation condition, and improve livelihood position through income generating activities (IGAs) of Bauphal

and Dashmina Upazila people. Objectives were to:

- Improve behavioural pattern of men, women and children with respect to the use of safe water and sanitary facilities;
- Increase awareness relating disaster preparedness and risk management.
- Increase involvement in different income generating activities.
- Strengthen capacity of communities as per their comparative advantages to provide sustainable water supply, sanitation, IGA facilities and motivation on awareness build up.

Project Area: The project location was 6 island *char* areas of Bauphal and Dashmina Upazila and the mainland of Bauphal and Dashmina of Patuakhali district. The *chars* were,

1. *Char* Amarkhali
2. *Char* Bashudev pasha
3. *Char* Wadel
4. *Char* Shajalal
5. *Char* Borhan
6. *Char* Hadi

For the present study, beneficiaries of DPRM in *Char* Wadel were considered. *Char* Wadel includes areas of two Union Parisads (UP), Kalaiya, and Nazirpur. *Char* Wadel also includes four connected communities of *Char* Diara, *Char* Wadel, *Char* Kochua, and *Char* Mianjan. As reported by the villagers, the approximate population of *Char* Wadel is around 14 thousand. *Char* Wadel is about 15 kilometres away from the nearest mainland, Kalaiya Bazaar, accessible through water way.

The project activities were as follows:

- House: The project provided corrugated sheet roofed house for 20 families. These houses were strong against the high speed storm to survive.
- Power tiller: Four power tillers had been distributed to 4 farming groups composed of 5-6 farmers in each.
- Seedlings: Seedlings were distributed for the next crop season mainly for vegetables and cash crops among poor farmers so that they can cultivate 60-80 decimal lands. The project provided seedlings among the 200 farmer families for their income generation from the land.
- Fertilizer: The project provided fertilizer among the needy farmer who can not to buy them and ensured fertilizer use. The project provided fertilizer among the 200 farmer families.
- Goat: Many island farmers lost their goats during cyclone SIDR. The project provided 100 black Bengal goats (a developed variety of goat) among 100 inhabitants of the island.



- Chicken: The project provided about 100 chickens among 100 families with the aim to support them with a source of income.
- Duck: The project provided 200 ducklings among 100 families for their income generation.
- Net and Boat: Many fishermen in the *Char* area lost their only earning source the fishing net and boat in SIDR. The project provided net and boat among 25 fishermen to help them continue previous livelihood.
- Sanitary latrine: The project provided 200 sets of ring slab among two hundred families.
- Deep hand tubewell (DHTW): The number of DHTW in the islands is very negligible. The project provided 20 DHTW following SLOPB usual criterion in health and Watsan (water -sanitation) project.
- Training: This project provided training to aware the mass people of the island about preparation and management of disaster. The project provided training on disaster preparedness and its mitigation among different section of people of the community. The project provided training to 800 people of the islands for building confidence in them to face natural calamities and to stand upright afterwards.

Not all the interventions were completed by the end of one year and thus selected interventions of DPRM were studied in *Char* Wadel.

C. Chars livelihoods programme (CLP)

|                           |                                                                                                 |
|---------------------------|-------------------------------------------------------------------------------------------------|
| Name of programme         | : Chars Livelihoods Programme (CLP) Asset Transfer Program (ATP), ATP4                          |
| Duration of the programme | : May 2007 to April 2009 (4 <sup>th</sup> phase)                                                |
| Implemented by            | : SKS Foundation                                                                                |
| Funded by                 | : CLP-DFID (Department for International Development) and sponsored by Government of Bangladesh |
| Budget                    | : £15.6 million included 24,730 asset transfers (ATP4)                                          |

There are many island *chars* in the northern part of Bangladesh. People live in the island *chars* in a disaster prone situation and are the disadvantaged for the geographical location. Peoples living in these basin areas become victims of flood, drought, *monga*, cold weave, and river erosion. Generally, the community people living in *char* areas are very poor. They lack the capabilities to strengthen their socio-economic position. This could be due to river-erosion, floods, problematic communication/ transportation with the main land, lack of many basic needs and unavailability of many basic government services. In absence of any form of industry,

the unemployment rate is very high. Therefore, many of the *char* dwellers look for employment opportunities in the mainland, leaving their wife and children back in the *char*. In addition to this, infrastructure facilities, like schools, markets, flood shelters etc. are non-existent in these remote areas. Other problems for the community people include agricultural knowledge, health, sanitation, malnutrition, gender and many more. Most of these problems are interdependent. With these understanding, *Chars* Livelihoods Program (CLP) aims to improve the livelihood security of the poorest island *char* dwellers along the Brahmaputra/ Jamuna River. CLP is working in 5 districts of Bangladesh. They are Shirajgonj, Gaibandha, Jamalpur, Bogra, and Kurigram. In Gaibandha, three organizations are working effectively. They are GUK, SKS, and AKOTA. SKS is the Implementing Organisation responsible for CLP implementation in Fulchhari Thana of Gaibandha district. SKS started working on CLP asset transfer programme (ATP) from January 2006, for the extreme poor as a key part of its support to promote sustainable livelihoods in the Shaghata and Fulchhari *char* areas. There are 12 villages in Fulchhari Thana. SKS worked in 4 CLP batches to implement the ATP. Different batches were named as ATP 1, ATP 2, ATP 3, and ATP 4. From ATP 1 to ATP 4 CLP supported 2,149 beneficiaries. Of them, 619 were for ATP 4.

Asset Transfer Program (ATP) is one of the most important activities of CLP. ATP has three parts. They are,

- Transferring assets
- Transferring seed and fertilizers and
- Training

Table 3.4 Information on ATP4 households

| Village        | Total HH | Covered by CLP in ATP4 | Total Covered by CLP |
|----------------|----------|------------------------|----------------------|
| Pepulia        | 420      | 29                     | 94                   |
| Baje Fulchhari | 520      | 18                     | 178                  |
| Parul          | 480      | 23                     | 97                   |
| Tengrakandi    | 507      | 25                     | 113                  |
| Fulchhari      | 410      | 34                     | 95                   |
| Gabgachi       | 705      | 28                     | 169                  |

The main selection criteria mentioned in the programme profile included:

- the beneficiary must be an island bar dweller



- must be livestock less
- land less
- asset less
- credit less
- Able to participate in different training & meeting
- the female headed families
- left by husband etc. were the 2nd most prioritized criteria to be selected as a beneficiary of CLP

There were some options of assets the beneficiary:

- Bull rearing
- Cow rearing
- Goat / sheep rearing
- Rickshaw / Van, etc.
- Sewing machine and
- land

The value of the asset for ATP 4 was taka 17,000 per beneficiary. No one bought anything else but cattle (Bull or Cow) and the rest of the money (if any) was used to buy a lamb given to the beneficiary for building a shade for the cattle, or a manger, or chicken etc. Beneficiaries received training on 6 issues. The first training was conducted before transferring the asset (i.e. before buying). It was on, how to take care the cattle during transfer from the market to owners home and 5 trainings were conducted after the asset was transferred. Four of them were on agriculture, and one was on vaccination of cattle. Monthly cash transfers, asset maintenance and social development training and homestead garden support were also provided to the ATP 4 beneficiaries. Infrastructural support was also provided to the beneficiary HHs including a raised homestead plinth, provision of a sanitary latrine, access to a tube-well and other community wide improvements.

Table 3.5 Key characteristics of ATP4

| ATP Phases | Beneficiaries | Activities                                                                                                                                                                                                                                                                                                     |
|------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ATP-IV     | 627           | <ul style="list-style-type: none"> <li>• 10 times training on livestock and agriculture</li> <li>• Asset purchase, transportation</li> <li>• Seed and other inputs collection and distribution</li> <li>• Home garden establishment</li> <li>• Sapling distribution</li> <li>• Voucher distribution</li> </ul> |

|  |  |                                                                                                                                                |
|--|--|------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | <ul style="list-style-type: none"> <li>• Stipend distribution.</li> <li>• Monitoring</li> <li>• Linkage with Paravets<sup>124</sup></li> </ul> |
|--|--|------------------------------------------------------------------------------------------------------------------------------------------------|

D. River basin programme (RBP) disaster risk reduction & vulnerable livelihoods (DRR & VLHs)

Name of programme : River Basin Programme (RBP) Disaster Risk Reduction & Vulnerable Livelihoods (DRR & VLHs)  
 Duration of the programme : May 2007 to April 2010 (4<sup>th</sup> phase)  
 Implemented by : SKS Foundation  
 Funded by : Oxfam-GB

The people in the island *chars* of northern Bangladesh become marginalized because of frequent and high intensive natural calamities in the region. The intensity of disasters increase based on the vulnerability due to food and livelihoods insecurity. The people in the *chars* do not have any employment opportunity for about 6 months round the year. Again, campaign to raise awareness to get access to essential services would reduce their vulnerability. As a result, they would also be capable to adapt with changing situation. With these understanding, River Basin programme (RBP) works in the *char* areas to achieve the following goals and objectives.

Goal: To ensure improved livelihoods through better land and water management practices, access to markets and better disaster management.

Objectives:

- To reduce the vulnerability of the poorest communities to floods in a number of most flood-affected locations. (Mitigation)
- To increase community preparedness to respond to flood emergencies. (Preparedness)
- To improve the livelihood options of the *char* dwellers. (Livelihood)
- To change the policies and practices to reduce the vulnerability of the poorest communities. (Advocacy)

SKS Foundation is the implementing organization for the RBP in the selected area. SKS Foundation is working for RBP from year 1997.

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<sup>124</sup> A para-veterinary worker.



Table 3.6 Different phases of RBP

|                                                                     |                                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 <sup>st</sup> Phase<br>as ICDP <sup>125</sup> started during 1997 | <ol style="list-style-type: none"> <li>1. Disaster Preparedness &amp; Management.</li> <li>2. Health &amp; Environment</li> <li>3. Women Empowerment</li> <li>4. Economic Development</li> <li>5. Capacity building</li> <li>6. Local resource mobilization</li> </ol> |
| 2 <sup>nd</sup> Phase<br>as RBP<br>started from 2000                | <ol style="list-style-type: none"> <li>1. Disaster preparedness and management</li> <li>2. Health and Environment</li> <li>3. Women empowerment</li> <li>4. Livelihood</li> <li>5. Capacity building</li> </ol>                                                        |
| 3 <sup>rd</sup> Phase<br>started from 2003                          | <ol style="list-style-type: none"> <li>1. Mitigation</li> <li>2. Preparedness</li> <li>3. Advocacy</li> </ol>                                                                                                                                                          |
| 4 <sup>th</sup> Phase<br>started from 2007                          | <ol style="list-style-type: none"> <li>1. Mitigation</li> <li>2. Preparedness</li> <li>3. Livelihood</li> <li>4. Advocacy</li> </ol>                                                                                                                                   |

The focus of RBP in its studied 4<sup>th</sup> Phase include,

- Mitigation (To reduce the vulnerability of the poorest communities to flood in a number of most floods affected locations);
- Preparedness (To increase community preparedness to respond to flood emergencies);
- Livelihood (To improve livelihood options of the *char* dwellers) and
- Advocacy (To change policies and practices to reduce the vulnerability of the poorest communities).

Working Area: SKS implemented the RBP in 29 villages under four Unions of Shaghata and Fulchhari Upazila. The detail list and information on working areas is presented in the following tables.

Scale: 3351 Poor and Ultra poor women of disaster prone areas.

<sup>125</sup> ICDP means Integrated conservation and development project

Table 3.7 Working area of RBP 4<sup>th</sup> phase

| Union     | Villages/Chars                                                                                                                                                                                                              |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fulchhari | Delwabari, Zamira, Tangrakandi, East Gabgachi, West Gabgachi, Middle Gabgachi, Fulchhari, Baje Fulchhari, Pepulia, Parul, Bagbari, East Delwabari, Kalurpara, Khanchapara North Kholabari, East Kholabari, Middle Kholabari |
| Gazaria   | Bhajandanga, Katakagacha, Ziadanga, Galna, East Galna, Gazaria, Jhanzair                                                                                                                                                    |
| Haldia    | Dighalkandi, Patilbari, Kumarpara, Gharvanga                                                                                                                                                                                |
| Shaghata  | Gobindi                                                                                                                                                                                                                     |
| 4         | 29                                                                                                                                                                                                                          |

Table 3.8 Information about existing RBP groups

| Union     | Category of Groups |    |    | No. of Groups | No. of Group Members |      | New Members (2008-2009) | Total Members |
|-----------|--------------------|----|----|---------------|----------------------|------|-------------------------|---------------|
|           | A                  | B  | C  |               | Female               | Male |                         |               |
| Shaghata  | 4                  | 10 | 1  | 15            |                      |      | 72                      | 390           |
| Holdia    | 6                  | 11 | 7  | 24            | 432                  | 00   | 102                     | 534           |
| Fulchhari | 43                 | 28 | 5  | 76            | 1596                 | 00   | 301                     | 1897          |
| Gazaria   | 14                 | 19 | 3  | 36            | 1011                 | 00   | 152                     | 1163          |
| 04        | 67                 | 68 | 16 | 151           | 3357                 | 00   | 627                     | 3984          |

Target participants:

- Poor widow, Poor divorce, poor abandoned women.
- Women of the disadvantaged poor families.
- Women of land-less, asset-less and marginal farmers.
- Women of poor women headed families.
- Disaster and erosion affected poor families living at the basin areas

The major activities under the programme are done are as follows:

- Homestead raising, installation of sanitary latrine, installation of tube wells, rescue boat preparing/purchasing, repair of rescue boats, repair of flood shelters.
- Training on disaster management, skill development training for beneficiaries, Participatory vulnerability and capacity assessment at village level. Emergency stock at local level partners, training on 10 women and men as community health volunteers, refreshers course for community health volunteers, promotional billboards for better public health practice , national preparedness day observance, year planner publication.
- Beneficiaries training on early vegetable cultivation, seeds distribution for homestead garden, training on beneficiaries for agriculture, rickshaw van



purchase, distribution of saplings for fruit tree plantation, cattle distribution, training on beneficiaries for livestock rearing, swallow tube wells purchase, goat distribution, solar panel installation, entrepreneurship training to female producer group members, cash capital support for small entrepreneurship, vaccination campaign, attending Upazila/district level agriculture fair, non formal Primary school.

### ***3.5.2.2 Piloting phase***

Entry point: After selecting the programmes and projects, the government authority at the Upazila, the Thana Nirbahi Officer (TNO), the AC Assistant Commissioner (AC Land), local government representatives at the Union level, the UP Chairmen, members, the community people and local elites (school teachers, respected elderly persons, and others identified as important knowledgeable persons) and the Executive Directors (EDs) of the NGOs and programme and project coordinators of the studied programme and project, other NGO personnel at the local level were informed about the purpose of the study were informed about the purpose of the study and were interviewed for collecting information and document to develop the questionnaire. For the STUP programme, the local level field officer and later through him the Upazila level manager could be accessed at this stage. Later, during the data validation phase the Associate Director of BRAC Ultra Poor Programme and a Research Fellow of the Research and Evaluation Division, BRAC were interviewed. I directly approached the executive directors of the NGOs SKS and SLOPB, taking appointment from them. Both the executive directors suggested the contact persons of their organization who were either the field organizers or the programme or project managers.

Community profiling: The next step included conduction of community profiling through focus group discussions (FGDs), key informant interviews (KIIs), observation and preparing the community profile. This was done in *Char Gabgachi* for CLP and *Tangrakandi* for RBP and in *Char Kochua* and in *Char Diara* for STUP and DPRM respectively. All these are communities attached to the final data collection communities of *Pepulia* and *Char Wadel*. But, beneficiaries who participated in the piloting phase were not included in the final data collection phase. The general information understood through the community profiling by the CLP beneficiaries could be validated by the second community profile by the DRR beneficiaries. The second community profiling helped to fill in the gaps in

understanding identified after the first community profiling in the RC in Gaibandha. In terms of information on programme and project, related issues the community profiles were unique. In Patuakhali, similarly, the first community profile was prepared with the DPRM beneficiaries in the *Char* Diara community. Later the second community profiling was done for the STUP beneficiaries in *Char* Kochua. As the STUP, beneficiaries were only 47 in the *char*, only 6 beneficiaries both male and female members of the beneficiary families could be gathered for the community profiling.

Community mapping: In course of community profiling, community mapping was conducted. The maps were prepared by the beneficiaries of the studied programmes and project. On the ground, they drew the maps and later were copied by me (Appendix 4, Map) for getting a clear picture and were elaborated in course of the FGDs and KIIs. In the maps, they showed their *char* topography, houses, land use, etc. and identified infrastructures important to them. The community map then guided the FGDs on revealing all other necessary information. Once a basic map of the community was prepared by the community members on the ground, it was copied in the large sheet of paper so that it could be elaborated in various ways. The community profiles helped to develop a reasonable understanding of the study community as a whole. These allowed me to understand the context. Community profiles provided sufficient information to identify the history of settlement and displacement of people in the *char*; unique characteristics of the people who live in the *char* areas, assets in the *char* areas, unique vulnerabilities, general information on the typical HH level assets, unique changes observed over time and in the recent years; trends in government (GO) and NGO interventions, etc. The community profiles helped to finalize the questionnaire that was piloted in those communities. It guided the sample HH level interviewing in the piloting phase to judge the time and issues being considered for the data collection phase. The questionnaire was also used to guide data collection level FGDs and KIIs.

Everything that I learnt through the community profiles were deepened during the rest of the field visits and personal observation was also enriched understanding.

### **3.5.2.3 Data collection phase**

Community profiling: The data collection phase started with community profiling of the Pepulia community. For the *Char* Wadel community, the community profiling



was done in *Char* Mianjan. The community mapping, FGD and KIIs were incorporated in the community profiling. The community profiling in the phase of data collection provided all targeted information for the studied communities and along with all the benefits of community profiling. In this phase, the task also allowed identification of specific cases for case studies. This helped to identify the realities facing the communities.

Focused group discussion (FGD): The community profiles primarily started with FGD session. The FGD included programme and project beneficiaries and in most of the cases included both male and female members of the beneficiary-families. The FGDs also enriched the community profiles with indepth information. The FGDs for preparing the community profile allowed me to select the other key informants (KIs). Just after the programme and project implementation, the participants also reflected on their aspirations regarding the fate and sustainability of their development as the programme and project was completed. The groups engaged in preparing the community profiles were composed of programme and project beneficiaries who were using different livelihoods strategies. The stakeholders thus could provide information that identified which livelihoods groups and HH livelihood strategies to investigate in more detail to study the impact of the interventions in terms of livelihoods outcome. The information derived from the community profile further enlightened and reconfirmed understanding about the RCs and RECs.

Key informant interviews (KIIs): The KIIs were guided by the questionnaire and were not structured, allowed for a free exchange of information. Sometimes more than one KI participated in interviews at a time and that became a 'discussion' with key informants rather than an 'interview'. These discussions created scope to raise issues that they felt were important.

Questionnaire survey, household level interviewing and case studies: In the next step, questionnaire survey along with HH level interviewing and selected case studies were completed. The HH level interviews provided a means to collect and record supplementary qualitative information on specific issues. A few cases were identified and selected during the FGDs and the detailed case studies were conducted during the individual HH level interviewing.

Sample: Data for the present study was collected in Pepulia (For the present research Pepulia and Baje Fulchhari and Parul that are connected communities are given the name Pepulia) from the ATP 4 beneficiaries and RBP beneficiaries and in *Char*

Wadel (For the present research *Char* Diara, *Char* Wadel, *Char* Kochua and *Char* Mianjan that are four connected communities are given the name *Char* Wadel) from the DPRM and STUP beneficiaries. Of the abovementioned programme and project, selected interventions were studied for the present study. The BRAC-STUP programme and its interventions in *Char* Wadel, the SLOPB-DPRM project on selected activities for which implementation was completed, CLP-ATP 4 and RBP-DRR & VLHs 4<sup>th</sup> Phase were studied.

The questionnaire survey and HH level interviewing was conducted on 35 respondents out of 46 of STUP in *Char* Wadel, while for DPRM, it was 42 out of somewhat around 120 of *Char* Wadel. SLOPB also worked in those communities considering those with the single name, *Char* Wadel), for ATP 4, it was 40 out of 70 (final data collection was conducted in Pepulia, Parul and Baje Fulchhari and for the present study the communities are altogether been named Pepulia). For DRR & VLHs 4<sup>th</sup> Phase, it was 40 out of somewhat around 600.

Questionnaire: In the survey, there was a ‘common for all participants’ part along with four different programmes and project based information part (Appendix 1). This survey allowed me to get quantitative data relevant to the research objectives that later could supplement the qualitative data.

Analyses: All the qualitative and quantitative data revealed through the different phases of the research were recorded and analysed for revealing the findings. FGDs, KIIs and case studies were all transcribed and analysed while the data collected from 156 HHs, was fed into the Statistical Package for the Social Sciences (SPSS) computer data processing program version 12.0 and analysed.

#### ***3.5.2.4 Follow up data collection phase***

Follow up FGDs and KIIS: Follow up FGDs and KIIS with selected available beneficiaries, selected case studies, and observation provided data on sustainability in this phase. Although follow up questionnaire survey and HH level interviews were planned to be conducted after one year of the data collection with the aim to reveal information on sustainability, the plan could not be realized due to unavailability of beneficiaries. Due to river erosion, only a few beneficiaries could be gathered in a nearby *char* who participated in the Follow up FGDs in Gaibandha. As, follow up questionnaire survey and household level interviewing could not be realised in Pepulia, those were not attempted in *Char* Wadel.



### 3.5.2.5 Validation of results phase

Dissemination of the results and verification of accurateness of the findings and understanding was the purpose of this phase. To validate the understanding developed throughout the field study, a few questionnaire survey respondents of CLP and RBP and NGO employees who were involved in the implementation could be gathered. Only a few respondents of questionnaire survey of both STUP and DPRM and a few SLOPB employees who were involved with DPRM earlier could be gathered to share the understanding and for the validation of the results.

### 3.5.3 Constraints and limitations of the study

Due to lack of time and money, a small sample had to be targeted for the questionnaire survey that was not sufficient for performing different types of analyses and to generalise findings for all the *char* dwellers.

The study was mainly constrained by the widespread anticipation among the studied communities in both the areas that the study was being conducted – either for the purpose of planning for HH selection for future support or in order to apprehend those who were not maintaining the provided assets properly.

In particular, questions concerning incomes and expenditure and different kinds of assets generated extreme values. In both the areas, respondents appeared to be indecisive about different prices or amount of money they assigned on the components of the abovementioned issues. They rather seemed to be confused at times in identifying the correct answer that would lead to future benefit or support. The purpose of the study was explained to village authorities and community members during FGDs and subsequently to each respondent during questionnaire survey and HH level interviewing. They were also ascertained that the data they were to provide was to be kept confidential and anonymous. However, it is possible that such anticipation for future support was still present. In all likelihood, these have led to exaggerated or underestimated values for the income, expenditure and assets. This might have led to the concealment of some important information.

Some of the respondents refused to speak out in front of others in the FGDs. In particular, during the FGDs, although some of the women were highly interested to participate in discussion, an indirect (sometimes direct) dominance of male was stopping them. Thus, women were targeted to respond to the questionnaire survey and

HH level interviewing. Again, in some cases the women wanted their husbands to be present to help them answer the questions on income and expenditure and asset value since they did not know the information or did not want to say anything to conflict with their husbands. The idea that seemed to prevail among them was that their husbands were more intelligent and better suited to provide the correct answer.

The anticipation that the information provided would be used for identifying needy HHs for planning future support providing purposes is likely to have affected responses to questions on income, expenditure, and asset value.

Although there was plan to conduct questionnaire survey and HH level interviews again, only a few respondents could be gathered for the FGDs in Pepulia. Due to river erosion, the respondents scattered in different places. As questionnaire survey and HH level interview could not be conducted in Pepulia the plan for *Char Wadel* was also dropped. Thus in both the studied areas only qualitative techniques of FGD and HH level interview (with the available participants), and KIIs provided information on SD.

Again, responses of the follow up FGDs appeared to have been affected by fear that the study was intended to identify those who already sold the assets they received (STUP and CLP) within one year. They were referring about others and were hiding information about their own asset that in many cases were already sold.

A related problem concerns the reliability of recalled information gathered from respondents. In some cases, respondents had to recall information of past few years or last two or one year. It is possible that some information might have been missed in this way and hence unrecorded in the HH survey.

In addition, respondents were required to compare the present situation to the situation that existed one or two years previously, information on socioeconomic status, different types of assets (HH level assets, poultry, cattle, trees, etc.), etc. existed before the programme intervention started. It is therefore likely that respondents could not accurately recollect past information and events.

Notwithstanding these limitations, methodological pluralism in this study allowed the use of qualitative and quantitative techniques that helped to gather data to complement each other for a completely comprehensive exploration, description, and explanation. This as well ensured that biases are significantly reduced, if not completely eliminated.



### 3.6 Conclusion

The chapter began with an elaboration on the critique of the SLA and provided evidence for why different agencies have recently reduced using the very useful SLAs (uses of the SLA are discussed in Chapter 2). To attain the objectives of the study, using the major elements of the SLF, an operationalized conceptual framework named 'Sustainable Livelihoods at the Local Level' (SLLL) has been proposed to guide the empirical investigation. The chapter then operationalizes the relevant terms and also elaborates the methodological considerations, purpose of the research, different phases of the field study, study areas, programmes & projects, sample, tools of data collection, procedure and constraints and limitations. This chapter thus, prepares the ground for discussion on empirical findings. The next chapter represents the field level realities prevailing in the studied *chars*. While Chapter 1 discussed on the evidences from secondary literature on RCs and RECs, the next chapter, Chapter 4 reveals the realities in the studied *chars* and thus the realities in the RCs and RECs. In the inception of Chapter 4, the explored field level facts on settlement and displacement, unique observed changes, trends in government, NGO and other interventions have been discussed which allow the further elaboration on the assets and vulnerabilities of the dwellers in the studied *chars* and in *char* areas generally.

**P A R T B**

**Empirical Findings and Observations**



## CHAPTER 4

### Field Level Context of the Programme and Project Interventions in the Studied *Chars*

#### 4.1 Introduction

In the present time, ensuring 'sustainable livelihood' (SL) is considered to be the way of reducing vulnerability of the people living in the realities of 'river *char*' (RC) and 'river estuarine *char*' (REC) areas. However, in Chapter 3, I have demonstrated that recent scholars (e.g. Scoones, 2009; Norton and Foster 2001; Ludi and Slater, 2008; Cleary, 2003; Albu and Scott, 2001; Tanner, *et al.* 2006; Norfolk, 2004; Barnett, 2005) have identified a good number of limitations of the sustainable livelihoods approaches (SLAs). Accordingly, to attain the objectives of the study, using the major elements of the SLF, I have proposed an operationalized conceptual framework namely 'Sustainable Livelihoods at the Local Level' (SLLL). Subsequently, I operationalized relevant terms and elaborated on methodological considerations under different phases of field level data collection. I completed empirical investigation for this study following the operationalized conceptual framework, SLLL. In this chapter, I have presented a part of the empirical findings. In Chapter 1, I presented detailed information on different dimensions of life in the *char* areas that I revealed through reviewing secondary literature. In the present chapter, the field level realities prevailing in the studied *chars* are discussed. The chapter starts with information and discussion on history of settlement and displacement. Here, I have presented information on the people who came to reside in the *char* areas and the reasons for their settlement in the *char* areas. This discussion have revealed the unique expertise, experiences, assets and vulnerabilities of specific households (HHs) and have focused on the revealed fact that such factors along with the mindset of the HH head determine how the HH would behave and make decisions for SL. The following section discusses the unique changes observed by the *char* dwellers over time. This then leads to the next section on trends in government, NGO and other interventions in the *char* areas. It notes that changes in culture and practice, infrastructure, and learning have occurred in the course of time. Both NGOs and the government have

been found to play a role in bringing about these changes. However, no context specific especial intervention by the government has appeared to be in place. The following section on assets and vulnerabilities focuses on the assets (claimed to be) available to the dwellers in the studied *chars*. Qualitative data generated through community profiles, key informant interviews, HH level interviews, case studies and observations have allowed an indepth understanding of the field level realities of the two areas. Moreover, in this section, I have presented the results of quantitative data analysis in tables to enhance the descriptions and explanations of the explored field findings. For a comprehensive understanding of the result tables, in Appendix 1 I have provided the questionnaire used for data collection and in Appendix 2, the explanation of the variables for results interpretation in two lists. Even in the descriptions and explanations of the tables, in this chapter, I have indicated the number of items (questions in the questionnaire, see Appendix 1 for the questionnaires both in English and in Bengali; and Appendix 2 for the explanation of the variables for results interpretation) that I used for the analysis. To note, I did not use all the collected data of the questionnaire survey for analyses. However, the items left out for analysis, helped maintaining the flow of interaction and information collection. Those also facilitated indepth data collection for the HH level interviewing during the survey. This section, with the analysis of both qualitative and quantitative data from the field, argues how lack of access to, and possession of assets, moreover, different disasters (i.e. natural, social, etc. that originate from the different capital or asset bases), work as the causes of their vulnerability especially in terms of SL. This chapter ends by summarizing the specific findings at the field level of the studied *chars* and of the *char* areas in general in terms of settlement and displacement, observed unique changes, trends in different interventions, assets and vulnerabilities especially in terms of SL.

## **4.2 Settlement and Displacement History**

*Char* Wadel grew during the British rule. People started living in the *char* mainly after liberation war of 1971. The first males who came to this *char* were interested to cultivate crops. All who came to this *char* were Muslim and they all had been living in harmony. In *Char* Wadel, the dwellers depend mostly on agriculture and some go for fishing in the river or in the deep sea. They sense the *char* areas to be their own



area. Respondents as old as 70 years old were found among the DPRM beneficiaries.

Where shall we come from! We were born here in this village and it is our home. Sometimes new people come to settle here with their kin. *Char* is the place for getting work. Others come from the nearby *chars* becoming victims of river erosion. (A male member of a DPRM beneficiary HH)

On the other hand, more than 20 percent area of Gaibandha district consists of *chars* where people have been living with many forms of vulnerabilities. Different key informant interviews (KIIs) and focus group discussions (FGDs) confirmed that people had been living in the *chars* of Fulchhari Upazila of Gaibandha district even before the liberation war. But, population density was relatively low in those days. Earlier, Pepulia was a part of the mainland. Due to river erosion, it got detached and is an island *char* presently. Pepulia dwellers are mostly agricultural day labourers but a few are businessmen, and many of them also migrate seasonally to engage in different works.

Table 4.1 Duration of respondents' stay (years) in *Char* Wadel and in Pepulia

|         | STUP  | DPRM  | CLP   | RBP   |
|---------|-------|-------|-------|-------|
| Mean    | 30.06 | 27.00 | 20.18 | 18.85 |
| Minimum | 5     | 3     | 2     | 2     |
| Maximum | 60    | 70    | 65    | 55    |
| N       | 34    | 42    | 40    | 40    |

The average years of stay in Pepulia found for the respondents of CLP and RBP were 20.18 and 18.85 years respectively (Table 4.1, produced analysing responses to item A11 in the questionnaire). Interesting the maximum duration of the respondents' stay in Pepulia, which were found to be 65 and 55 years for CLP and RBP respectively, did not match with the findings of the FGDs where the respondents claimed that the settlement is no less than 25 years old. The elderly respondents who had been living in the mainland Pepulia (before it got detached), including those days when reported about their duration of stay in Pepulia. Thus, the average duration of stay as was reported by them was so long.

In both the studied communities, the *char* dwellers reported that most of them were born in the studied *chars*. Their ancestors came to the *char* areas long before, and many of the respondents could say nothing about 'from where', and 'why'. A few reported 'better livelihood opportunities', 'there was no other way' and 'presence of

kin' as the reasons for their ancestors' settlement in the *char* areas. Information on settlement is provided in Table 4.2 (produced analysing responses to item A12 in the questionnaire).

Table. 4.2 Settlement history

| Programme and Project | Percentage of respondents (source of settlement) |           |               |                 |                   |
|-----------------------|--------------------------------------------------|-----------|---------------|-----------------|-------------------|
|                       | Born Here                                        | Main Land | Nearby Island | Nearby District | Far away District |
| STUP                  | 64.7%                                            | 14.7%     | 11.8%         | 5.9%            | 2.9%              |
| DPRM                  | 50.0%                                            | 23.8%     | 9.5%          | 14.3%           | 2.4%              |
| CLP                   | 47.5%                                            | 10.0%     | 32.5%         | 5.0%            | 5.0%              |
| RBP                   | 30.0%                                            | 5.0%      | 62.5%         | 2.5%            | .0%               |
| Total                 | 47.4%                                            | 13.5%     | 29.5%         | 7.1%            | 2.6%              |

Most of the respondents at *Char Wadel* were born there and got married in the same *char*. Otherwise were born in the mainland, nearby island or nearby district and reported to have come to *Char Wadel* getting married. For the *Pepulia* respondents, the percentages of respondents born in *Pepulia* were found to be relatively lower. Erosion had been reported to be the reason for moving from mainland, nearby island and nearby districts to *Pepulia*.

Erosion in *Pepulia* can be considered continuous, happened 4 times in 2010, 3 times in 2009, just once in 2008 and 5 times in 1995. The new *char* land grew at the west side of the village again named *Char Pepulia* in 2006. As river erosion is higher in the RCs compared to those in the RECs, many of the dwellers of *Pepulia* reported to have come from the nearby island *chars*. The information on displacement is given in Table 4.3 (produced analysing responses to item A15 in the questionnaire).

Table. 4.3 Displacement history (occurrence)

| Programme & project | Respondents' displacement history (occurrence) in terms of shifting |                       |                        |                    |
|---------------------|---------------------------------------------------------------------|-----------------------|------------------------|--------------------|
|                     | Never (N & %)                                                       | At least once (N & %) | More than once (N & %) | Many times (N & %) |
| STUP                | 23 (64.7)                                                           | 12 (35.3)             | 0 (0)                  | 0 (0)              |
| DPRM                | 22 (52.4)                                                           | 14 (33.3)             | 6 (14.3)               | 0 (0)              |
| CLP                 | 18 (45.0)                                                           | 16 (40.0)             | 5 (12.5)               | 1(2.5)             |
| RBP                 | 11 (27.5)                                                           | 14 (35.0)             | 12 (30.0)              | 3 (7.5)            |
| Total               | 74 (46.8)                                                           | 56 (35.9)             | 23 (14.7)              | 4 (2.6)            |



In both the studied *char* areas, most of the lands are owned by the people who never live there. None in the *char* of Gaibandha had any legal or paper legal document of the land they live in. In Patuakhali, a few of the beneficiaries of the DPRM project reported to possess a very small amount of own land.

Table 4.4 (produced analysing responses to item A13 in the questionnaire) shows the reasons identified by the *Char* Wadel and Pepulia respondents for leaving the previous residence. Among the respondents of *Char* Wadel, 44 of the total 77 were born there. For the others, some had multiple reasons for coming to settle in *Char* Wadel. Thus, maximum 3 options were allowed to provide the reasons for respondents who had multiple reasons. Of the major reasons indicated, 'river erosion' was found to have the highest frequency- 15, followed by 'work opportunity' with the frequency of 14 and 'unable to pay back borrowed money' with the frequency of 4. Thus, it could be concluded that the victims of river erosion and debt and those searching for work considered *Char* Wadel to be the place for settling. New settlements offered new livelihood opportunities for them. However, it was also evident that, for people coming from main lands or nearby places need quite some time to feel the *char* to be their own place.

Table 4.4 Reasons for leaving the previous residence

| Settled in <i>Char</i> Wadel           | N  | Settled in Pepulia                     | N  |
|----------------------------------------|----|----------------------------------------|----|
| Born                                   | 44 | Born                                   | 30 |
| River Erosion                          | 15 | River Erosion                          | 32 |
| Being unable to payback borrowed money | 4  | Being unable to payback borrowed money | 2  |
| Work Opportunity                       | 14 | Work Opportunity                       | 11 |
| Loss in Business                       | 2  | Loss in Business                       | 1  |
| Forcibly Removed                       | 2  | Forcibly Removed                       | 2  |
| Others                                 | 6  | Political Torture                      | 1  |
|                                        |    | Others                                 | 9  |
| Total                                  | 77 | Total                                  | 80 |

On the other hand, 30 out of 80 respondents in Pepulia were born there. Similar to some of the respondents of *Char* Wadel, the rest of them identified multiple reasons for settling in Pepulia. Here also each respondent had a maximum of 3 response

opportunities. Like *Char Wadel*, here also, ‘river erosion’ (reported 32 times) was found to be the major reason for leaving the previous territory. The other major reason was ‘work opportunity’ (reported 11 times). The main reasons for settling in the *chars* (if not born in the *char*) in both the studied areas thus were found to be mainly ‘river erosion’ and ‘work opportunity’.

From the FGDs in *Char Wadel*, it was revealed that the practice of borrowing money and later being unable to pay back the borrowed money is a common dominant reason for leaving a place of residence. Though, ‘being unable to pay back borrowed money’ was reported less during the HH level survey as a reasons for leaving the previous residence. On the other hand, in *Pepulia*, along with erosion, ‘work opportunity’ was reported by the FGD participants as one of the major reasons for leaving the previous place of residence.

For the beneficiaries not born in the *chars*, the main reasons identified for ‘settling in the *char*’ were the ‘presence of kin’, having ‘no other way’ for them but to settle in the *char* areas, and ‘work opportunities’ (Table 4.5, produced analysing responses to item A14 in the questionnaire). The FGDs and KIIs revealed that having ‘no other way’ was explained in different ways in the two studied communities. Having ‘no other way’ for the respondents of *Pepulia* meant- ‘left with no place to go’ or ‘no one to get support from’ or ‘no way left to survive’. The respondents of *Pepulia* were found to be much more helpless to come to settle in the *char* areas compared to those in *Char Wadel*. On the other hand, for those in the *Char Wadel*, they either incurred loss in the business or had to escape the money lender for being unable to pay back the borrowed money and the only option left for them was to settle in the *char* areas.

Table. 4.5 Reasons for settling in the *Char*

| Reasons for settling in <i>Char Wadel</i> | N  | Reasons for settling in <i>Pepulia</i> | N  |
|-------------------------------------------|----|----------------------------------------|----|
| Born                                      | 44 | Born                                   | 30 |
| Presence of kin                           | 17 | Presence of kin                        | 29 |
| No Other Way                              | 14 | No Other Way                           | 19 |
| Economic Opportunities                    | 11 | Economic Opportunities                 | 7  |
| Work Opportunity                          | 16 | Work Opportunity                       | 17 |
| Brought by Agent                          | 1  | Brought by Agent                       | 2  |
| Others                                    | 1  | Back to Home                           | 7  |
|                                           |    | Others                                 | 2  |
| Total                                     | 77 | Total                                  | 80 |



During FGDs and through KIIs it was very much clear that the ‘typical culture’ in these communities is to ‘take loan’ mainly for survival and livelihoods. In many cases, these people were found to adopt the strategy of displacing to get rid of the pressure of paying back the borrowed money. It is worth mentioning that the Pepulia dwellers were found to take relatively small amount of loan and also to handle relatively small amount of money for survival and livelihoods compared to dwellers of *Char Wadel*.

The common perception that “the poorest of the poor who are left with no other choice live in the *char* areas” (see Chapter 1) - cannot be supported with the findings of the present study. For both the studied communities, in most of the cases the ‘presence of kin’ was found to be the primary cause of settling in the *char* areas with the hope of better ‘work opportunities’.

Still it is better to live in the *char* areas, as we won’t have the capacity to avail the essential services even being in the mainland. We would not have earned better there. (A male members of a RBP beneficiary HH).

The above statement further points to the experience of beneficiary as having lack of mainly financial capacity to avail essential services available in the main land. Thus for him, the *char* is a better option for settling and earning for survival. Along with the presence of relatives, eagerness to reveal, ‘work opportunities’ was found to be vital. In the *char* areas, possibilities of working as farming or fishing day labourers, getting NGO support, shared rearing of cattle, etc. were considered beneficial not only for economic benefits but also as were perceived to be opportunities of relatively (compared to mainland) less competitive livelihoods in both the *char* areas.

Still it is better to live in the *char* areas, as we won’t have the capacity to avail these essential services even being in the mainland. We would not have earned better there. (A male members of a RBP beneficiary HH).

Another respondent’ experience and reasons for settling in the *char* follows:

My husband was ill and gradually became unable to work anymore. With 4 children, I was incredibly helpless. I was wondering how to keep the children alive, how to survive. I could remember about one of my maternal cousins who went to settle in the *char*. I collected her contact mobile phone number from another relative. I talked to my cousin and his wife and revealed the possible opportunities of work for myself. Cattle rearing on a shared basis and working as a day labourer appeared to me to be feasible as I had previous experience of such works. Moreover, they informed me about various NGO

activities that are almost regular in the *char* and how those also help to survive. We immediately came to settle here being desperate to survive with the promise of my cousin's support. (A female beneficiary of CLP)

The above experience of a RBP beneficiary shows 'in what situation', 'why', and 'how' the HH head (female) made the decision of settling in the *char* area. In an perceived extremely vulnerable situation, the previous expertise of the HH head along with desperation to survive with the presence of a kin were found to be the determining factors in the decision making of settling in the *char* for this HH.

Moreover, the FGDs, HH level interviews, KIIs and observations revealed several other HH level determinants of HH level decision making. The HH member's various types of 'expertise' along with the 'possessed assets', 'perceived vulnerabilities' along with 'previous experience' were found to allow the HH head to make decisions such as, where to settle, what livelihood strategy to adopt, how to survive, etc.

#### **4.2.1 Major findings on settlement and displacement**

The following findings are specific to the studied communities and are generalized on the basis of the field findings gathered during different phases of the study for the RCs of the mainstream Jamuna River and RECs of the estuarine areas. There are settled *char* communities in the RCs and RECs. Most of the *char* dwellers were born in the studied *chars*. But, RC dwellers possess no land of their own. In both the studied *char* areas, most of the land is owned by the people of the mainland who never live in the *char*. In most cases the young *char* dwellers who were born in the *chars* don't know the reasons for their ancestors' settlement in *char* areas, but the probable reasons included, 'better livelihoods opportunities', 'there was no other way' and 'presence of kin'.

'River erosion' had been reported to be the main reason for moving from mainland, nearby island and districts. In RCs, mainly due to 'river erosion' when people are 'left with no place to go' or have 'no one to get support from' or 'no way left to survive' and feel severely helpless, come to settle in the *char* areas. On the other hand, in the RECs, for those who incur loss in the business and consequently try to escape the money lender, the only option left for them was found to be to come to the *char* areas. In both RCs and RECs, movement at the community level is somewhat continuous with people coming from other places to settle there. New settlements offer new livelihood opportunities. But at the same time, it takes some time for people from



main land or nearby places to feel the *char* to be their own place. Again different HHs from different places come to *chars* for various reasons that reflect the HH's expertise, experiences and vulnerabilities that in turn determine the future 'HH level behaviour and decision making'. In other words, various expertise of the HH members, possessed assets, perceived vulnerabilities and previous experience were found to determine the mindset of the HH head to make decisions on matters like, where to settle, what livelihood strategy to adopt, how to survive, etc.

The major reasons for settling in the *char* areas also include the 'presence of kin' and eagerness to reveal, 'work opportunities' (farming and fishing day labourers, NGO support, shared rearing of cattle, etc.) for economic benefits. Moreover, opportunities of relatively (compared to mainland) 'less competitive' livelihoods were reported to be the other main reasons for settling in the *char* areas in both the communities.

The abovementioned major findings lead to the understanding that *char* areas are habitats of people from relatively close main lands and *char* areas. River erosion is the major cause of compulsory displacement. Not only the helpless people escape to the *char* areas but also opportunities of relatively less competitive livelihoods attract people to settle in the *char* areas. The discussion and explanations on settlement and displacement revealed that various expertise of the HH members, possessed assets, perceived vulnerabilities, and previous experience determine the mindset of the HH head and thus determine how the HH would behave and would make decisions about livelihood. The life is not static in the isolated *char* areas, rather diverse types of unique livelihood strategies are adopted by the dwellers. As a result, changes at the community and HH level occur overtime.

#### **4.3 Unique Changes Observed in the Course of Time and in the Recent Years**

Different individuals observe different changes differently. Among a number of case studies that focused on the observed changes in the course of time and in the recent years a few are discussed here that incorporate all the major points mentioned in all the case studies.

An elderly male respondent in *Char Wadel* focused on the frequent fights they saw and participated in around 30-40 years back. Along with that, he focused on the superstition, unknown fear, population increase, visits of external people, etc. that he experienced to change in the course of time.

Box 4.1 Changes observed in the course of time: Elderly male of *Char* Wadel

Most of us who came to this *char* were working for powerful land owners in the nearby mainland ('Dash' is the local term they use to indicate to mainland) districts. We were sent to get possession of these *char* land. The job was very risky and being alive and surviving in the adverse situation. Continuous threat of attack by the opponents not only was prevailing but also existed the feeling of danger due to different superstitions and unknown fear. The few of us, who came in the *char*, were very strong and courageous. Still we had to struggle severely to survive in these isolated areas. These days, the young people also struggle to get possession of newly formed land and they try to get the allotment of the *khas* land from the newly formed *char* land or try to update papers for the land possessed by their ancestors. Population has increased and thus in these days to get possession of new land in the newly grown *chars* not only male members but also the whole family move. The fights we used to engage in are no longer happening in such manner. This is the major change I observe.

Further changes include population increase. People like you are sometimes coming to our *char* and talking to us. This is another unanticipated change. We never thought to have people like you among us. Even the land owners on this *char* who live in the mainland rarely come here. (An elderly male of *Char* Wadel)

For a female respondent of STUP, in *Char* Wadel, the social changes in terms of infrastructure, community structure, and disaster vulnerability are important.

Box 4.2 Case study of Hosna, a DPRM beneficiary

I came to *Char* Wadel as my husband became ill and I had the responsibility to run the family. I came to *Char* Wadel to earn money as a day labourer. I came 15 years ago with my family. Earlier there was not even a *moulana* (Muslim religious person who performs different Islamic rituals) to perform the essential prayer to bury the dead body. Presently in *Char* Wadel, we have 14 mosques. We used to drink water from the river. But, now we have deep tubewells, which never existed before, for pure drinking water. We have a primary school, even the *ananda* schools (Non-formal primary schools). The parents try to send their female children to school as they get government stipend there. We have at least a few roads in the *char* which we never had 15 years ago. In most of our families, the number of children is around 5-6. The number of families has increased so as the size of the families. But, the newly married couples, these days,



prefer not to have more than 2 to 3 children. There is no electricity supply in this *char*, but recently, in a few HHs there are solar panels and they have light. One HH has bought a television also. Cyclone SIDR and following SIDR, AILA are the two severe cyclones we have observed in the recent years. In my life time, in *Char Wadel*, I had never been so helpless and so severely affected. These cyclones are different from what we were familiar with.

Earlier we did not have these many varieties of crops and for these crops, we need to use fertilizer and insecticides. But the different types of insects and the severity of their attack to the crops is experienced at the highest level within the last two decades. (Hosna, a DPRM beneficiary)

The reported changes include, increase in population, establishment of mosques, a primary school, NFP schools, few roads, installation of deep tubewells for pure drinking water, solar panels, smaller families and varieties of crops. They also experienced the two severe cyclones (they were not familiar with such cyclones), SIDR and AILA, that affected them severely and they felt extremely helpless and different types of insects and the severity of their attack to the crops. For them, the FGD respondents said, the dangers persist, “Even recently, somewhat 60 to 80 families moved to *Char Bered* (not very far from our *char*) which is a newly grown land and their purpose was to grab land. When SIDR started, they could not even come back to this *char* and many died there”.

On the other hand in *Pepulia*, the major changes include, increase in number of NGOs working, and all their activities. Still many extremely poor HHs are left out. Minu Begum is a 70 years old widow living in *Pepulia*. She preferred to tell the story of her life to point out the changes she observed in the *char* areas.

#### Box 4.3 Case study of Minu Begum, a RBP beneficiary

I was living with my brother and I got married at the age of seven when my husband was twenty. I was an orphan, and my elder brother was my guardian and he arranged my marriage. My husband was an orphan too. His paternal uncle brought him up with his own children. When I was ten and my husband twenty three, my uncle-in-law separated us handing over our inherited land with a straw-made house and a piece of farming land. I did not know how to cook but had to manage at that age. My husband was farming in the land and somehow we had been surviving.



At the age of nineteen, I gave birth to my first child that survived. Before that, I gave birth to two dead children and another child died after she was born. From then on, within the next 20 years I gave birth to the next nine children. The first river erosion we experienced compelled us to move to *char* areas being landless and helpless. Later, we became victims of river erosion seven times. During those days of misery, three of my sons and two of my daughters between the age of two and four died due to either starving or having diseases and no treatment. They died after incidences of river erosion and floods at different times. Five of our children, three sons, and two daughters survived. We had to undergo severe hardship to survive. My husband worked as day labourer and I had no way to help him in running the family. Later my husband engaged in shared cropping. Sometimes he had to go to the nearby mainland to work as a day labourer during *monga* (lean season). We got the eldest daughters married, when she was around ten/ twelve years old.

It was in the year 1999 that my husband died. But, the changes in her life followed. Despite all the difficulties, we tried sending the children to the *madrasa* (educational institution used for teaching Islamic theology). One of my sons became a *madrasa* teacher, got married, and started to live and maintain a separate HH. He arranged a job for me. I had to protect and take care of the tender trees in the same *madrasa* where my son was working. My monthly salary was taka one thousand per month. The youngest son left for Dhaka to look for a job. The middle son was looking after the cattle. I became highly influenced by the field worker of SKS and joined a women's group as a member. Picking up ideas from the group meetings, using the saved money, I set up a grocer's shop for my middle son to run; with the earned salary and taking loan from SKS, I built three separate rooms on the inherited land. Now, I have five cows, one sheep, ten ducks, four hens, and chickens. I sell eggs, milk, and my cattle when needed. I am learning different ways to pursue self and societal development. I have many fruit trees surrounding my house. I have planted vegetables in advance in my homestead. I will sell the early grown vegetables in high price. I am no longer poor even during *monga*. (Minu Begum, a RBP beneficiary)

She then focused on the changes she observed in *char* communities.

Box 4.4 Changes observed in the course of time: Minu Begum, a RBP beneficiary

I was a child when I got married. These days, girls are getting married at a relatively higher age, not before 14/15 years of age and males still get married at the age of around 20-21. Child mortality was higher earlier compared to these days. The service of trained birth attendants was not available in our time in the *char*. People did not know how dangerous it was to give birth to



children at a very young age. Now, from the weekly meetings (RBP women group meetings) women have become highly aware about the dangers. The consequences of river erosion, diseases, and having no food to eat were extreme. These days, people try to help each other with food, the community feeling is growing, and treatment facilities are relatively available. The NGOs are the main change agents in our *chars*, we can now talk to other people, they have taught us how to help each other to survive in the days of disasters and how to live a safe life using sanitary latrine, how to cook food to maintain nutrition, how to treat diarrhoea, etc. We stand against dowry, early marriage and send children to school. The sisters and brothers of SKS are always with us. (Minu Begum, a RBP beneficiary)

A CLP beneficiary reported the changes that have happened to the CLP beneficiaries in recent years and even at the community level.

Box 4.5 Changes observed in the recent years: a CLP beneficiary

I was born in this *char*. My father was a very poor day labourer. He got me married to another day labourer in this *char* and I have 3 children. Earlier, we had to suffer a lot; managing two meals, a day was impossible. In those days, many a times, I had to take a single meal. We always tried to arrange two meals for our children. My husband arranged shared rearing of cattle and whenever I got such an opportunity, I always tried to work hard to engage in such work to contribute to the family income. During monga (lean season), as my husband had no work in the *char*, he used to go to the cities to work as a rickshaw puller. It happened that he did not return for 4 years. I failed to run the HH alone and started living with my brothers. Days were miserable and I continued shared cattle rearing and worked as domestic help on a daily basis. Then, CLP selected me for the giving the cow. I got the cow and my brothers are happy. My elder son and I take care of the cow. I am also rearing cows on shared basis and working hard to take good care of the cows. My husband has come back after 6 years and he will be staying with us. The cow has changed my life. Those who have got the cow are all lucky and all have benefited. (A CLP beneficiaries)

This CLP beneficiary was over whelmed talking about the changes in her life. For her, days of hardship (without the husband, any asset, and living as a dependent on her brother) ended receiving the CLP support.

#### 4.3.1 Major findings on unique changes observed in the course of time and in the recent years

In the RECs, around 30-40 years ago frequent fights were common for grabbing land for the powerful people. Presently, the competition is among the landless to get possession of land in the newly grown *char* lands. They then try to get that *khas* land allotted. Severe fights of the previous time have reduced. Due to population increase and visits of external people (mostly NGO people) - superstition, unknown fear, etc. are relatively low. Although, they have experienced some infrastructural, educational, and agricultural development, the severity of loss due to disasters and pest attack to the crop are the present threats to their lives and livelihoods.

In the RCs, on the other hand, increase in population and also in the number of NGOs working, and their activities are among the major changes happened.

Changes in the community and HH level are found to interact to influence the livelihoods and development in different ways. At the same time, not only different NGO interventions but also government interventions were reported to bring about the changes in the community and at the HH level. Thus, the following section demonstrates the trend in government, NGO and other interventions.

#### 4.4 Trends in Government, NGO, and Other Interventions

Implementation of various development programmes and projects with the financial and technical assistance from numerous donors like Oxfam-GB, CARE-Bangladesh, DFID-CLP, Helen Keller International, ActionAid Bangladesh, Manusher Jonno Foundation, Andheri-Hilfe Bonn, Germany, UNICEF-DPHE (United Nations Children's Fund - Department of Public Health Engineering), Practical Action Bangladesh, USC-Canada-Bangladesh, etc. were found to be widespread in Pepulia and in the RCs.

In *Char Wadel*, only microcredit programmes were found to be common and were found to be run by mainly ASA, Grameen Bank, and BRAC in a large scale. Even when the micro credit programmes are on, the money lenders are also found to be doing good business there. Taking loan from Bangladesh Krishi Bank<sup>126</sup> was also reported to be common by some dwellers. The STUP programme for the selected 46 beneficiaries of BRAC was found to be the only such development programme that provided quite a huge package of support in *Char Wadel* (see Chapter 3). The other

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<sup>126</sup> Bangladesh Krishi Bank (BKB) is a 100% government owned specialized Bank in Bangladesh. Krishi means Agriculture. Since its inception, BKB is financing in agricultural sector remarkably. BKB also performs commercial banking.

Retrieved on 11.11.10.

<http://www.krishibank.org.bd/showDocument.php?documentid=1009>



NGO project found was DPRM by SLOPB. The DPRM was a relatively low budget project (see Chapter 3), but tried to cover relatively higher number of dwellers in *Char* Wadel. Jagoroni Chokro Foundation, a local NGO was found to run non-formal primary (NFP) schools in *Char* Wadel. There existed no other development programme or project by any other NGO during the field study.

In Pepulia, the respondents reported to get scope of working in the government initiatives such as, cash for work or earth work, etc. In both the areas, the respondents reported that the voter registration and birth registration efforts by the government were the most widespread and successful. Though irregular, employees of family planning department were still ensured to be visiting both the *char* areas. The employees for government vaccination programme were also been reported to be providing service in both the RCs and RECs. In both the areas, the regular safety net programmes of the government and different stipends (for the school going children and elderly) were reported to be implemented to some extent. But the frustration among the *char* dwellers of both the areas was evident through their assertion that no especial effort from the government was ever undertaken for the dwellers of these especial locations. The matter was further reaffirmed by the Union Parisad Chairman and Members and by the Thana Nirbahi Officers (TNOs) and other key informants. They could just indicate about the government relief and health services after disasters as especial.

Table 4.6 Government services availed by the households in the last two years

| Government Services      | STUP | DPRM | CLP | RBP | Total |
|--------------------------|------|------|-----|-----|-------|
| Widow allowance          | 4    | 3    | 0   | 2   | 9     |
| Elderly allowance        | 0    | 1    | 0   | 2   | 3     |
| VGD/VGF <sup>127</sup>   | 2    | 6    | 2   | 0   | 10    |
| <i>Khas</i> Land         | 0    | 2    | 0   | 0   | 2     |
| Educational stipend      | 2    | 4    | 0   | 0   | 6     |
| Seeds                    | 0    | 1    | 0   | 6   | 7     |
| Food for work            | 0    | 3    | 0   | 2   | 5     |
| <i>Asrayon</i> (shelter) | 0    | 0    | 0   | 2   | 2     |
| Relief                   | 26   | 33   | 9   | 13  | 81    |
| Health services          | 5    | 14   | 15  | 14  | 48    |

<sup>127</sup> VGD is Vulnerable Group Development and VGF is Vulnerable Group Feeding

|                                               |     |     |     |     |     |
|-----------------------------------------------|-----|-----|-----|-----|-----|
| Registration (birth, death, voter & marriage) | 30  | 35  | 38  | 40  | 143 |
| Livestock support                             | 3   | 3   | 1   | 6   | 13  |
| Agriculture support                           | 1   | 2   | 1   | 5   | 9   |
| Family planning                               | 9   | 8   | 23  | 28  | 68  |
| Vaccination                                   | 25  | 26  | 27  | 27  | 105 |
| Total                                         | 107 | 141 | 116 | 147 | 511 |

The government services listed in the first column of the above table include those reported by *char* dwellers and key informants. Table 4.6 (produced analysing responses to item F1 in the questionnaire) shows that there were 15 government services availed by the *char* dwellers of both the areas during the last two years. The table shows that the most availed service by the *char* dwellers was those of vaccination and registration. Both VGD/VGF and relief were found to be received by higher number of REC beneficiaries compared to RC beneficiaries. Although among the REC dwellers the government relief and safety net supports were reported to be distributed more, they claimed the necessity of even increased amount of such support. During FGDs, educational stipend was reported to be acquired by the RBP and CLP HHs. However, during responding to the questionnaire survey they reported not to receive stipend as their children were attending the NGO run NFP schools that they claimed to be better in quality and easy to avail as are located near their house. A few DPRM and RBP respondents who engage in farming reported to have received seeds from the government office. Upazila health complex was reported to be a useful place to avail health services in a low coast. In Pepulia, though the *char* dwellers previously were not availing the government health services, due to Ngo advocacy the practice was reported to have changed. In *Char* Wadel, the dwellers reported to have explored the government services i.e. agricultural, health, etc. by themselves. Again, for family planning, the RC dwellers were found to availing the service more than the REC dwellers. The reasons reported were the long involvement of the NGOs in the RCs and NGO transportation support to the government family planning employees to and from the *char* to ensure service. Due to long term advocacy by the NGOs, people were reported to have become encouraged in family planning and were also aware about the necessity of timely vaccination. During FGDs, allotment of VGD/VGF raised several issues like necessity of especial and more allotment of such safety net



programmes, assurance of allotment to proper needy people, unethical practices during allotment, etc. The data also revealed the reality that only a small number of people were included in these programmes although the number of needy was especially high in the RC and REC areas.

Table 4.7 (produced analysing responses to items F2, F3, and F4 in the questionnaire) shows the results on ‘consequences’, ‘sustainability’ or ‘sustainable development’ or ‘sustainability of consequences’, and ‘topicality’ of government services. Each of ‘consequences’, ‘sustainability’, and ‘topicality’ of government services was measured on a five point scale (see Appendix 1). With ‘Not at all correct’ assigned ‘1’, ‘Not correct’- ‘2’, ‘Uncertain’- ‘3’, ‘Correct’- ‘4’ and ‘Completely correct’- ‘5’.

Table 4.7 Consequences, sustainable development, and topicality of government services

|                        |    | Beneficial<br>Consequences (F2) |                   | Sustainable<br>development (F3) |                   | Topical (F4) |                   |
|------------------------|----|---------------------------------|-------------------|---------------------------------|-------------------|--------------|-------------------|
| Programme<br>& Project | N  | Mean                            | Std.<br>Deviation | Mean                            | Std.<br>Deviation | Mean         | Std.<br>Deviation |
| STUP                   | 34 | 3.41                            | .925              | 3.21                            | .808              | 2.62         | 1.101             |
| DPRM                   | 42 | 3.60                            | .885              | 3.57                            | .770              | 2.50         | 1.110             |
| CLP                    | 40 | 3.95                            | .677              | 3.62                            | .628              | 2.92         | 1.118             |
| RBP                    | 40 | 3.77                            | .620              | 3.53                            | .599              | 2.88         | 1.114             |

For the item on ‘beneficial consequences’ (F2 in the questionnaire, see Appendix 1), and even for SD (F3 in the questionnaire) result shows that the mean scores found for every programme and project were around 3.5 (3.41, 3.6, 3.95 and 3.77 for STUP, DPRM, CLP and RBP respectively for beneficial ‘consequences’ and 3.21, 3.57, 3.62 and 3.53 for STUP, DPRM, CLP and RBP respectively for SD). All the mean scores for beneficial consequences and SD fall between ‘Uncertain’- ‘3’ and ‘Correct’- ‘4’. For that of ‘topicality’ (F4 in the questionnaire), the mean scores were found to be 2.62 for STUP, 2.5 for DPRM, 2.92 for CLP and 2.73 for RBP. These mean scores for ‘topicality’ fall between 2.5 and 2.88; thus, all the mean scores for ‘topicality’ fall between ‘Not correct’- ‘2’, ‘Uncertain’- ‘3’. People believed, more context-specific especial type of interventions were essential that the government never provided for their especial communities.

Table 4.8 Information and opinion on local government issues

| Local government issues                                                                        | STUP | DPRM | CLP | RBP | Total |
|------------------------------------------------------------------------------------------------|------|------|-----|-----|-------|
| Had you been to the Union Parisad Office in the last one year?                                 | 7    | 19   | 5   | 4   | 35    |
| Did you take any service from the Union Parisad in the last year?                              | 10   | 20   | 13  | 10  | 53    |
| Did the Union Parisad take any initiative to improve the quality of services in the last year? | 1    | 4    | 0   | 0   | 5     |
| Do you know anything about the yearly development plan of the Union Parisad?                   | 0    | 1    | 0   | 0   | 1     |
| Do you know anything about the yearly development budget of the Union Parisad?                 | 0    | 1    | 0   | 1   | 2     |
| Had there been construction of any infrastructure in the last five years by the Union Parisad? | 14   | 21   | 21  | 9   | 65    |
| Does the Union Parisad have any system of registration for birth, death, voter, and marriage?  | 25   | 36   | 29  | 29  | 119   |
| Does the Union Parisad supervise the activities of the primary schools?                        | 10   | 19   | 12  | 7   | 48    |
| Does the Union office inspire you to send your children to the school?                         | 12   | 16   | 12  | 6   | 46    |
| Does the Union Parisad work to maintain law and order situation and to control terrorism?      | 7    | 16   | 21  | 14  | 58    |
| Does the Union Parisad work to prevent violence against women?                                 | 7    | 13   | 21  | 18  | 59    |
| Does the Union Parisad encourage NGO and other similar type of activities?                     | 10   | 10   | 18  | 17  | 55    |
| Total                                                                                          | 103  | 176  | 152 | 115 | 546   |

Table 4.8 (produced analysing responses to items of F5 in the questionnaire) shows that the people lack information about the yearly development plan and budget and also about the initiative (if any) to improve the quality of services. It also shows that the most well-known activity by the Union Parisad is the system of registration for birth, death, voter, and marriage followed by construction of infrastructure, prevention of violence against women, maintenance of law and order situation and control of terrorism and encouragement of NGO, and other similar types of activities.



Table 4.9 (produced analysing responses to items of F6 in the questionnaire) shows the different sources of information for the *char* dwellers (See Appendix 2). There were four main sources of information that included the ‘government’ which included agricultural extension, fisheries department, livestock department, BRDB, public health engineering, Upazila health complex, education department, land registration office, *tahsil* office<sup>128</sup>, project implementation officer, Union Parisad and member of the Parliament; the ‘community people’ which included neighbour, knowledgeable person and dealer/ shopkeeper; the ‘NGOs’ and ‘electronic equipments’ which included radio/ television, mobile phone, etc. No respondent of any programme or project considered electronic equipments as source of information on any of the issues. For the DPRM beneficiaries government and NGOs were equally important sources of information, community people were also found to be another important source of information. For the CLP and STUP beneficiaries, on the other hand, NGOs were found to be the most useful source of information, with government and community people as relatively weak sources of information.

For both CLP and STUP, the huge support package appeared to be the most beneficial and thus, the beneficiaries perceived the respective NGOs as the only authority concerned about them. The support package included such supports as information dissemination among the beneficiaries on different services and sources of services. Thus, the beneficiaries reaffirmed about the NGOs as the only effective source of information. For the CLP beneficiaries, NGO was not just the source of information on services but also supported them to avail the services.

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<sup>128</sup> *Tahsil* office is the office that receives land revenue of the *Mouza* (the lowest revenue collection unit).

Table 4.9 Different sources of information

| Source of information                | Government |      |     |     |       |  | Community people |      |     |     |       |  | NGO  |      |     |     |       |  |
|--------------------------------------|------------|------|-----|-----|-------|--|------------------|------|-----|-----|-------|--|------|------|-----|-----|-------|--|
|                                      | STUP       | DPRM | CLP | RBP | Total |  | STUP             | DPRM | CLP | RBP | Total |  | STUP | DPRM | CLP | RBP | Total |  |
| Issues                               | 0          | 7    | 1   | 0   | 8     |  | 0                | 3    | 0   | 0   | 3     |  | 0    | 3    | 14  | 14  | 31    |  |
| Agricultural training                | 0          | 0    | 0   | 0   | 0     |  | 2                | 4    | 1   | 8   | 15    |  | 3    | 7    | 32  | 25  | 67    |  |
| Information on quality seeds         | 0          | 0    | 0   | 0   | 0     |  | 0                | 0    | 0   | 0   | 0     |  | 0    | 2    | 0   | 4   | 6     |  |
| Product marketing                    | 1          | 6    | 0   | 0   | 7     |  | 8                | 9    | 7   | 8   | 32    |  | 16   | 15   | 15  | 17  | 63    |  |
| Livestock rearing                    | 6          | 3    | 1   | 3   | 13    |  | 7                | 3    | 2   | 0   | 12    |  | 13   | 4    | 35  | 11  | 63    |  |
| Treatment of livestock               | 0          | 4    | 0   | 1   | 5     |  | 6                | 7    | 3   | 1   | 17    |  | 16   | 2    | 34  | 11  | 63    |  |
| Vaccination of livestock             | 2          | 4    | 14  | 16  | 36    |  | 0                | 0    | 0   | 1   | 1     |  | 2    | 0    | 14  | 9   | 25    |  |
| Health services                      | 13         | 14   | 9   | 14  | 50    |  | 0                | 0    | 1   | 0   | 1     |  | 0    | 0    | 0   | 2   | 2     |  |
| Local vaccinator                     | 6          | 7    | 13  | 16  | 42    |  | 0                | 0    | 0   | 1   | 1     |  | 0    | 0    | 6   | 7   | 13    |  |
| Family planning                      | 0          | 6    | 3   | 5   | 14    |  | 0                | 1    | 0   | 0   | 1     |  | 1    | 2    | 1   | 7   | 11    |  |
| Education                            | 0          | 5    | 2   | 1   | 8     |  | 0                | 2    | 0   | 1   | 3     |  | 19   | 22   | 30  | 26  | 97    |  |
| Hygienic water and sanitation system | 0          | 2    | 0   | 0   | 2     |  | 0                | 2    | 0   | 0   | 2     |  | 0    | 0    | 0   | 0   | 0     |  |
| Khas land                            | 0          | 0    | 0   | 0   | 0     |  | 0                | 0    | 0   | 0   | 0     |  | 0    | 0    | 0   | 0   | 0     |  |
| Khas waterbody                       | 0          | 0    | 0   | 0   | 0     |  | 0                | 0    | 0   | 0   | 0     |  | 0    | 0    | 0   | 0   | 0     |  |
| Others                               | 0          | 0    | 0   | 0   | 0     |  | 0                | 0    | 0   | 0   | 0     |  | 0    | 0    | 0   | 0   | 0     |  |
| Total                                | 28         | 58   | 43  | 56  | 185   |  | 23               | 31   | 14  | 20  | 88    |  | 70   | 57   | 181 | 133 | 441   |  |



For the RBP beneficiaries, although NGOs were found to be the most useful source of information, the government was also found to be a moderate source and the community people a relatively weak source. Moreover, the data revealed that different sources were efficient in providing different types of information in both the areas. The government was found to be the most efficient to provide information on health services, local vaccinator and family planning. For information on quality seeds and livestock rearing, treatment and vaccination community people were found to be the best. NGOs were also reported to be the useful source of information for quality seeds, and livestock rearing, treatment and vaccination. NGOs were found to be the most useful source of information on hygienic water and sanitation system in both the areas. The NGO beneficiaries collect most of the information from the respective NGOs.

Table 4.10 Consequences, sustainable development, and topicality of NGO interventions

| Programme & project |                | Beneficial Consequences | SD   | Topicality |
|---------------------|----------------|-------------------------|------|------------|
| STUP (N=34)         | Mean           | 4.21                    | 3.88 | 3.68       |
|                     | Std. Deviation | .410                    | .409 | 1.065      |
| DPRM (N=42)         | Mean           | 3.81                    | 3.52 | 3.12       |
|                     | Std. Deviation | .740                    | .804 | 1.253      |
| CLP (N=40)          | Mean           | 4.37                    | 4.10 | 4.13       |
|                     | Std. Deviation | .740                    | .744 | .607       |
| RBP (N=40)          | Mean           | 3.75                    | 3.20 | 3.18       |
|                     | Std. Deviation | .899                    | .883 | 1.174      |

Table 4.10 (produced analysing responses to items F10, F11 and F12 in the questionnaire) shows the extent to which the respondents considered the consequences of NGO membership and interventions as beneficial (item F10 in the questionnaire, see Appendix 1), sustainable or leading to SD (item F11 in the questionnaire) and topical (item F12 in the questionnaire).

Similar to the analysis presented in table 4.7, each of ‘consequences’, ‘sustainability’ and ‘topicality’ of NGO membership and interventions was measured on a five point scale. With ‘Not at all correct’ assigned ‘1’, ‘Not correct’- ‘2’, ‘Uncertain’- ‘3’, ‘Correct’- ‘4’ and ‘Completely correct’- ‘5’.

Table 4.10 shows that the beneficiaries of STUP and CLP considered the NGO

membership to have resulted in benefits with the respective mean scores 4.21 and 4.37 falling between 'Correct'- '4' and 'Completely correct'- '5'. The mean scores, 3.81 and 3.75 for DPRM and RBP respectively were found to fall between 'Uncertain'- '3' and 'Correct'- '4' indicating existence of uncertainty in the perception of the beneficiaries about the beneficial consequences of NGO membership. The mean scores of CLP was found to be the highest- 4.1 for SD, indicating respondents perception about SD in terms of NGO membership as 'Correct'- '4' and 'Completely correct'. For all the other three, STUP, DPRM, and RBP, the mean SD scores were found to be 3.88, 3.52, and 3.20 respectively. All these mean scores fall between 'Uncertain'- '3' and 'Correct'- '4' indicating existence of beneficiaries who were uncertain about the SD of NGO membership. Among all the mean scores for SD, the RBP score was found to be the lowest 3.20. The discontent among the RBP beneficiaries for not receiving valuable material support like CLP beneficiaries and the hope for future material support were revealed during FGDs and HH level interviews to be the reasons for such uncertainty. For STUP, DPRM and RBP beneficiaries, the respective mean scores- 3.68, 3.12 and 3.18 for 'topicality' were found to lie between 'Uncertain'- '3' and 'Correct'- '4'. However, for the CLP beneficiaries, the interventions were found to be topical to people's priorities with the mean score 4.13 that fall between 'Correct'- '4' and 'Completely correct'. In terms of 'beneficial consequences', SD and 'topicality', NGO membership and interventions were found to be the most useful for the CLP beneficiaries followed by STUP with a relatively lower mean for 'topicality'. The DPRM beneficiaries were found to be quite uncertain about the topicality of the NGO interventions to their priorities. For most of the RBP, beneficiaries the NGO interventions were found to be not only short term (not sustainable) but also not relevant (lacked 'topicality'). Interestingly, the FGDs and HH level interviews revealed the existence of strong social and human capital among the RBP beneficiaries, but for sustaining livelihoods, material support was the preference by them and this resulted in uncertainty in them for 'sustainability' and 'topicality'.

No intervention from any private organisation was found in any of the studied areas except for that of the Lifebuoy Friendship Hospital (LFH) in the RC area. LFH is a floating hospital that is a collaborative effort by Friendship (an NGO) and Unilever Bangladesh. This floating ship is accessible by the *char* dwellers of



the RCs. It was the only private stake found to exist as a source of good health care service by Unilever Bangladesh for the development of the *char* dwellers. Some relief activities and satellite clinic services were also reported to be initiated by LFH with the financial support of Unilever Bangladesh. SKS-CLP officials further reported to have signed a Memorandum of Understanding (MoU) with LFH for health care services for its beneficiaries.

#### **4.4.1 Major findings on trends in government, NGO, and other interventions**

Various development programmes and projects were found to be widespread in Pepulia and in the RCs. Nevertheless, in *Char Wadel* and in the RECs generally, only microcredit programmes were found to be common. Money lenders were also found to be in good business even in the existence of the microfinance institutes there. Bangladesh Krishi Bank was also reported as useful for taking loan. In *Char Wadel*, during the field study, no other development programmes or projects by any other NGO could be found except for the non-formal primary (NFP) schools run by a local NGO along with the studied STUP programme and DPRM project.

Government activities and interventions found included cash for work, earth work, voter registration, birth registration, family planning, vaccination, regular safety net programmes, different stipends (for the school going children and elderly), relief, etc. Some respondents were found to avail Upazila level government services (health, agriculture, livestock, etc.). However, while people aspired to have more context specific especial type of interventions, no especial government service for the *char* dwellers was reported to exist.

Union Parisad was found to have successfully implemented registration for birth, death, voter, and marriage. Other activities like construction of infrastructure, prevention of violence against women, maintenance of law and order situation and control of terrorism and encouragement of NGO, and other similar type of activities were also reported to be undertaken by the Union Parisad in both the areas.

The 'government' was found to be the most efficient to provide information on health services, local vaccinator and family planning. On the other hand, for information on quality seeds and livestock rearing, treatment and vaccination

‘community people’ were found to be the useful source. ‘NGOs’ were also reported to be the functional source of information for quality seeds, and livestock rearing, treatment and vaccination. Moreover, ‘NGOs’ were found to be the most useful source of information on hygienic water and sanitation system in both the areas.

Although, both government and NGO membership and interventions were considered beneficial in terms of ‘consequences’, and to some extent for SD; most of the respondents of most of the studied programmes and project were found to be uncertain about the ‘topicality’ of both government and NGO interventions except for those of CLP about ‘topicality’ of NGO interventions. For SD and ‘topicality’ RBP, respondents were found to be uncertain in the absence of valuable material support. The only private stake found by Unilever Bangladesh for the development of the RC dwellers was the LFH.

#### **4.5 Assets and Vulnerabilities of the *Char* Dwellers**

In this section, I elaborate on the available assets in the studied *char* areas and at the same time show how the lack of some assets and having no access to some assets are leading to vulnerability in terms of the SL and SD.

The general perception is that people in the *char* areas are vulnerable to natural disasters with poor asset base. Nevertheless, the FGDs and KIIs revealed that the *char* areas should not be perceived as simply ‘vulnerable locations’ but those who live and come to settle in *chars* consider the *char* as the ‘sources of opportunities and benefits’ (discussed in section 4.2 of this chapter). When discussion was based on asset pentagon, participants of FGDs in both *Char* Wadel and Pepulia reported about how some of the assets are beneficial for them and how lack of some assets and no accessibility to some assets are leading towards vulnerability especially in terms of SL.

##### **4.5.1 Human capital**

###### **4.5.1.1 Household structure**

Previously in every HH there were no less than five to six children. But, presently the situation has changed. People are becoming aware about the disadvantages of large families. The young couples prefer to keep the family small and to educate their children. (An elderly female DPRM beneficiary)



Responses to items A4, A5 and A6 (Appendix 1) were analysed to reveal HH level information on children. Of the studied total 156 HHs, 27 (3 of STUP, 7 of DPRM, 10 of CLP and 7 of RBP) were found not to have any child.

Table 4.11 Distribution of children, male children, and female children

|                        |  | No. of HHs under Different Programmes and Project |       |     |     | Total HH |
|------------------------|--|---------------------------------------------------|-------|-----|-----|----------|
| No. of children        |  | BRAC                                              | SLOPB | CLP | DRR |          |
| 0                      |  | 3                                                 | 7     | 10  | 7   | 27       |
| 1                      |  | 9                                                 | 8     | 14  | 6   | 37       |
| 2                      |  | 9                                                 | 14    | 8   | 17  | 48       |
| 3                      |  | 9                                                 | 10    | 8   | 5   | 32       |
| 4                      |  | 3                                                 | 2     | 0   | 3   | 8        |
| 5                      |  | 1                                                 | 1     | 0   | 1   | 3        |
| 7                      |  | 0                                                 | 0     | 0   | 1   | 1        |
| Total HH               |  | 34                                                | 42    | 40  | 40  | 156      |
| No. of male children   |  |                                                   |       |     |     |          |
| 0                      |  | 11                                                | 13    | 18  | 11  | 53       |
| 1                      |  | 16                                                | 21    | 15  | 17  | 69       |
| 2                      |  | 6                                                 | 5     | 5   | 8   | 24       |
| 3                      |  | 0                                                 | 3     | 2   | 1   | 6        |
| 4                      |  | 1                                                 | 0     | 0   | 3   | 4        |
| Total HH               |  | 34                                                | 42    | 40  | 40  | 156      |
| No. of female children |  |                                                   |       |     |     |          |
| 0                      |  | 10                                                | 14    | 23  | 20  | 67       |
| 1                      |  | 11                                                | 18    | 11  | 12  | 52       |
| 2                      |  | 11                                                | 9     | 6   | 6   | 32       |
| 3                      |  | 2                                                 | 1     | 0   | 1   | 4        |
| 4                      |  | 0                                                 | 0     | 0   | 1   | 1        |
| Total HH               |  | 34                                                | 42    | 40  | 40  | 156      |

Thus, all the children are distributed within 129 HHs. Moreover, there was no male child in 11, 13, 18, and 11 HHs of STUP, DPRM, CLP and RBP respectively, while the corresponding numbers for no female children were 10, 14, 23, and 20 HHs. Accordingly, Table 4.12 below shows the distribution of male and female children in the HHs under different programmes and project.

Table 4.12 Distribution of male and female children within 129 households

| Programme and project | Male children | Female children | Total |
|-----------------------|---------------|-----------------|-------|
| STUP                  | 32            | 39              | 71    |
| DPRM                  | 40            | 39              | 79    |
| CLP                   | 31            | 23              | 54    |
| RBP                   | 48            | 31              | 79    |
| Total                 | 151           | 132             | 283   |

There were some single-member HHs among the CLP beneficiary HHs. In most cases the single member, female elderly beneficiaries of CLP fit the selection criteria as their husbands died or the husband or sons left them or separated. Thus, there was no child in such CLP HHs. The number of children among the CLP HHs was, therefore, found to be relatively low compared to those for other beneficiaries.

In *Char* Wadel, FGDs revealed that at an early age, by the age of 12-14, male children in those areas are engaged in fishing boats as fishing contractual labourers. However, during questionnaire survey and HH level interviews, the respondents were hiding such information. In some cases when others pointed to the issue the respondents requested not to record the topic. Thus, the number of earning children in *Char* Wadel is found to be low in the survey results, although in reality the practice of getting male children engaged in fishing as contractual labourer was found to be a common practice. Moreover, it is also true that the children of the studied HHs were found to be in most cases very young to engage in any work.

Table 4.13 shows the distribution of earning and unemployed male, female, and child members among the different programme and project HHs.

Table 4.13 Male, female, and child earning and unemployed members

| Programme and Project | STUP | DPRM | CLP | RBP | Total |
|-----------------------|------|------|-----|-----|-------|
| Earning Member        |      |      |     |     |       |
| Male                  | 39   | 55   | 25  | 44  | 163   |
| Female                | 23   | 32   | 38  | 37  | 130   |
| Child                 | 0    | 06   | 0   | 08  | 14    |



|                   |     |     |     |     |     |
|-------------------|-----|-----|-----|-----|-----|
| Unemployed member |     |     |     |     |     |
| Male              | 06  | 04  | 02  | 04  | 16  |
| Female            | 22  | 27  | 13  | 24  | 86  |
| Child             | 71  | 73  | 54  | 71  | 269 |
| Total HH member   | 161 | 197 | 132 | 188 | 678 |
| Total HH          | 34  | 42  | 40  | 40  | 156 |
| Average HH member | 4.7 | 4.7 | 3.3 | 4.7 | 4.3 |

The average size of HHs under all the studied programmes was surprisingly found to be the same 4.7 except for CLP where the average was found to be 3.3. The exception for CLP was attributed to the inclusion of single-member HHS.

Table 4.14 Male and female headed households

| Programme & Project | HH Head |        | Total |
|---------------------|---------|--------|-------|
|                     | Male    | Female |       |
| STUP                | 30      | 4      | 34    |
| DPRM                | 42      | 0      | 42    |
| CLP                 | 21      | 19     | 40    |
| RBP                 | 35      | 5      | 40    |
| Total               | 128     | 28     | 156   |

CLP gave preference to female headed HHs (Table 4.14 shows that among the 40 respondent HHs, 19 were female headed for CLP) and a few elderly female who were found to compose single-member HHs were also included and thus the number of female headed HHs was the highest among the CLP beneficiary HHs.

#### 4.5.1.2 Health

The people of the *char* areas usually suffer from the following diseases – appendicitis, skin diseases, pneumonia, asthma, night blindness, blood pressure, jaundice, diarrhoea, dysentery, sever fever, ulcer, female diseases, accidents, and other diseases. The other diseases are those that they could not name, but reported to occur in the recent years. Respondents in both the areas reported that the prevalence of different diseases have reduced these days. They elaborated saying,

Even ten-fifteen years ago, death due to diarrhoea was common, but we all now know how to treat diarrhoea and also know the measures

necessary to prevent diarrhoea. The main sources of information are the brothers and sisters of the NGOs. However, even through the radio and television programmes we realised the importance of the necessary practices like using hygienic latrine, using soap or soil for washing hands, keeping the environment clean, etc. We also know about the nutritional facts of different foods and the proper ways of cooking vegetables; we practice those. (A female RBP beneficiary)

There is no health service available in *Char Wadel*. Usually different diseases are expected to be cured as time passes. At times when a disease is severe and not getting cured, the locally available 'fakir's (religious healers) are preferred and appointed for treatment. The cost of employing a fakir is relatively low, usually between taka ten and twenty. Fakirs also accept HH products like rice, eggs, vegetables, chicken, etc. After all these efforts, if the disease is yet to be cured, health services in the mainland are availed. Respondents reported a few reasons for not availing the health service in the mainland. Those include, firstly, going to mainland for treatment involves a lot of money. Secondly, usually several frequent visits to the mainland become essential to get the treatment completed, and it is usually not possible to bear the cost and manage the time for that. Thirdly, leaving all the HH works behind, going to mainland for treatment is troublesome. The preference for getting treatment also goes in sequence, at first, the male members take treatment when essential followed by the children when necessary; women rarely get treatment opportunities in the mainland. Hysteria type of diseases (local considered to be insane behaviour), that are reported as insane behaviour is to some extent available mostly among young girls and women and also in some men. Different diseases are given the names of '*Jiner asor*' and '*bhute dhora*' (possessed by jinn or ghost; in Islamic theology jinn are said to be creatures with free will). Strong existence of different types of superstitious beliefs is also observed. On the other hand, religious, traditional, and superstitious beliefs and treatments (*Fakir, doa, tabiz*- religious ways of healing, etc.) for diseases are found to be relatively low at *Pepulia*. People in *Pepulia*, to some extent, seemed to be aware of the available health services in the mainland although considered the services costly and inaccessible due to the cost involved for communication.



In *Char* Wadel, male children in fishing as contractual labourer take physical load that results in health hazards. Again, due to infant mortality and child death, the other cultural practice reported by the participants in *Char* Wadel is to take more than two children usually. Infant mortality, they claimed, is higher in the REC areas compared to mainland for several reasons. The specific reasons in their *char* and in RECs generally, they identified are:

- Unavailability of trained traditional birth attendants or trained doctors for the delivery cases;
- Parents' especially mothers' are unaware and also lack of knowledge about the ways of taking care of infants.
- Unavailability of health facilities for pregnant mother, new born and even for the young children.

On the other hand, in Pepulia, at least a few trained traditional birth attendants are available and the case of infant mortality was reported to be quite low. During FGDs, the respondents reported about the training and information they received from the NGOs in the weekly meetings to ensure maternal and child health and safety. Respondents of both CLP and RBP also ensured that they got a lot of relevant information through the work of different NGOs and from their neighbours.

In both the *char* areas, irregular family planning support and vaccination services of young children by the government appointed employees are the only health services reported to be available. The respondents in both the areas also reported about the recent outbreak of jaundice and a few other unknown diseases that never occurred before. Skin diseases and female diseases were reported to be highly prevalent but were rarely reported or treated in the studied areas.

Very few NGOs work in *Char* Wadel. During the present study, no NGO was found to be working on the health issues specifically. People were found unaware about health hazards. Open defecation was found to be common. The community people through their exposure to mainland hygienic sanitation practice realized its importance. Some of them who could afford adopted the practice installing hygienic sanitation system. Participants reported that BRAC also distributed hygienic sanitation system to the 46 beneficiary HHs. More than 50% of the HHs in *Char* Wadel does not have any such system. The concern about water and air

pollution was raised by the NGO workers of the studied programme and project in *Char Wadel*. Due to open defecation, the waste pollutes the environment. Thus, the prevalence of diseases is quite strong. In *Pepulia*, on the other hand, as a number of NGOs are working on health and hygiene, their efforts were recognised to have changed attitude in most of the people of this community. Dwellers of *Pepulia* are aware about the health related matters such as healthcare, preventive measures of diseases, etc. Moreover, due to massive NGO interventions to improve health, water and sanitation facilities, improved health and hygiene situation in *Pepulia* was observed. Most of the HHs possess hygienic sanitary latrines (except for those came relatively recently from other places). No less than 80% HHs of the community were reported to possess hygienic latrine. Although death due to diseases was reported to have reduced, the prevalence of some common diseases was said to be still high.

Unless a village is under a total hygienic sanitation system and practice, the effort can never be successful. People still need to be made aware about the necessity of maintaining a proper hygienic sanitation system. They are found to break the safety seal and thus human waste even in these so called hygienic sanitation system is polluting environment and causing diseases. (The Project Manager, RBP)

In *Char Wadel*, scarcity of pure drinking water was reported. At least a few HHs were found to be using river water sometimes for consumption and always for HH work. Both, unhygienic sanitation system and river water consumption and use were leading to diseases. Those, in turn, were reported to impede livelihood activities. On the other hand, all the dwellers of *Pepulia* were found to have access to pure drinking water. Awareness activities by the NGOs were successful to ensure consumption of safe drinking water. *Pepulia* respondents reported to get NGO suggestions, transportation support, and treatment support in case of severe diseases.

Table 4.15 shows the occurrence of different diseases among the members of the respondent HHs. The average family size is found the lowest for the CLP HHs but the occurrence of disease is not less even for those compared to the other programme and project HHs.



Table 4.15 Occurrence of different diseases among respondent household members in the last one year

|                  | River Estuarine <i>Char</i> |             | River <i>Char</i> |            |              |
|------------------|-----------------------------|-------------|-------------------|------------|--------------|
| Name of disease  | STUP<br>(N)                 | DPRM<br>(N) | CLP<br>(N)        | RBP<br>(N) | Total<br>(N) |
| Appendicitis     | 1                           | 2           | 1                 | 0          | 4            |
| Skin diseases    | 2                           | 5           | 1                 | 4          | 12           |
| Pneumonia        | 4                           | 5           | 2                 | 2          | 13           |
| Asthma           | 5                           | 3           | 0                 | 3          | 11           |
| Night blindness  | 0                           | 0           | 2                 | 1          | 3            |
| Blood pressure   | 1                           | 3           | 2                 | 3          | 9            |
| Jaundice         | 6                           | 12          | 8                 | 8          | 34           |
| Diarrhoea        | 8                           | 11          | 5                 | 10         | 34           |
| Dysentery        | 3                           | 2           | 2                 | 10         | 17           |
| High fever       | 9                           | 18          | 19                | 20         | 66           |
| Ulcer/gastric    | 10                          | 11          | 6                 | 16         | 43           |
| Female diseases  | 4                           | 10          | 4                 | 6          | 24           |
| Accident         | 2                           | 5           | 1                 | 3          | 11           |
| Others           | 10                          | 4           | 11                | 8          | 33           |
| Total patients   | 65                          | 91          | 64                | 94         | 314          |
| Total HH member  | 161                         | 197         | 132               | 188        | 678          |
| Programme wise % | 40.37%                      | 46.19%      | 48.48%            | 53.33%     | 46.31%       |
| Area wise %      | 43.28%                      |             | 50.91%            |            |              |

Table 4.15 shows that total 46.31% members of the respondent beneficiary HHs were found to become ill for different diseases within the last one year before data collection. Among all different diseases, jaundice, diarrhoea, high fever and ulcer/gastric were the most frequent in both the areas. The data shows that diseases were more frequent in Pepulia than in *Char* Wadel. It is to mention here that, though relatively higher number of NGOs are working in the Pepulia, the occurrence of diseases still persist to be higher compared to *Char* Wadel. The probable reasons identified by the FGD participants and key informants for high occurrence of different diseases in Pepulia included: insufficient food, malnutrition, hard work, hard work without sufficient food, lack of awareness about disease preventive measures, old age, migration, unprotected physical relation, lack of attention to the children's health issues, unhygienic sanitation practices, lack of winter cloths, superstition, displacement, etc. Moreover, the respondents reported that catching fish in the river for consumption is not viable due to lack of fish in the river.

In *Char* Wadel, though no specific NGO activity on health issues was found, yet the percentage of affected people was found to be lower, than that of Pepulia. One of the reasons identified by the key informants (KIs) was their food habit. The geographical location allows them to consume protein (from fish) more frequently than the dwellers of Pepulia and they were found to be and also reported to be consuming somewhat nutritious food. Again, they are used to fight with a relatively more adverse situation due to storm, cyclone, tidal surges, etc. and those make them resilient and prepare them to resist the diseases as well. The other realisation was that the people in RECs are highly active to take livelihood challenges for improving economic condition as a cultural practice. They were found to ignore diseases and rather preferred to take challenges that help them to develop their living condition. Thus, reported fewer diseases.

#### **4.5.1.3 Education**

In Pepulia, NGO activities were reported to have contributed in raising awareness among the remote *char* dwellers to educate their children. Moreover, they reported that the radio programmes and sometimes the television programmes also played significant role in changing attitude toward education. The wave of enrolling children to primary schools was also seen in *Char* Wadel.

In both the areas, the government primary schools were found to be one of the motivating factors that provided scope to realise their changed intentions to enrol children in the schools. Along with the government primary schools, NGO awareness activities and NGO established non-formal primary schools in both the areas allowed the *char* dwellers to get their children enrolled in schools.

Looking at the SKS workers, the *Anondo* school teachers (the non-formal primary schools are locally called *Anondo* school; the meaning of 'Anondo' is 'happy') and educated people like you who come sometimes to our *char*, we dream that our children will one day work in SKS or any such organisation or will become a teacher or even become a policeman.  
(A young female RBP beneficiary)

All such aspirations resulted in increased number of school enrolment among the children in Pepulia.

In both the communities, different natural disasters, such as, river erosion, displacement, cyclone, storm and severe floods disrupt children's education. Moreover, no high school in either of the communities was identified as the other



cause of discontinued education and frustration. Moreover, the existing schools in both the areas were claimed to be highly insufficient to accommodate all the school-age children in the communities.

Table 4.16 Male and female children in education

|                            | STUP |        | DPRM |        | CLP  |        | RBP  |        | Total |
|----------------------------|------|--------|------|--------|------|--------|------|--------|-------|
|                            | Male | Female | Male | Female | Male | Female | Male | Female |       |
| Primary Education (1-5)    | 14   | 16     | 18   | 14     | 12   | 13     | 16   | 17     | 120   |
| Secondary Education (6-10) | 0    | 0      | 1    | 2      | 0    | 0      | 6    | 1      | 10    |
| Higher Education (11-12)   | 0    | 0      | 0    | 0      | 0    | 0      |      | 0      | 0     |
| Tertiary level             | 0    | 0      | 0    | 0      | 0    | 0      |      | 0      | 0     |
| Illiterate                 | 2    | 3      | 0    | 0      | 2    | 0      | 2    | 0      | 9     |
| Under seven                | 16   | 20     | 21   | 23     | 17   | 10     | 20   | 12     | 139   |
| Read & write               | 0    | 0      | 0    | 0      | 0    | 0      | 3    | 0      | 3     |
| Only sign                  | 0    | 0      | 0    | 0      | 0    | 0      | 1    | 1      | 2     |
| Total                      | 71   |        | 79   |        | 54   |        | 79   |        | 283   |

The above table draws attention to the reality that enrolment of male and female children to the primary schools was found to be high compared to other categories.

In *Char Wadel*, livelihood activities (i.e. farming and fishing) are considered to be important tasks to learn. Young male children primarily assist their fathers or elder brother and learn how to catch fish along with primary schooling and later engage in work as contractual fishing labourers. In the farming HHs, both the male and female children assist their parents during harvest season. These HHs don't have clear aspirations about education and encourage the children to engage in livelihood activities that enable those children to contribute to the HH income. HH level interviews revealed that their ancestors never went to school in most cases. A few children who were reported to have started studying at college in the main land lately were found to have completed college education yet. Their

parents seemed uncertain about the future possible outcome of getting children educated. The NGO run non-formal primary schools and private *madrasas* are there in *Char* Wadel that have motivated the parents to send their children for education. However, as after primary education the male children usually engage in earning money, early marriage of both male and female children is common in *Char* Wadel. Early marriage was also found to contribute to discontinuation of education. Along with many other factors, unavailability of schools, inconvenient communication or transport facilities for children to attend school, college, and lack of security for the female children were focused as the prominent causes in *Char* Wadel for drop out.

In some cases, especially in the slightly better off fishing HHs, parents expressed strong desire to engage the son to any other occupation except fishing, the reason being the hard work and risk involved in the profession. In Pepulia also, a few HHs were found where the HH head expressed aspiration to get the children engaged in professions outside of the *chars*. These HHs were also comparatively better off but for them, the aspirations came from the ancestors who used to live in the mainland and became victims of river erosion that compelled them to settle in the *char* area. These families want their children to get educated and go back to the main land to live a better life. The mothers of two other HHs in Pepulia expressed such desire for their children who get the idea from their husbands. They reported that their husbands seasonally migrate to work in the cities and there they get chance to meet beautiful city dwellers. They want their children to become such beautiful youth and such aspirations inspire them to educate their children.

#### ***4.5.1.4 Information, training, and skills***

In both the isolated *char* areas, dwellers have minimum access to accurate, timely, and basic information. They reported to lack information on their rights, land rights, government services, health services, legal matters, weather forecast, etc. They become victims of different natural and social disasters due to not having or getting information and due to lack of access to information as they live in the isolated remote *char* areas.

Different NGOs arranged different skill development trainings over time for their beneficiaries in Pepulia. Some of those were considered useful while others were



not. People in Pepulia and other RCs received training on disaster preparedness. They have also learnt the technique of plinth raising and other actions to prepare for flood disaster. They reported to be highly helpless during erosion earlier. In the present time, they dismantle the houses into pieces and they join the pieces of their house to rebuild it in the place of new settlement. RBP beneficiaries reported to have formed groups to help RBP member HHs and all other community HHs to move during disasters with dismantled houses and all other HH level assets. It is not RBP alone, but other NGOs also continuously aware them and train how to protect life and assets. At the same time, in Pepulia, NGOs have taught them effective ways of cattle and poultry rearing homestead gardening, early vegetable cultivation for higher profit, etc. Some aware beneficiaries who regularly go to mainland, with the support of NGOs, also have availed the training on engaging in nursery business. Selected beneficiaries were trained to become efficient birth attendants. Some were trained to become paravets to ensure livestock vaccination services in the *char* areas. However, some training for income generating activities (IGAs) was reported useless because of the unavailability of raw materials. Moreover, without a marketing link produced products such as, snacks, quilts, other handicrafts, etc. did not seem to be feasible and useful for them.

In *Char Wadel*, children learn the cultivation skills from their ancestors over time. They also become expert in catching fish for regular consumption. The NGOs do not introduce any intervention to enhance this skill development. The STUP programme was found to include trainings on different health and social issues and cattle-poultry rearing, gardening, etc. which were found to be less effective; the main reason found was the short programme implementation period. For short intervention period (two years), STUP was unsuccessful to bring change in practice. The DPRM project also, was found not to be very efficient in communicating disaster preparedness and mitigation related message during the 1- day training for its beneficiaries.

#### ***4.5.1.5 Ability to labour***

While discussing on the issue of ability to labour, the concern about disability due to disasters was raised by the FGD participants of *Char Wadel*. During cyclones and strong wind, the houses sometimes break down or the branches of trees break

down and fall on the house or on people. People inside the houses or under the trees become wounded and frequently become permanently disable and consequently become unable to work for livelihood. Again, those who go to the deep sea as contractual fishing labourer frequently become victims of disasters. As a result, they experience physical threat and mental trauma. When left with no other option, these people again go for fishing even though they become physically weak and mentally stressed to work. But, the most of the people of the RECs are very resilient. Moreover, the community level cultural practice also contributes to make them take challenges. As mentioned earlier, they typically take challenge to improve earning through investing in their livelihood (be it farming or fishing) taking loan. They do not only take the challenge of investing borrowed money regularly but also take the challenge of continuing the same challenging livelihood strategy to run the HH. In the farming HHs, even when due to disasters the cultivation effort fails, the farmers of *Char Wadel* take repeated efforts (when necessary 3-4 times) to begin cultivation to ensure a harvest. Thus, HH level vulnerability in terms of lack of earning member and community level norms and practices interact to determine how the HH would behave.

People in Pepulia reported to consume somewhat insufficient food throughout the year that do not also meet necessary nutritional standard. The FGDs also revealed that vegetables along with rice and sometimes sweet potatoes and corn chapattis (hand-made breads) are the main food. In Pepulia, animal protein from chicken and fish, and even vegetable protein- pulse were reported to be beyond reach of the dwellers. Due to insufficient and lack of balanced diet, people in Pepulia suffer from malnutrition. They lack energy to work hard. The women especially looked older than their actual age and they seemed to become old before the age due to lack of food and hard work. It is worth mentioning that in both the areas both male and female children engage in helping parents at the HH level farming or fishing. However, as mentioned earlier, the male children in *Char Wadel* engage in economic activities relatively early.

In our area, male children work and contribute to run the family. Probably education is important but we do not have high schools in the village. Most of our children go to either government primary school or to *Anondo* School. We cannot send our sons and daughters to high schools in the



mainland due to high cost that we cannot bear and also due to security reasons. Rather working in the boats or in the farmland or supporting in the family, they always help us. (A male DPRM beneficiary)

The female children in Pepulia also engage in domestic work for other relatively rich HHs in the nearby mainland. Although the issue came up during FGDs, during HH level interviews and questionnaire survey, the respondents did not want to share such information (a few cases where these female domestic workers became victim violence was also shared during HH level interviews). Those female children were no longer living in the family and accordingly they were not reported as members of the HHs in most of the cases. Some male children in Pepulia were also engaged in work as contractual labourers to take care of cattle. In sum, the major findings revealed on human capital can be organized both in terms of assets and in terms of vulnerabilities and thus are presented in the table below.

Table 4.17 Summary on human capital

| Human capital                                                                                                                                                                              |                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| As assets                                                                                                                                                                                  | As vulnerabilities                                                         |
| Male children in the RECs work as fishing contractual labourers;                                                                                                                           | Physical load may lead to diseases;                                        |
| Female children in the RCs engage in domestic work for other relatively rich HHs in the nearby mainland;                                                                                   | May become became victims of violence;                                     |
| Good experience (good practices, exposure to good situation) leading to aspiration;<br>Experience of fighting to survive in adverse situations, (cyclone, storm, etc.) lead to resilience; | Trauma, fear;<br>Lack of experience;<br>Helplessness, dependence, poverty; |
| In Pepulia, expertise in different livelihood strategies;                                                                                                                                  | Lack of training and various expertise among people in <i>Char</i> Wadel;  |
| In the RCs NGO activities contributed to reduce -                                                                                                                                          | In the RCs,                                                                |

|                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>prevalence of different diseases (water borne diseases);</p> <p>religious, traditional, and superstitious beliefs about diseases and treatments;</p> <p>maternal, infant and child mortality;</p> <p>open defecation, unhygienic water and sanitation practices;</p> | <p>Still frequency of different diseases is high as,</p> <p>100% sanitation is yet to be achieved;</p> <p>Lack of awareness still persists;</p> <p>Poverty and disaster;</p> <p>The identified reasons that also are sources of vulnerability include- insufficient food, malnutrition, hard work, hard work without sufficient food, lack of awareness about disease preventive measures, old age, migration, unprotected physical relation, lack of attention to the children's health issues, unhygienic sanitation practices, lack of winter cloths, superstition, displacement, etc.</p> |
| <p>In <i>Char</i> Wadel,</p> <p>Balanced diet intake, less diseases;</p>                                                                                                                                                                                                | <p>In <i>Char</i> Wadel, vulnerabilities persist due to,</p> <p>Religious, traditional, and superstitious beliefs about diseases and treatments;</p> <p>Maternal, infant and child mortality;</p> <p>Open defecation, unhygienic water and sanitation practices;</p> <p>Lack of money;</p> <p>Lack of awareness;</p> <p>Lack of information;</p>                                                                                                                                                                                                                                              |
| <p>In <i>Char</i> Wadel, challenge taking behaviour lead to resilience;</p>                                                                                                                                                                                             | <p>Pressure due to existing cultural practices;</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p>Enrolment in schools especially due to awareness through NGO activities, exposure and media;</p>                                                                                                                                                                     | <p>No high school in any studied <i>char</i>, communication problem, lack of security, lack of money, cultural practice of early marriage, lack of</p>                                                                                                                                                                                                                                                                                                                                                                                                                                        |



|                                                                                        |                                                                               |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
|                                                                                        | awareness, information and aspiration;                                        |
| In RECs, eagerness to improve economically.                                            | Loan taking behaviour, pressure to pay back borrowed money;                   |
| Aspiration for NGO interventions to address the other vulnerabilities due to diseases. | Skin diseases and female diseases, jaundice and a few other unknown diseases. |

To conclude, it is worth to focus on the realities revealed:

The household level experience, expertise, assets, and vulnerabilities interact with the community level cultural practices. Long term intensive involvement of NGOs, with interventions to bring changes in cultural norms and practice for establishing good practices in *char* communities, seems to become successful to some extent. However, the missed out concerns, shown in the above table, in terms of human capital leading to vulnerability deserve special attention.

## 4.5.2 Physical Capital

### 4.5.2.1 House

Houses in *Char* Wadel occupy relatively more land. The extreme poor dwellers live in small huts. Houses of different structures were found in both the areas that appeared not to have been built considering designs appropriate for disasters.

Table 4.18 shows the different types of houses found to be possessed by the respondent HHs.

Table 4.18 Houses of the studied households

| House                       | STUP | DPRM | CLP | RBP | Total |
|-----------------------------|------|------|-----|-----|-------|
| <i>Pakka</i> <sup>129</sup> | 31   | 39   | 32  | 29  | 131   |
| <i>Semi-Pakka</i>           | 1    | 1    | 4   | 19  | 25    |
| Tin                         | 3    | 2    | 1   | 1   | 7     |
| Straw                       | 0    | 0    | 0   | 1   | 1     |
| Earth                       | 0    | 1    | 0   | 0   | 1     |
| Total                       | 35   | 43   | 37  | 50  | 165   |

<sup>129</sup> Brick houses.

On the other hand, in Pepulia, most of the houses were found to be occupying relatively less land than those in *Char Wadel*. Most of the houses were found to be on raised plinths. Different NGOs introduced the practice of raising plinth for homestead to protect life and asset during disasters. Raised plinth is considered to be a part of disaster preparedness. Especially, during floods, it is easier to protect HH level assets and lives in a house on raised plinth. In Pepulia, the newly settled dwellers who reported to have come relatively recently from a nearby *char* or mainland did not have houses on raised plinths. Even, a few extremely poor HHs also were reported not to have their houses on raise plinths.

Government initiated *guchcha grams* (artificially created villages are called ‘*Guchcha Gram*’ in Bengali and the English is cluster village) on raised plinth were also found in the RCs.

For the *char* dwellers of both the areas although water ways are the only way to communicate with the main land, within the *chars* the essential communicating roads are earth made. However, necessary bridges, cyclone shelters, *tilla* (topography, undulating with slope and hillock, locally called ‘*tilla*’, usually 10 to 50 metres in elevation, necessary to protect cattle during disasters, and protection dam are yet to be built in *Char Wadel*. As reported by the a female respondent of FGD in *Char Wadel*- “We don’t have a ‘*tilla*’ in our *char* where we can send our cattle during storms and cyclones. We can take shelter in the trees and in relatively safe places but on every disaster we lose our cattle”.

Similarly, in Pepulia, people reported to have no flood shelter, no communication road, and necessary communication infrastructure.

#### **4.5.2.2 Tubewells and deep hand tubewells**

Previously, people at *Char Wadel* had been using river water for consumption and all other HH purposes. There was no hygienic sanitation system and practice in the community. Severe sufferings due to different waterborne diseases were very common and consequently the mortality rate was also high. In *Char Wadel*, deep hand tubewells are insufficient in number to meet the need of all the dwellers. A very insufficient number of deep hand tubewells are installed by the government and by SLOPB. The people living close to the tube wells have started using safe water for consumption. Around 10 HHs living close to each tubewell use the tubewell water for drinking and HH work. Others try to collect the



tubewell water at least for consumption. Still some community HHs were found to be using river water for all purposes.

In Pepulia, many tubewells (reported to be installed by different NGOs or, individually) were found to be available to meet the necessity of the people in Pepulia.

#### **4.5.2.3 Sanitation system**

Hygienic sanitation system is almost non-existent in *Char* Wadel. Open defecation pollute air and water (water available inside the village, canal water and river water). In Pepulia, in contrast, with differ NGO programmes and projects working with the aim to improve the water-sanitation situation for a long time, many hygienic sanitary latrines were found. In some cases, the latrines were reported to be of poor quality. Moreover, in some cases, after the latrine was once full of waste, it just occupied space and brought the HH back to the previous practice. Nevertheless, some of the dwellers were reported to have bought and installed hygienic sanitary latrine again when it was necessary. At least some of those who could afford bought the latrine personally without waiting for free support.

#### **4.5.2.4 Transport**

For the dwellers of *Char* Wadel, the daily trawler<sup>130</sup>, that brings and takes back *char* dwellers just twice/thrice a day, is the only transportation available to communicate with the mainland. The cost of round trip is ten taka. Here, the studied NGOs reported not to have any trawler of their own, as donor funding was pretty low for the programmes or projects there. A few rental engine boats are available that are owned by some HHs in the *char*. These are small and relatively dangerous as these pose threat of accident on any disastrous weather. Moreover, personally renting these engine boats for any emergency situation is beyond the reach of the *char* dwellers as the charge for renting is usually very high. Within the *char*, there is no alternative to walking for going from one place to another. Locally made boats of banana trees are sometimes used for short distance travels through canals. To cross the canals poor *char* dwellers even need

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<sup>130</sup> Engine boat of medium size used to transport people. See picture in Appendix 5.

to swim at times. Communication becomes difficult during rainy season. Due to heavy rainfall, new small canals grow and people are usually left with no alternative to swimming for crossing those canals.

The daily trawler service in *Char Wadel* is similar to that in *Pepulia*. During winter, lives of the *Pepulia* dwellers become even more miserable. Due to decrease in water level, trawlers cannot reach close to the village and people need to walk a lot to avail the trawler service. However, NGO trawlers are considered to be the great source of support during floods and disasters in *Pepulia*.

#### ***4.5.2.5 Solar panel***

Very few solar panels are installed in both *Char Wadel* and *Pepulia*. Solar panels are personally installed in *Char Wadel* while in *Pepulia*, under different programme and project NGOs installed solar panels in the common places in the community for common use of the dwellers.

#### ***4.5.2.6 Mobile phone***

Mobile phone network is available in both the studied *char* areas. From radio, mobile phone and television dwellers of both the *chars* get information about disasters and about required activities for protection. In *Pepulia*, microphones are available in the local mosques. During natural disasters, villagers being taught by the NGOs and also sometimes getting information from the NGOs over mobile phones or getting information from any other reliable source) use the microphone to communicate information about the disaster. In both the *char* areas, mobile phone is found to be a useful instrument for every communication with everyone, everywhere.

#### ***4.5.2.7 Means and equipments of production***

In both the areas farming HHs, possess some equipment. Analysing the collected information on price of the equipments, the average was found to be very close for the beneficiaries of different programmes and project. The only exception was the average price of agricultural equipments for CLP HHs. The CLP HHs were mostly dependent on the work of day labourer or were engaged in cattle rearing for livelihood. Thus, the CLP HHs were found to have less agricultural equipments than the HHs of the other programmes and project.



Table 4.19 Average price of agricultural equipments (after intervention)

| Programme & Project | Average price of agricultural equipment | N   | Std. Deviation |
|---------------------|-----------------------------------------|-----|----------------|
| STUP                | 216.18                                  | 34  | 277.08455      |
| DPRM                | 242.86                                  | 42  | 317.68435      |
| CLP                 | 110.88                                  | 40  | 143.99914      |
| RBP                 | 246.75                                  | 40  | 276.67798      |
| Total               | 204.20                                  | 156 | 265.84103      |

A few RBP HHs in Pepulia reported to possess fishing nets. But, no beneficiary HH of any of the programmes in Gaibandha had any boat. On the other hand, in *Char Wade*, all the fishing HHs reported to have at least some fishing net and few of the DPRM beneficiaries reported to have boats. The difference between the average price of agricultural equipments and fishing net and boat seize attention. The average price of agricultural equipments was found to range between 110.88 and 246.75 with CLP HHs having the lowest average and the other HHs under the other programmes possessing not too distant rather close averages. For the fishing HHs, the range of average price of fishing net was found to be between taka 317.50 and 14816.67 (shown in Table 4.19), that reflects the existence of comparatively extreme values of fishing net among the HHs of different programme beneficiaries.

Table 4.20 Average price of fishing nets and boats (after intervention)

| Programme & Project | Average price of fishing nets | N   | Std. Deviation | Average price of boats | N   | Std. Deviation |
|---------------------|-------------------------------|-----|----------------|------------------------|-----|----------------|
| STUP                | 3291.18                       | 34  | 6910.35        | 1682.35                | 34  | 3631.55        |
| DPRM                | 14816.67                      | 42  | 77180.73       | 1523.81                | 42  | 4587.83        |
| CLP                 | .00                           | 40  | .00            | .00                    | 40  | .00            |
| RBP                 | 317.50                        | 40  | 1281.60        | .00                    | 40  | .00            |
| Total               | 4788.14                       | 156 | 40312.30       | 776.92                 | 156 | 3002.98        |

Two DPRM HHs reported to possess fishing net of above taka 90,000 and those values contributed to the high average. For the very few STUP HHs, the average

price of fishing net was found to be taka 3291.18 and for the RBP HHs it was taka 317.50. Even though, the nets of STUP beneficiaries were also reported to be old, the type of net they possessed were more costly compared to those of the RBP beneficiaries and thus the average price of their net was found to be relatively pretty higher. A very few RBP HHs reported to possess old poor quality fishing net and thus their assigned prices for the net were also low and the average was found to be low too.

The price of the small boats were reported to be somewhat around taka 5000. Nevertheless, the old boats possessed by a few DPRM and STUP HHs were assigned lower price and the average prices of the few boats of the DPRM and STUP HHs were found to be somewhat close. The fishing style and required equipments required for fishing in the RECs were found to be diverse and costly. Thus, the prices of equipments were found to be of higher prices compared to the agricultural equipments.

In the summary, the major findings revealed on physical capital can be organised in terms of existing physical assets along with the existing good and risky practices observed to protect physical assets to reduce vulnerabilities and lack of necessary physical assets as present vulnerabilities.

The design of houses in both the communities was not disaster friendly. The practice of building houses on raised plinth and dismantling house to rebuild the pieces later were the good practices observed in this respect. However, more disaster friendly houses could enhance physical capital. Different physical capital reported to be essential included *tilla*, deep hand tubewell, flood shelter, cyclone shelter, roads, bridges, etc.

Along with structure, awareness about good practices of using hygienic sanitary system, water of tubewell or deep hand tubewell, etc. could be useful to change harmful cultural practices like open defecation, consumption of river water, etc. Identifying the strategic needs of the community to ensure better utilisation of the available physical resources (mobile phone, solar panel, deep hand tubewell, etc.) and to introduce the necessary interventions for physical capital accordingly, was the suggestion by the community people by and large.



### 4.5.3 Natural (Environmental) Capital

#### 4.5.3.1 Land

Land is the most important asset for the *char* dwellers in both the areas for their livelihood. But, land in the *char* areas is owned mostly by outsiders.

Land ownership: Most of the land in Pepulia is *khas* land. The landless are allotted these *khas* lands for ninety nine years. Unfortunately, but true that it is mostly the powerful elites who bid the tender or forcefully grab the *khas* lands. As there had been no ‘*Diara Survey*’<sup>131</sup> in the last 46 years (the last survey was done in 1964), there is no definite record of land in the *char* areas. Accordingly, when the powerful elites grab the land, the poor have no way left but to depend on them to continue living in the *char* areas. The poor dwellers of Pepulia never get the exact information about the amount and specific location of land, possessed by the powerful elite land grabbers. As a consequence, these land grabbers claim every piece of land in the *char* as their own.

In Pepulia, the dwellers were found to possess no legal or updated document of land. KIIs and FGDs revealed the main reasons behind such a situation. The reasons include: 1. Lack of awareness about land rights; 2. powerless; 3. illiteracy; 4. lack of access to information; 5. Unavailability of government services (*Diara* survey, regular allotment of *khas* land, allotment of *khas* land to correct people who deserve, etc.); 6. lack of accessibility to government services; 7. lack of initiative to update legal documents of the ancestors, etc.

In *Char Wadel*, *Khas* land has been allotted to a few landless *char* dwellers. Dwellers of *Char Wadel* reported about the existence of irregularities and unethical practices (bribe) in the process. As a result of which, they reported, some middle class and even rich people got allotment of *khas* land.

In *Char Wadel*, in most of the cases, the poor when allotted *khas* land, use the land for building house. At times, some of the poor who prefer to work as day labourers lease out the allotted land to the rich people for a few years. These poor landless day labourers do not prefer to cultivate the small amount of land allotted to them as a result they lease out the land. The land accumulated in this way by the rich people (a few selected people always engage in accumulating land in this way), is then again leased out by them to the farmers who engage in farming in a

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<sup>131</sup> The survey on riverine and coastal *char* land.

relatively large amount of land for cash cropping for one or two years. The total investment for cultivation usually comes from the borrowed money. The respondents said that they usually get good harvest twice in three years. Nevertheless, investing in farming is the only livelihood they could think of.

The harvest is hampered for several reasons. The few reasons identified by the dwellers of *Char* Wadel include,

- Scarcity of good varieties of seed and quality fertilizer;
- Availability of fertilizer on time;
- Different natural disasters such as cyclone, flood, untimely intense rainfall, drought, hail storm, cold waves and so on;
- In their unique Geo-physical context the participants reported about the change in direction of the rivers surrounding them, which is visible through erosion along with siltation in the riverbed. The erosion and siltation result in poor harvest, increased salinity and insecurity about the availability of water in future among the farmer communities;
- Frequent and intense attack of different new varieties of insects even after the use of insecticides. According to the participants this is caused probably by the heavy use of chemical fertilizer;
- Lack of knowledge about modern methods of cultivation, seeds, fertilizer and government services. During FGDs, the participants reported that they never visited the Upazila Krishi (agricultural) Office and they are not aware of the advantages of going there.

When the harvest is poor, the return of invested money is not sufficient to pay back the borrowed money. Sometimes the politically powerful or wealthy people inappropriately take away the harvest by creating intimidation. Sometimes the cultivated crop is not sufficient even to meet the HH level need. Consequently, the farmer again borrows money from microcredit organisations or NGO's or money lender to pay back the money of the previous source. Eventually they fall in the poverty trap and cannot come out of it. However, the fear of losing crop (unduly grabbed by the powerful) is one of the biggest threats to their livelihood. In such a situation, they rather maintain a liaison with the powerful to get less affected. Nevertheless, when the threat is a disaster, they have nothing to do.

Farming: Land in both the studied *char* areas is fertile. The land allows varieties



of crops, vegetables, and fruits to be cultivated and grown there. In *Char* Wadel, the respondents reported that the yield of rice is very good generally if not hampered due to disasters. In *Pepulia*, on the other hand, rice yield was considered to be moderate by the participants. Cultivation of different other varieties like chinna, maze, jute, sweet gourd, pulse, peanuts, onion, garlic, chillies, etc. were found to be common in *Pepulia*.

In *Char* Wadel, share cropping was found to be high among the dwellers. They typically take land on lease for one or two years for farming. Many of them were also found to work as agricultural day labourers. Although, during FGDs, more than 50% of the dwellers were claimed to be engaged in agriculture in *Char* Wadel, the beneficiary HHs of both STUP programme and DPRM project were mostly fishing HHs including a few engaged in farming or contractual farming or day labourer in agriculture. In *Pepulia*, on the other hand, most *char* dwellers' main occupation was found to be agricultural day labourer. They were also found to cultivate for the land owners. The land owner allowed them to stay and the condition was to cultivate as a sharecropper for the land owner. All the dwellers of *Pepulia* were found to be mostly in farming, contractual farming or in day labourer category.

Homestead gardening: In *Pepulia*, homestead gardening is another popular livelihood. Women in most of the HHs engage in small scale homestead gardening.

Homestead gardening is very popular and a common practice introduced by us and other NGOs. This ensures the optimal use of land by the women. The produced fruits and vegetables are consumed at the household level and allow to meet the nutritional needs while selling the surplus the women who engaged in homestead gardening can also earn some money which they usually use in times of household need or to pay back NGO loan or to save with the NGOs. They can buy whatever they feel is necessary. This allows them to establish decision making ability in the family. And this is how women of these areas are being empowered. As we are working in these *char* areas for quite a long time now, not only women but also the male members of the families, now realise the benefits of such income sources. The male members allow and support the women to engage in such activities. (The programme Manager, RBP)

But, some of the respondents reported to be unsuccessful in homestead gardening as their homestead (where they are allowed by their land owner to settle) is under

tree shade or in a very small shadowed place. Otherwise, for most of the HHs, homestead gardening was considered to be one of the most common secondary occupation.

On the other hand, homestead gardening is rare in *Char* Wadel. Even green vegetables and fruits were reported to be cultivated in a large scale in *Char* Wadel for commercial purposes. Usually, the male members of the HHs were reported to work for that with least involvement of women. Thus, land is considered to be the most important asset and farming, the main occupation.

Trees: There are many trees in *Char* Wadel that were planted by the government. The *char* dwellers illegally cut the trees whenever needed and regularly engage in quarrel among them regarding it. Sometimes, when caught by the forest officer, they need to pay penalty for cutting these trees or settle the matter in an unethical manner (paying bribe).

Cattle-rearing: Cattle-rearing was found to be another very common practice in the *char* areas with grass available in plenty in both the studied *char* areas.

#### **4.5.3.2 Water**

Drinking water is scarce in *Char* Wadel. The water level is deep down and rivers are the 'common source' of regular water for daily necessities. Fishes are abundant in the rivers. As an estuarine *char*, *Char* Wadel has the river surrounding it. The area is very unique in terms of bio-diversity and environmental resources. In *Char* Wadel, the estuarine river is the source of plenty of fishes and other water species. Fishing is a major source of livelihood in their community. Dwellers of *Char* Wadel are allowed to catch fish in the river. However, due to the imposed ban on catching '*jatka*' (juveniles of Hilsha fish) between March and May, dwellers of *Char* Wadel cannot use 'monofilament net' that are locally known as '*Current Jal*'. They expressed to lack accessibility to the river for fishing during that time. In those days, for their livelihood, the fishermen catch fish in the canals with a special kind of net called '*Ber Jal*' locally.

In *Char* Wadel, male children drop out from schools even when they are as young as twelve or thirteen years old. They start working as contractual labourers in the fishing boats in the canals. In winter the female, children, and elderly, engage in collecting fingerling in the surrounding canals. However, they expressed concern



about depletion of water resources.

On the other hand, during FGD, participants of Pepulia reported that although they have the river surrounding their *char* but do not engage in fishing because of scarcity of fish in the river. Again, incidence of unusual child death in the river bank that caused fear is another cause reported by them for not going to catch fish in the bank. The rivers are reported to be dying out except for heavy rainfall during monsoons. Some water species, such as specific varieties of fishes and a variety of water animal locally called '*shishu*' are also reported to have extinct.

For fishing, the fishermen in *Char Wadel* need to buy boat, net, and other fishing instruments. For this purpose, they borrow money usually from the money lenders (who are the wealthy and powerful fish business men and also work as middlemen). According to the typical practice, they have to give fifty percent of their catch to payback the borrowed money. They are compelled to sell the rest of their catch to the same money lender/ middleman at a very low or unfair price to ensure the source of borrowing money for the future. The other reasons for selling the catch at a very low price include their inaccessibility to the merchants (they cannot bypass the middle men) and the mutual understanding among the middlemen and the merchants that the merchants will buy fish only from the middlemen. The *char* dwellers also reported that the fish businessmen/ middlemen engage patrol boat to guard fish selling during the catch. Those who don't go far but, catch fish in the river report the threat of losing their nets, especially at night when they put net outside of their territory. Again, some fishermen are reported to work under the wealthy fisher man who possess all necessary fishing equipments and engage others on monthly basis for fishing. As paid employees under monthly contract, these fishermen receive food allowance and a monthly pay of around three thousand taka.

The deep sea is the other natural resource accessible for the deep sea fishermen of *Char Wadel*. There are a few deep sea fishermen in *Char Wadel* who go to the deep sea as contractual labourer for the wealthy trawler and fishing equipment owners. They reported about the threat posed by the pirates. They also become vulnerable during storm, cyclone, and strong winds. Some protected areas are there in the coastal zone near *Char Wadel* such as the mangrove forest (Sunderbans) and coastal forestation areas which are within their territory. These areas are within their territory but legally they need to get registration or buy

ticket to access there. The deep sea fishermen pointed out that they feel anxious even to take shelter in the Sunderbans because of the possibility of harsh treatment by the officers of the forest department.

#### 4.5.3.3 Forest resources

As mentioned above, in the coastal zone near *Char Wadel*, the mangrove forest (Sunderbans) and coastal forestation areas are there. Plants, usually found in the mangrove forests, such as, '*golpata*' (*nypa fruticans*) and '*hogla*' (a type of mangrove plant) are abundant in the coastal forestation areas near *Char Wadel*. Both the male and the female of *Char Wadel* collect those from the nearby coastal forestation areas. *Hogla* is used for making mats (usually made by female and female children of HHs) and *golpata* is mostly used as roof material for traditional huts. Dwellers of *Char Wadel* do not possess legal access to coastal forestation areas which are within their territory. However, they need to get registration or buy ticket to access there. The officers of the forest department make surprise visits and charge fine to those found engaged in collecting prohibited forest resources. People reported this as another reason which is also a threat to their livelihood.

#### 4.5.3.4 Natural events and disasters

Regular flood that brings silt makes the land fertile but severe floods hamper regular life and livelihoods. Floods are not usually severe these days but river erosion is increasing. In Pepulia people said,

Due to erosion, we are losing lands. After erosion, the newly grown land usually takes time, two to three years, to be ready for cultivation. Again, due to lack of rainfall, drought is experienced these days which is responsible for poor yields in the absences of irrigation facilities. Untimely draught also is leading to land degradation in our *char*. (An elderly female beneficiary of RBP)

Some natural events that are generally useful (river water, rains, etc.) but when severe, may turn out to be a disaster destroying other capitals, and leading to disasters in all possible ways. The natural events that are experienced as disasters by the studied HHs were river erosion, flood (flush flood or season flood), draught, strong winds, heavy rains, tornado, cold wave, boat accident, scarcity of food, crop under pest attack, diseases and death of livestock.



Table 4.21 Natural disaster affected and unaffected households

| Disasters               | Affected HHs |       | Unaffected HHs |       |
|-------------------------|--------------|-------|----------------|-------|
|                         | N            | (%)   | N              | (%)   |
| Natural                 |              |       |                |       |
| River erosion           | 21           | 13.5% | 135            | 86.5% |
| Flood (flush/ seasonal) | 127          | 81.4% | 29             | 18.6% |
| Drought                 | 21           | 13.5% | 135            | 86.5% |
| Strong winds            | 3            | 1.9%  | 153            | 98.1% |
| Heavy rains             | 5            | 3.2%  | 151            | 96.8% |
| Tornado                 | 3            | 1.9%  | 153            | 98.1% |
| Cold wave               | 8            | 5.1%  | 148            | 94.9% |
| Boat accident           | 2            | 1.3%  | 154            | 98.7% |
| Scarcity of food        | 10           | 6.4%  | 146            | 93.6% |
| Crop under pest attack  | 8            | 5.1%  | 148            | 94.9% |
| Disease                 | 19           | 12.2% | 137            | 87.8% |
| Death of livestock      | 27           | 17.3% | 129            | 82.7% |

Table 4.21 reveals flood, to be the highest experienced natural disaster within the last one year followed by death of livestock, river erosion, drought, and diseases. The studied HHs experienced the disasters mention in the above table at least once, in most cases twice or thrice throughout the one year prior to data collection. All these natural disasters were not only the most experienced ones but also were reported to be the most devastating for the HHs.

Table 4.22 Number of natural disaster affected households in the last one year

| Disaster Affected HHs   |      |      |     |     |       |
|-------------------------|------|------|-----|-----|-------|
| Natural Disasters       | STUP | DPRM | CLP | RBP | Total |
| River erosion           | 0    | 2    | 6   | 13  | 21    |
| Flood (flush/ seasonal) | 34   | 38   | 24  | 31  | 127   |
| Drought                 | 0    | 2    | 15  | 4   | 21    |
| Strong winds            | 0    | 1    | 0   | 2   | 3     |
| Heavy rains             | 0    | 5    | 0   | 0   | 5     |
| Tornado                 | 0    | 2    | 0   | 1   | 3     |
| Cold wave               | 0    | 1    | 2   | 5   | 8     |
| Boat accident           | 0    | 1    | 0   | 1   | 2     |
| Scarcity of food        | 1    | 2    | 1   | 6   | 10    |
| Crop under pest attack  | 1    | 2    | 0   | 5   | 8     |
| Disease                 | 6    | 11   | 0   | 2   | 19    |
| Death of livestock      | 4    | 7    | 10  | 6   | 27    |

Natural disasters were identified as one of the major sources of vulnerability for the participants in both the areas. The FGDs in *Char* Wadel revealed that the severity of different disasters was higher compared to that of Pepulia. But, the Pepulia respondents reported to become victim of natural disasters more frequently than those of *Char* Wadel did. River erosion in Pepulia was considered to be continuous. In *Char* Wadel, also erosion was reported as the main reason for displacement. Dwellers of both the areas reported that erosion results in displacement that involves money and that livelihood opportunity is also seized for going to a new place. Schooling of the children also gets affected. People get separated from their kin and neighbours. As a result, they loss morale and feel highly insecure. In Pepulia, the respondents reported to have experienced floods, but as a severe disaster, they put emphasis on river erosion. Conversely, although, many of the *Char* Wadel dwellers admitted to have experienced food insecurity at different points of time during the last one year, in responding to the questionnaire survey they were putting emphasis on the two floods they experienced as the major disasters. Food insecurity, diseases, and death of poultry and cattle were among the other natural events encountered by the respondents. Moreover, as shown in table 4.21 drought in Pepulia and diseases in *Char* Wadel were experienced as disasters in the last one year. Although Table 4.15 showed the occurrence of diseases among the Pepulia dwellers to be higher compared to that for dwellers of *Char* Wadel, experience of diseases as disaster was found to be higher in *Char* Wadel. However, due to low rainfall and at times intense and untimely rainfall for a few days, drought was reported to have experienced by the Pepulia dwellers.

On the occurrence of these disasters, the *char* dwellers adopt different strategies. The following table, table 4.23, shows the strategies adopted by the respondents facing these disasters.

Table 4.23 Different strategies adopted by households to overcome the consequences of natural disasters

| Natural Disasters               |             |             |            |            |               |
|---------------------------------|-------------|-------------|------------|------------|---------------|
| Strategies                      | STUP<br>(N) | DPRM<br>(N) | CLP<br>(N) | RBP<br>(N) | Total<br>(HH) |
| Taking loan from neighbour/ kin | 14          | 22          | 11         | 24         | 71            |
| Taking loan from money lender   | 7           | 11          | 1          | 6          | 25            |



|                                                               |    |     |    |     |    |
|---------------------------------------------------------------|----|-----|----|-----|----|
| Taking loan from NGO                                          | 0  | 7   | 1  | 4   | 12 |
| Taking loan from businessman                                  | 0  | 1   | 1  | 0   | 2  |
| Selling house                                                 | 0  | 0   | 0  | 0   | 0  |
| Selling land                                                  | 0  | 0   | 1  | 0   | 1  |
| Selling HH asset                                              | 1  | 0   | 0  | 0   | 1  |
| Selling livestock                                             | 2  | 3   | 0  | 4   | 9  |
| Selling trees                                                 | 0  | 0   | 1  | 0   | 1  |
| Selling ornament                                              | 0  | 1   | 0  | 0   | 1  |
| Selling tin sheets of house                                   | 0  | 0   | 0  | 0   | 0  |
| Advance selling of fruits in trees                            | 0  | 0   | 1  | 1   | 2  |
| Advance selling of labour                                     | 6  | 0   | 3  | 9   | 18 |
| Famine-time food intake                                       | 0  | 0   | 4  | 10  | 14 |
| Rationing in daily food consumption                           | 2  | 10  | 10 | 25  | 47 |
| Taking food on loan for consumption                           | 1  | 0   | 0  | 0   | 0  |
| Mortgaging land/house                                         | 1  | 0   | 0  | 0   | 1  |
| Changing occupation                                           | 0  | 2   | 0  | 0   | 2  |
| Selling child labour                                          | 0  | 0   | 0  | 0   | 0  |
| Taking relief                                                 | 12 | 10  | 12 | 5   | 39 |
| Begging                                                       | 0  | 0   | 0  | 0   | 0  |
| Permanently migrating                                         | 2  | 0   | 1  | 1   | 4  |
| Temporarily migrating                                         | 6  | 2   | 0  | 2   | 10 |
| Migrating to avail work opportunity                           | 0  | 0   | 1  | 4   | 5  |
| Using savings                                                 | 0  | 2   | 5  | 5   | 12 |
| Raising plinth                                                | 1  | 1   | 2  | 8   | 12 |
| Seeking solution from community <i>shalish</i> <sup>132</sup> | 0  | 0   | 0  | 0   | 0  |
| Going to court for solution                                   | 0  | 0   | 0  | 0   | 0  |
| Seeking help from HH members                                  | 0  | 2   | 1  | 2   | 5  |
| Seeking help from neighbours                                  | 9  | 9   | 7  | 11  | 36 |
| Seeking help from influential person                          | 0  | 0   | 1  | 0   | 1  |
| Seeking help from local govt./govt.                           | 2  | 8   | 0  | 1   | 11 |
| Did not take any strategy                                     | 12 | 17  | 15 | 10  | 56 |
| Others                                                        | 2  | 3   | 9  | 3   | 17 |
| Total                                                         | 80 | 112 | 88 | 136 |    |

Table 4.23 reveals taking loan from neighbour/ kin, taking relief and seeking help from neighbours as the most common strategies adopted in the REC, *Char Wadel*. Taking loan from money lenders<sup>133</sup> and rationing in daily food

<sup>132</sup> Traditional community based system of providing justice to the community people

<sup>133</sup> Only those who were trusted to be able to pay back the money could avail loan from the money lenders.

consumption<sup>134</sup> were the other prominent strategies. A good number of respondents did not adopt any strategy facing the disasters. Seeking help from local government/ government was adapted to some extent by the respondents of *Char* Wadel, while was minimum in Pepulia. For the Pepulia dwellers, taking loan from neighbour/ kin, rationing in daily food consumption, taking relief, famine-time food intake and seeking help from neighbours were the most adopted strategies. Similar to *Char* Wadel, in Pepulia also quite a good number of respondents did not adopt any strategy to overcome the devastating ‘consequences’ of the disasters.

Table 4.24 Losses within the last year due to natural disasters

| Losses                                | STUP | DPRM | CLP | RBP | Total |
|---------------------------------------|------|------|-----|-----|-------|
| 0                                     | 0    | 2    | 8   | 2   | 12    |
| Lack of work opportunity              | 16   | 11   | 9   | 10  | 46    |
| Loss of livelihood tools              | 1    | 6    | 1   | 7   | 15    |
| Livestock: lost/ died/ had disease    | 24   | 21   | 8   | 15  | 68    |
| Crop damaged                          | 1    | 7    | 12  | 16  | 36    |
| Land degraded                         | 0    | 2    | 6   | 2   | 10    |
| Marketing mechanism destroyed         | 0    | 3    | 0   | 1   | 4     |
| Loss of morale                        | 6    | 12   | 4   | 6   | 28    |
| Physical damage or death of HH member | 2    | 2    | 0   | 1   | 5     |
| Got into debt                         | 4    | 4    | 3   | 7   | 18    |
| House damaged                         | 5    | 16   | 3   | 7   | 31    |
| Communication system damaged          | 4    | 6    | 3   | 2   | 15    |
| Lost Land due to river erosion        | 0    | 1    | 5   | 3   | 9     |
| House lost in erosion                 | 2    | 1    | 2   | 3   | 8     |
| HH assets damaged                     | 8    | 5    | 1   | 2   | 16    |
| Trees lost in erosion/ died           | 7    | 9    | 5   | 3   | 24    |
| Food crisis                           | 9    | 8    | 7   | 11  | 35    |
| Saved food destroyed                  | 2    | 0    | 0   | 1   | 3     |
| Break down of diseases                | 5    | 5    | 2   | 4   | 16    |
| others                                | 1    | 2    | 0   | 1   | 3     |
| Total                                 | 97   | 123  | 79  | 104 | 402   |

<sup>134</sup> Especially the DPRM beneficiaries who were not used to engaging in work as day labourers, when faced food insecurity, consuming all their produced crops, were found to adopt the strategy of rationing in food consumption. However, the STUP beneficiaries who were used to engage in work as day labourers had to rarely ration in consumption)



As shown in Table 4.24, 'lack of work opportunity', 'loss of morale', 'house damaged', 'trees lost in erosion/died' and 'food crisis' were the other prominent losses incurred due to natural disasters. In Pepulia, 'crop damaged' was the most reported loss. 'Livestock: lost/died/had disease', 'lack of work opportunity', and 'food crisis' were among the other reported losses.

In sum, natural resources provide the opportunity of multiple uses of the resources for different livelihoods. However, natural disasters also pose severe vulnerabilities to the *char* dwellers in both the areas. Accordingly, the major findings revealed on natural capital is organized both in terms of assets and in terms of vulnerabilities in the following table.

Table 4.25 Summary on natural capital

| Natural capital                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| As assets                                                                                      | As vulnerabilities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p>Land-</p> <p>Land for farming;</p> <p>Good rice harvest;</p> <p>Varieties of crop grow;</p> | <p>Land-</p> <p>Land is owned mostly by outsiders;</p> <p>Irregularities in <i>khas</i> land allotment;</p> <p>No legal or updated document of land;</p> <p>Lack of awareness about land rights;</p> <p>Powerlessness;</p> <p>Illiteracy;</p> <p>Lack of access to information;</p> <p>Unavailability of government services (<i>Diara</i> survey, regular allotment of <i>khas</i> land, allotment of <i>khas</i> land to correct people who deserve, etc.);</p> <p>Lack of accessibility to government services;</p> <p>Lack of initiative to update legal documents of the ancestors, etc.</p> <p>Poor harvest;</p> |

|                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                            | Disasters;<br>Taking loan;                                                                                                                                                                                                                                                                                                      |
| In RCs,<br>Homestead gardening-<br>HH consumption, Business, profit;<br>Cattle rearing-<br>Livelihood strategy, business, profit, consumption;                                                                                                                                                             | In RCs,<br>Homestead gardening-<br>Not having land ownership;<br>Homestead under tree shade or in a very small shadowed place;<br>Disasters;                                                                                                                                                                                    |
| In <i>Char</i> Wadel,<br>Trees, planted by the government;<br>Trees protect the <i>char</i> ;                                                                                                                                                                                                              | In <i>Char</i> Wadel,<br>Dwellers illegally cut the trees-<br>quarrel with each other;<br>risk of being caught by the forest department officers;                                                                                                                                                                               |
| In REC areas,<br>River-<br>Very unique in terms of bio-diversity and environmental resources;<br>Fishes and other water species are abundant in the rivers;<br>Fishing is a major strategy for livelihood;<br>Deep sea fishing is the livelihood of a few;<br>Male children can earn as fishing labourers; | In REC areas,<br>River-<br>Rivers are the 'common source' of regular water for daily necessities thus, lead to the occurrence of different diseases;<br>Scarcity of pure drinking water;<br>Borrow money for pursuing fishing livelihood;<br>Disaster pose threat, trauma;<br>Higher risk of physical injury for male children; |
| In RECs,<br>Imposed ban on catching ' <i>jatka</i> ' (juveniles of Hilsha fish) between March and May is useful to allow Hilsha fish grow;                                                                                                                                                                 | Fishermen in <i>Char</i> Wadel feel lack of accessibility to the rivers during the ban period                                                                                                                                                                                                                                   |
| In RECs,<br>In winter the female, children, and                                                                                                                                                                                                                                                            | Depletion of water resources;                                                                                                                                                                                                                                                                                                   |



|                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| elderly, engage in collecting fingerling in the surrounding canals;                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                           |
| In Pepulia,<br>River is the environmental resource;<br>Regular floods bring silt and keep the land fertile;                                                                                                                                     | In Pepulia,<br>fishing is not a livelihood strategy-<br>scarcity of fish in the river;<br>incidence of unusual child death in the river bank, unknown fear, not going to catch fish in the bank;<br>The river is dying out except for heavy rainfall during monsoons;<br>Some water species have extinct; |
| Plants, usually found in the mangrove forests, such as, 'golpata' and 'hogla' are abundant in the coastal forestation areas near <i>Char</i> Wadel;<br>In <i>Char</i> Wadel, collecting 'golpata' and 'hogla', is a common livelihood strategy. | Dwellers of <i>Char</i> Wadel do not possess legal access to coastal forestation areas;<br>Not allowed legally to collect 'golpata' and 'hogla';<br>Officers of the forest department charge fine for collecting prohibited forest resources.                                                             |

#### 4.5.4 Financial Capital

The perception of asset among the dwellers of *Char* Wadel is a kind of different. Asset means only financial capital or material goods in possession that can be turned into financial capital. Training, although, enhances human capital is never considered as an asset. Again, good social network as social capital is not considered to be an asset by most of the dwellers. In the same way, natural capital and physical capital at the community level are considered community assets. Although all these different types of assets are considered important, only HH level financial capital is finally considered as assets by the participants of *Char* Wadel. In Pepulia, the perception is rather wider. Although financial asset is considered to be the most important, necessity of, achieving other types of capital is recognized to be equally important to improve life and livelihood condition.

The main occupation and different secondary occupations are the main source of financial capital in the *char* areas. However, other sources may include, income from rent, gift, donation, relief (government, NGO, etc.), etc. In the studied

communities, respondents adopt livelihood diversification. The HHs in Pepulia engage in the work of day labourers and a few in cattle rearing as their main occupation. The STUP beneficiaries, although received a cow in their package, even then, most of them did not consider cattle rearing to be the main occupation.

Table 4.26 Main occupation of the respondent households

| Main occupation          | Programme & Project |      |      |      |     |      |     |      |
|--------------------------|---------------------|------|------|------|-----|------|-----|------|
|                          | STUP                |      | DPRM |      | CLP |      | RBP |      |
|                          | N                   | %    | N    | %    | N   | %    | N   | %    |
| Farming                  | 1                   | 2.9  | 4    | 9.5  | 1   | 2.5  | 4   | 10.0 |
| Share cropper            | 0                   | .0   | 2    | 4.8  | 1   | 2.5  | 5   | 12.5 |
| Fishing                  | 20                  | 58.8 | 27   | 64.3 | 0   | .0   | 1   | 2.5  |
| Servant                  | 2                   | 5.9  | 0    | .0   | 3   | 7.5  | 3   | 7.5  |
| Day Labourer             | 8                   | 23.5 | 6    | 14.3 | 16  | 40.0 | 17  | 42.5 |
| Bond labourer            | 0                   | .0   | 0    | .0   | 2   | 5.0  | 0   | .0   |
| Cattle rearing           | 1                   | 2.9  | 0    | .0   | 10  | 25.0 | 0   | .0   |
| Machine Worker           | 0                   | .0   | 1    | 2.4  | 0   | .0   | 1   | 2.5  |
| Homestead Gardening      | 0                   | .0   | 0    | .0   | 2   | 5.0  | 0   | .0   |
| Poultry rearing          | 2                   | 5.9  | 0    | .0   | 0   | .0   | 0   | .0   |
| Rickshaw/<br>Van driving | 0                   | .0   | 0    | .0   | 1   | 2.5  | 1   | 2.5  |
| Service Holder           | 0                   | .0   | 0    | .0   | 0   | .0   | 2   | 5.0  |
| Small Business           | 0                   | .0   | 2    | 4.8  | 2   | 5.0  | 4   | 10.0 |
| Earth work               | 0                   | .0   | 0    | .0   | 2   | 5.0  | 0   | .0   |
| Old age allowance        | 0                   | .0   | 0    | .0   | 0   | .0   | 1   | 2.5  |
| Others                   | 0                   | .0   | 0    | .0   | 0   | .0   | 1   | 2.5  |
| Total                    | 34                  | 100  | 42   | 100  | 40  | 100  | 40  | 100  |

Table 4.27 shows the secondary occupations, the respondent HHs engage in. The respondents were allowed a maximum of 3 answers for indicating the different secondary occupations they adopt. Of the total 156 HHs, 61 reported not to engage in any secondary occupation.



Table 4.27 Secondary occupation of the respondent households

|                        | Programme and project |       |     |     | Total |
|------------------------|-----------------------|-------|-----|-----|-------|
| Secondary occupation 1 | BRAC                  | SLOPB | CLP | DRR |       |
| 0                      | 13                    | 9     | 16  | 23  | 61    |
| Farming                | 1                     | 6     | 0   | 1   | 8     |
| Share cropper          | 0                     | 2     | 5   | 3   | 10    |
| Fishing                | 3                     | 1     | 0   | 1   | 5     |
| Day Labourer           | 12                    | 19    | 1   | 3   | 35    |
| Migrant Worker         | 0                     | 0     | 2   | 2   | 4     |
| cattle                 | 1                     | 2     | 4   | 2   | 9     |
| Machine Worker         | 0                     | 2     | 0   | 0   | 2     |
| Homestead Gardening    | 1                     | 0     | 4   | 1   | 6     |
| Poultry                | 1                     | 1     | 2   | 1   | 5     |
| Rickshaw/Van driving   | 0                     | 0     | 0   | 2   | 2     |
| Small Business         | 0                     | 0     | 1   | 0   | 1     |
| Handicrafts            | 1                     | 0     | 2   | 0   | 3     |
| Earth work             | 1                     | 0     | 3   | 0   | 4     |
| Domestic helper        | 0                     | 0     | 0   | 1   | 1     |
| Total                  | 34                    | 42    | 40  | 40  | 156   |
| Secondary occupation 2 |                       |       |     |     |       |
| 0                      | 32                    | 35    | 32  | 37  | 136   |
| Farming                | 0                     | 0     | 0   | 2   | 2     |
| Share cropper          | 1                     | 1     | 0   | 0   | 2     |
| Fishing                | 0                     | 1     | 0   | 0   | 1     |
| Day Labourer           | 0                     | 0     | 1   | 1   | 2     |
| Homestead Gardening    | 0                     | 1     | 2   | 0   | 3     |
| Poultry                | 0                     | 0     | 2   | 0   | 2     |
| Rickshaw/Van driving   | 1                     | 0     | 0   | 0   | 1     |
| Small Business         | 0                     | 2     | 0   | 0   | 2     |
| Handicrafts            | 0                     | 0     | 2   | 0   | 2     |
| Earth work             | 0                     | 2     | 0   | 0   | 2     |
| Others                 | 0                     | 0     | 1   | 0   | 1     |
| Total                  | 34                    | 42    | 40  | 40  | 156   |
| Secondary occupation 3 |                       |       |     |     |       |
| 0                      | 34                    | 41    | 36  | 40  | 151   |
| Migrant Worker         | 0                     | 0     | 1   | 0   | 1     |
| Homestead Gardening    | 0                     | 0     | 1   | 0   | 1     |
| Poultry                | 0                     | 1     | 1   | 0   | 2     |
| Handicrafts            | 0                     | 0     | 1   | 0   | 1     |
| Total                  | 34                    | 42    | 40  | 40  | 156   |

For the *Char* Wadel respondents, working as a ‘day labourer’ is the most popular secondary occupation followed by farming and fishing. On the other hand, varieties of secondary occupations such as, ‘contractual farmer’, ‘cattle rearing’, ‘homestead gardening’, ‘handicrafts’, ‘poultry rearing’, ‘migrant worker’, etc. are common in Pepulia. Diversity of secondary occupations was asserted to be essential for survival in Pepulia, especially in the lean seasons.

Table 4.28 Loan for livelihood or survival

| Loan                | STUP | DPRM | CLP | RBP | Total |
|---------------------|------|------|-----|-----|-------|
| Loan for livelihood | 9    | 23   | 4   | 32  | 68    |
| Loan for survival   | 10   | 23   | 7   | 37  | 77    |
| Total               | 19   | 46   | 11  | 69  | 145   |

Taking loan is a very popular survival and livelihood strategy. Table 4.28 shows the frequency of loan taking in the last one year. Loan taken for ‘buying livelihood tools’, ‘buying livelihood raw materials’, ‘buying livestock’, ‘starting a business’ and ‘meeting educational expenses’ (Item C2 in the Questionnaire, Appendix 1, Options: 1, 2, 3, 5 and 10) were considered to indicate loans for livelihood. On the other hand, loans taken for ‘paying rent or tax’, ‘buying food for consumption’, ‘bearing communication cost’, ‘house repairing/ making’, ‘medicine/treatment’, ‘matrimonial expenditures’, and ‘disaster mitigation’ (Item C2 in the Questionnaire Options: 4, 6, 7, 8, 9, 11 and 12) were considered to indicate loans for survival. In both *Char* Wadel and Pepulia although the frequency of taking loan was quite similar, the amount of loan for the *Char* Wadel dwellers was much more higher compared to those for the Pepulia dwellers. In *Char* Wadel and in the RECs in general, the typical culture is of taking loan for both survival and maintenance of livelihood. Through taking big amounts of loan from micro credit organizations and borrowing money from money lenders, or other possible sources the community people usually, invest the money in fishing or farming. The profit is used to pay back the loan and after fulfilling daily necessities, to invest in increasing the amount of own or leased land for cultivation for the next season. For the fishing HHs, the profit is similarly used to engage in fishing in a larger scale. In both the communities, loan is reported to be essential, at times, for survival and at times, for maintaining



livelihood for survival.

In the summary, it is worth noting that livelihood diversification and adoption of varieties of secondary occupation is common in RCs. Nevertheless, the varieties of secondary occupation typically adopted in the RECs are relatively less. For the *char* dwellers, there is no alternative to taking loan for survival or for maintaining livelihood for survival at different points of time.

#### 4.5.5 Social Capital

The main reason for settling in the *char* areas is, in most of the cases, presence of kin. Thus, kin networks are, to some extent, existing in the studied communities. Moreover, those who were born in the *chars* are found to get married in the same *char* or nearby *char* communities. When in crisis, the HHs especially the female headed HHs are found to settle in the *char* with the paternal kin.

In Pepulia, the dwellers displace frequently due to river erosion. People from mainland and other places also come to settle in the *chars*. Thus, primarily, relationship of trust does not exist. As time passes, a community feeling develops in the relatively permanent *chars*. Sometimes through getting son and daughter married in the *char*, a social and kinship network is established. The women groups of NGOs also play an important role in building feeling of group ownership among the members as they become involved in weekly meetings and engage in varieties of group activities together. In Pepulia, both CLP and RBP engage women in group activities and trainings. NGOs also build informal and formal groups with the targeted community people. Due to implementation of interventions of many NGOs at different points of time, the Pepulia dwellers are more exposed to many awareness programmes than those in *Char Wadel* are. Through working in different groups (i.e. disaster management groups, producer groups, etc.) together and engaging in weekly meetings regularly, working against social ills together, these beneficiaries (usually female) seem to possess good social capital. Different trainings and practices (i.e. health and hygiene, savings, etc.) and monitoring each other in practice are also useful in enhancing social capital among the group members.

Box 4.6 Begum's story of survival

I was living in the main land with my in-laws. I have four children the eldest is the daughter the second one is a son and the last two are daughters. We used to value having more sons than daughters. With a hope to have one more son, we continued taking children. As our family was growing big, my in-laws separated us and my husband got some land from my father-in-law. We were doing fine. But later, due to river erosion our in-laws and we became landless, assetless, and helpless. My brother was settled in Tangrakandi. With the hope of getting his support, we came to Tangrakandi. We came to Tangrakandi in 1999 and even after coming here, we experienced river erosion for four times. Those days were terrible. My brother had to shift. We also accompanied my brother to his in-laws' house in a nearby *char*. Next time when we had to shift due to erosion, we got support from my in-laws who also settled in another nearby *char*. This is how with the support of my brother and in-laws we are a kind of settled in the *char* areas. Here, in Pepulia, I have got my elder daughter married. She became 15 last year when we got her married. We have our neighbours and relatives in the nearby *chars*. As soon as I first came to Tangrakandi to my brother's house, I joined the SKS-*Anondo* women's group. From then on, I continued to be with the women's group wherever I stayed. It is not always easy to get included in the women's groups readily. But I never lost hope; I always got support from members of the groups and improved my situation. I started saving money weekly as a member of the group. I worked in groups to raise plinth of my own and others' houses. On my own initiative, I used to save money when I was unable to join the group in a new settlement after erosion. I know how to prepare for disasters and ways of disaster mitigation. I know why and how vegetable cultivation helps. I regularly grow different kinds of vegetables and fruits. I always interact with my neighbours. I teach them my learning. I give them food and vegetables whenever I have. I will never forget how my relatives and neighbours helped me in the days of crisis. I believe, if I help others in their days of sufferings, I will also get support when needed. This is what we learnt even in our group meetings and in the disaster management committee formed in the community by SKS.

The story of Begum shows the importance of kin network and neighbours for survival in the days of crisis. In the RCs, such stories are common. Building kin, community and neighbour networks the dwellers survive after erosion, during floods or in any other disasters.



In *Char* Wadel, on the other hand, such group activities among the community people are relatively low except for those of STUP. For a few days during trainings, they all had scope to work in a group. However, the community feeling among the dwellers of *Char* Wadel is strongly asserted. The FGDs also revealed their unity as a *char* community when talking against the *char* land owners who reside in the mainland (locally called 'dash'). Power hierarchy and power practice in *Char* Wadel is also relatively higher in *Char* Wadel than in Pepulia. In *Char* Wadel commonly, the powerful elites solve the disputes on many different minor issues. They also dominate in the distribution of relief and support coming from the government or other organisations. Their own people and supporters get priority in such distributions. In *Char* Wadel, the dwellers reported to be dominated and suppressed by the local leaders of political parties in power. The chairman and members of the local government are less dominating. Only those who join the political party in power, receive all different supports, not the others. This kind of experience of being dominated, led to unity and community feeling among the dwellers of *Char* Wadel. The, illiterate, helpless, and poor *char* dwellers also become the easy prey in political power play in the isolated social context. In Pepulia, on the other hand, due to strong presence of the NGOs, such practices seemed to be less.

In general, in *Char* Wadel, there exists harmony among the community people, good relation among the neighbours and kin. HHs are relatively self sufficient and rarely depend on any other HH for any support. In Pepulia and in the RCs in general, the poor HHs depend on each other for daily necessities. Food insecurity, especially in the lean seasons (Bengali months, mainly *Bhadra*, *Ashin*, and *Kartik* constitute the lean season that correspond to the months of August, September and October), lead the very poor to survive and live on the food from the neighbours and kin. Different income generating activities and secondary occupations are introduced by different NGOs in the RCs. Nevertheless, due to lack of financial capital during the lean seasons, engaging in such activities is usually impossible. Social capital in the form of support from neighbours and kin is the most effective asset in the times of crisis. On the other hand, the scenario of food insecurity or unavailability of food for daily consumption is not the same for those in *Char* Wadel. During lean season, they survive usually by taking loan or selling HH poultry, cattle, eggs, etc. Working as day labourers is the other

common secondary occupation during times of crisis. Even for managing and engaging in work as a day labourer, social network and support play important role.

#### **4.5.5.1 Social ills and disasters**

Early marriage: Early marriage is a typical practice in *Char* Wadel. It is true not only for the female, but also for the male. In several cases, the bridegroom was as young as 18 years old and was wedded to a bride of around 14 years of age. These young couple can run the family as the husband can earn some money as day labourer or contractual labourer in either fishing or farming. After a few years, they separate from the parents. The situation in Pepulia is somewhat improved as the girls below 15 or 16 are usually not wedded. Moreover, for the male, the age is usually not below 20 years. In Pepulia, also the married couple start to maintain separate HH immediately after marriage or just after a few months or a year.

Dowry, violence against women and abandoning family: In both the communities, the HHs, which can anyhow manage some dowry to pay, get the female child married with that. However, when HHs cannot arrange any dowry, get the female child married usually to very poor and singlehanded (without any close kin) male without dowry. In both the areas, violence against women is a common cultural practice. However, usually is considered, to be not very severe by the female in the community.

Another situation is typical to RECs. Agricultural labourers from Bhola come in group to work in *Char* Wadel. They stay in the *char* for months to work. During their stay, at least some of them get married in *Char* Wadel. The poor parents who cannot arrange money to pay the dowry, under social pressure, get their daughters married to these contractual agricultural labourers who usually do not ask for any dowry. As the contracts of the labourers end, some of them stay with the wife even for a year or two, some go back to Bhola but usually come back to their wives every year during new contracts, some others go back to Bhola abandoning the wives forever. This is what happens to these marriages in most of the cases. As the wives and the families are abandoned, these consequently become female headed HHS, sometimes with one or two children.

In Pepulia, seasonal migration of the male HH members is common. In many



cases, the male members abandon their wives and families to settle and getting married again in the cities where they migrated for livelihood.

Table 4.29 shows the frequencies of the typical social disasters. ‘Price hike’ was found to be the most prominent and the highest experienced social disaster. Occurrence of other disasters was also reported to some extent. Among the other social disasters, incidences such as, ‘work opportunity seized’, ‘dowry’, ‘victim of robbery/ dacoity’<sup>135</sup> and ‘social conflict’ were reported.

Table 4.29 Social disaster affected and unaffected households

| Disasters                           | Affected HHs |       | Unaffected HHs |       |
|-------------------------------------|--------------|-------|----------------|-------|
|                                     | N            | (%)   | N              | (%)   |
| Social Disasters                    |              |       |                |       |
| Death of HH member                  | 2            | 1.3%  | 154            | 98.7% |
| Separation                          | 1            | .6%   | 155            | 99.4% |
| Asset grabbed by influential person | 1            | .6%   | 155            | 99.4% |
| Dowry                               | 5            | 3.2%  | 151            | 96.8% |
| Victim of robbery/ dacoity          | 4            | 2.6%  | 152            | 97.4% |
| Forcefully displaced                | 1            | .6%   | 155            | 99.4% |
| Work opportunity seized             | 9            | 5.8%  | 147            | 94.2% |
| Price hike                          | 36           | 23.1% | 120            | 76.9% |
| Social conflict                     | 4            | 2.6%  | 152            | 97.4% |

Table 4.29 presents the information on experiences of different social disasters (Item E1 in the Questionnaire, Appendix 1, numbers 13-25) by different programme and project beneficiaries. While price hike was found to be experiences by majority of the respondents as social disaster, for the STUP HHs, it was the only social disaster experienced. Data on DPRM beneficiaries confirm the existence of other social disasters like ‘robbery/ dacoity’, ‘dowry’, ‘work opportunity seized’, ‘asset grabbed by influential person’ and ‘social conflict’. During the HH level interviews, the STUP beneficiaries appeared to avoid talking about such social disasters and they seemed to keep silent and preferred to focus on the asset (the cattle) that they received. Some of them confidentially asserted that they want to avoid social conflicts and thus it is try not to talk about such

<sup>135</sup> Robbery by a band or gang of dacoits.

issues.

In Pepulia also, 'price hike' and 'work opportunity seized' were the mostly reported social disasters. For these respondents, in reality, different social disastrous events were fewer as they possessed very low amount of financial capital and other material assets. Four of the CLP beneficiaries lost the work opportunity as they had to rear the cow and were unable to maintain the previous work.

Table 4.30 Number of social disaster affected households in the last one year

| Disaster Affected HHs               |      |      |     |     |       |
|-------------------------------------|------|------|-----|-----|-------|
| Social Disasters                    | STUP | DPRM | CLP | RBP | Total |
| Death of HH member                  | 0    | 2    | 0   | 0   | 2     |
| Separation                          | 0    | 0    | 0   | 1   | 1     |
| Asset grabbed by influential person | 0    | 1    | 0   | 0   | 1     |
| Dowry                               | 0    | 2    | 0   | 3   | 5     |
| Victim of robbery/ dacoity          | 0    | 3    | 0   | 1   | 4     |
| Forcefully displaced                | 0    | 0    | 0   | 1   | 1     |
| Work opportunity seized             | 0    | 2    | 4   | 3   | 9     |
| Price hike                          | 7    | 12   | 6   | 11  | 36    |
| Social conflict                     | 0    | 1    | 1   | 2   | 4     |

For the RBP beneficiaries, varieties of social disasters occurred, that included, 'dowry', 'work opportunity seized' (reason reported was river erosion and displacement), 'social conflict', 'separation', 'victim of robbery/ dacoity' and 'forcefully displaced'. It appeared from the quantitative data and qualitative information that, in *Char Wadel* different social disasters were frequent. However, sometimes incidences of social disasters were not reported to avoid further conflict. On the other hand, in Pepulia, the RBP HHs, that were relatively better off compared to the CLP beneficiaries (beneficiary selection criteria describes), reported to have experienced higher number of social disasters. The CLP beneficiaries, as were very poor, were usually exposed to fewer social disastrous events.

Table 4.31 reveals that the most frequently adopted strategy to overcome the social disasters was 'rationing in daily food consumption'. Taking loan from different sources was also common. In some cases, the HHs had nothing to do or 'did not take any strategy', allowing themselves become more vulnerable.



Table 4.31 Different strategies adopted by households to overcome the consequences of social disasters

| Social Disasters                               |             |             |            |            |              |
|------------------------------------------------|-------------|-------------|------------|------------|--------------|
| Strategies                                     | STUP<br>(N) | DPRM<br>(N) | CLP<br>(N) | RBP<br>(N) | Total<br>(N) |
| Taking loan from neighbour/ kin                | 0           | 2           | 1          | 3          | 6            |
| Taking loan from money lender                  | 0           | 2           | 0          | 1          | 3            |
| Taking loan from NGO                           | 1           | 4           | 0          | 0          | 5            |
| Selling house                                  | 0           | 0           | 2          | 0          | 2            |
| Selling HH asset                               | 0           | 0           | 2          | 0          | 2            |
| Famine-time food intake                        | 0           | 0           | 0          | 2          | 2            |
| Rationing in daily food consumption            | 7           | 11          | 5          | 9          | 32           |
| Taking food on loan for consumption            | 0           | 0           | 0          | 1          | 1            |
| Changing occupation                            | 0           | 1           | 0          | 0          | 1            |
| Permanently migrating                          | 0           | 0           | 0          | 1          | 1            |
| Migrating to avail work opportunity            | 0           | 0           | 1          | 0          | 1            |
| Seeking solution from Community <i>shalish</i> | 0           | 0           | 0          | 1          | 1            |
| Going to court for solution                    | 0           | 0           | 0          | 1          | 1            |
| Seeking help from HH members                   | 0           | 1           | 0          | 0          | 1            |
| Did not take any strategy                      | 0           | 4           | 1          | 4          | 9            |
| Others                                         | 0           | 2           | 1          | 0          | 3            |

Table 4.32 shows the ‘consequences’ of the social disasters encountered. ‘Disrupted economic growth’ was perceived to be the most prominent loss at the HH level. Other frequently reported losses included experiences such as, ‘fall into debt, ‘increase in peril and disaster’, ‘damaged social relation’, ‘forced to migrate’ and ‘loss of morale’.

Table 4.32 Losses within the last year due to social disasters

| Losses                         | STUP | DPRM | CLP | RBP | Total |
|--------------------------------|------|------|-----|-----|-------|
| 0                              | 24   | 20   | 25  | 22  | 91    |
| Disrupted economic growth      | 7    | 16   | 13  | 16  | 52    |
| Damaged social relation        | 2    | 1    | 0   | 1   | 4     |
| Got into debt                  | 0    | 7    | 0   | 5   | 12    |
| Unable to uphold right         | 0    | 0    | 0   | 1   | 1     |
| Increase in peril and disaster | 2    | 4    | 2   | 4   | 12    |
| Forced to migrate              | 0    | 0    | 2   | 1   | 3     |
| Loss of morale                 | 0    | 2    | 1   | 0   | 3     |
| Other                          | 0    | 1    | 0   | 0   | 1     |
| Total                          | 35   | 51   | 43  | 50  | 179   |

In sum, presence of kin in the *char* areas is a great support for the dwellers of other *chars* and main land. In times of crisis, especially for the female headed HHs, presence of paternal kin in the *char* areas, was found to be the most useful. Neighbours also support when necessary. In *Char Wadel*, due to the dominance of the land owners and locally powerful persons, people are more united than those in *Pepulia* are. However, natural disasters and food crisis posed during lean season were found to unite people in *Pepulia*. The neighbours and kin help in such situations of crisis. Even for getting scope of different secondary occupations, support from neighbours and kin was useful. Discussion on social ills and disastrous events, revealed the existence of varieties of social ills and harmful practices. However, the respondents' fear of conflict and further vulnerability stopped them from sharing about some of these issues.

#### 4.5.6 Major findings on assets and vulnerabilities

The above discussion on assets and vulnerabilities of the *char* dwellers explores and describes the field level realities of different assets claimed to be available to the dwellers in the studied *chars*. Simultaneously, this section, argues on how the lack of access to and the possession of assets work as sources of vulnerability. Moreover, social ills and disasters, natural events and disasters, etc. (that originate from different capital bases) also work as the causes of their vulnerability, especially in terms of SL. Qualitative data generated through community profiles, key informant interviews and HH level interviews, case studies and observations enhance the understanding on various issues prevailing in the two areas. At this point, the specific findings on the field level realities of the studied *chars* and of the RC and REC areas in general are organised in the following summary table that shows the community level cultural norms and opportunities for survival and vulnerabilities in the *char* areas especially in terms of SL and the reveals their interlinks.

Table 4.33 Community level cultural norms and practices leading to opportunities for survival or vulnerabilities in terms of sustainable livelihood

| Community Level Cultural Norms & Practices | Opportunities for Survival | Vulnerabilities in terms of Sustainable Livelihood |
|--------------------------------------------|----------------------------|----------------------------------------------------|
| Encourage the male children                | Engage male children       | A livelihood which is not                          |



|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| in REC areas to work as contractual labourer in fishing;                                                                                                                                                                                                                                                                                                                                                             | in a livelihood activity which enable them to enhance HH financial capital and provides opportunity for a better survival;                                                                                                                                                                                           | sustainable because: <ol style="list-style-type: none"> <li>1. Male children take physical pressure that result in health hazard;</li> <li>2. They drop out from schools;</li> <li>3. Early marriage and dowry;</li> </ol>                                                                                                                                                                                                                                                          |
| <p>Males who are engaged in livelihood activity in REC and RC are encouraged to get married at an early age and get valuable dowry;</p> <p>In the RCs the age of getting married for both males and females is a little higher, sometimes dowry is also negligible due to NGO awareness activities; family planning and child care is also availed due to NGO awareness and availability of government services;</p> | <p>Dowry enhances HH financial capital and the valuable the dowry the higher the prestige of the bride groom in the community and dowry also provides opportunity for a better survival;</p> <p>parents of a female child are usually under social pressure to get their daughter married and send to another HH</p> | <ol style="list-style-type: none"> <li>1. Livelihood stress for the HH of the bride to pay the dowry;</li> <li>2. Child mortality and many children and large HH stress on livelihood;</li> <li>3. Maternal health hazards and treatment costs hamper livelihood;</li> <li>4. Child care and treatment costs hamper livelihood;</li> <li>5. Low educational level;</li> <li>6. Traditional livelihood skills (day labourer, fishing, farming) that pose livelihood risk;</li> </ol> |
| In the RECs superstitions dominate and traditional treatment and belief ( <i>Fakir, doa, tabiz</i> religious ways of healing) are in practice as treatments of diseases;                                                                                                                                                                                                                                             | Allowing low cost but culturally acceptable treatment practices and saving money and causing no stress to livelihood, saving time, money, etc.                                                                                                                                                                       | <ol style="list-style-type: none"> <li>1. Allowing quick deterioration of the patient;</li> <li>2. Leading to disable HH member who cannot earn for the HH anymore;</li> <li>3. sometimes death of the patient and deterioration of morale and stress on the livelihood;</li> </ol>                                                                                                                                                                                                 |
| Open defecation and river water consumption was previous common practice and yet practiced to some extent in the RECs;                                                                                                                                                                                                                                                                                               | Installing hygienic sanitation system requires money that is not essential to spend; Previous practice that                                                                                                                                                                                                          | <ol style="list-style-type: none"> <li>1. Unaware of the negative 'consequences' for health, environment;</li> <li>2. Diseases hamper livelihood;</li> </ol>                                                                                                                                                                                                                                                                                                                        |

|                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| In RCs, due to NGO awareness and support and Government initiatives and media awareness programmes, the healthy practices are common                                                                                                     | still allow ease in HH work and does not require the effort to collect water from a deep hand tubewell;<br><br>In the RCs social pressure also ensures healthy practices;                                                                  |                                                                                                                                                                                                                                                             |
| People in the RECs are culturally highly active to take livelihood challenges for improving economic condition as a cultural practice;<br><br>handle big amount of money and take huge loans regularly is the typical cultural practice; | Better survival through better income;<br><br>Better survival through better investment in livelihood;                                                                                                                                     | <ol style="list-style-type: none"> <li>1. Huge loan;</li> <li>2. Fall into debt;</li> <li>3. Sometimes displace to escape the money lender;</li> <li>4. High interest livelihood stress;</li> <li>5. Live with continuous livelihood challenges;</li> </ol> |
| Culturally in the RCs people manage life and livelihood with small amount of money;<br><br>NGO activities and support from both NGO and the government are part of daily life and seasonal livelihood source;                            | Less stress and competition for livelihood;                                                                                                                                                                                                | <ol style="list-style-type: none"> <li>1. Lack initiative;</li> <li>2. Dependent on NGO and other government supports;</li> <li>3. Think short time leading to livelihood stress;</li> </ol>                                                                |
| In the RCs, social capital is to some extent experienced to be the best asset at times of crises;                                                                                                                                        | Neighbours and kin network and support, NGO membership and support from the support from the NGO employees, informal NGO group membership benefits, etc. allow better opportunity at times of crises and provide opportunity for survival; | <ol style="list-style-type: none"> <li>1. Instead of material goods, social capital is devalued;</li> <li>2. Dependence on others;</li> <li>3. Dependence on NGOs;</li> </ol>                                                                               |
| In RECs, acute disasters are culturally considered disasters                                                                                                                                                                             | Resilience increase in the course of time;                                                                                                                                                                                                 | <ol style="list-style-type: none"> <li>1. Livelihood challenged;</li> <li>2. Development hampered;</li> </ol>                                                                                                                                               |



|                                                                                                                                                                                                                                                                                                                     |                                                                               |                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (cyclone, strong storm, etc.);<br>In RCs, regular slow onset disasters are considered disasters (flood, erosion, etc.);                                                                                                                                                                                             | Relief helps survival;<br>Livelihood opportunities come;                      |                                                                                                                                                                            |
| In the RECs animal protein from fish is quite regularly consumed;                                                                                                                                                                                                                                                   | Balanced food allows healthy life, less diseases;<br>Lack of nutritious food; | 1. Still due to unhealthy practices diseases hamper livelihood;                                                                                                            |
| In the RCs, insufficient food, malnutrition, hard work, hard work without sufficient food, lack of awareness about disease preventive measures, lack of attention to the children's health issues, etc.                                                                                                             | People can survive;                                                           | 1. Lack energy to work hard;<br>2. Seemed to become old before the age;                                                                                                    |
| In the RECs, land is mostly owned by outsiders;<br>Very few <i>Char</i> dwellers also had been found to got allotment of small amount of <i>khas</i> land;<br>In the RCs, outside elites bid the tender or forcefully grab the <i>khas</i> lands;<br>No <i>char</i> dweller possess any proper legal land document; | Livelihood opportunities are not lacking;                                     | 1. Land grabbing and unethical practices pose livelihood threat;<br>2. Lack of social capital;<br>3. Dominance of local powerful;<br>4. Dominance of politically powerful; |
| In RCs, women engage in homestead gardening, poultry rearing as sources of income.                                                                                                                                                                                                                                  | Help survival.                                                                | 1. More economically beneficial livelihood opportunities are lacking;<br>2. Lack of market access;<br>3. Get low price for products.                                       |

## 4.6 Conclusion

This chapter focused on the field level realities in terms of settlement and displacement, unique changes observed, trend in government, NGO and other interventions and assets and vulnerabilities. All of these factors are revealed as

important issues of considerations for SL. The following chapter discloses the ‘consequences’ and ‘implications’ of selected NGO interventions (asset enhancement and vulnerability reduction interventions) under different programme and project in these community realities (discussed in this chapter). The ‘consequences’ and ‘implications’ of the interventions are explained in terms of SL and SD (see Chapter 3).



## CHAPTER 5

### **Implications of the Development Interventions : A Focus on Sustainable Livelihood and Sustainable Development**

#### **5.1 Introduction**

In Chapter 4, I revealed the field level realities of the studied *chars* in terms of settlement and displacement, unique changes, government, NGO and other interventions, assets and vulnerabilities. It was demonstrated that unique expertise, experiences, and vulnerabilities of households (HHs) exist and all these factors determine how the HH would behave and would make decisions about livelihood. Moreover, unique community level norms and practices leading to opportunity for survival and vulnerabilities in terms of ‘sustainable livelihood’ (SL) were also pointed out to interact with the HH level factors as important determinants of HH level behavior and decisions for SL. In Chapter 4, I further explored and described the field level realities of different assets claimed to be available to the dwellers in the studied *chars*. Simultaneously, I argued on how lack of access to and possession of assets and vulnerabilities, generated from different capital base, were found to work especially in terms of SL. In those revealed field level realities, in this chapter, I attempt to show the ‘implications’, ‘consequences’ and the ‘sustainability of consequences’ of development interventions. Employing findings from focus group discussions (FGDs), key informant interviews (KIIs) and HH level interviews, in this chapter, I have revealed and explained the ‘consequences’ of interventions in terms of SL and ‘sustainable development’ (SD) as I have argued in Chapter 3. The argument developed is that the interventions targeted for SL through ‘reducing vulnerability’ and ‘enhancing asset base’ of *char* dwellers are leading to mixed ‘consequences’ at the HH level, both positive and negative, and are leading to temporary solutions to some of the problems for a very few. Most importantly, this chapter demonstrates that such interventions are neither leading to any SL solution nor to any SD solution for these people based on the arguments defining these terms in the previous chapter (Chapter 3).

In Chapter 4, the factors identified as crucial for SL and SD included, community level ‘cultural norms and practices’, ‘opportunities for survival and vulnerabilities’, ‘HH level assets and vulnerabilities’, ‘HH level experiences, expertise, and mindset of the HH head’ as the key decision maker are other important determinants of SL and SD. In this chapter, through empirical findings, I have attempted to provide further evidence either to establish the revealed factors or to reveal the additional crucial factors for SL and SD.

Stepwise regression analysis was conducted with ‘consequences’ and ‘sustainability’ scores of the studied programme and the project as ‘dependent variables’. The ‘independent variables’ included were number of HH members; number of HH children; socioeconomic status; occupations; frequency of displacement, government and NGO programmes and climate change (see Appendix 2 for explanation of the variables). The ‘independent variables’ were identified during the FGDs of the piloting phase of the study and had been finalized again through FGDs and KIIs. Qualitative information on these topics had been collected through FGDs and KIIs and even more insight had been gathered during the HH level interview.

This chapter begins with selected unique contextual features relevant for the ultimate outcome or ‘consequences’ of the interventions. Next, the main discussion on ‘consequences’ and ‘sustainability of consequences’, addresses the issues of socio-economic status, land, HH level assets, and HH level livestock and trees for analysis with information on prior to programme and project intervention and after intervention. I have demonstrated the results using qualitative and quantitative data supplementing each other on the issues. Information on ‘good time’ (affluent time) and ‘bad time’ (lean time) income and expenditure is also analysed to get a clear picture on programme and project wise and even area wise deviation in income and expenditure. Moreover, through regression analysis, I have shown the extent to which different ‘independent variables’ were found to explain the ‘dependent variables’ of programme and project ‘consequences’ and ‘sustainability’ which is further explained with qualitative information.



## 5.2 Selected Unique Contextual Features

This section is introducing selected unique contextual features. Before getting into the main discussion on ‘consequences’ and ‘sustainability of consequences’, this section focuses on some selected contextual features observed during the fieldwork which have relevance for the ultimate outcome and ‘consequences’.

### 5.2.1 Friendly and welcoming community

People in Pepulia were very friendly and welcoming compared to people in *Char Wadel*. The reason could be drawn from observation and KIIs. Many NGOs work in Pepulia compared to a very few in *Char Wadel*. People undergo many different training and activities undertaken by different NGOs regularly. There are a number of NGOs who are working in Pepulia for a long time as the dwellers are considered to be the poorest and the most vulnerable. During field visits, the NGO workers were observed to efficiently interact with the beneficiaries at personal level. In Pepulia, on the basis of previous experience, dwellers consider external people, usually coming with the NGO workers, to be their friends, again because, they feel they have very little to loss and the external members don’t come to grab their negligible assets, but can bring some assets for them.

On the other hand, people in *Char Wadel* are self sufficient with their livelihood except for their dependency on loan or microcredit. The dwellers of *Char Wadel*, in most cases, go to the main land to the offices of the micro credit organizations. Only one programme, STUP by BRAC and one project, DPRM by SLOPB could be identified as working with development objectives, in *Char Wadel*. A single local NGO, Jagoroni Chokro Foundation, run non-formal primary school in the *char*. ASA, BRAC, Grameen Bank, etc. are working with microcredit programme. Programmes and projects with development objectives that include many activities and create opportunity for intensive interaction are almost nonexistent in *Char Wadel*. Number of development projects implemented by SLOPB and donor funding for SLOPB seemed to be much lower compare to those of SKS. While SLOPB was implementing a number of projects in the main land, DPRM was their only project for *char* dwellers which was a small scale project implemented within one year. Due to lack of experience and exposure, relatively low level of efficiency in interaction and less intimacy was observed

among the dwellers of *Char Wadel* and very few NGO workers who work under DPRM project and STUP programme. This might have resulted in confused behaviour of the dwellers with NGO workers and external people.

### **5.2.2 Logistic facilities**

Availability of good logistic facilities eases the work for the NGO staff. As, many NGOs are working in *Pepulia* for a long time, the fund from the donor side is huge and their aim is to access as many remote island *chars* as possible. The local NGOs working at *Pepulia* have good logistics services especially with the donor money.

SLOPB realised the importance of supporting the dwellers of island *char* dwellers. Even so, could not manage more than one development project for the *char* dwellers. Due to running a single small scale project in the *char* area, SLOPB could not manage sufficient donor support for developing good logistic facilities to access the *chars*. They had one male staff for a few months during implementation of DPRM interventions who used to live in *Char Wadel* or had been communicating from the main land by the daily trawler<sup>136</sup>. The STUP program of BRAC is implemented in many districts of the country. As part of Nazirpur Union of Bauphal Upazila in Patuakhali, *Char Wadel* was selected as a working area. Similar to SLOPB, only one male staff of BRAC was appointed for the implementation and supervision of the programme for the selected 46 HHs at *Char Wadel*. Neither STUP nor DPRM was found to possess good logistic service to and from *Char Wadel* except for the daily trawler<sup>137</sup>. The daily trawler that brings and takes back *char* dwellers just twice/thrice a day was found to be the only transport available. The cost of a round trip is taka ten. A few small rental trawlers are available in the fishing communities which pose threat of accident on any disastrous weather.

It is worth mentioning that availability of good logistic services found to be a motivating factor for the field level staff for frequent or regular visits that along with many good implications also increase the level of interaction between the community people and them. Moreover, the community people consider the NGO staff to be a good source of information and suggestion, for them. To note,

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<sup>136</sup> Engine boat used as daily transport to and from the *char*.

<sup>137</sup> Engine boat of medium size used to transport people. See picture in Appendix 5.



frequent visits by at least a few SKS staffs, which included visits by both male and female staff, were possible for the good logistic services.

### **5.2.3 Relevant behaviour of the field staff**

STUP in *Char Wadel* was referred to a ‘pilot programme’ by the Associate Director of the Ultra Poor Programme of BRAC. The employee, responsible for the implementation of the STUP programme in *Char Wadel*, expressed to face extreme difficulty to reach all the beneficiaries regularly and for the targeted awareness building activities throughout the month. Accordingly, although a few beneficiaries were found to be able to recall the names of a few issues they learnt about, the target of bringing change in attitude and learning was found not to have been achieved for these beneficiaries. The time period of two years was also very short to bring such change.

The DPRM employee in *Char Wadel* was employed to ensure proper implementation of the targeted activities. Their activities included asset delivery (i.e. seed, fertilizer, duck, chicken, etc. that were not very costly) for the rehabilitation and sustained livelihood of the affected HHs after SIDR. In the few relatively costly initiatives like, boat, net, house, deep hand tubewell, etc. SLOPB had specific agreement with the beneficiary. The one-day awareness building training on disaster preparedness and its mitigation was useful but was too short to aware the beneficiaries and make them prepared for the disasters. Moreover, as the support for each HH was delivered after a few months after SIDR, two ducklings or one chicken or some seeds and fertilizer, etc. could not be of much support for the HHs to get rehabilitated.

CLP employees were happy to deliver the valuable asset package. All the beneficiaries were overwhelmed to express their happiness. However, both the employees and the beneficiaries seemed and also reported to be overburdened with work of completing all the targeted activities of the programme within a somewhat short, two-year time span. For proper implementation, documentation, and monitoring, the employees appeared to be too busy. Some trainings (i.e. health care, social development, etc.) of the CLP beneficiaries were reported to be relatively less effective as were implemented but were never considered for practice and feedback after the implementation phase was over.

RBP activities, although were implemented under different phases with different

names, had been going on in the *char* areas for a relatively long period of time. With a few employees (reported as insufficient) to implement the programme, appeared to be and also reported by the employees as very difficult. RBP focused more on training and informal group building instead of material asset delivery. The trainings and the formed groups appeared to be highly effective and found to contribute to social capital. However, in the same Pepulia community, CLP was implemented. As a result, both the employees and beneficiaries of RBP seemed to have discontent for not having valuable material assets for the beneficiaries and sufficient staff and logistic support for the implementation.

This section revealed the context prevailing in the studied communities in terms of community level exposure, experience, and extent of interaction with NGO staff and external people. These all were found to determine the interaction of the community people with the NGO staff. These determined the way they reacted to the external people, and the extent they appeared to be certain or confused about the way they should behave with external people, us, for getting any future support. These had direct bearing with their responses to the field level data collection. Further, availability of good logistic facilities also found to ease the work for the NGO staff and seemed to be a determinant of the level of commitment and motivation for the employees. Moreover, the way the field staffs of NGOs were found and also were confirmed by them to be bound to engage in implementing the programme or project activities, they had no time to get back to the beneficiaries. Though, was not expressed or asserted clearly, the message was there that their (beneficiary's) voices are rarely heard and their suggestions are rarely addressed. The understanding was, in the typical present day interventions of short duration, neither the beneficiaries nor the NGO staffs are being heard.

### **5.3 Consequences and Implications of the Development Interventions in terms of Sustainable Livelihood and Sustainable Development**

The NGO workers do not go back to the beneficiaries after completion of their programme or project. They are expected to implement certain activities and are passed if certain specific targets are achieved in terms of activity implementation. The after-intervention consequences or 'sustainability of consequences' is not the



concerns for the donors. The CLP employees reported to become busy with the activities of the next phase and documentation of the completed phase.

CLP provides the most valuable package for the beneficiaries. But, the social development activities seemed to me, to be insufficient to guide the beneficiaries to maintain their asset and improving life and livelihoods. After completing one phase, we become busy with the documentation and activities of the next phase. We can never manage any time to contact the previous beneficiaries. Long term programme and incorporation of follow up visits and activities is essential for improving livelihoods of these people. (The key informant wanted to remain anonymous)

Interestingly, during the follow up FGD in Pepulia, the CLP respondents started reporting their vulnerabilities.

We were very poor. With the cow and the stipend,<sup>138</sup> our status improved. We were working hard with the hope of increased income. But, because of river erosion, we may need to sell our cow for survival. The situation is out of our hand and we are in deep crisis. (A CLP participant of the follow up FGD)

RBP is working in those areas for quite some time (Since 1997, the 4<sup>th</sup> Phase that started from 2007 and ended in 2010 was studied for the present research; see Chapter 3). With the realization that due to river erosion beneficiaries in the *char* areas essentially need to move to new places, they have adopted a system of including new beneficiaries after losing the old, subsequent to erosion. Including and excluding beneficiaries in this way, RBP is working with around 3500 beneficiaries in those *chars*. During the follow up FGD, the very few available participants (displaced due to river erosion) of RBP reported that the disaster management committee of RBP in different *chars* worked efficiently during displacement imposed by erosion.

In every nearby *char*, we found our RBP members of different women groups. With their support, taking shelter in a new place is easier. We did not receive any cow or other such asset. During erosion, we certainly lost some of the assets we had but all the members of different groups and committees of RBP worked together. Using our learning and training, we helped each other even those who are not our members. (A female RBP participant of follow up FGD)

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<sup>138</sup> A monthly household cash stipend was provided for 18 months to support the beneficiary HH's consumption and the cost of undertaking their income generating activity. For the first six months, the HHs received two cash stipends: a livelihood support grant of Tk. 250 and a HH support grant of Tk. 350. The household grant was continued for a further 12 months.

The experience of RBP beneficiaries lead to the understanding that long term investment in social capital in relatively nearby *char* communities with flexible criteria for inclusion and exclusion lead to reduced sense of vulnerability. However, discontent among the RBP beneficiaries, in the absence of any cow or such valuable asset from the programme, was evident during different phases of the fieldwork.

In *Char* Wadel, the beneficiaries of DPRM were happy after receiving the supports such as seedlings, fertilizer, chicken duckling, etc. Reactions of a few DPRM beneficiaries are given in Box 5.1.

Box 5.1 Reactions of a few DPRM beneficiaries on receiving support

|                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| We have received sufficient seeds and fertilizer. Now we can improve our situation.                                                                                                                                                                                                                             |
| The chickens that SLOPB has given us are of good variety.                                                                                                                                                                                                                                                       |
| I have got two ducklings. What else is SLOPB going to give us? ... We all are happy. All our ducks and chicken were lost during SIDR. Now whatever we get free will help us to overcome the loss quickly. ... Yes, most of us have already bought ducks and chickens after SIDR, but these will also be of use. |
| I was very poor and the goat I have received can change my life. If I take good care of the goat, and if it stays alive, within a year, I will be able to sell the calves.                                                                                                                                      |
| Source: Fieldwork (Quotes from FGD and HH level interviews)                                                                                                                                                                                                                                                     |

The reactions expressed by the DPRM beneficiaries appeared to be mixed. While those received goats, houses, and deep hand tube wells were extremely happy; others who received poultry were in the hope of getting more support. Follow up FGD revealed that in many cases the chickens did not lay eggs or died due to diseases. DPRM did not arrange any vaccination or treatment service for the poultry. The ‘consequences’ of those interventions on the livelihood of most of those beneficiaries were negligible.

Sufficient seeds and fertilizer were provided but there was no provision for pesticides for the DPRM beneficiaries. Consequently, the follow up FGD revealed that for some of the beneficiaries, the vegetables and rice cultivation were hampered by pest attack. Though the cultivation of water melon was satisfactory, disaster (hail storm) resulted in bad luck for them. Those who invested a lot of money for growing water melon, reported to fall into debt.



It was very difficult to gather even a few STUP beneficiaries for the follow up FGD (5 out of 46 STUP beneficiary in *Char* Wadel could be gathered) as the beneficiaries were living in distant places. As no other BRAC programme was undertaken and the beneficiaries were somewhat detached. In *Char* Wadel, during the follow up FGD, the STUP beneficiaries reported to have improved their socio-economic status. They reported about a few STUP members who were doing well. They could also report about five of the beneficiaries who preferred to sell the cow to invest in buying land or taking land on lease for farming. Community level practice, personal expertise, and mindset were the determinants for their decision and actions.

The newly settling dwellers come to the *char* from many different places. They come from different cultures and come with varieties of cultural practices. Moreover, along with those cultural practices as experiences, members of each HH also possess unique 'expertise' and the 'HH head's mindset' or way of thinking was again reported to be another important determinant. As revealed in the above discussion, all these determine how the HH would act, and what the decisions would be taken. Male dominance in decision making was also reported in Pepulia. Even for the female headed HHs, the male child, or close male kin present in the *char*, appeared to be the decision maker for the HH in many cases.

Improving social capital among the *char* dwellers is a big challenge in these river *chars*. The household head is vital and the way he perceives things and prioritise choices determine, to which way the household will lead. To establish good practices and to track them toward SL and development thus need long term investment mostly in terms of skill development and social network development and empowering them to uphold rights. Of course, certain level of material support enhances the process. (A Programme Associate, DRR & VLHs)

To assess the 'consequences' of 'asset base enhancement' and 'vulnerability reduction' interventions, prior and after interventions information on socio-economic status; HH land; HH assets; livestock and trees possessed by the HH were assessed. HH income and expenditure in good and bad times were also analysed.

To reveal SD or in other words 'sustainability of consequences' after around one year of implementation of the interventions (as decided for the present study to see sustainability), follow up FGDs and a few KIIs had been conducted.

### **5.3.1 Socio-economic status**

Information on socio-economic status prior to intervention and just after implementation was compared to reveal the perception of respondents in terms of their change in status. The FGDs, HH level interviews, and KIIs ascertained the 'consequences' of NGO intervention in terms of change in socio economic status. The FGDs and HH level interviews immediately after the completion of the programme or project proclaimed the occurrence of positive change in status in most of the cases. To support the overwhelming positive reaction after intervention implementation, Programme Co-ordinator, CLP said,

Asset brings change in socio economic status. In CLP, we have supported the poorest with asset. Now, they are no longer the poorest. They feel their status has improved. The relatively better off people in the community now talk to them and they have become important in the community with their asset. (The Programme Co-ordinator, CLP)

The respondents of the questionnaire survey were asked about their socio-economic condition prior to the programme or project and after the programme or project. The results are presented in Table 5.1. Most of the respondents of all the studied programme and project considered themselves to be belonging in the ultra poor or poor group prior to interventions. Of them, 12 of STUP, 15 of DPRM, 3 of CLP, and 5 of DRR who considered themselves to be 'ultra poor' prior to the interventions, reported to be maintaining the same status even after the implementation of the interventions. Interestingly, 9 of STUP, 11 of DPRM, 29 of CLP and 18 of RBP respondents considered themselves to have upgraded to the 'poor' category from the 'ultra poor' after the implementation of interventions. Again, 4 of STUP, 2 of DPRM, 7 of CLP, and 8 of RBP respondents considered themselves to have really advanced a lot. They considered themselves to have upgraded into the 'lower middle class' category from the 'ultra poor' where they claimed to belong prior to the programme or project. Of STUP, DPRM and RBP, 6, 5 and 2 respondents respectively responded to be maintaining the same status of being 'poor' even after the programme or project implementation. Again 3 of STUP, 4 of DPRM, 1 of CLP, and 4 of RBP respondents who were previously 'poor' reported to have shifted to the 'lower middle class' category. Only one DPRM respondent who was previously poor reported to have shifted to middleclass. Among the previously 'middle class' respondents, 1 of STUP and 2



of RBP reported to be maintaining the same status. While 3 of DPRM and 1 of RBP respondents claim to have degraded to the 'poor' status. Only one DPRM respondent claimed to be maintaining the 'middleclass' status from prior to the programme or project intervention.

The 'ultra poor' and the 'poor' often noted to have made a lot of progress with an immediate change in asset status with free (gratis) NGO supports (that are akin to relief materials). They become quite generous in their reactions and respond usually highly positively with the hope to be in favourable consideration for future project support.

During follow up FGDs, diseases and disasters were reported to be the causes of the few negative changes. The 3 DPRM cases, where the beneficiaries degraded from 'lower middle class' to 'poor' - reported that the reason was natural disaster. Two of them reported that they took loan to acquire more land on lease to utilize the seed of watermelon provided by the DPRM project. Due to hail storm, the fruits were all destroyed and they ended up high in debt. The other respondent of DPRM had poor yield due to pest attack and ignorance about proper use of pesticide. The reason for degradation of the RBP beneficiary was disease of the only male earning member of the HH.

A tendency among the respondents to assess the effect of interventions positively was revealed during FGDs, KIIs and observations. In many cases, it seemed to be exaggerated to some extent, the reason behind, was the hope that such positive assessment would help them getting future support.

Table 5.1 Socio-economic status prior to interventions and change in socio-economic status after interventions

| Status              | Socio-economic Status Prior to the Programme and Project Intervention |      |                    |              |            |      |                    |              |                                                                  |      |                    |              |
|---------------------|-----------------------------------------------------------------------|------|--------------------|--------------|------------|------|--------------------|--------------|------------------------------------------------------------------|------|--------------------|--------------|
|                     | Ultra Poor (N)                                                        |      |                    |              | Poor (N)   |      |                    |              | Socio-economic Status After the Programme & Project Intervention |      |                    |              |
|                     | Ultra Poor                                                            | Poor | Lower Middle Class | Middle Class | Ultra Poor | Poor | Lower Middle Class | Middle Class | Ultra Poor                                                       | Poor | Lower Middle Class | Middle Class |
| Programme & Project |                                                                       |      |                    |              |            |      |                    |              |                                                                  |      |                    |              |
| STUP                | 12                                                                    | 9    | 4                  | 0            | 0          | 6    | 3                  | 0            | 0                                                                | 0    | 1                  | 0            |
| DPRM                | 15                                                                    | 11   | 2                  | 0            | 0          | 5    | 4                  | 1            | 0                                                                | 3    | 0                  | 1            |
| CLP                 | 3                                                                     | 29   | 7                  | 0            | 0          | 0    | 1                  | 0            | 0                                                                | 0    | 0                  | 0            |
| RBP                 | 5                                                                     | 18   | 8                  | 0            | 0          | 2    | 4                  | 0            | 0                                                                | 1    | 2                  | 0            |



### 5.3.2 Land

In *Char* Wadel, some of the respondents reported to possess own homestead and farmland with proper updated documents. However, in Pepulia, none of the respondents had any legal document for their HH land. None of them had homestead occupying more than 10 decimal of land in *Char* Wadel. A few DPRM respondents reported to pay monthly rent to the land owners for their homestead. The rent varies from TK 400-600 per month. The table below shows that 21 beneficiaries of STUP, 17 of DPRM, 26 of CLP and 21 of RBP were occupying land below ten decimal mostly for their homestead.

Table 5.2 Amount of land possessed or used for livelihood by the household after interventions

| Amount of land        | STUP | DPRM | CLP | RBP | Total |
|-----------------------|------|------|-----|-----|-------|
| Below 10 Decimal      | 21   | 17   | 26  | 21  | 85    |
| Below 50 Decimal      | 13   | 23   | 13  | 19  | 68    |
| Below 100 Decimal     | 0    | 1    | 1   | 0   | 2     |
| 100 Decimal and above | 0    | 1    | 0   | 0   | 1     |
| Total                 | 34   | 42   | 40  | 40  | 156   |

On the other hand, most of the homestead occupied around 3-5 decimals of land in Pepulia, while the amount was usually around 6-7 decimals in *Char* Wadel. In both the areas, majority of the respondents reported to be agricultural day labourers. Nevertheless, 13 STUP and 23 DPRM beneficiaries reported to be either possessing or to have taken around 50 decimal of land on lease for farming.

In our *char*, none of us has more than ten decimal of personally owned land. There are a very few in our *char* who are engaged in large scale farming or fish trade. They possess more land. All the land in our *char* is mostly possessed by a few rich persons who live in the mainland. (A male DPRM beneficiary)

On around the same amount of land, 13 of CLP and 19 of RBP respondents reported to be working as share croppers. Only one beneficiary of DPRM and one of CLP reported to have taken around 100 decimal of land on lease for farming. The source of money for the DPRM beneficiary was loan while for the CLP beneficiaries it was the saved money of the stipend and money from other sources, mainly borrowed. Taking loan, just one beneficiary of DPRM reported to have taken 150 decimal of land for farming. These two beneficiaries of DPRM, who acquired above 100 decimal of land,

reported to be regularly cultivating no less than 100 decimal of land.

After SIDR, DPRM did not follow any strict beneficiary selection criteria seeing that everyone in *Char* Wadel were affected, be them very poor or better off. Hence, these two beneficiaries also received DPRM support. The CLP beneficiary who took around 100 decimal of land on lease reported to have a hardworking son who would be cultivating on the land.

Among all the 156 beneficiaries, only 6 reported to have increased land on possession. Among these six beneficiaries, three are of CLP. One of them reported to have taken 4 decimal of land for homestead. The beneficiary trusts that she has got the land for indefinite period of time by paying taka 3000 to the land owner. Using mainly the stipend money, two other CLP beneficiaries, reported to have acquired 7 and 33 decimals of land on lease for cultivation. One STUP beneficiary and two DPRM beneficiaries reported to have bought 5, 6 and 8 decimal of land respectively. The STUP beneficiary bought the land using the saved money through selling milk, labour and taking some loan. The two DPRM beneficiaries who used to cultivate around or above 100 decimals of land, claimed to have the financial ability to increase land regularly. The minor support they received from DPRM had no bearing to the land they have acquired after the programme or project intervention.

The number of people who have increased land is nominal, 6 out of 156 (Table 5.3). Thus, 'consequences' of the NGO interventions are negligible in terms of increase in land. Only 4 out of these 6 increased their land with help from the NGOs. The STUP beneficiary was able to increase land with the money saved by selling milk. At this point, it is worth mentioning that the 4 beneficiaries, who increased land with NGO support, used it for building homestead. During the follow up field visit in Pepulia it was found that due to river erosion, the people lost their land and had to shift to the nearby *char* areas. Thus, in Pepulia, investment in land was not a wise idea as recognised later. However, even in case of investing in land, the priority of the HH head and previous experience played role.

Table 5.3 Land-increase after interventions

| Amount of Increased Land (decimal) | STUP (N) | DPRM (N) | CLP (N) | RBP (N) | Total (N) |
|------------------------------------|----------|----------|---------|---------|-----------|
| 0                                  | 33       | 40       | 37      | 40      | 150       |
| 4                                  | 0        | 0        | 1       | 0       | 1         |
| 5                                  | 1        | 0        | 0       | 0       | 1         |



|           |    |    |    |    |     |
|-----------|----|----|----|----|-----|
| 6         | 0  | 1  | 0  | 0  | 1   |
| 7         | 0  | 0  | 1  | 0  | 1   |
| 8         | 0  | 1  | 0  | 0  | 1   |
| 33        | 0  | 0  | 1  | 0  | 1   |
| Total (N) | 34 | 42 | 40 | 40 | 156 |

The achievements of the NGOs for their target population are appreciated by the respondents, yet for ‘sustainability’ of any such achievement many other issues essentially need to be considered as reported by the respondents and key informants (KIs) (see Chapter 6).

During the follow up FGD, the DPRM beneficiaries were least interested to talk about the minor support they received. To most of them, the support from the NGO was too minor to be used for betterment. They were rather interested to know about the upcoming possible support. STUP beneficiaries, on the other hand, were rather happy being able to save some money (selling cow, calves, and milks). The STUP participants of the follow up FGD confirmed that the reason behind some of the beneficiary’s selling cow was their preference for land and farming instead of cattle rearing. None of the STUP beneficiaries possessed any land and that is why they were given STUP support. The main occupation of these HHs had been to work as day labourers on other people’s farms or in HHs as domestic support staff.

We all have desire and need to have our homestead on our own land. Five of us have already sold their cows to buy homestead land or to take land on lease. We also have desire to buy land but rearing cow seems more profitable to us presently. We are afraid that if we are hit by another cyclone like SIDR, all our cattle will be lost and the loss will be much higher compare to seasonal crop failure due to disasters. (A STUP beneficiary of follow up FGD)

The conversations revealed their preference for land and farming instead of cattle rearing. This preference came from their experience in farming and expertise in the work. Moreover, for cattle, any severe and acute disaster was the threat recognised by those respondents. The issue of accessibility right to the protected forest areas was again raised during the follow up FGD.

### 5.3.3 Household level assets

The main HH level assets included homestead, furniture, electronic equipments, jewellerys, agricultural instruments, fishing instruments, boat, rickshaw/ van, bicycle and other assets.

Table 5.4 Information on change in household level asset value

| Programme & project | Positive Change (N) | Negative Change (N) | No Change (N) | Total (N) |
|---------------------|---------------------|---------------------|---------------|-----------|
| STUP                | 13                  | 4                   | 17            | 34        |
| DPRM                | 22                  | 3                   | 17            | 42        |
| CLP                 | 25                  | 13                  | 2             | 40        |
| RBP                 | 24                  | 7                   | 9             | 40        |
| Total               | 84                  | 27                  | 45            | 156       |

In Table 5.4, 13 out of 34 STUP, 22 out of 42 DPRM, 25 out of 40 CLP, and 24 out of 40 RBP beneficiaries were found to have increased the HH level assets during the programme or project implementation period. While for STUP, the mean value of HH level asset prior to programme or project was Tk. 10394.12 (Table 5.5) the value was found to have increased to taka Tk. 14810.29 just after the implementation of the programme or project. This change in mean HH level asset value can be attributed mainly to those 13 STUP beneficiaries (Table 5.4) who reported to have increased HH level assets. The mean value would be even higher if 4 of the STUP members did not reported a degradation of HH level asset value (Table 5.4).

Table 5.5 Mean household level asset value prior to and after interventions

| Programme & project |                | HH level asset value prior to intervention | HH level asset value after intervention | Mean differences for asset values |
|---------------------|----------------|--------------------------------------------|-----------------------------------------|-----------------------------------|
| STUP                | Mean           | 10394.12                                   | 14810.29                                | 4416.17                           |
|                     | N              | 34                                         | 34                                      |                                   |
|                     | Std. Deviation | 12146.83                                   | 13269.22150                             |                                   |
| DPRM                | Mean           | 21835.71                                   | 38382.14                                | 16546.43                          |
|                     | N              | 42                                         | 42                                      |                                   |
|                     | Std. Deviation | 31167.83                                   | 84048.21                                |                                   |
| CLP                 | Mean           | 3522.75                                    | 6690.90                                 | 3168.15                           |
|                     | N              | 40                                         | 40                                      |                                   |
|                     | Std. Deviation | 3332.07                                    | 6317.63                                 |                                   |
| RBP                 | Mean           | 6582.88                                    | 13016.65                                | 7879.34                           |
|                     | N              | 40                                         | 40                                      |                                   |
|                     | Std. Deviation | 5060.32                                    | 10508.10                                |                                   |



Table 5.5 shows the mean differences between HH level asset value prior to and after interventions. The differences, of the mean values, range from taka 16546.43 to taka 3168.15. The differences between the post intervention and prior intervention prices of HH level assets were found to be significant (Appendix 3 Table 5.5.1).

During FGD and HH level interviews two distinct reasons for HH level asset value degradation had been identified.

1. The value of assets decreases, as they get old because of use and devaluation;
2. They had to sell the HH level assets to run the family, rear the cow, or to engage in other livelihood activities.

Moreover, it is worth noting that increasing HH level asset is perceived as a status symbol in *Char* Wadel.

In most of the *char* households, you will find a big wooden or steel box that we consider to be essential to keep our valuable household assets secure. So, whenever we can manage some money, our first priority goes for such a box. Most of us are very poor and did not have a box earlier. Thus, we preferred to buy a box. Some of us also have bought other furniture. (A female STUP beneficiary)

During the HH level interview, only a very few DPRM beneficiaries reported to have improved their condition with the support (deep hand tube well, goat, etc.) provided by the NGO. The 22 beneficiaries of DPRM, out of 42 who have increased HH level assets, mostly did that as a regular HH level practice. The DPRM beneficiaries were found to have the highest mean value for the HH level assets that was Tk. 38382.14 followed by the second highest mean value of taka 14810.2941 for the STUP beneficiaries. While the mean value for HH level assets of the RBP beneficiaries was taka 13016.65, the lowest mean value was found to be taka 6690.90 for CLP beneficiaries. The significantly high mean score for HH level asset of DPRM beneficiaries is the representation of the fact that the DPRM beneficiary selection criteria was not very strict (not only for the HHs with extremely poor asset base). Moreover, culturally, the type of houses they live in and HH level assets of the *Char* Wadel dwellers were found to be higher in price compared to those in Pepulia. They regularly handle relatively bigger amount of money compared to those in Pepulia. The dwellers of *Char* Wadel and REC dwellers in general perceive essential HH level assets to include higher number of furniture and livelihood assets and relatively valuable house compared to dwellers of RCs.

It is worth mentioning that the mean HH level asset value of the DPRM beneficiaries prior to the programme or project was TK. 21835.71 which increased to Tk. 38382.14 after intervention. This indicates a huge hike in HH level asset value. The HH level interview and observation drew attention to the fact that extreme cases were included among the DPRM beneficiaries. A few relatively well off beneficiaries tried to uphold their position and status by assigning overstated asset value to their HH level possessions which resulted in extreme deviation. Most of the DPRM beneficiaries attributed the increased value of HH level asset to their own effort and reported that it had no relation with the programme or project intervention.

For the CLP beneficiaries the mean HH level asset value was found to have increased from Tk. 3522.75 to Tk. 6690.90. During the questioner survey and HH level interviewing, some of the respondents were glad to show their newly bought furniture. They reported to have bought those using the stipend money. However, 13 out of total 40 CLP beneficiaries reported degradation of the value of their house and other possessed assets. HH level interview revealed a few reasons for degradation of HH level asset values that include, devaluation of the assets for being used, assets were sold to meet essential cost of treatment, wedding (wedding festival and dowry), or to pay back the previous debt. It appeared that the CLP respondents had been investing the stipend money in some other sectors instead of increasing HH level asset. Moreover, the already possessed assets were devalued in course of time. In general, the CLP beneficiaries were very happy and continuously been reassuring about their benefits.

RBP beneficiaries received very negligible material support for their livelihoods. However, 24 out of 40 of them could increase HH level asset. During FGDs, they tried to highlight the benefits of the trainings on disaster management and also of the women group meetings where they used to save money, learned about the efficient use of money, healthcare, hygiene, nutrition etc. Their unity and social network appeared to be quite strong. They claimed that, this was the result of their united work in different committees. They take decisions discussing among the group members. They claimed such decisions helped them to improve their asset base and situation. The hidden desire of getting material support similar to the CLP beneficiaries was being revealed repeatedly during communication with them. Diseases, dowry, and devaluation of asset were found to be the reasons for the degradation of asset value for 7 of the RBP beneficiaries.



During the follow up FGD, no significant change was reported to happen in the lives and livelihoods of the DPRM beneficiaries. Since no severe disaster occurred in the meantime, they were living their life as usual. For most of them, any free support, be it even as minor as the chicken or duckling as was given by DPRM, is like an immediate relief. For them, any relief is useful after a disaster.

Although a few STUP beneficiaries reported to have sold their cows, the others were improving with their cow. However, the worry was regarding any future disaster. A STUP beneficiary reported,

We are lucky enough that our cow rearing has turned out to be profitable. Most of us also have a calf by now. No disaster has affected our cattle and us during this time. We still don't have a *tilla* (high land) in our village to protect poultry and cows during disaster. The only major threat to our entire asset is Cyclone or flood and we are helpless in confronting these disasters. (A female STUP beneficiary)

Due to river erosion, the RBP and CLP beneficiaries were scattered in the nearby *chars*. So, a very few of them could participate in the follow up FGD. They reported,

We could successfully shift to the nearby *chars* dismantling our houses that we carried with us. When we can manage a place to settle, we will rebuild the house joining the parts. We could not bring all our household level possessions with us, but during any such disaster we help each other and I believe when I will rebuild my house, the other women group members will help me to raise the plinth. (A female RBP beneficiary during follow up FGD)

It appeared that the RBP beneficiaries possessed faith in cooperation for each other.

The CLP beneficiaries as well could take shelter and could also dismantle various parts and materials of their houses to protect it. Some of them also could reassemble the houses temporarily. They could also protect some of their HH level assets along with livestock. They appeared to be highly stressed. However, they were extremely happy to see us. Though they tried to continue conversation with a smiling face and highly hoped to get further assistance, yet their uncertainty regarding certain issues like, where to settle, who to get support from to rear the cattle, how to survive, how to make up the loss, etc. could be noticed easily. Follow up FGD reaffirmed relatively insufficient or weak social capital among the CLP beneficiaries compared to the RBP beneficiaries.

### 5.3.4 Household level livestock and trees

The STUP and CLP beneficiaries received cow within the intervention package and were required to plant trees compulsorily. As a result, all assigned higher value for livestock and trees after intervention. However, the mean values for livestock and trees were also found to be higher even for DPRM and RBP (Table 5.6) beneficiaries after intervention. There were also several cases of no or negative changes (Table 5.7).

Table 5.6 Mean values of household level livestock and trees prior to and after intervention

| Programme & Project |                | Values of Livestock and trees prior to intervention | Values of livestock and trees after intervention | Differences in Mean values of livestock and trees |
|---------------------|----------------|-----------------------------------------------------|--------------------------------------------------|---------------------------------------------------|
| STUP                | Mean           | 10147.79                                            | 26124.41                                         | 15976.62                                          |
|                     | N              | 34                                                  | 34                                               |                                                   |
|                     | Std. Deviation | 17169.91                                            | 9892.71                                          |                                                   |
| DPRM                | Mean           | 6139.29                                             | 9815.48                                          | 3676.19                                           |
|                     | N              | 42                                                  | 42                                               |                                                   |
|                     | Std. Deviation | 11735.61                                            | 14080.20                                         |                                                   |
| CLP                 | Mean           | 2636.75                                             | 25025.50                                         | 22388.75                                          |
|                     | N              | 40                                                  | 40                                               |                                                   |
|                     | Std. Deviation | 6362.63                                             | 10396.31                                         |                                                   |
| RBP                 | Mean           | 6107.50                                             | 11777.00                                         | 5669.50                                           |
|                     | N              | 40                                                  | 40                                               |                                                   |
|                     | Std. Deviation | 20233.63                                            | 20659.91                                         |                                                   |

Table 5.7 Information on change in values of household level livestock and trees

| Programme & project | Positive Change (N) | Negative Change (N) | No Change (N) | Total (N) |
|---------------------|---------------------|---------------------|---------------|-----------|
| STUP                | 31                  | 0                   | 3             | 34        |
| DPRM                | 26                  | 9                   | 7             | 42        |
| CLP                 | 40                  | 0                   | 0             | 40        |
| RBP                 | 29                  | 5                   | 6             | 40        |
| Total               | 126                 | 14                  | 16            | 156       |



During the implementation phase, the dwellers of *Char* Wadel experienced two floods. At least some trees of some of the STUP and DPRM beneficiary HHs died due to the floods that resulted in no change or negative change in the values of their HH level livestock and trees. The cases of negative change among the RBP HHs were attributed to selling of livestock to meet the cost of treatment of HH member and to bear the cost of food during the lean season.

The follow up FGDs revealed that the CLP beneficiaries were shattered being victim of river erosion. They were feeling highly vulnerable with the fear that they might need to sell the cattle to overcome the crisis. They claimed that the better days were just coming to their lives. They were, thus, afraid to go back to the life they had before. The RBP beneficiaries also incurred losses due to river erosion but selling livestock was reported to be one of the common strategies they adopt to cope with disasters. They reported to continuously in such adjustments for survival.

The STUP and DPRM beneficiaries were doing fine, as no major disaster occurred. However, due to flood, trees died. Again, a few STUP beneficiaries preferred to invest in farming selling cows. Thus for them the price of HH level livestock got reduced.

### **5.3.5 Income and expenditure**

Different sources of income included payment and salary, enterprise and business, agricultural products, remittance, received rent, gift, relief, fishing, safety net, loan and other sources. The typical sectors of HH expenditure included, food, clothing, education, health/ treatment, house/ land management/ rent, festivals, transportation, paying back loan and others. Understanding on income and expenditure was developed through FGDs, KIIs, HH level interviews, and observations. Inconsistency between income and expenditure was evident during the HH level interviews in several beneficiaries HHs of both the areas. More indepth discussion revealed that loan plays a vital role in their 'survival' and 'livelihoods'. Even though during discussion the beneficiaries talked about the source, amount and purpose of loan, they did not prefer to incorporate the information in the questionnaire survey. They seemed to have a fear to be excluded if information on loan were included in the survey. Although they were reassured about the confidentiality about such HH level information, still they insisted not to include the information. Respecting their request in such cases, accurate information on loan could not be captured. This section thus

relies mainly on the understanding derived through qualitative techniques. The quantitative analyses are also reported.

STUP beneficiaries depend on micro credit and loans from kin, neighbours, and money lenders. Most of them reported to work as day labourers for both farming and fishing and also as domestic workers. They had to payback their formal loan to fulfil the beneficiary selection criteria of STUP. However, they continued to take informal loan for survival. They also engaged in taking micro credit shortly after the initiation of the programme. Some of them had to sell HH level asset to maintain the STUP cow. But they were highly enthusiastic about the future profit from cow rearing. For them, selling *hogla*<sup>139</sup> and *hogla* products and seasonal migratory work were other sources of income. Moreover, relief and gifts were reported as sources of income for some HHs. It appeared that whenever they profited, mostly by selling milk and eggs, they used to invest the money for HH level asset, livelihood equipments (net, boat) taking land on lease for farming, etc.; yet, such cases were very few.

During the follow up FGD, the participants reported about their benefits gained from the STUP support.

All of us now have calves and can sell milk; some have sold the calves to invest on land. Eggs are consumed to meet the daily necessities and also are sold to meet the daily household expenditure. The cows and chicken given to us have changed our lives. We all have improved as their happen to be no severe disaster and our assets are not destroyed. (STUP beneficiary of follow up FGD)

They further reported that through STUP support not only income has increased but they could also save some money for bad times.

The DPRM beneficiaries appeared to be highly diverse in their responses regarding income, expenditure, loan, and savings. Although for majority of them, the sources of income were similar to those of STUP beneficiaries, the rest of them appeared to be relatively well off. Instead of working as day labourers, they reported to engage in farming on leased land and on their own farming land. They were found to be investing relatively big amount of money for farming, which had been reported to resulting in good profit. Some of them reported to be in fish business and reported the

<sup>139</sup> *Hogla* is the local name for a tiny bush-like plant, frequently seen growing along the banks of rivers and canals in Bangladesh. *Hogla* has a similar appearance to grass, with flattened leaf blades and may reach heights of 6 1/2 to 16 feet (2-5 metres). *Hogla* is an exceedingly useful resource for artisans who use the fibres to create mats, baskets, ropes and various kinds of other creative handicrafts.

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[https://www.tenthousandvillages.ca/mas\\_assets/wiki\\_factsheets/English/08/TTV6612008-4EB08DD6.pdf](https://www.tenthousandvillages.ca/mas_assets/wiki_factsheets/English/08/TTV6612008-4EB08DD6.pdf)



business as profitable. The DPRM beneficiaries who received poultry could not utilize them as a source of income. In most of the cases, the chickens died or they sold the chicken or ducks as those were not laying eggs.

The follow up FGDs revealed the tendency of the DPRM beneficiaries to use up the profits (whatever be the source) of 'good time', expending highly for daily necessities. They prefer to invest in different assets instead of saving cash. In times of need, they again 'take loan' from Krishi Bank or micro credit organizations or money lenders. This is how they maintain their own standard of regular income and expenditure, being in loan all through the year.

The CLP beneficiaries were engaged in cattle rearing and also in homestead gardening in a small scale. Their source of income was mainly the CLP stipend. In a few cases, the beneficiaries also continued to be working as day labourers and domestic workers. They reported to be excluded from the safety net programmes. The daily expenditure of the CLP HHs was found to be very low compared to those of *Char* Wadel and even to the RBP beneficiary HHs. Some of them reported to have saved some money. The tendency of taking loan appeared to be relatively low among the CLP beneficiaries. They reported to have increased income level even after the completion of stipend phase. They benefited from selling milk, selling cows along with the regular work of day labourer. It was found that compared to the DPRM and STUP beneficiaries, they were expending less. Due to erosion, they had to shift and their saved money was used up.

Main source of income for most of the RBP beneficiaries was the work of agricultural day labourers. They reported to save money in the women's group that they considered to be a regular sector of expenditure. Most of them also reported to have taken loan from the women's group for their livelihood (mainly to expand poultry and cattle rearing). Homestead gardening, poultry and cattle rearing were reported to be good sources of income especially during bad time, with successful implementation of RBP teaching and training. Some of them also reported that working as migrant workers, the male members of their HHs, contribute to the HH income in bad time. There were a few respondents who reported to engage in share cropping and farming by taking land on lease. RBP support of seed, fertilizer, and training and market accessibility was reported by them to be helpful in increasing income. The sources of income were reported to have decreased for shifting and loosing homestead garden due to river erosion. They also do not have the job of day labourers in the new

settlement. Most of them had to take loan from kin to overcome the stress due to erosion.

The following tables provide information on monthly income, expenditure, and savings.

Table 5.8 Mean monthly income in good and bad times

| Programme & Project | N   | Good time (Mean) | Std. Deviation | Bad time (Mean) | Std. Deviation |
|---------------------|-----|------------------|----------------|-----------------|----------------|
| STUP                | 34  | 5964.98          | 2344.27        | 5944.39         | 2352.77        |
| DPRM                | 42  | 7187.07          | 4437.35        | 7184.69         | 4320.03        |
| CLP                 | 40  | 3792.83          | 2599.83        | 3426.33         | 2293.99        |
| RBP                 | 40  | 5238.17          | 2800.81        | 4899.42         | 2528.91        |
| Total               | 156 | 5550.68          | 3411.56        | 5364.72         | 3323.41        |

Table 5.9 Mean monthly expenditure in good and bad times

| Programme & Project | N   | Good time (Mean) | Std. Deviation | Bad time (Mean) | Std. Deviation |
|---------------------|-----|------------------|----------------|-----------------|----------------|
| STUP                | 34  | 2411.09          | 821.19         | 1980.26         | 744.39         |
| DPRM                | 42  | 3409.76          | 1601.56        | 2911.76         | 1937.85        |
| CLP                 | 40  | 1819.70          | 1026.40        | 1254.13         | 896.38         |
| RBP                 | 40  | 2617.30          | 1131.03563     | 1857.25         | 742.20         |
| Total               | 156 | 2581.20          | 1323.38875     | 2013.32         | 1351.32        |

Table 5.10 Mean monthly savings in good and bad times

| Programme & Project | N   | Mean    | Std. Deviation | Mean    | Std. Deviation |
|---------------------|-----|---------|----------------|---------|----------------|
| STUP                | 34  | 3553.89 | 2358.27        | 3964.13 | 2456.58        |
| DPRM                | 42  | 3777.31 | 4135.93        | 4272.93 | 4342.51        |
| CLP                 | 40  | 1973.13 | 2342.59        | 2172.21 | 2179.91        |
| RBP                 | 40  | 2620.87 | 2724.37        | 3042.17 | 2565.63        |
| Total               | 156 | 2969.49 | 3081.63        | 3351.40 | 3133.81        |

Monthly income in good times for the STUP, DPRM, CLP, and RBP beneficiaries were found to be Tk. 5964.98, Tk. 7187.07, Tk. 3792.83, and Tk. 5238.17 respectively. On the other hand, monthly income in bad times for the STUP beneficiary was found to be Tk. 5944.39 while for DPRM, CLP and RBP beneficiaries it was Tk. 7187.07, Tk. 3426.33 and Tk. 4899.42 respectively. Monthly



income in bad times in RC areas increase because of safety net programmes and also for the relief they receive in bad times as reported a few KIs. The overall income of the REC dwellers was found to be much higher than that for the RC dwellers. Relief, gifts or other safety net programme are not that common in the RECs unless a severe disaster occurs. On after disasters, they receive relief and safety net supports more. However, in RCs, during the lean seasons, relief and safe net supports are relatively higher and regular that probably contribution to the total HH income.

Monthly expenditure in good times, for the STUP beneficiaries, was found to be Tk. 2411.09, for those of DPRM was Tk. 3409.76, for those of CLP was Tk. 1819.7 and for the RBP beneficiaries was Tk. 2617.30. Mean monthly expenditures in bad times for the STUP, DPRM, CLP, and RBP beneficiaries were found to be Tk. 1980.26, Tk. 2911.76, Tk. 1254.12, and Tk. 1857.25 respectively.

The income and expenditure data show that it is only some of the DPRM beneficiaries who are able to save some money after all the expenditures. Though not reported for questionnaire survey as the surveyed HHs did not have 13-14 year old male child, but FGDs ensured that income from child labour also help in increasing the income of the REC HHs.

### **5.3.6 Overview of the consequences and implications**

The above discussion on the ‘consequences’ of interventions led to a few specific understanding. The factors contributed to positive ‘consequences’ in terms of SL could be identified in the discussion. There were factors that could also be identified to be contributing negatively. The overview of the ‘consequences’ and the specific factors identified are summarised below.

The factors contributing to positive ‘consequences’ in terms of SL were

- Long term programmes- of relatively longer duration (i.e. RBP);
- Interventions for social capital and human capital (i.e. RBP);
- Valuable material support (i.e. CLP, STUP, in a few interventions of DPRM: goat, house, etc.);
- Flexible criteria for beneficiary inclusion and exclusion (context specific); and
- Build a ‘repertoire of different petty enterprises and activities’ and diversification as is prevailing in the RCs.

All the above discussed issues allow the identification of certain challenges that lead

to negative ‘consequences’ of the studied interventions.

- Disasters: mainly natural;
- Diseases: due to unhygienic sanitation practices and lack of health care awareness and almost no health services;
- Lack of social capital: lack of relationships of trust, lack of social network, lack of cooperation, uncertainty due to lack of social support, insecurity for lack of suggestion from reliable persons, lacking suggestion in making appropriate decision, lack of community feeling, etc.
- Lack of good practices, i.e. hygienic sanitation system and pure water consumption to avoid diseases, to do good for the HH and the community;
- Inappropriate NGO intervention practices: not considering the people’s priorities, not providing necessary support services, not going back to the beneficiaries;
- Not considering HH level experience, expertise, mindset of the HH head that determines how the HH would behave to what intervention;
- HH level asset and vulnerability situation;
- Cultural practices: loan taking behaviour, expenditure behaviour, dowry, etc.
- Insecurity regarding land right and the ownership of land and accessibility to protected land (forest areas).

#### **5.4 Factors that Explain Intervention Consequences and Sustainability of Consequences**

In this section some quantitative analysis is attempted in trying to identify the ‘independent variables’ (factors) that may explain the two key ‘dependent variables’ namely ‘consequences’ and ‘sustainability’. The ‘consequences’ and ‘sustainability’ scores are derived from the responses to specific questions in the questionnaire. The respondents examined the interventions of the programme or project they had undergone. Using stepwise regression analyses, the extent to which different ‘independent variables’ are describing the ‘dependent variables’ of programme and project ‘consequences’ and ‘sustainability’ are examined. Stepwise regression analysis is especially useful for sifting through large numbers of potential independent variables and/or fine-tuning a model by poking variables in or out. The regression analyses performed for the present study includes a large number of independent



variables. Accordingly, stepwise regression analyses are appropriate. The risk of stepwise regression that it might converge on a poor model is overcome with sufficient qualitative information and explanations revealed through field findings.

The following table shows the grouping of questionnaire items or questions in measuring averages for weighted 'consequences' and 'sustainability' (see Appendix 1 and Appendix 2).

Table 5.11 Grouping of questionnaire items (questions) as used in measuring averages for weighted consequences and sustainability scores

| Items                                                                                                                                       | Variable label and name                                                               | In table |
|---------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------|
| STUP weighted consequences<br>(weighted for 20 items): BRAC - STUP: y22-y36;                                                                | Averages for weighted 'consequences' and 'sustainability' for STUP, DPRM, CLP and RBP | 5.11.1   |
| STUP weighted sustainability<br>(weighted for 10 items): BRAC - STUP: y37-y44;                                                              |                                                                                       |          |
| DPRM weighted consequences<br>(weighted for 20 items): SLOPB - DPRM: S6, S7 + T6, T7, T8, T9 or U4, U5, U6 or V4, V5, V6 or W1, W2, W3, W5; |                                                                                       |          |
| DPRM weighted sustainability<br>(weighted for 10 items): SLOPB - DPRM: S8, S9, S10, S11, S14 + T10 or U9 or V9 or W6, W7, W9;               |                                                                                       |          |
| CLP weighted consequences (weighted for 20 items): SKS- CLP: clp11-clp34;                                                                   |                                                                                       |          |
| CLP weighted sustainability (weighted for 10 items): SKS- CLP: clp35-clp43;                                                                 |                                                                                       |          |
| RBP weighted consequences (weighted for 20 items): SKS- RBP: rbp14-rbp28;                                                                   |                                                                                       |          |
| RBP weighted sustainability (weighted for 10 items): SKS- RBP: rbp29-rbp37.                                                                 |                                                                                       |          |

For each group of respondents (programme and project wise), there is a separate specific section in the questionnaire (see Appendix 1, at the end). The 'consequences' are measured using responses in the 5-point scale for selected programme/ project wise questions (see Appendix 1 for the questionnaire and Table 5.11 and Appendix 2 for the grouping of questionnaire items used for the following analyses). Next, the 'consequences' scores of every programme or project were weighted for 20 items for analyses. The 5-point scale allowed the respondents to choose among the 5 options namely, 'Not at all correct' = 1, 'Not correct' = 2, 'Uncertain' = 3, 'Correct' = 4, and 'Completely correct' = 5. In the 5-point scale for 20 items thus, the highest possible score could be (5X20) 100 and the lowest possible score could be (1X20) 20. Similarly, for 'sustainability', the measurement was done using the responses in a 5-point scale for selected items (see Appendix 1 for the questionnaire and Table 5.11 and Appendix 2 for the grouping of questionnaire items used for the following analyses). Here, the 'sustainability' scores were weighted for 10 items for each programme and project. Accordingly, for sustainability, the highest possible score could be (5X10) 50 and the lowest (1X10) 10. The averages for 'consequences' and 'sustainability' for different programme and project are given in Table 5.11.1.

The average 'consequences' scores for STUP and DPRM are 59.53 and 63.86 respectively. These averages are lower compared to those for CLP and RBP that are 81.35 and 67.90 respectively. The averages of DPRM and STUP fall around the 'Uncertain' option (with 3 as 'Uncertain', 3X20=60 for 20 items). The mean score, 81.35, for the CLP beneficiaries, reflect their consideration of the 'consequences' of interventions as 'Correct' (with 4 as 'Correct', 4X20=80 for 20 items). For the RBP beneficiaries also, the mean score, 67.90, fall between 'Uncertain' and 'Correct'.

These mean scores for 'consequences' are found to be mostly around 'Uncertain' except for the CLP score, indicating that the respondents are mostly uncertain about the consequences of the interventions. As reported earlier, the respondents of DPRM and STUP of *Char* Wadel are confused about the possible correct response to be in favourable consideration of the NGOs for the future support. Accordingly, the averages are found to fall around 'Uncertain'.



Table 5.11.1 Averages for consequences and sustainability for STUP, DPRM, CLP, and RBP

| Programme & Project |                | Consequences | Sustainability |
|---------------------|----------------|--------------|----------------|
| STUP                | Mean           | 59.53        | 38.86          |
|                     | N              | 34           | 34             |
|                     | Std. Deviation | 5.82         | 2.60           |
| DPRM                | Mean           | 63.86        | 33.83          |
|                     | N              | 42           | 42             |
|                     | Std. Deviation | 12.14        | 7.09           |
| CLP                 | Mean           | 81.35        | 42.89          |
|                     | N              | 40           | 40             |
|                     | Std. Deviation | 8.78         | 4.77           |
| RBP                 | Mean           | 67.90        | 37.23          |
|                     | N              | 40           | 40             |
|                     | Std. Deviation | 6.62         | 2.80           |

Moreover, the RBP beneficiaries' discontent without receiving any valuable material support is reflected in their average score for 'consequences'. All the averages for 'sustainability' fall between 'Uncertain' (with 3 as 'Uncertain',  $3 \times 10 = 30$  for 10 items) and 'Correct' (with 4 as 'Correct',  $4 \times 10 = 40$  for 10 items) except for the CLP score that falls between 'Correct' and 'Completely correct' (the score being above 40). The explanations for the obtained averages for 'sustainability' are the same as that of 'consequences' mentioned above. The highest averages for CLP 'consequences' and 'sustainability' reflect the beneficiaries' satisfaction with the most valuable asset package.

With the above discussed 'consequences' and 'sustainability' scores as 'dependent variables', regression analyses are performed to identify the extent to which specific 'independent variables' (among many relevant ones) are explaining the 'dependent variable'.

The following Box (Box 5.2) shows the variables (the corresponding item numbers of both the 'independent variables' and 'dependent variables' in the questionnaire and labels are also included for convenience of interpretation of the findings of the regression analyses) that were included as 'independent variables' for regression analysis to see the extent to which they describe the 'dependent variables'.

Box 5.2 The ‘independent variables’ and the ‘dependent variables’: the item numbers and labels

The ‘Independent Variables’

A3 = Total number of HH members

A4 = Total number of HH children

A7 = Socio-economic status prior to intervention

A8 = Socio-economic status after intervention

A15 = Total how many times displaced

F1\_1r = Aailed government widow-allowance service

F1\_2r = Aailed government elderly allowance service

F1\_3r = Aailed government freedom fighter allowance service

F1\_4r = Aailed government VGD/ VGF service

F1\_5r = Aailed government *khas* land service

F1\_6r = Aailed government educational stipend service

F1\_7r = Aailed government seed service

F1\_8r = Aailed government food for work service

F1\_9r = Aailed government *asrayon* (shelter) service

F1\_10r = Aailed government relief service

F1\_11r = Aailed government health services

F1\_12r = Aailed government registration (birth, death, voter and marriage)

F1\_13r = Aailed government livestock related service

F1\_14r = Aailed government agriculture related service

F1\_15r = Aailed government family planning related service

F1\_16r = Aailed government vaccination service

F2 = Beneficial ‘consequences’ of government services

F3 = ‘Sustainability of consequences’ (SD) of government services

F4 = ‘Topicality’ of government services

G1\_3 (G1+G2+G3) = Extent of occurrence of climate change related events

F5tot (F5\_1+ F5\_2+ F5\_3+ F5\_4+ F5\_5+ F5\_6+ F5\_7+ F5\_8+ F5\_9+ F5\_10+ F5\_11+ F5\_12) = Extent of possessing information and positive opinion on local government issues

F10 = Beneficial ‘consequences’ of NGO membership

F11 = ‘Sustainability of consequences’ (SD) of NGO membership



F12 = 'Topicality' of NGO interventions

Of the many options, six main occupations were found to be major for all the programme and project beneficiaries. Those were identified and selected as :

A9.1.1 = Farming

A9.1.2 = Contractual farmer

A9.1.3 = Fishing

A9.1.4 = Day labourer

A9.1.5 = Livestock

A9.1.6 = Small business

#### The 'Dependent Variables'

STUP\_Cons\_w = y22 to y36 = STUP weighted consequences

STUP\_sus\_w = y37 to y44 = STUP weighted sustainability

DPRM\_Cons\_w = S6+ S7 + (T6 + T7+ T8+ T9) or (U4+ U5+ U6) or (V4+ V5+ V6) or (W1+ W2+ W3+ W5) = DPRM weighted consequences

DPRM\_sus\_w = S8+ S9+ S10+ S11+ S14 + T10 or U9 or V9 or (W6+ W7+ W9) = DPRM weighted sustainability

CLP\_Cons\_w = clp11 to clp34 = CLP weighted consequences

CLP\_sus\_w = clp35 to clp43 = CLP weighted sustainability

RBP\_Cons\_w = rbp14 to rbp28 = RBP weighted consequences

RBP\_sus\_w = rbp29 to rbp37 = RBP weighted sustainability

The following table shows the model summary for the dependent variable: STUP weighted consequences.

Table 5.12.1 Model summary for the dependent variable: STUP weighted consequences

| Model | Predictors | R Square | Adjusted R Square |
|-------|------------|----------|-------------------|
| 1     | (a)        | .202     | .177              |
| 2     | (b)        | .335     | .292              |
| 3     | (c)        | .418     | .359              |
| 4     | (d)        | .521     | .454              |

(a) Predictors: (Constant), F4

(b) Predictors: (Constant), F4, F3

(c) Predictors: (Constant), F4, F3, A9.1.3

(d) Predictors: (Constant), F4, F3, A9.1.3, F1\_6r

The model presented in Table 5.12.1 summarises the findings of the regression analysis with the dependent variable, STUP weighted consequences. In Appendix 3, Table 5.12.1.1 shows the model summary for the dependent variable, STUP weighted consequences (detailed) with further supplementary information. The final model reveals that four independent variables – ‘Topicality’ of government services (F4), ‘Sustainability of consequences’ (SD) of government services (F3), Occupation: fishing (A9.1.3) and Aailed government educational stipend service (F1\_6r) - describe 52.1% variability of the dependent variable, STUP weighted consequences. The ANOVA test shows the level of significance at which the null hypothesis that all of the model coefficients are 0 is rejected. Table 5.12.2 shows the ANOVA for the dependent variable, STUP weighted consequences (see Appendix 3). In Table 5.12.3, the final model on the basis of the findings on coefficients of the dependent variable, STUP weighted consequences, is presented. Table 5.12.3.1 in Appendix 3 provides further supplementary information.

Table 5.12.3 Coefficients of the dependent variable: STUP weighted consequences

| Model |                                                                   | Coefficients |            |
|-------|-------------------------------------------------------------------|--------------|------------|
|       |                                                                   | B            | Std. Error |
| 1     | (Constant)                                                        | 53.303**     | 2.366      |
|       | F4 = ‘Topicality’ of government services                          | 2.379**      | .835       |
| 2     | (Constant)                                                        | 61.299**     | 3.890      |
|       | F4 = ‘Topicality’ of government services                          | 2.555**      | .778       |
|       | F3 = ‘Sustainability of consequences’ (SD) of government services | -2.638*      | 1.060      |
| 3     | (Constant)                                                        | 59.565**     | 3.796      |
|       | F4 = ‘Topicality’ of government services                          | 2.437**      | .742       |
|       | F3 = ‘Sustainability of consequences’ (SD) of government services | -2.699*      | 1.009      |
|       | A9.1.3 = Occupation: fishing                                      | 3.458*       | 1.679      |
| 4     | (Constant)                                                        | 60.674**     | 3.531      |
|       | F4 = ‘Topicality’ of government services                          | 2.169**      | .693       |
|       | F3 = ‘Sustainability of consequences’ (SD) of government services | -2.837**     | .933       |
|       | A9.1.3 = Occupation: fishing                                      | 4.250*       | 1.582      |
|       | F1_6r = Aailed government educational stipend service             | -8.083*      | 3.238      |

\*p < .05, \*\*p < .01



The final model is,

STUP weighted consequences =  $60.674 + 2.169$  'Topicality' of government services +  $(-2.837)$  'Sustainability of consequences' (SD) of government services +  $4.25$  Occupation: Fishing +  $(-8.083)$  Aailed government educational stipend

In the model, the constant is, 60.67 that means when all other variables are 0, the predicted value of STUP weighted consequences is on an average, 60.67.

The interpretation of the coefficients of the independent variables for the dependent variable: STUP weighted consequences follows:

'Topicality' of government services (F4) - The coefficient for 'topicality' of government services is 2.169. So for every unit increase in 'topicality' of government services, an approximately 2.17 unit increase in STUP weighted consequences is predicted, holding all other variables constant.

'Sustainability of consequences' (SD) of government services (F3) – The coefficient for 'sustainability of consequences' (SD) of government services is -2.837. For every unit increase in 'sustainability of consequences' (SD) of government services we expect an approximately 2.84 unit decrease in the STUP weighted consequences score, holding all other variables constant.

Occupation: Fishing (A9.1.3) - The coefficient for Fishing is 4.25. So for every unit increase in fishing, a 4.25 unit increase in STUP weighted consequences is predicted, holding all other variables constant.

Aailed government educational stipend (F1\_6r) – For every unit increase in aailed government educational stipend, we expect an 8.08 unit decrease in the STUP weighted consequences score, holding all other variables constant.

The above interpretation leads to the finding that aailed government educational stipend and occupation: fishing has somewhat moderate influence on the score of STUP weighted consequences. However, they are in opposite directions. One unit increase in occupation: fishing will increase 4.25 units of STUP weighted consequences score. On the other hand, one unit increase in aailed government educational stipend will decrease 8.08 units of STUP weighted consequences score. The other two variables, 'topicality' of government services, and 'sustainability of consequences' (SD) of government services have relatively very low influence on STUP weighted consequences score. However, they are also in opposite directions.

Increase in 'topicality' of government services and occupation: fishing will lead to

increase in STUP consequences. On the other hand, increase in ‘sustainability of consequences’ (SD) of government services and government educational stipend will reduce STUP consequences with all other variables hold constant. Moreover, for the fishing HHs, if the government services that are of their choice are increased, STUP consequences will be higher. Conversely, when ‘sustainability of consequences’ (SD) of government services are sustained and government educational stipend is received, STUP consequences will be reduced.

The analysis indicates that for fishing HHs in *Char* Wadel, topical government interventions can increase SL through STUP interventions but, ‘sustainability’ of government services will reduce STUP consequences. Thus, when consequences of government services are sustainable, STUP will have low level of consequences for the beneficiaries. However, if topical government services are provided along with STUP interventions, STUP consequences will be considered positively, they will supplement each other.

Before, starting the next analysis it is worth mentioning that the coefficient correlations for the independent variables found to describe the Dependent Variable: STUP weighted consequences are presented in Table 5.12.4 (see Appendix 3).

Next, (Table 5.13.1) the model summary for the dependent variable: STUP weighted sustainability is presented.

Table 5.13.1 Model summary for the dependent variable: STUP weighted sustainability

| Model | Predictors | R Square | Adjusted R Square |
|-------|------------|----------|-------------------|
| 1     | (a)        | .213     | .188              |

(a) Predictors: (Constant), F1\_12r

The final model reveals the single independent variable – availed government service: registration (birth, death, voter, and marriage) (F1\_12r) as describing 21.3% variability of the dependent variable: STUP weighted sustainability.

The detailed model summary with further supplementary information for the dependent variable: STUP weighted sustainability is given in Table 5.13.1.1 in Appendix 3. The ANOVA test shows the level of significance at which the null hypothesis that all of the model coefficients are 0 is rejected. Table 5.13.2 shows the ANOVA results for the Dependent Variable: STUP weighted sustainability (see Appendix 3).



The final model based on the findings, is presented in Table 5.12.3 for the coefficients of the dependent variable: STUP weighted sustainability. The detailed table for the coefficients of the dependent variable: STUP weighted sustainability is given in Table 5.13.3.1 in Appendix 3.

Table 5.13.3 Coefficients of the dependent variable: STUP weighted sustainability

| Model |                                                                                     | Coefficients |            |
|-------|-------------------------------------------------------------------------------------|--------------|------------|
|       |                                                                                     | B            | Std. Error |
| 1     | (Constant)                                                                          | 35.625**     | 1.171      |
|       | F1_12r = Aailed government service: registration (birth, death, voter and marriage) | 3.667**      | 1.247      |

\*\*p < .01

The final model is,

STUP weighted sustainability = 35.625 + 3.667 Aailed government service: registration (birth, death, voter, and marriage)

In the model, the constant is, 35.63 that means when all other variables are 0, the predicted value of STUP weighted sustainability is on an average, 35.63.

Aailed government service: registration (birth, death, voter, and marriage) (F1\_12r) is the independent variable found to describe the dependent variable: STUP weighted sustainability. The coefficient of government service: registration (birth, death, voter, and marriage) is 3.667. So for every unit increase in government service: registration (birth, death, voter, and marriage), an approximately 3.67 unit increase in STUP weighted sustainability is predicted, holding all other variables constant.

The single independent variable - aailed government service: registration (birth, death, voter, and marriage) has a somewhat low influence on STUP weighted sustainability score.

As there was a single variable to describe the dependent variable: STUP weighted sustainability, no table for coefficient correlations for the independent variables is presented in Appendix 3.

Table 5.14.1 shows the model summary for the dependent variable: DPRM weighted 'consequences'. The table reveals two independent variables that describe only 23.8% of the dependent variable: DPRM weighted consequences. Furthermore, Table

5.14.1.1 (see Appendix 3) provides a more detailed model summary for the dependent variable: DPRM weighted consequences.

Table 5.14.1 Model summary for the dependent variable: DPRM weighted consequences

| Model | Predictors | R Square | Adjusted R Square |
|-------|------------|----------|-------------------|
| 1     | (a)        | .140     | .119              |
| 2     | (b)        | .238     | .199              |

(a) Predictors: (Constant), F1\_13r

(b) Predictors: (Constant), F1\_13r, A7

The final model reveals two independent variables – availed government livestock related service (F1\_13r) and socio-economic status prior to intervention (A7) - describe 23.8% variability of the dependent variable: DPRM weighted consequences.

Table 5.14.2, shows the ANOVA for the dependent variable: DPRM weighted consequences (see Appendix 3). The level of significance at which the null hypothesis that all of the model coefficients are 0 is rejected is presented there.

The following table (Table 5.14.3) provides the coefficients of the dependent variable: DPRM weighted consequences. An even detailed table for the coefficients of the dependent variable: DPRM weighted consequences with supplementary information is provided in Table 5.14.3.1 in Appendix 3.

Table 5.14.3 Coefficients of the dependent variable: DPRM weighted consequences

| Model |                                                       | Coefficients |            |
|-------|-------------------------------------------------------|--------------|------------|
|       |                                                       | B            | Std. Error |
| 1     | (Constant)                                            | 65.103**     | 1.824      |
|       | F1_13r = Availed government livestock related service | -17.436*     | 6.825      |
| 2     | (Constant)                                            | 57.711**     | 3.738      |
|       | F1_13r = Availed government livestock related service | -20.527**    | 6.653      |
|       | A7 = socio-economic status prior to intervention      | 5.242*       | 2.346      |

\*p < .05, \*\*p < .01

The final model is, DPRM weighted consequences = 57.711 + (-20.527) Availed government livestock related service + 5.242 Socio-economic status prior to intervention



In the model, the constant is, 57.71 that means the predicted value of DPRM weighted consequences is on an average, 57.71, when all other variables are 0.

Availed government livestock related service (F1\_13r) - The coefficient of government livestock related support is -20.527. For every unit increase in government livestock related support, we expect an approximately 20.53 unit decrease in the DPRM weighted consequences score, holding all other variables constant.

Socio-economic status prior to intervention (A7) - The coefficient of socio-economic status prior to intervention is 5.242. So, for every unit increase in socio-economic status prior to intervention, we expect a 5.24 point increase in the DPRM weighted consequences score.

The above interpretation leads to the finding that -

Availed government livestock related service has a relatively high and socio-economic status prior to intervention has somewhat moderate influence on the score of DPRM weighted consequences. However, they are in opposite directions. One unit increase in Availed government livestock related service will decrease 20.527 units of DPRM weighted consequences score. On the other hand, one unit increase in socio-economic status prior to intervention will increase 5.24 units of DPRM weighted consequences score.

DPRM provided livestock, mostly poultry, but did not provide any further support of vaccination and treatment. DPRM beneficiaries received those support services for the livestock from the Upazila level government livestock office and thus the increase in such government service was considered more important than to just receiving the poultry. As a result, for the DPRM beneficiaries as government livestock related service will increase the impact of DPRM support decrease. Even, during the follow up FGD the DPRM beneficiaries reported the necessity of livestock support service after receiving such livelihood support. For them, without such support service, it is of less use to get the support. Thus, increase in government livestock related support will lead to less impact of the DPRM intervention.

The coefficient correlations for the independent variables found to describe the Dependent Variable: DPRM weighted consequences are presented in Table 5.14.4 (see Appendix 3).

The following table (Table 5.15.1) shows the model summary for the dependent variable: DPRM weighted sustainability that reveals eight independent variables to explain 76.8% of the dependent variable: DPRM weighted sustainability. In table

5.15.1.1 (see Appendix 3), a further detailed model summary for the dependent variable: DPRM weighted sustainability is provided.

Table 5.15.1 Model summary for the dependent variable: DPRM weighted sustainability

| Model | Predictors | R Square | Adjusted R Square |
|-------|------------|----------|-------------------|
| 1     | (a)        | .204     | .184              |
| 2     | (b)        | .324     | .289              |
| 3     | (c)        | .457     | .414              |
| 4     | (d)        | .527     | .476              |
| 5     | (e)        | .607     | .552              |
| 6     | (f)        | .666     | .609              |
| 7     | (g)        | .729     | .673              |
| 8     | (h)        | .768     | .711              |

(a) Predictors: (Constant), F2

(b) Predictors: (Constant), F2, F1\_16r

(c) Predictors: (Constant), F2, F1\_16r, A9.1.1

(d) Predictors: (Constant), F2, F1\_16r, A9.1.1, F1\_13r

(e) Predictors: (Constant), F2, F1\_16r, A9.1.1, F1\_13r, F1\_10r

(f) Predictors: (Constant), F2, F1\_16r, A9.1.1, F1\_13r, F1\_10r, F1\_14r

(g) Predictors: (Constant), F2, F1\_16r, A9.1.1, F1\_13r, F1\_10r, F1\_14r, A7

(h) Predictors: (Constant), F2, F1\_16r, A9.1.1, F1\_13r, F1\_10r, F1\_14r, A7, F10

Final model: The eight independent variables – beneficial ‘consequences’ of government services (F2), Aailed government vaccination service, (F1\_16r), Occupation: Farming (A9.1.1), Aailed government livestock related service (F1\_13r), Aailed government relief service, (F1\_10r), Aailed government agriculture support (F1\_14r), Socio-economic status prior to intervention (A7) and Beneficial ‘consequences’ of NGO membership (F10) - describe 76.8% variability of the dependent variable: DPRM weighted sustainability.

The ANOVA table shows the level of significance at which the null hypothesis that all of the model coefficients are 0 is rejected. Table 5.15.2 shows the ANOVA test results for the dependent variable: DPRM weighted sustainability (see Appendix 3).

Table 5.15.3 shows the coefficients of the dependent variable: DPRM weighted sustainability. A more detailed table, on this is provided in Appendix 3, in Table 5.15.3.1.



Table 5.15.3 Coefficients of the dependent variable: DPRM weighted sustainability

| Model |                                                       | Coefficients |            |
|-------|-------------------------------------------------------|--------------|------------|
|       |                                                       | B            | Std. Error |
| 1     | (Constant)                                            | 20.830**     | 4.180      |
|       | F2 = Beneficial 'consequences' of government services | 3.617**      | 1.130      |
| 2     | (Constant)                                            | 18.031**     | 4.044      |
|       | F2 = Beneficial 'consequences' of government services | 3.535**      | 1.055      |
|       | F1_16r = Aailed government vaccination service        | 4.996*       | 1.900      |
| 3     | (Constant)                                            | 15.574**     | 3.760      |
|       | F2 = Beneficial 'consequences' of government services | 4.225**      | .984       |
|       | F1_16r = Aailed government vaccination service        | 5.921**      | 1.752      |
|       | A9.1.1 = Occupation: Farming                          | -12.507**    | 4.104      |
| 4     | (Constant)                                            | 15.726**     | 3.555      |
|       | F2 = Beneficial 'consequences' of government services | 4.309**      | .931       |
|       | F1_16r = Aailed government vaccination service        | 6.074**      | 1.657      |
|       | A9.1.1 = Occupation: Farming                          | -13.192**    | 3.891      |
|       | F1_13r = Aailed government livestock related service  | -7.243*      | 3.085      |
| 5     | (Constant)                                            | 17.450**     | 3.349      |
|       | F2 = Beneficial 'consequences' of government services | 4.812**      | .881       |
|       | F1_16r = Aailed government vaccination service        | 6.836**      | 1.558      |
|       | A9.1.1 = Occupation: Farming                          | -12.891**    | 3.599      |
|       | F1_13r = Aailed government livestock related service  | -7.952**     | 2.864      |
|       | F1_10r = Aailed government relief service             | -5.050*      | 1.872      |
| 6     | (Constant)                                            | 15.051**     | 3.271      |
|       | F2 = Beneficial 'consequences' of government services | 5.172**      | .835       |
|       | F1_16r = Aailed government vaccination service        | 8.040**      | 1.532      |
|       | A9.1.1 = Occupation: Farming                          | -13.516**    | 3.371      |
|       | F1_13r = Aailed government livestock related service  | -10.914**    | 2.924      |
|       | F1_10r = Aailed government relief service             | -4.848**     | 1.750      |
|       | F1_14r = Aailed government agriculture support        | 9.314*       | 3.718      |
| 7     | (Constant)                                            | 10.625**     | 3.386      |
|       | F2 = Beneficial 'consequences' of government services | 5.335**      | .766       |
|       | F1_16r = Aailed government vaccination service        | 8.289**      | 1.405      |
|       | A9.1.1 = Occupation: Farming                          | -12.701**    | 3.098      |
|       | F1_13r = Aailed government livestock related service  | -12.657**    | 2.747      |
|       | F1_10r = Aailed government relief service             | -4.710**     | 1.602      |
|       | F1_14r = Aailed government agriculture support        | 10.320**     | 3.421      |
| 8     | A7 = Socio-economic status prior to intervention      | 2.488**      | .891       |
|       | (Constant)                                            | 15.820**     | 3.876      |
|       | F2 = Beneficial 'consequences' of government services | 6.316**      | .833       |

|                                                      |           |       |
|------------------------------------------------------|-----------|-------|
| F1_16r = Aailed government vaccination service       | 8.871**   | 1.343 |
| A9.1.1 = Occupation: Farming                         | -14.293** | 2.989 |
| F1_13r = Aailed government livestock related service | -17.549** | 3.318 |
| F1_10r = Aailed government relief service            | -4.775**  | 1.505 |
| F1_14r = Aailed government agriculture support       | 15.372**  | 3.868 |
| A7 = Socio-economic status prior to intervention     | 3.702**   | .984  |
| F10 = Beneficial 'consequences' of NGO membership    | -2.784*   | 1.186 |

\*p < .05, \*\*p < .01

The final model is,

DPRM weighted sustainability = 15.820 + 6.316 Beneficial 'consequences' of government services + 8.871 Aailed government vaccination service + (-14.293) Occupation: Farming + (-17.549) Aailed government livestock related service + (-4.775) Aailed government relief service + 15.372 Aailed government agriculture related service + 3.702 Socio-economic status prior to intervention + (-2.784) Beneficial 'consequences' of NGO membership

In the model, the constant is, 15.82 that means when all other variables are 0, the predicted value of DPRM weighted sustainability is on an average, 15.82.

Beneficial 'consequences' of government services (F2) - The coefficient of beneficial 'consequences' of government services is 6.316. So for every unit increase in beneficial 'consequences' of government services, we expect an approximately 6.32 point increase in the DPRM weighted sustainability score, holding all other variables constant.

Aailed government vaccination service (F1\_16r) – The coefficient of government vaccination service is 8.871. So for every unit increase in government vaccination service, an 8.87 unit increase in DPRM weighted sustainability is predicted, holding all other variables constant.

Occupation: Farming (A9.1.1) - For every unit increase in farming, we expect a 14.293 unit decrease in the DPRM weighted sustainability score, holding all other variables constant.

Aailed government livestock related service (F1\_13r) – The coefficient of government livestock related service is -17.549. For every unit increase in government livestock related service, we expect a 17.549 unit decrease in the DPRM weighted sustainability score, holding all other variables constant.

Aailed government relief service (F1\_10r) - For every unit increase in government



relief service, we expect an approximately 4.78 unit decrease in the DPRM weighted sustainability score, holding all other variables constant.

Availed government agriculture related service (F1\_14r) - The coefficient of government agriculture related service is 15.372. So for every unit increase in government agriculture related service, a 15.37 point increase in the DPRM weighted sustainability score is expected.

Socio-economic status prior to intervention (A7) - The coefficient of Socio-economic status prior to intervention is 3.702. So for every unit increase in Socio-economic status prior to intervention, a 3.70 unit increase in DPRM weighted sustainability is predicted, holding all other variables constant.

Beneficial 'consequences' of NGO membership (F10) - For every unit increase in beneficial 'consequences' of NGO membership, we expect a -2.78 unit decrease in the DPRM weighted sustainability score, holding all other variables constant.

The above interpretation leads to the finding that

Occupation: farming and availed government livestock related service, have somewhat high influence on the score of DPRM weighted sustainability. Moreover, they are in the same direction. One unit increase in occupation: farming and availed government livestock related service will decrease 14.29 and 17.55 units of DPRM weighted sustainability score respectively. Availed government agriculture related service also has high influence on DPRM weighted sustainability score in a positive direction.

Two other variables, beneficial 'consequences' of government services, availed government vaccination service has relatively moderate influence in a positive direction on the dependent variable, DPRM weighted sustainability score. However, with moderate negative influence, one unit increase in availed government relief service will decrease 4.78 units of DPRM weighted sustainability score. The other two variables, socio-economic status prior to intervention and beneficial 'consequences' of NGO membership have somewhat low influence on DPRM weighted sustainability score. However, they are in opposite directions.

Generally, the DPRM beneficiaries considered beneficial 'consequences' of government services to go hand in hand with the sustainability of DPRM weighted consequences. They were positive toward the government services and also toward DPRM support. Thus, increase in government agriculture, relief, and vaccination supports was found to predict increase in sustainability of DPRM weighted

consequences. For the farming HHs, DPRM provided seeds in many cases could not bring positive ‘consequences’ due to pest attack and hail storm. Thus, the prediction is, increase in farming HHs will decrease the ‘sustainability’ of DPRM support. The same is true for government: livestock related support.

Table 5.14.4 in Appendix 3 shows the coefficient correlations for the independent variables found to describe the dependent variable: DPRM weighted sustainability.

Table 5.16.1, presents the model summary for the dependent variable: CLP weighted consequences. A more detailed model summary for the same is given in Table 5.16.1.1 in Appendix 3.

Table 5.16.1 Model summary for the dependent variable: CLP weighted consequences

| Model | Predictors | R Square | Adjusted R Square |
|-------|------------|----------|-------------------|
| 1     | (a)        | .553     | .541              |
| 2     | (b)        | .716     | .701              |
| 3     | (c)        | .753     | .733              |

(a) Predictors: (Constant), F5tot

(b) Predictors: (Constant), F5tot, F11

(c) Predictors: (Constant), F5tot, F11, A7

Final model: The three independent variables – extent of possessing information and positive opinion on local government issues (F5tot), ‘sustainability of consequences’ (SD) of NGO membership (F11) and socio-economic status prior to intervention (A7) - describe 75.3% variability of the dependent variable: CLP weighted consequences.

Table 5.16.2 (see Appendix 3) shows the ANOVA test results for the dependent variable: CLP weighted consequences. It demonstrates the level of significance at which the null hypothesis that all of the model coefficients are 0 is rejected.

The following table (Table 5.16.3) shows the coefficients of the dependent variable: CLP weighted consequences (for a more detailed table on coefficients of the dependent variable: CLP weighted consequences see Table 5.16.3.1 in Appendix 3).

Table 5.16.3 Coefficients of the dependent variable: CLP weighted consequences

| Model |                                              | Coefficients |            |
|-------|----------------------------------------------|--------------|------------|
|       |                                              | B            | Std. Error |
| 1     | (Constant)                                   | 73.344**     | 1.500      |
|       | F5tot = Extent of possessing information and | 2.108**      | .307       |



|   |                                                                                          |          |       |
|---|------------------------------------------------------------------------------------------|----------|-------|
|   | positive opinion on local government issues                                              |          |       |
| 2 | (Constant)                                                                               | 53.742** | 4.420 |
|   | F5tot = Extent of possessing information and positive opinion on local government issues | 2.123**  | .248  |
|   | F11 = 'sustainability of consequences' (SD) of NGO membership                            | 4.767**  | 1.034 |
| 3 | (Constant)                                                                               | 42.752** | 6.292 |
|   | F5tot = Extent of possessing information and positive opinion on local government issues | 2.000**  | .240  |
|   | F11 = 'sustainability of consequences' (SD) of NGO membership                            | 4.811**  | .977  |
|   | A7 = socio-economic status prior to intervention                                         | 11.003*  | 4.712 |

\*p < .05, \*\*p < .01

The final model is: CLP weighted consequences = 42.752 + 2.000 Extent of possessing information and positive opinion on local government issues + 4.811 'Sustainability of consequences' (SD) of NGO membership + 11.003 Socio-economic status prior to intervention

In the model, the constant is, 42.75. Therefore, the predicted value of CLP weighted consequences is on an average, 42.75, when all other variables are 0.

Extent of possessing information and positive opinion on local government issues (F5tot) - The coefficient of extent of possessing information and positive opinion on local government issues is 2.00. So for every unit increase in extent of possessing information and positive opinion on local government issues, a 2.00 unit increase in CLP weighted consequences is predicted, holding all other variables constant.

'Sustainability of consequences' (SD) of NGO membership (F11) - For every unit increase in 'sustainability of consequences' (SD) of NGO membership, a 4.81 unit increase in CLP weighted consequences is predicted, holding all other variables constant.

Socio-economic status prior to intervention (A7) - The coefficient of Socio-economic status prior to intervention (A7) is 11.003. So for every unit increase in Socio-economic status prior to intervention (A7), an 11.00 unit increase in CLP weighted consequences is predicted, holding all other variables constant.

So, extent of possessing information and positive opinion on local government issues that include information and opinion about local government activities, 'sustainability of consequences' of NGO interventions and socio-economic status prior to

intervention all positively predict the increase of CLP weighted consequences score. The coefficient correlations for the independent variables found to describe the Dependent Variable: CLP weighted consequences are presented in Table 5.16.4 in Appendix 3.

Following is the model summary for the dependent variable: CLP weighted sustainability presented in Table 5.17.1. A more detailed model summary for the dependent variable: CLP weighted sustainability is provided in Table 5.17.1.1 in Appendix 3.

Table 5.17.1 Model summary for the dependent variable: CLP weighted sustainability

| Model | Predictors | R Square | Adjusted R Square |
|-------|------------|----------|-------------------|
| 1     | (a)        | .574     | .563              |
| 2     | (b)        | .677     | .659              |

(a) Predictors: (Constant), F5tot

(b) Predictors: (Constant), F5tot, F11

Final model: The two independent variables – extent of possessing information and positive opinion on local government issues (F5tot) and ‘sustainability of consequences’ (SD) of NGO membership (F11) - describe the 67.7% variability of the dependent variable CLP weighted sustainability.

The ANOVA test shows the level of significance at which the null hypothesis that all of the model coefficients are 0 is rejected. Table 5.17.2 in Appendix 3, shows the ANOVA results for the dependent variable: CLP weighted sustainability.

In Table 5.17.3 the coefficients of the dependent variable: CLP weighted sustainability is presented. For more detailed information on coefficients of the dependent variable: CLP weighted sustainability see Table 5.17.3.1 in Appendix 3.

Table 5.17.3 Coefficients of the dependent variable: CLP weighted sustainability

| Model |                                                                                          | Coefficients |            |
|-------|------------------------------------------------------------------------------------------|--------------|------------|
|       |                                                                                          | B            | Std. Error |
| 1     | (Constant)                                                                               | 38.459**     | .794       |
|       | F5tot = Extent of possessing information and positive opinion on local government issues | 1.166**      | .163       |
| 2     | (Constant)                                                                               | 30.026**     | 2.560      |
|       | F5tot = Extent of possessing information and positive opinion on local government issues | 1.172**      | .144       |



|  |                                                               |         |      |
|--|---------------------------------------------------------------|---------|------|
|  | F11 = 'sustainability of consequences' (SD) of NGO membership | 2.051** | .599 |
|--|---------------------------------------------------------------|---------|------|

\*\*p < .01

The final model is: CLP weighted sustainability = 30.026 + 1.172 F5tot + 2.051 F11

In the model, the constant is, 30.03 that means when all other variables are 0, the predicted value of CLP weighted sustainability is on an average, 30.03.

Both, extent of possessing information and positive opinion on local government issues, and 'sustainability of consequences' (SD) of NGO membership have very low influence on CLP weighted consequences score. They will positively predict increase in sustainability of CLP intervention consequences.

Extent of possessing information and positive opinion on local government issues (F5tot) - The coefficient of extent of possessing information and positive opinion on local government issues is 1.172. So for every unit increase in extent of possessing information and positive opinion on local government issues, a 1.17 unit increase in CLP weighted sustainability is predicted, holding all other variables constant.

'sustainability of consequences' (SD) of NGO membership (F11) – For every unit increase in 'sustainability of consequences' (SD) of NGO membership, a 2.05 unit increase in CLP weighted sustainability is predicted, holding all other variables constant.

The coefficient correlations for the independent variables found to describe the dependent variable: CLP weighted sustainability are presented in Table 5.14.4 (see Appendix 3).

Table 5.18.1 shows the model summary for the dependent variable: RBP weighted consequences. Moreover, Table 5.18.1.1 in Appendix 3 is a detailed table with supplementary information.

Table 5.18.1 Model summary for the dependent variable: RBP weighted consequences

| Model | Predictors | R Square | Adjusted R Square |
|-------|------------|----------|-------------------|
| 1     | (a)        | .143     | .120              |

(a) Predictors: (Constant), F5tot

Final model: The single independent variable – extent of possessing information and positive opinion on local government issues (F5tot), describes the 14.3% variability of the dependent variable: RBP weighted consequences.

Table 5.18.2 (see Appendix 3) shows the ANOVA test results for the dependent variable: RBP weighted consequences. It shows the level of significance at which the null hypothesis that all of the model coefficients are 0 is rejected.

Table 5.18.3, on the coefficients of the dependent variable: RBP weighted consequences follows. A more detailed table on the coefficients of the dependent variable: RBP weighted consequences is presented in Table 5.18.3.1 in Appendix 3.

Table 5.18.3 Coefficients of the dependent variable: RBP weighted consequences

| Model |                                                                                          | Coefficients |            |
|-------|------------------------------------------------------------------------------------------|--------------|------------|
|       |                                                                                          | B            | Std. Error |
| 1     | (Constant)                                                                               | 64.831**     | 1.565      |
|       | F5tot = Extent of possessing information and positive opinion on local government issues | 1.067*       | .424       |

\*p < .05, \*\*p < .01

The final model is: RBP weighted consequences = 64.831 + 1.067 Extent of possessing information and positive opinion on local government issues

In the model, the constant is, 64.83 that means when all other variables are 0, the predicted value of RBP weighted consequences is on an average, 64.83.

Extent of possessing information and positive opinion on local government issues (F5tot) - The coefficient of extent of possessing information and positive opinion on local government issues is 1.07. So for every unit increase in extent of possessing information and positive opinion on local government issues, an approximately 1.067 unit increase in RBP weighted consequences is predicted, holding all other variables constant.

Of all the independent variables, only local government issues that is information and opinion of local government activities was found to have very low influence on RBP weighted consequences.

No table for the coefficient correlations for the independent variables to describe the dependent variable: DPRM weighted sustainability is given as only one independent variable was found.

Table 5.19.1 shows the model summary for the dependent variable: RBP weighted



sustainability where again a single independent variable is found to explain the dependent variable: RBP weighted sustainability. For detailed information on the Model summary for the dependent variable: RBP weighted sustainability, see table 5.19.1.1 in Appendix 3.

Table 5.19.1 Model summary for the dependent variable: RBP weighted sustainability

| Model | Predictors | R Square | Adjusted R Square |
|-------|------------|----------|-------------------|
| 1     | (a)        | .120     | .097              |

(a) Predictors: (Constant), F1\_7r

Final model: The single independent variable – availed government seed service (F1\_7r) describes 12% variability of the dependent variable: RBP weighted consequences.

The ANOVA test shows the level of significance at which the null hypothesis that all of the model coefficients are 0 is rejected. Table 5.19.2 shows the ANOVA results for the dependent variable: RBP weighted sustainability (see Appendix 3).

In Table 5.19.3, coefficients of the dependent variable: RBP weighted sustainability are presented. Table 5.19.3.1 in Appendix 3, provides supplementary information on coefficients of the dependent variable: RBP weighted sustainability.

Table 5.19.3 Coefficients of the dependent variable: RBP weighted sustainability

| Model |                                        | Coefficients |            |
|-------|----------------------------------------|--------------|------------|
|       |                                        | B            | Std. Error |
| 1     | (Constant)                             | 36.824**     | .456       |
|       | F1_7r = Aailed government seed service | 2.676*       | 1.177      |

\*p < .05, \*\*p < .01

The final model is:  $\text{RBP weighted sustainability} = 36.824 + 2.676 \text{ F1\_7r}$

The constant is, 36.82 that mean the predicted value of RBP weighted sustainability is on an average, 36.82, when all other variables are 0.

Availed government seed service (F1\_7r) - The coefficient of government seed service is 2.676. So for every unit increase in government seeds service, an approximately 2.68 unit increase in RBP weighted sustainability is predicted, holding all other variables constant.

Only one independent variable, availed government seed service which has very low influence on RBP weighted sustainability score is found to predict variability in sustainability of RBP consequences. No table for coefficient correlations for the single independent variables can be produced.

In summary, the regression analyses focus on the importance of various government services, extent of possessing information and positive opinion on local government issues, 'topicality' of government services and beneficial 'consequences' and sustainable 'consequences' of NGO membership and socio-economic status prior to intervention as the major independent variables to describe the 'consequences' and 'sustainability of consequences' of specific programme and project interventions.

Beneficial consequences of government interventions, topical government interventions, and 'sustainability of consequences' (SD) of NGO membership were found to supplement the studied NGO interventions in bringing positive consequences. Interestingly, 'sustainability of consequences' (SD) of government services was found to reduce the consequences of some of the studied interventions. This means, if *char* dwelled perceive government services as sustainable, they will rely on those the most and different NGO interventions will be less required and will be able to impact less.

#### **5.4.1 Major findings from qualitative methods to supplement the quantitative findings on socio-economic status, land, HH level assets, HH level livestock and trees, income-expenditure, intervention consequences and sustainability of consequences**

This chapter attempted to demonstrate the 'consequences' and 'implications' of development interventions in terms of SL and SD. For the present study, after intervention future implication in terms of SL was studied after around one year of the completion of the intervention implementation.

The findings point to the fact that the interventions targeted to SL were leading to mixed 'consequences' at the HH level, both positive and negative. The interventions were found to lead to temporary solutions to some of the problems for a very few. In most of the cases, the STUP interventions were resulted in a means of living. However, cattle rearing were not the preferred occupation for at least some of them. As a result, they switched to investing in land selling the cow. Here the community level vulnerability (not having a *tilla* or high land for the shelter of the cattle) and



preference for farming (that resulted from expertise and previous experience) were important. Again, it is worth remembering what several other researchers suggested (Lipton 1983, Chambers 1988, Bernstein, 1992, see Chapter 2). For them, the rural 'poor' are like other rural people only poorer. However, the 'ultra poor' experience different patterns of poverty and behave differently. The STUP beneficiaries were the 'ultra poor' and thus their experience of poverty and reaction or behaviour to different patterns of poverty could be the other determinant of behaviour in different situation. For those, who recognised cattle rearing as a livelihood also reported that it is not a means of SL. Because, in the absence of any facility like a *tilla* or high land to protect the cattle during any severe disaster, the issue of coping with and recovering from stress and shocks and maintaining or enhancing HH capabilities and assets is out of question. Still the STUP beneficiaries were found to be optimistic to make at least a little progress before being devastated by a disaster. The DPRM interventions of poultry were in most of the cases considered negligible as a means of livelihood. The seed and fertilizer support led to mixed 'consequences' due to disasters and pest attack. The other supports like goat, house, and tubewell were considered useful but were not the assets could be used as means of livelihood. Moreover, due to lack of awareness building activities, the good practices of using sanitary latrine or consumption of tubewell water was not in regular practice by all.

The CLP beneficiary selection criteria also reassured the ultra poor as their beneficiaries. The intervention package though is claimed to be the most valuable, was somewhat similar to that of STUP which was relatively less valuable. For the CLP beneficiaries, the package was found to provide means of livelihood but due to lack of orientation for after programme asset sustaining strategies, the beneficiaries seemed to feel helpless. They were confused about whether to sell the cow for survival or sustain it for livelihood. In such a situation, their experience and practice suggested them to adopt livelihood diversification. Chambers (1988) identified livelihood diversification to be the characteristic of some who build a 'repertoire of different petty enterprises and activities' and for whom diversification is the key motif of their livelihood strategy. The CLP HHs were living on varieties of occupations and as they became victims of river erosion, they had the prediction of getting further support, because, in their area, many NGOs work and support from them are almost certain after any disaster. Thus, at least some of them sold their cow and they got involved in diversified livelihood strategies.

The RBP beneficiaries were mostly those locked into one predominant source of livelihood such as the bonded labourers or sharecroppers. However, engaging in varieties of secondary occupations was also evident among them. The RBP interventions were targeted to mitigation, preparedness, livelihood, and advocacy. With mitigation and preparedness, improving livelihood options (diversification) was found to be relatively useful. Nevertheless, mainly flood disaster was taken into consideration by RBP that appeared to be somewhat insufficient. Different livelihood alternatives, such as homestead gardening, poultry rearing, fruit tree planting, etc. were least preferred by the RBP beneficiaries when CLP beneficiaries in the same community received a valuable cow and stipend and other supports from their programme. For the RBP beneficiaries, the long term interventions resulted in strong social capital, establishment, and maintenance of good practices and SL through practice of engaging in alternative livelihood strategies introduced by RBP. However, appropriate preparedness for the recently experienced severe erosions and other disasters was lacking. Still, the RBP interventions were found to be relatively successful in terms of SL and SD. Further, the regression analyses highlight the importance of topical government interventions along with NGO membership for interventions to be more or less leading to SL and SD.

## **5.5 Conclusion**

All the analyses in this chapter, demonstrated that the interventions are neither leading to any SL solution nor to any SD solution for the targeted people in 'reduction of vulnerabilities' and 'enhancement of asset-base' in most cases. The empirical evidence and statistical analyses support the arguments made in the previous chapters. Chapter 4, identified some unique 'community level norms and practices' leading to 'opportunity for survival' and 'vulnerabilities' in terms of SL as they were found to be the important determinants of how a HH would behave and make decisions for SL. Different assets claimed to be available to the dwellers in the studied *chars* were found to be useful for livelihood. However, due to 'lack of access to and possession of assets' and threats - such as 'social ills and disasters', 'natural events and disasters', etc. the *char* dwellers were found to be vulnerable. 'HH level assets and vulnerabilities', 'HH experiences, expertise, and mindset of the HH head' were the other important determinants identified of SL and SD. Through empirical findings,



this chapter re-established the revealed factors. Along with revealing the 'consequences', other specific factors are identified as considerations for 'implication'. These include- programmes of relatively longer duration, interventions for 'social capital' and 'human capital', 'valuable material support', 'flexible criteria for beneficiary inclusion and exclusion (context specific)', and 'livelihood diversification'. The major challenges facing these *char* dwellers are also identified that lead to negative 'consequences' of the studied interventions. These include: 'disasters'; 'diseases'; 'lack of social capital'; 'lack of good practices'; 'inappropriate (not topical) NGO intervention practices'; 'no consideration of the HH level factors'; 'lack of consideration of the cultural practices', and 'insecurity regarding land right'. The regression analyses further, revealed the necessity of both NGO and the government topical interventions for SL and SD.

The following chapter draws on the findings of qualitative method and also on the regression analyses where the issues of people's priority and 'topicality' of interventions came up. The chapter will also assess the NGO interventions with the SLLL principles. With all the findings the chapter will further revise and modify the SLLL framework with a view to provide a more comprehensive framework, namely 'Understanding Sustainable Livelihood and Development at the Community Context' (USLDCC).

The chapter, along with the revised framework, will provide recommendations and clues on future research in the conclusion.

## **CHAPTER 6**

### **Conclusions with a Particular Reference to People's Priorities**

#### **6.1 Introduction**

Chapters 4 and 5 discussed the empirical findings in terms of settlement and displacement, unique changes, trends in government, NGO and other interventions, assets and vulnerabilities (Chapter 4) and consequences of the development interventions (asset enhancement and vulnerability reduction interventions) in terms of 'sustainable livelihood' (SL) and 'sustainable development' (SD) (Chapter 5). The findings of the previous chapters (Chapter 4 and 5) revealed the importance of the issues of people's priority and 'topicality' of interventions. It is also worth mentioning that the issue of participatory planning for topical interventions (relevant to people's choices and not top-down in terms of management and implication) were also found to be important for identifying effective interventions, and also to ensure that the interventions would not lead to any 'development disaster' (discussed in Chapter 1). One key principle of both SL and SLLL approaches is 'people-centred' development. This chapter, in this context, starts with the assessment of the studied interventions with the principles of SLLL approach. Then, the topicality of the interventions to people's choices, the interventions that people think are necessary in their specific situation for maintaining development over time and the gaps in the practice of the studied programmes and projects are discussed. The central finding is that the interventions are not people centred (assessing the interventions using the principles of SLLL principle, discussed in Chapter 3) and are working just to meet the targeted outcomes identified by the programme or project; thus, leading towards temporary solutions to some of the ever lingering problems facing these people. Summarizing the central findings of the study, this chapter provides an understanding on consequences of NGO interventions and offers a revised, more comprehensive framework, namely 'Understanding Sustainable Livelihood and Development at the Community Context'. A list of recommendations that are key to better development practices with respect to people's choices in terms of SL and SD and clues on future research are also proposed.



## 6.2 Assessment of the Studied Programme and Project with the Sustainable Livelihoods at the Local Level Principles

The consequences of the selected programme and project interventions are assessed in the following texts in light of the core principles determined for the ‘Sustainable Livelihood at the Local Level’ (SLLL) Approach operationalized for the present study (The SLLL principles were stated in Chapter 3). The purpose is to examine, to what extent these principles are actually practiced in the studied programme and project. With those principles, the following assessment shows the limitations of the studied interventions and through those the limitations of the present day interventions for SL and SD in the RCs and RECs. The principles and observed realities reveal the following facts about the development activities.

### 6.2.1 People-centred (development will be achieved only if external support focuses on what matters to people's lives)

Although STUP claims to start the process of beneficiary selection using PRA, the PRA exercise was not for identifying ‘what matters to people’s lives’ rather it was used as the process of primarily identifying the probable HHs that fulfil their beneficiary criteria. The STUP support packages were fixed and the beneficiaries had the priority to make the asset choice. Even the trainings and issues of training were fixed for the beneficiaries. They had no chance to express what actually was of priority for them in terms of asset or trainings.

The DPRM project started with negligible baseline data, some observation and case study based information. After, the cyclone SIDR, SLOPB distributed relief and DPRM was targeted to rehabilitate the beneficiaries and to ensure their ‘sustainable livelihood’. From the field study, it appeared to be another relief operation, which was also quite negligible for the *Char* Wadel dwellers who were found to handle quite a high amount of money compared to dwellers of Pepulia. The poultry support was provided to those who used to rear poultry even before SIDR and lost poultry during SIDR. Those who received goats, houses, deep hand tubewells, in most cases, got benefitted. However, neither the process of designing the project nor the beneficiary selection was done with people’s participation. The project did not take people’s priorities into consideration. However, the beneficiaries appreciated the interventions as ‘humanitarian aid for rehabilitation’, although, for the beneficiaries, the interventions did not reach the level to be considered as ‘people centred’ development

interventions.

It is worth mentioning that the culture of humanitarian aid distribution and receipt by the beneficiaries of the RECs were found to be predominant. Programme and project designing and implementation with development goals are not common, or better to say, far away. The NGOs working in the RECs have a long way to go for that. The NGOs working in the RCs are also not perfect in carrying out programmes and projects in terms of the 'people centred' principle. However, even reaching the standard of the RCs in terms of 'people centred' development is far beyond imagination for those in the RECs.

SKS, on the other hand, seemed to have conducted a lot of participatory planning and identification exercises to identify the needs of the *char* dwellers. On the basis of those initially (not updated regularly) conducted participatory exercises, SKS was found to pursue different programmes and projects. CLP was offering a package with several combinations of assets from which the beneficiaries had to choose one. The beneficiaries of Pepulia were very happy who got their names selected for CLP package. However, even before offering the CLP packages the people's choices and priorities were not considered.

For RBP, innovative interventions were said to be regular. The beneficiaries had regular women's group meetings. They had enough opportunities to share experience among themselves and to plan the ways to go for what they desired. The RBP field level development associates were also found to be closely interacting to the beneficiaries. To some extent, the interventions and supports provided were people centred. Besides, RBP also had fixed targets to be achieved in fixed duration of time. To summarise, in terms of development based on the consideration of people's choices (what matters to people's lives) and their participation and priorities, the achievements as observed in most of the studied programme and project, have been negligible.

#### 6.2.2 **Responsive and participatory** (Poor people themselves must be key actors in identifying and addressing development priorities and livelihood priorities, and 'outsiders' need to adopt processes that ensure they listen and respond)

Participatory processes in identifying and addressing development priorities and livelihood priorities were missing for STUP. For DPRM and CLP very negligible and for RBP was found to exist to some extent. Although listening to the targeted



beneficiaries was claimed to be a regular matter by the CLP employees, they had rarely any scope to respond accordingly. STUP and DPRM also allowed the beneficiaries to be heard, but systematic responses to these talked issues were hardly found in the field study. The RBP beneficiaries were in regular interaction through various participatory activities during the group meetings. They used to save money in the group and had the scope to take loan for SL efforts. They could share their ideas in the group, and could gain sound understanding on the benefits and risks involved in the effort and accordingly could take the effective effort. They could identify issues that should get priority in action and could decide the actions themselves to address the issues. Thus, with the support of the RBP field level development associate, the beneficiaries were found to be participating in identifying and addressing development priorities and livelihood priorities on a regular basis.

**6.2.3 Multi-level** (The scale of the challenge of development, sustainable livelihood through asset enhancement and vulnerability reduction is enormous, and can only be achieved by working at multiple levels; for the present study, in terms of special scale it considers the local level and temporal scale it considers the after intervention sustainability of the consequences)

STUP is a country wide programme and thus had been being implemented in locations where the ultra poor are assured to be living as recorded in different studies (in the RCs and poverty pockets). *Char* Wadel was just a single *char* community included for STUP implementation between 2007 and 2009. In terms of temporal scale, after one year of implementation, 10% of the beneficiaries were found to have sold their cows as their priority was farming, or because of their worries over the uncertainty of losing the cattle in a disaster as there was no '*tilla*' (high land) for the protection of the poultry and cattle in *Char* Wadel.

The DPRM beneficiaries were those residing in the closely located RECs of River Tentulia. At the local level, through this project SLOPB was found to be well-known to the mainland and *char* dwellers of the area. But, their interventions for SL through asset enhancement and vulnerability reduction appeared to be achieved to a very negligible extent for a very few HHs. After one year, those who received, houses, deep hand tubewells and goats were found to be availing the benefits or making profits, but most of the others (those who received chicken, ducklings or seed and fertilizer) had only short term benefits in some cases.

The beneficiaries of CLP were the ultra poor of the island *chars* along the Brahmaputra/ Jamuna River. At the local level, the coverage of CLP was appreciated by the government and local people. However, within a 2 – year time period (programme implementation duration) building strong social capital or even enough sharing of experiences seemed difficult. Furthermore, lack of disaster preparedness found to be the other source of vulnerability among the beneficiaries that was reported to be still persisting.

The selected *char* dwellers in the 29 *char* villages of Gaibandha District happened to be the beneficiaries of RBP. At the local level, RBP was working from 1997 under different phases with varied focus. The alternative livelihood strategies like homestead gardening, early vegetable cultivation for better price, poultry rearing, etc. became common ways of reducing disaster vulnerability. Further, good practices of using hygienic sanitary system, drinking pure water, taking health care measures were all found to be practiced by the beneficiaries. Diseases and disasters were still found to be the threats for them. They were well prepared for floods but erosion was found to be the most common of the present time. So, further disaster preparedness was reported to be necessary to reduce their vulnerability.

The programme and project studied were all found to be useful for local level livelihood enhancement. However, on temporal scale, they were not efficient for SL through asset enhancement and vulnerability reduction. Although among all the studied interventions, RBP was found to be the most effective in terms of SL, for vulnerability reduction, this was clearly not enough and further intervention was needed.

**6.2.4 Conducted in partnership** (With both the public and the private sector, including civil society/ non-governmental organisations; for the present study, the interventions by the studied programme and project are considered and if there is any other public and private initiative to enhance asset base and to reduce vulnerability had been looked upon)

For both the RCs and the RECs, the government interventions topical to people's choices were found to be a factor to explain the NGO intervention consequences and sustainability. The regression analyses found that beneficial consequences and topical government interventions to supplement the studied NGO interventions in bringing positive consequences (see Chapter 5). Furthermore, 'sustainability of consequences'



(SD) of NGO membership was also found to be another factor to supplement the studied NGO interventions in bringing positive consequences. Interestingly, in some cases, the ‘sustainability of consequences’ (SD) of government services was found to reduce the consequences of the studied interventions. This mean, if *char* dwelled perceive government services as sustainable, they will rely on those the most and different NGO interventions will be less required and will be able to impact less. Although private stake (only the Lifebuoy Friendship Hospital was reported to exist, see Chapter 4) was negligible, the study participants appreciated that and aspired for a greater role of the private interventions in terms of services and development. The field findings indicate the possible success of the interventions if conducted in partnership. However, the fact that, ‘sustainability of consequences’ (SD) of government services as was found to lessen the positive consequences of the studied interventions in some cases, deserve further indepth study. Such study might reveal information on the extent of frequency, intensity, duration and topicality of various interventions (government, NGO, private, etc.) which will allow appropriate programme and project designing.

**6.2.5 Sustainable** (The interventions leading to positive consequences on asset bases and on reducing vulnerability must have a continued effect to persist after the intervention phase, in terms of SL and SD)

Among the studied interventions, not a single one was found to be sufficient for both ‘asset base enhancement’ and ‘vulnerability reduction’. While some were mainly asset transfer based interventions others were neglecting the issue of supporting it beneficiaries with necessary material assets. Thus, vulnerability reduction was not completely addressed in any of the studied programme or project leading to no SL or SD solution to the problems of the targeted beneficiaries.

Even among those studied HHs, at least a few were found to be successfully utilising the assets for SL and SD. The contributing factors were found to be the experience, expertise, assets of the HH members and mind set of the decision making person of the HH.

**6.2.6 Dynamic** (External support must recognize the dynamic nature of lives and livelihoods, respond flexibly to changes in people's situations, and develop longer-term commitments of support)

STUP was found to follow a common programme implementation design that takes lives and livelihoods and people's situations into least consideration. Except for the selection of the ultra poor HH following the selection criteria, nothing else seemed to matter. The support was for 2 years and that was all of the commitment from BRAC side.

DPRM, to some extent, considered the nature of people's lives, livelihoods, and situations before providing support for SL and vulnerability reduction. Their commitment was even shorter only for one year to implement the support providing activities. However, SLOPB seemed to be working hard to get larger project for the development of the *char* dwellers. During follow up data collection phase, promises for future development intervention for the *char* dwellers was confirmed.

CLP though claimed to be flexible to changes in people's situations, the process of such flexibility seemed complex, if needed during the period of implementation. They also were found to be in short term intervention and were not involved any further.

The interventions of different phases of RBP were found to recognise the dynamic nature of lives and livelihoods, respond flexibly to changes in people's situations (i.e. flexible inclusion and exclusion criteria) and had longer-term commitments of support. Again, as the intervention implementation phase was over, there was uncertainty among the employees about their job security. However, further commitment of a possible extension phase was somewhat confirmed.

### **6.3 Topicality of Interventions and People's Own Priorities**

The FGDs, KIIs, HH level interviews, and questionnaire revealed information on topicality of interventions and people's own choices.

The STUP interventions were reported to be highly 'topical' to the beneficiaries' own choices. Later follow up FGD revealed that beneficiaries actually preferred to engage in farming, or to work as farming or fishing day labourers than to engage in rearing cattle as main occupation for livelihood. However, due to not having any facility (*tilla* or high land) for protecting their cattle during disasters, they preferred the other occupations in some cases. The field level evidences gathered during the follow up data collection phase establish that the interventions were not topical to the beneficiaries' choices at least for some. In the process of project designing and implementation also, beneficiaries' own priorities for SL and SD was not taken into



consideration in the STUP programme. However, it was also found to be true for some that they were in favour of such package. For them the cattle is a valuable asset that helps them earn money selling milk and even the cattle or calf and any such valuable asset is equivalent to financial capital for them as they can sell it any time and thus of their choice. The same was true for the CLP beneficiaries. But, for them cow was a preferred source of SL. Most of them believed to achieve SL and SD through the cow. But, for some, the experience of the past allowed the prediction of future support in an assetless situation that led them to take decision accordingly. The threat of devastation due to disaster was also putting them in pressure to sell the means of livelihood, the cow, for survival.

The DPRM beneficiaries considered the support as a small scale relief for supporting them after SIDR. They reported to be always happy with any relief and expected more. For them, relief may not be of their choice. For the RBP HHs, the weekly savings, meetings, and activities were all of their choice. But their desire for valuable material support was not met by RBP.

Along with these general findings, the following discussion focuses on people's own choices revealed through questionnaire survey and HH level interviewing.

To the dwellers of both RCs and RECs, the 'establishment of schools' in own community was one of the most common priority. In Pepulia, 28 participants and in *Char Wadel* also 28 participants expressed their priority for schools and high schools in their communities. The people in both the *chars* were found to be aware about the necessity of education for development. However, they were lacking in future aspiration, especially in *Char Wadel*, in some cases. In both the areas, some of them appeared to be certain about the future that their children, who they believed, will have no other option but to take their parent's occupation. In some cases, the Pepulia dwellers could visualise their children as working for NGOs or as schools teachers who they could see in the community as educated people. In *Char Wadel*, some had aspirations for their children to work in the government offices they go for different needs or in police.

The 'establishment of hospital or provision for health services' with both male and female doctors also was in their priority in both the areas. In *Char Wadel* 25 participants and in Pepulia 42 expressed their desire for health services through hospital. The prevalence of different diseases was found to be quite high in both the areas. The dwellers of Pepulia were found to be more susceptible to different diseases

mainly because they were reported to consume less protein and usually not a balanced diet. The female diseases were also very high in both the areas. Two female respondents of Pepulia, during the HH level interviewing, expressed about their sufferings due to female diseases. They reported that as there is no easily accessible low-cost hospital, they don't and can not avail treatment.

'Construction and repair of roads and bridges by the government' was another priority for the *char* dwellers (32 in *Char Wadel* and 29 in Pepulia). They claimed that for livelihood, education, and daily activities and moreover, for better preparedness for disasters, there is no alternative to roads and bridges. Again, for the roads damaged due to disasters, reconstruction was essential, not only for communication but also for SL.

To the *char* dwellers rearing cow seemed to be a good means for livelihood and to the *Char Wadel* dwellers source of direct financial capital (selling the cow) as well. As STUP in *Char Wadel* supported the beneficiaries with a cow and similarly, CLP in Pepulia, for the DPRM and RBP beneficiaries in the same communities, cow was a priority. Thus, 31 participants in *Char Wadel* and 37 participants in Pepulia expressed their 'desire to have cow'.

The 'desire for personal land for farming' was also common in both the areas as a result, 15 participants in Pepulia and 15 in *Char Wadel* expressed that desire. In *Char Wadel*, the dwellers were much eager to acquire land of their own through 'getting allotment of government *khas* land'. At least a few could acquire land through such allotment. People were found to be very alert about their rights and were struggling hard for getting allotment of land. However, in Pepulia, the poor dwellers were found to be mostly day labourers. Livelihood diversification was very common among them and thus priority for own land was relatively low among them. Moreover, as none was possessing any legal or updated legal document for land and as none got allotment of *khas* land, the aspiration for own land was also low. The RBP beneficiaries who were heavily depending on share cropping expressed their desire for own land.

'Work opportunity for the female HH members' was expressed as a very strong a priority during FGDs in *Char Wadel* but was not revealed as prominent in the questionnaire survey. So was the case for 'tilla or high land to protect livestock' during disaster.



## 6.4 The Key Components Revealed for Sustainable Livelihood and Sustainable Development

The key components for SL and SD were revealed in Chapters 4 and were further supplemented and re-established in Chapter 5. The first part of this chapter organised the findings. Discussion on settlement and displacement revealed that unique experiences and vulnerabilities of specific HHs exist and experiences and sense of vulnerability determine how the HH will behave and will make decisions about livelihood. The discussion on the unique changes observed overtime and in the recent years and the trends in government, NGO and other interventions in the *char* areas, led to the realisation that in spite of some infrastructural, educational and agricultural development by both NGOs and the government, the severity of loss due to disasters and pest attack to the crop are the present threats to their livelihoods. Although, Union Parisad was found to be successful in implementing several activities, no especial context specific government service was found. The development programmes and projects by the NGOs were found to be widespread in Pepulia. However, only microcredit programmes were found to be common in *Char* Wadel. Private stake for development in these communities were negligible- if not absent. The findings on assets and vulnerabilities include information on the assets claimed to be available to the dwellers in the studied *chars*. Simultaneously, how lack of access to and possession of assets and different disasters (i.e. natural, social, etc.) work as the causes of their vulnerability, especially in terms of SL were shown. Specific cultural norms and practices, how those interact and work as opportunities for survival and vulnerabilities in terms of SL were also indicated.

Analyzing prior and after intervention information on socio-economic status, HH land, HH level assets, livestock and trees (see Chapter 5), the consequences of interventions were assessed. HH level income and expenditure in good and bad times were also analysed to get a clear picture on programme and project wise and even area wise practices and deviations in income and expenditure. All the factors identified to be crucial to explain ‘consequences’ and ‘sustainability of consequences’ in terms of SL can be summarised as follows,

- nature of interventions (type- enhancement of what asset: human, social, etc. / reduction of what vulnerabilities; duration, frequency intensity, topicality, etc.),

- cultural norms and practices (i.e. loan taking behaviour, expenditure behaviour, dowry, etc.),
- HH level considerations (i.e. experience, expertise, mindset of the HH head, assets, vulnerabilities) and
- community level considerations (i.e. opportunities for survival, sources of vulnerability).

Other considerations that belong to the factors mentioned above but deserve special attention include ‘disaster preparedness and resilience’, ‘extent of availability and accessibility of health facilities’, ‘sources of livelihood pattern: one predominant source or diversification’, ‘extent of social capital, extent of maintaining good practices’, etc.

Moreover, in terms of the programme and project interventions, the concerns revealed were as follows:

- whether programmes or projects were participatory and relevant to the choices of the targeted beneficiaries,
- whether sufficient activities for social capital, human capital and all other capital enhancement were undertaken with a balance according to people’s priorities or only building financial capital was the aim,
- whether context specific beneficiary inclusion exclusion criteria was followed or not,
- whether option for going back to the beneficiaries to get after intervention consequences and sustainability of consequences was included or not,
- whether partnership among different organisations (public, private, etc.) was a priority or not, and
- whether long term commitment of the intervention implementation organisation (government, NGO, private, other organisations) was there or not.

The argument developed is that the interventions targeted to SL through enhancing asset base and reducing vulnerability of *char* dwellers are leading to mixed consequences at the HH level, both positive and negative, and are leading to temporary solutions to some of the problems for a very few. They are neither leading to any SL (livelihoods which can cope with and recover from stress and shocks; livelihoods which maintain or enhance capabilities and assets, simultaneously,



contribute to all aspects of short and long term capabilities at the local level) solution for these people nor to any SD (positive outcomes of the selected asset enhancement and vulnerability reduction interventions, in terms of SL, that are maintained over time and space) solution towards enhancement of asset-base and reduction of vulnerabilities.

Stepwise regression analyses were conducted with ‘consequence’ and ‘sustainability’ scores of the programme and the project as dependent variables. Among many different independent variables, various government services, topicality of government services, information, and opinion on local government issues, beneficial and sustainable consequences of NGO membership and socio-economic status prior to intervention were found to be the important ones to describe the ‘consequences’ and ‘sustainability of consequences’ of specific programme and project interventions targeted to SL.

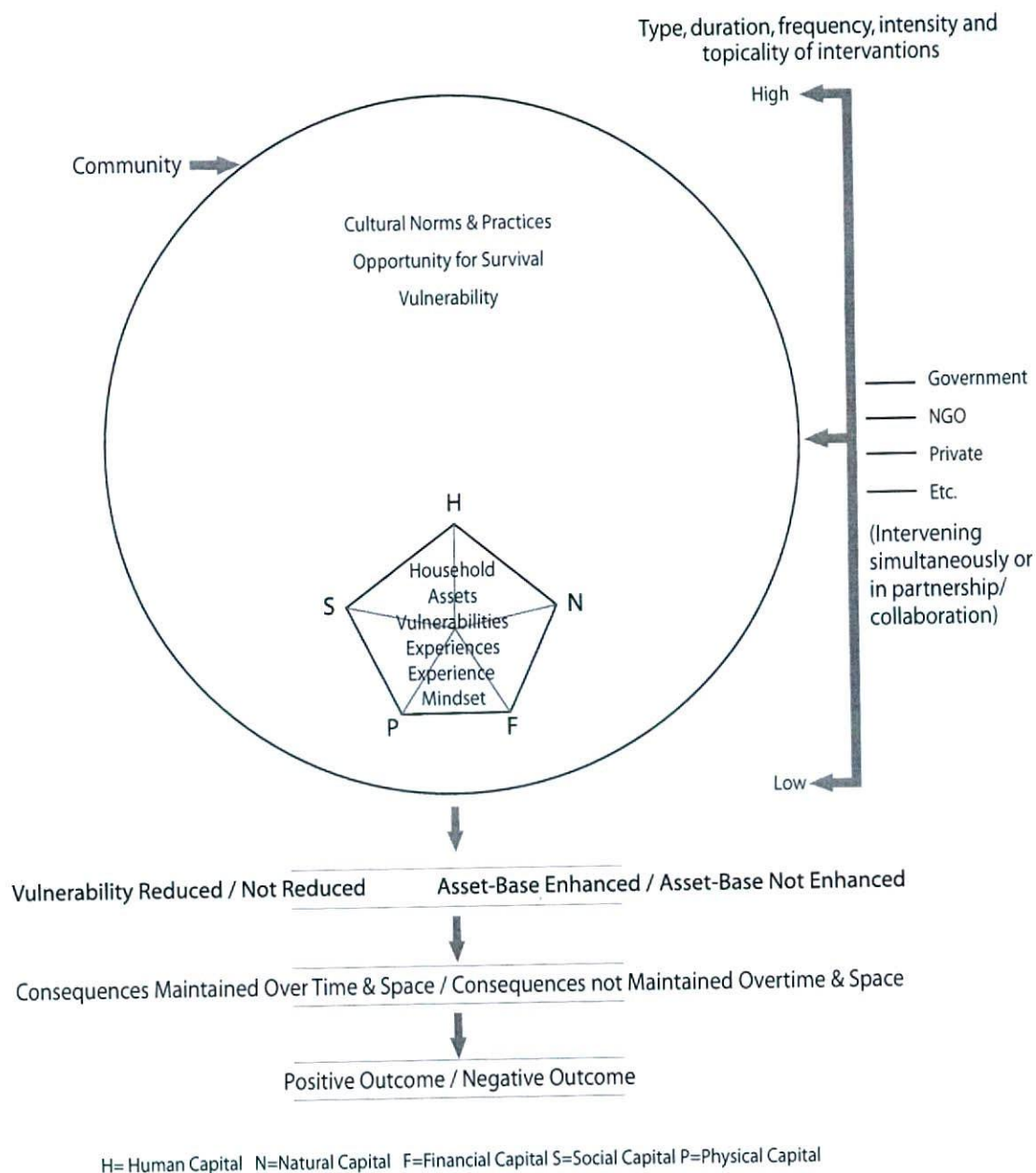
This chapter assessed the interventions with the principles of SLLL, where it was clear that though claimed to be people centred, responsive and participatory, multi-level, conducted in partnership, sustainable and dynamic, these interventions were rarely meeting any of those claims if not completely missing. Again, the interventions were found to be less topical and the people had their own priorities and thus even within one year of completion, at least some of the beneficiaries were found not to be utilising the means of livelihood provided to them for SL. Thus, the interventions were neither leading to any SL or SD solution and were not addressing some of the ever lingering problems (i.e. health facilities, *khas* land allotment, work for women, infrastructure for survival of lives and cattle or livelihood during disasters, etc.) facing people of RCs and RECs.

## **6.5 Revising the Sustainable Livelihoods at the Local Level (SLLL) Framework for the More Comprehensive- ‘Understanding Sustainable Livelihood and Development at the Community Context’ (USLDCC) Framework**

The findings of the study prompt to further examine and revise the SLLL framework. The factors identified to be key to determine ‘consequences’ of interventions and ‘sustainability of consequences’ in terms of SL and SD, such as, ‘nature of interventions’, ‘cultural norms and practices’, ‘HH level considerations’ and

‘community level considerations’ – were found to be vital along with some intervention related factors mentioned above. Accordingly, the following revisions are proposed on the original framework proposed in Chapter 3. This more comprehensive framework is named, ‘Understanding Sustainable Livelihood and Development at the Community Context’.

## 6.1 Understanding Sustainable Livelihood and Development at the Community Context: A Revised Framework



All the revealed key components focus on the importance of government and even



private sector interventions along with NGO interventions to bring some change in the asset base and vulnerability of the *char* dwellers and through those to their SL and SD. The other key components include consideration of the ‘community level realities in terms of community norms and practices, existing opportunities and vulnerabilities’. Other essential HH level components for consideration include the ‘HH level experiences, expertise, assets, and vulnerabilities’. The ‘mindset of the HH head’ is also vital for the ‘HH level decision making and behaviour’. Further, the ‘natural and social disasters’ were found to be not anything apart from the capital base. The ‘vulnerabilities due to disasters’ and ‘lack of accessibility and absence of assets’ were all components of the asset pentagon and were perceived as the HH level vulnerabilities. A ‘reciprocal relationship between HH level components and community level components’ was found to exist. Thus, at the community context, as interventions come, the success of the intervention toward SL and SD depend on the interaction of the community and HH level realities. Further, ‘type, duration, topicality, intensity, and frequency of interventions in time and space’ are also crucial in this context.

## 6.6 Conclusion and Recommendations

Despite decades of development interventions, especially by the NGOs in the *char* areas, there have not been adequate evidences of any significant large scale change in the status of ‘vulnerability’ of the *char* dwellers (Ericksen, Ahmad and Chowdhury, 1993; Haque and Zaman, 1994; Hutton and Haque, 2004; Edgeworth and Collins, 2006, Hassan 2000). In order to understand the problem, this thesis has provided an insight into the ‘consequences’ of selected NGO interventions in terms of their implications for SL and SD.

Studying particular interventions of CLP and RBP in a RC, Pepulia, and interventions of STUP and DPRM in a REC, *Char Wadel*, this study has identified the factors that are missed out for the achievement of SL and SD in currently practiced interventions. Moreover, the study areas allowed this study to reveal realities in two unique geophysical locations although belong to the same label ‘*char*’.

The study relied predominantly on qualitative methods. However, questionnaire survey generated quantitative data to supplement the qualitative findings. In this way, the use of both qualitative and quantitative tools and data led to a more thorough

understanding of the research queries.

Chapter 1 showed the inter-related themes that guided the way toward the total research work. The aim required the indepth discussion on the emergence and evolution of the two key concepts SD and SL that were principle to the objectives of this research. The discussion led to the realisation that sustainability was used in two different ways in SL and in SD. Further literature review led to the clear picture on the limitations of the SLAs drawn in literature. A good number of limitations were found to be identified by recent scholars (e.g. Scoones, 2009; Norton and Foster 2001; Ludi and Slater, 2008; Cleary, 2003; Albu and Scott, 2001; Tanner, *et al.* 2006; Norfolk, 2004; Barnett, 2005). To attain the objectives of the study, accordingly, using the major elements of the SLF, an operationalized conceptual framework named 'Sustainable Livelihoods at the Local Level' (SLLL) was used to guide the empirical investigation. In different phases, the respondents' own voices guided to reveal the fore issues that they felt were relevant.

Drawing on the experience of the application of the operationalized framework (SLLL), on the basis of the field findings, the study has also revised and modified the framework to provide a more comprehensive framework, 'Understanding Sustainable Livelihood and Development at the Community Context' (USLDCC).

On the basis of the field findings, by way of recommendations, the key principles to better development practice with respect to SL and SD include the followings:

- people-centred: development will be achieved if external support focuses on what matters to people's lives and livelihoods.
- context specific interventions: in specific contexts, (vulnerable locations like *char* areas, where displacement and new settlements are frequent) through indepth study, implementation of context specific essential interventions (for the *char* areas, especial interventions to develop the feeling of belonging to the *char* community among the dwellers, in other words interventions for enhancing social capital as was found in this study can be introduced, though the people did not put it in their priorities, the data revealed their vulnerability due to lack of social capital and thus such study and findings can be used to identify context specific interventions) will lead to development if are introduced considering people's choices;
- responsive and participatory: poor people themselves must be key actors in



identifying and addressing development priorities and livelihood priorities, and 'outsiders' need to adopt processes that ensure they listen and respond accordingly; the outsiders can also try to reveal essential but missed out priorities through using different qualitative and quantitative methods;

- multi-level: the scale of the challenge of development for SL and SD through addressing identified priorities is enormous, and these can be achieved by working at multiple levels; for specific contexts (e.g. for *char* context in isolated vulnerable location) in spatial scale, it can be local, and in temporal scale it considers the after intervention sustainability of the consequences (the time may vary but at least for a certain period to ensure sustainability of the consequence, in an intra-generational understanding);
- conducted in partnership: On the basis of people's priorities, external support from different sources to supplement each other; with both the public and the private sector (including civil society/ non-governmental organisations); the NGO interventions for development will be achieved if conducted in partnership with other parties, the government and private sector for the SL and SD of the people in specific context (such as for *char* context in isolated vulnerable location);
- sustainable: the interventions derived and implemented considering the recommended principles mentioned above, will lead to positive consequences and must have a continued effect to persist after the intervention phase, in terms of SL, and follow up (after intervention and after the completion of the programme or project) monitoring for further interventions to maintain the consequences and for identifying the gaps and accordingly responsive intervention will ensure SD;
- dynamic: external supports must recognize the dynamic nature of lives and livelihoods at both community and HH level, respond flexibly to changes in people's situations understanding the experience and expertise and mindset along with their HH level assets and vulnerabilities, and develop longer-term commitments of support.

In more specific terms, the empirical findings lead to the following recommendations:

- consideration of HH level, community level and cultural factors for ensuring SL and SD;
- indepth participatory studies to identify required context specific topical interventions;

- accordingly, simultaneous interventions with necessary balance of support from different external sources- by the government, different NGOs and private sector; or interventions in partnership or collaboration to ensure the context specific topical interventions that also need to be implemented for relatively longer duration compared to those currently in practice;
- Interventions to enhance social capital and human capital along with valuable material support according to people's priority;
- Livelihood diversification;
- Interventions to resolve specific context specific vulnerabilities;
- Follow up (after intervention and after the completion of the programme or project) monitoring for further interventions to maintain the consequences and for identifying the gaps and accordingly responsive intervention to ensure SD and
- Flexible criteria for beneficiary inclusion and exclusion (context specific).

## **6.7 Clues on Further Research**

The present study has practical significance as it provides an understanding on consequences of the NGO interventions and offers a key to better development practice with respect to SL and SD.

In answering one set of questions, this research inevitably posed many others. It would be desirable to address a number of issues arising in. Alongside improved understanding on the consequences of selected NGO interventions in terms of their implications for SL and SD, a few major areas of research emerged that need to be extended through further research. Moreover, a number of issues could be studied in more details to gain a better understanding of how to go for a better development practice with respect to SL and SD in the isolated, remote *char* areas. As such, a few largely academic issues of particular relevance to intervention 'consequences' and 'sustainability' based on the findings of the two former chapters along with the present one, are listed below for future research.

First, further research could back up the veracity and reliability of these findings. If uphold with further research, the practical implications will be significant – with regard to an understanding of consequences of NGO interventions.

Second, opinions through participation of different stakeholders and expectations regarding different interventions from different sources to reveal the perfect



combination in terms of type, duration, intensity, etc. of interventions for positive and sustainable consequences would be studied.

Third, this study identified the necessity of addressing community level cultural norms and practices along with opportunities and vulnerabilities for interventions to be successful in achieving consequences of people's choices in terms of SL and SD. Further research not only on what different cultural norms practices affecting the consequences of interventions, but also on how different HHs are being affected by those differently, would be useful for effective designing of programme and project.

Fourth, not only on community level cultural norms and practices, but also HH level considerations (experience, expertise, mindset of the HH head, etc.) (revealed in this study) could be studied for identifying appropriate intervention for individual HHs for success in terms of SL and SD.

As shown above, there is scope for individual studies that may examine particular issues that are identified by the present investigation on intervention consequences and sustainability in terms of SL in more details. This study has demonstrated that in dealing with revealing consequences of interventions and their sustainability-complexities of HH level, community level and cultural level require to be addressed simultaneously along with intervention related variability (duration, frequency, intensity, topicality, etc.). 'Understanding Sustainable Livelihood and Development at the Community Context' for the isolated, remote *char* communities was just one starting point methodologically. Understanding local complexities and interaction between HH level realities with the community level factors are critical in forming lines of inquiry at higher geographical levels. Moreover, further research could establish whether such a study on 'Understanding Sustainable Livelihood and Development at the Community Context' with the finally proposed framework would be relatively more efficient than the other existing ones or not.

In conclusion, this thesis is an attempt to address the problem that despite decades of development interventions, especially by NGOs, there has not been adequate evidences of any significant large scale change in the status of 'vulnerability' of the *char* dwellers. The thesis has demonstrated an insight into the consequences of selected NGO interventions in terms of their implications for SL and SD. It is argued that in order to understand the consequences and implications of asset enhancing and vulnerability reducing interventions for SL and SD, intervention characteristics (i.e. type, duration, frequency, intensity, and topicality) are vital. Additionally,

interventions from different agencies and partnership or collaboration among different organisations (public, private, etc.) are essential. Most importantly, the thesis demonstrates the importance of the interaction between the HH level, community level cultural factors as central to ‘consequences’ and ‘sustainability of consequences’ in line with people’s priorities along with intervention characteristics for SL and SD. The study nevertheless concludes that interventions essentially need to be ‘topical’ in terms of type, duration, frequency, intensity. Moreover, simultaneous interventions, by the government, NGO, etc. or partnership among different sources of external support is useful for SL and SD. Moreover, ‘implications’, ‘consequences’ and ‘sustainability of consequences’ of interventions for SL simply does not mean achieving the targeted outcomes of the programme and project; rather, must be understood at the HH level and community level cultural realities that interact to determine those. Above all, the SLLL approach (see Chapter 3) with the revised more comprehensive ‘Understanding Sustainable Livelihood and Development at the Community Context’ framework, pose the challenge for further validating their efficiency through future research.

The study has practical significance as it provides an indepth understanding of ‘implications’, ‘consequences’ and ‘sustainability of consequences’ of selected NGO interventions in the *char* areas, and offers a key to better development practice along with the SLLL approach and clues on future research with respect to SL and SD.



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## Appendices



## APPENDIX 1

### Household Survey Questionnaire (in Bengali and English)

#### (A) Household Survey Questionnaire in English

Name of data collector \_\_\_\_\_

Signature: \_\_\_\_\_

Designation/date: \_\_\_\_\_

#### A. Basic Information

|                   |  |
|-------------------|--|
| ID Number         |  |
| Date of interview |  |
| Project           |  |

A1. Name of household (HH) head: 1-----2. Age:.....3. Sex:.....4. Education: .....

A2. Name of the spouse of the HH: 1-----2. Age:.....3. Sex:.....4. Education: .....

A3. Total number of HH members

A4. Total number of HH children

A5. Total male children in the HH   
(Unmarried and below 18)

Age: 1 ....., 2 ....., 3....., 4....., 5....., 6....., 7....., 8.....

Education: 1 ....., 2 ....., 3....., 4....., 5....., 6....., 7....., 8.....

A6. Total female children in the HH

Age: 1 ....., 2 ....., 3....., 4....., 5....., 6....., 7....., 8.....

Education: 1 ....., 2 ....., 3....., 4....., 5....., 6....., 7....., 8.....

A7. Socio-economic status prior to intervention  1 = Ultra Poor, 2 = Poor, 3 = Lower Middle Class, 4 = Middle Class

A8. Socio-economic status after intervention  1 = Ultra Poor, 2 = Poor, 3 = Lower Middle Class, 4 = Middle Class

A9. Main source of income of your HH (Start from the most important)

| code                    |    |                            |    |
|-------------------------|----|----------------------------|----|
| farming                 | 1  | Handicrafts                | 16 |
| Share cropper           | 2  | Black smith                | 17 |
| Fishing                 | 3  | Earth work                 | 18 |
| servant                 | 4  | Carpenter                  | 19 |
| Day labourer            | 5  | Mechanic                   | 20 |
| Bond labourer           | 6  | goldsmith                  | 21 |
| Migrant worker          | 7  | Tailor                     | 22 |
| Selling common property | 8  | disable/ elderly allowance | 23 |
| Cattle rearing          | 9  | Begging                    | 24 |
| Machine worker          | 10 | Educational Stipend        | 25 |
| Homestead gardening     | 11 | Boatman                    | 26 |
| Poultry rearing         | 12 | Selling milk               | 27 |
| Rickshaw or Van Driving | 13 | Others                     | 29 |
| Service Holder          | 14 | Remittance                 | 32 |
| Small business          | 15 |                            |    |



A10. Religion:  1. Islam 2. Traditional (Hindus) 3. Christian 4. Others

A11. How long has your household been living here for?  Years (number of years if coming from other places/ own age/ Age of husband)

A12. (If not born here) Where has your family come from?  1=Mainland, 2=nearby island, 3=nearby district, 4= far away district

A13. (If not born here) Why have you left the previous residence?

1= River erosion, 2= forcibly removed, 3= grab land, 4= being unable to pay borrowed money 5= loss in business, 6= Political torture, 7= work opportunity, 8= others (please mention).....

A14. (If not born here) Why have you settled here?

1=presence of the kin, 2= brought by agent 3=no other way, 4=Economic opportunities, 5= retuning to own place (as new island emerged), 6= work opportunity, 7= others (please mention),

A15. How many times has your family displaced?

A16. HH information:

| Serial no | Name of the family members (Start with the HH head) | Relation With the House hold Head | Age | Marital Status | Sex | Education | Main Occupation | Average monthly income from the main occupation | Secondary occupation |  |  | Average monthly income from the secondary occupation |  |  | Skills |  |  |
|-----------|-----------------------------------------------------|-----------------------------------|-----|----------------|-----|-----------|-----------------|-------------------------------------------------|----------------------|--|--|------------------------------------------------------|--|--|--------|--|--|
| 1         |                                                     |                                   |     |                |     |           |                 |                                                 |                      |  |  |                                                      |  |  |        |  |  |
| 2         |                                                     |                                   |     |                |     |           |                 |                                                 |                      |  |  |                                                      |  |  |        |  |  |
| 3         |                                                     |                                   |     |                |     |           |                 |                                                 |                      |  |  |                                                      |  |  |        |  |  |
| 4         |                                                     |                                   |     |                |     |           |                 |                                                 |                      |  |  |                                                      |  |  |        |  |  |
| 5         |                                                     |                                   |     |                |     |           |                 |                                                 |                      |  |  |                                                      |  |  |        |  |  |
| 6         |                                                     |                                   |     |                |     |           |                 |                                                 |                      |  |  |                                                      |  |  |        |  |  |
| 7         |                                                     |                                   |     |                |     |           |                 |                                                 |                      |  |  |                                                      |  |  |        |  |  |
| 8         |                                                     |                                   |     |                |     |           |                 |                                                 |                      |  |  |                                                      |  |  |        |  |  |
| 9         |                                                     |                                   |     |                |     |           |                 |                                                 |                      |  |  |                                                      |  |  |        |  |  |
| 10        |                                                     |                                   |     |                |     |           |                 |                                                 |                      |  |  |                                                      |  |  |        |  |  |



Codes:

| Relation                     |    | Literacy            |     | Marital Status        |    | Education                   |         |                      |
|------------------------------|----|---------------------|-----|-----------------------|----|-----------------------------|---------|----------------------|
| HH head (self)               | 1  | Illiterate          | 111 | Married               | 1  |                             | General | Madrassa (religious) |
| Husband/ Wife                | 2  | Can Read Only       | 222 | Unmarried             | 2  | Class I                     | 1       | 1001                 |
| Son/Daughter                 | 3  | Read and Write      | 333 | Widow / Widower       | 3  | Class II                    | 2       | 1002                 |
| Father/Mother                | 4  | Sign                | 444 | Divorced              | 4  | .. . . .                    |         |                      |
| Brother/Sister               | 5  | Children (< 7Years) | 99  | Separated             | 5  | Class X                     | 10      | 1010                 |
| Son-in-law/ Daughter- in-law | 6  |                     |     |                       |    | Class XII                   | 12      | 1012                 |
| Father-in-law/ mother-in-law | 7  | Sex                 |     | Education             |    | 1 <sup>st</sup> year (B.A.) | 13      | 1013                 |
| Servant                      | 8  | Male/boy            | 1   | Quran edu. (hafizia)  | 33 | 2 <sup>nd</sup> year (B.A.) | 14      | 1014                 |
| Grandchildren                | 9  | Female/girl         | 2   | Children (< 7 Years ) | 99 | 3 <sup>rd</sup> year (B.A.) | 15      | 1015                 |
| Others                       | 10 |                     |     |                       |    | Highly Educated             | 15      | 1015                 |

| Main Occupation, Secondary occupation and skill codes |    |                            |    |
|-------------------------------------------------------|----|----------------------------|----|
| farming                                               | 1  | Handicrafts                | 16 |
| Sharecropper                                          | 2  | Blacksmith                 | 17 |
| Fishing                                               | 3  | Earth work                 | 18 |
| servant                                               | 4  | Carpenter                  | 19 |
| Day labourer                                          | 5  | Mechanic                   | 20 |
| Bond labourer                                         | 6  | goldsmith                  | 21 |
| Migrant labourer                                      | 7  | Tailor                     | 22 |
| Selling common property                               | 8  | disable/ elderly allowance | 23 |
| Cattle rearing                                        | 9  | Begging                    | 24 |
| Machine worker                                        | 10 | Education Stipend          | 25 |
| Vegetable production                                  | 11 | Boatman                    | 26 |
| Poultry rearing                                       | 12 | milkman                    | 27 |
| Rickshaw or Van Driver                                | 13 | housewife                  | 28 |
| Service Holder                                        | 14 | Others                     | 29 |
| Small trader                                          | 15 | jobless                    | 30 |
| Student                                               | 31 | Child                      | 99 |

## B. Productive HH assets and wealth before and after the intervention

B1. Types of land ownership (in decimal) [100 decimals= 1 Acre] [no repetition required] [prior to/ after intervention]

| Types Of land      | 1.<br>own<br>land<br>with<br>proper<br>documents | 2.<br>land<br>taken<br>on<br>lease<br>from<br>the<br>govt. | 3.<br>land<br>taken<br>on<br>lease<br>from<br>others | 4.<br>mortgaged<br>land | 5.<br>allotted<br>khas<br>land | 6.<br>non<br>allotted<br>khas<br>land | 7.<br>shared<br>land<br>for<br>cropping | 8.<br>land<br>leased<br>out for<br>share<br>cropping | 9.<br>inherited<br>land | 10.<br>using others<br>land without<br>paying any<br>rent/service/<br>share of<br>products | 11.<br>using others<br>land paying<br>rent/service/<br>share of products |
|--------------------|--------------------------------------------------|------------------------------------------------------------|------------------------------------------------------|-------------------------|--------------------------------|---------------------------------------|-----------------------------------------|------------------------------------------------------|-------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Homestead          |                                                  |                                                            |                                                      |                         |                                |                                       |                                         |                                                      |                         |                                                                                            |                                                                          |
| Cultivable<br>Land |                                                  |                                                            |                                                      |                         |                                |                                       |                                         |                                                      |                         |                                                                                            |                                                                          |
| Pond               |                                                  |                                                            |                                                      |                         |                                |                                       |                                         |                                                      |                         |                                                                                            |                                                                          |
| barren<br>land     |                                                  |                                                            |                                                      |                         |                                |                                       |                                         |                                                      |                         |                                                                                            |                                                                          |
| Others             |                                                  |                                                            |                                                      |                         |                                |                                       |                                         |                                                      |                         |                                                                                            |                                                                          |

B2. Amount of increased land as a result of \*\*intervention... .. (in Decimals) (\*\*= Name of the affiliated NGO)



B3. HH level assets

| Serial no | Description of asset          | No. (prior to intervention) | No. (After intervention) | Previous price | Present price |
|-----------|-------------------------------|-----------------------------|--------------------------|----------------|---------------|
| 1         | House                         |                             |                          |                |               |
| 2         | Cot                           |                             |                          |                |               |
| 3         | Table/chair                   |                             |                          |                |               |
| 4         | Almirah/<br>cloth<br>rack/Box |                             |                          |                |               |
| 5         | Radio                         |                             |                          |                |               |
| 6         | Clock                         |                             |                          |                |               |
| 7         | Jewelleries<br>(Gold/Silver)  |                             |                          |                |               |

| Serial no | Description of asset    | No. (prior to intervention) | No. (After intervention) | Previous price | Present price |
|-----------|-------------------------|-----------------------------|--------------------------|----------------|---------------|
| 8         | Cell Phones             |                             |                          |                |               |
| 9.        | Agricultural equipments |                             |                          |                |               |
| 10.       | Fishing net             |                             |                          |                |               |
| 11.       | Boat                    |                             |                          |                |               |
| 12.       | Rickshaw/Van            |                             |                          |                |               |
| 13.       | Bicycle                 |                             |                          |                |               |
| 14.       | Others                  |                             |                          |                |               |

## B4. Average monthly income and expenditure of the HH (in Taka)

| Serial no | Sources of Income                                             | Monthly Average Income (good time) | Monthly Average Income (bad time) | Serial no | Sectors of expenditure             | Monthly Average expenditure (good time) | Monthly Average expenditure (bad time) |
|-----------|---------------------------------------------------------------|------------------------------------|-----------------------------------|-----------|------------------------------------|-----------------------------------------|----------------------------------------|
| 1         | Payment and Salary                                            |                                    |                                   | 01        | Food (excluding produced crop)     |                                         |                                        |
| 2         | Enterprise and business (non-agricultural)                    |                                    |                                   | 02        | Clothing                           |                                         |                                        |
| 3         | Crop                                                          |                                    |                                   | 03        | Education                          |                                         |                                        |
| 4         | Agricultural products (except crop) (trees/bamboo bush/other) |                                    |                                   | 04        | Health/treatment                   |                                         |                                        |
| 5         | Remittance from external HH member                            |                                    |                                   | 05        | House/ land management/ house rent |                                         |                                        |
| 6         | Income from Rent, gift, donation, relief, etc.                |                                    |                                   | 06        | Festivals (religious and cultural) |                                         |                                        |
| 7         | Fishing                                                       |                                    |                                   | 07        | Communication                      |                                         |                                        |
| 8         | Safety net (VGF, food for work, etc.)                         |                                    |                                   | 08        | Others                             |                                         |                                        |
| 9         | Others                                                        |                                    |                                   |           |                                    |                                         |                                        |



B5. How many HH members are engaged in main and secondary occupation (income of 1 year)

|               | How many earn? | How many are unemployed? | Income increase (Yes =1, No=2) | Average monthly increase in income |
|---------------|----------------|--------------------------|--------------------------------|------------------------------------|
| i. Male       |                |                          |                                |                                    |
| ii. Female    |                |                          |                                |                                    |
| iii. Children |                |                          |                                |                                    |

B6. How many external HH members financially contribute to the HH?

B7. In the last one year such HH members contributed TK ..... to the HH

B8. Information on livestock and trees:

| Serial no | Types                | Own (prior to intervention) | Own (present) | Shared rearing (prior to intervention) | Shared rearing (present) | Price of own and shared (prior to intervention) | Price of own and shared (present) |
|-----------|----------------------|-----------------------------|---------------|----------------------------------------|--------------------------|-------------------------------------------------|-----------------------------------|
| 1         | Cow                  |                             |               |                                        |                          |                                                 |                                   |
| 2         | Buffalo              |                             |               |                                        |                          |                                                 |                                   |
| 3         | Goat                 |                             |               |                                        |                          |                                                 |                                   |
| 4         | Sheep                |                             |               |                                        |                          |                                                 |                                   |
| 5         | Chicken/Duck /Pigeon |                             |               |                                        |                          |                                                 |                                   |
| 6         | Tree                 |                             |               |                                        |                          |                                                 |                                   |
| 7         | Bamboo bush          |                             |               |                                        |                          |                                                 |                                   |
| 8         | Others               |                             |               |                                        |                          |                                                 |                                   |

B9. Type of houses possessed prior to intervention (in number):  Pakka (brick and cement)  semi-pakka

tin house (without any brick and cement)  straw house  mud house with straw or tin shed

B10. Type of houses possessed presently (in number):  Pakka (brick and cement)  semi-pakka

tin house (without any brick and cement)  straw house  mud house with straw or tin shed

### C. Loan

C1. Did you take any loan last year?  1= Yes, 2= No

C2. If yes, what were the purposes    1= buying agricultural raw materials, 2= buying seed, fertilizer, pesticide, etc. 3= buying livestock, 4= paying rent or tax, 5= starting business, 6= buying food for consumption, 7= bearing communication cost, 8= house repairing/ making, 9=medicine/treatment, 10= meeting educational expenses, 11= matrimonial expenditures, 12= disaster mitigation, 13 =others



C3. In times of crisis, how much money did you loan from different sources in the last one year, describe.

| Source               | Amount (taka) | Amount of money returned/ must return | Returned/ must return within (days) |
|----------------------|---------------|---------------------------------------|-------------------------------------|
| 1. kin               |               |                                       |                                     |
| 2. Neighbours        |               |                                       |                                     |
| 3. Friends           |               |                                       |                                     |
| 4. Shopkeeper/dealer |               |                                       |                                     |
| 5. Businessman       |               |                                       |                                     |
| 6. Money lender      |               |                                       |                                     |
| 7. NGO groups        |               |                                       |                                     |
| 8.Others (source)    |               |                                       |                                     |

#### D. Food & Health Security

D1. Food consumed by the HH members yesterday; Sufficient Food =1, Insufficient Food =2, No Food =3

|        | Breakfast | Lunch | Supper |
|--------|-----------|-------|--------|
| Male   |           |       |        |
| Female |           |       |        |
| Child  |           |       |        |

D2. What are the months (Bengali) of food insecurity for your HH? 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.

D3. Did you produce any crop last year? ☐ Yes =1 No =2

D4. If yes, how many days in a year, does your HH consume the produced crop?  Days

D5. Name the diseases from which your HH members seriously suffered within the last one year?

| Name of Disease    | (√) if suffered | No. of affected members | Name of Disease             | (√) if suffered | No. of affected members |
|--------------------|-----------------|-------------------------|-----------------------------|-----------------|-------------------------|
| 1. Appendicitis    |                 |                         | 8. Diarrhoea                |                 |                         |
| 2. Skin Diseases   |                 |                         | 9. Dysentery                |                 |                         |
| 3. Pneumonia       |                 |                         | 10. High Fever              |                 |                         |
| 4. Asthma          |                 |                         | 11. Gastrolysis             |                 |                         |
| 5. Night Blindness |                 |                         | 12. Female Diseases         |                 |                         |
| 6. Blood Pressure  |                 |                         | 13. Accident                |                 |                         |
| 7. Jaundiced       |                 |                         | 14. Others (Please Mention) |                 |                         |



E. Disaster Risk, Vulnerability, Mitigation, and Coping Strategy

E 1 What strategies your HH adopted to overcome the danger it experienced due to different disasters in the last one year.

|   | Natural disaster       | Freq-<br>uency | Strategy | Strategy | Strategy | Strategy |    | Social disaster                     | Freq-<br>uency | Strategy | Strategy | Strategy | Strategy |
|---|------------------------|----------------|----------|----------|----------|----------|----|-------------------------------------|----------------|----------|----------|----------|----------|
| 1 | River erosion          |                |          |          |          |          | 13 | Death of HH member                  |                |          |          |          |          |
| 2 | Flood (flush/seasonal) |                |          |          |          |          | 14 | Death of Income generating member   |                |          |          |          |          |
| 3 | Drought                |                |          |          |          |          | 15 | Separation                          |                |          |          |          |          |
| 4 | Strong winds           |                |          |          |          |          | 16 | Asset grabbed by influential person |                |          |          |          |          |
| 5 | Heavy rains            |                |          |          |          |          | 17 | Dowry                               |                |          |          |          |          |
| 6 | Tornado                |                |          |          |          |          | 18 | Divorce                             |                |          |          |          |          |
| 7 | Cold wave              |                |          |          |          |          | 19 | Victim of robbery/ dacoity          |                |          |          |          |          |
| 8 | Boat accident          |                |          |          |          |          | 20 | Forcefully displaced                |                |          |          |          |          |

|    |                        |  |  |  |  |  |    |                                        |  |  |  |  |  |  |
|----|------------------------|--|--|--|--|--|----|----------------------------------------|--|--|--|--|--|--|
| 9  | Scarcity of food       |  |  |  |  |  | 21 | Work Opportunity seized                |  |  |  |  |  |  |
| 10 | Crop Under Pest attack |  |  |  |  |  | 22 | Arrestment of income generating member |  |  |  |  |  |  |
| 11 | Disease                |  |  |  |  |  | 23 | Price hike                             |  |  |  |  |  |  |
| 12 | Death of livestock     |  |  |  |  |  | 24 | Social conflict                        |  |  |  |  |  |  |
| 26 | Others                 |  |  |  |  |  | 25 | Loss of land                           |  |  |  |  |  |  |

\*List of strategies :1 = Taking loan from neighbour/kin, 2 = Taking loan from money lender, 3 = Taking loan from NGO, 4 = Taking loan from businessman, 5 = Selling house, 6 = Selling land, 7 = Selling HH asset, 8 = Selling livestock, 9 = Selling trees, 10 = Selling ornament, 11 = Selling tin sheets of house, 12 = Advance selling of fruits in trees, 13 = Advance selling of labour, 14 = Famine-time food intake, 15 = Rationing in daily food consumption, 16 = Taking food on loan for consumption, 17 = Mortgaging land/house, 18 = Changing occupation, 19 = Selling child labour, 20 = Taking relief, 21 = Begging, 22 = Permanently migrating, 23 = Temporarily migrating, 24 = Migrating to avail work opportunity, 25 = Using savings, 26 = Raising plinth, 27 = Seeking solution from Community *shalish*, 28 = Going to court for solution, 29 = Seeking help from HH members, 30 = Seeking help from neighbours, 31 = Seeking help from influential person, 32 = Seeking help from local govt./govt., 33 = Did not take any strategy, 34 = Others (please mention)



E2. What losses did your HH incur due to different natural disasters experienced in the last year?

1 = Lack of Work opportunity, 2 = Loss of livelihood tools, 3 = Livestock: lost/ died/ had disease, 4 = Crop damaged, 5 = Land degraded, 6 = Marketing mechanism destroyed, 7 = Loss of morale, 8 = Physical damage or death of HH member, 9 = Got into debt, 10 = House damaged, 11 = Communication system damaged, 12 = Lost Land due to river erosion, 13 = House lost in erosion, 14 = HH assets damaged, 15 = Trees lost in erosion/ died, 16 = Food crisis, 17 = Saved food destroyed, 18 = Break down of diseases, 19 = others

|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|

E3 Due to different natural disasters \*\* interventions did not result in any positive / resulted in less positive consequences.

1 = Yes, 2 = No ☐

E4. What losses did your HH incur due to different social disasters/problems experienced in the last year?

1 = Disrupted economic growth, 2 = Damaged social relation, 3 = Got into debt, 4 = Unable to uphold right, 5 = Increase of peril and disaster, 6 = Forced to migrate, 7 = Loss of morale, 8 = Others

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  |  |  |  |
|--|--|--|--|--|--|

E5 Due to different social disasters/problems \*\* interventions did not result in any positive / resulted in less positive consequences.

1 = Yes, 2 = No ☐

E6. In mitigating the losses due to different disasters experienced in the last year,

The results of \*\* interventions were very useful (√)

Not at all correct      Not correct      Uncertain      Correct      Completely correct

\*\* interventions will help the future mitigation of such disasters

Not at all correct      Not correct      Uncertain      Correct      Completely correct

Due to the \*\* interventions we got what we needed the most.

Not at all correct      Not correct      Uncertain      Correct      Completely correct

#### F. Government and NGO programmes

F1. Did any of your HH members avail any government service in the last two years?

(Level of satisfaction: 1=Satisfied, 2= Somewhat satisfied, 3= Dissatisfied)

| Name of service              | ( √ ) | Level of satisfaction |
|------------------------------|-------|-----------------------|
| 1. Widow-allowance           | F1_1r |                       |
| 2. Elderly allowance         | F1_2r |                       |
| 3. Freedom fighter allowance | F1_3r |                       |
| 4. VGD/ VGF                  | F1_4r |                       |
| 5. <i>Khas</i> land          | F1_5r |                       |
| 6. Educational stipend       | F1_6r |                       |



|                                                     |        |  |
|-----------------------------------------------------|--------|--|
| 7. Seeds                                            | F1_7r  |  |
| 8. Food for work                                    | F1_8r  |  |
| 9. <i>Asrayon</i> (shelter)                         | F1_9r  |  |
| 10. Relief                                          | F1_10r |  |
| 11. Health services                                 | F1_11r |  |
| 12. Registration (birth, death, voter and marriage) | F1_12r |  |
| 13. Livestock related                               | F1_13r |  |
| 14. Agriculture related                             | F1_14r |  |
| 15. Family planning related                         | F1_15r |  |
| 16. Vaccination                                     | F1_16r |  |
| 17. others---                                       | F1_17r |  |
| Total                                               |        |  |

F2. The results of availed government services were very useful. (✓)

Not at all correct      Not correct      Uncertain      Correct      Completely correct

F3. The results of availed government services will last long

Not at all correct      Not correct      Uncertain      Correct      Completely correct

F4. Through the availed government services we got what we needed the most.

Not at all correct      Not correct      Uncertain      Correct      Completely correct

F5. Information and opinion on local government issues: (1=Yes, 0=No)

|                                                                                                      |  |
|------------------------------------------------------------------------------------------------------|--|
| F5_1. Had you been to the Union Parisad Office in the last one year?                                 |  |
| F5_2. Did you take any service from the Union Parisad in the last year?                              |  |
| F5_3. Did the Union Parisad take any initiative to improve the quality of services in the last year? |  |
| F5_4. Do you know anything about the yearly development plan of the Union Parisad?                   |  |
| F5_5. Do you know anything about the yearly development budget of the Union Parisad?                 |  |
| F5_6. Had there been construction of any infrastructure in the last five years by the Union Parisad? |  |
| F5_7. Does the Union Parisad have any system of registration for birth, death, voter, and marriage?  |  |
| F5_8. Does the Union Parisad supervise the activities of the primary schools?                        |  |
| F5_9. Does the union office inspire you to send your children to the school?                         |  |
| F5_10. Does the Union Parisad work to maintain law and order situation and to control terrorism?     |  |
| F5_11. Does the Union Parisad work to prevent violence against women?                                |  |
| F5_12. Does the Union Parisad encourage NGO and other similar type of activities?                    |  |



F6. What are your sources of information on the following issues? (Level of satisfaction: 1=Satisfied, 2= Somewhat satisfied, 3= Dissatisfied)

1= agricultural extension, 2= fisheries department, 3= livestock department, 4= BRDB, 5= public health engineering, 6= Upazila Health Complex, 7= education department, 8= land registration office, 9= *tahsil* office, 10= Project Implementation Officer, 11= Union Parisad, 12= Member of the Parliament, 13= Radio/ television,... 14= NGO, 15= neighbour, 16= Mobile phone, 17= Knowledgeable person, 18 = Dealer/ shopkeeper, 19= Others

| <i>Issues</i>                      | <i>Service provider</i> | <i>Level of satisfaction</i> | <i>Service provider</i> | <i>Level of satisfaction</i> | <i>Service provider</i> | <i>Level of satisfaction</i> | <i>Service provider</i> | <i>Level of satisfaction</i> | <i>Service provider</i> | <i>Level of satisfaction</i> |
|------------------------------------|-------------------------|------------------------------|-------------------------|------------------------------|-------------------------|------------------------------|-------------------------|------------------------------|-------------------------|------------------------------|
| Agricultural training              |                         |                              |                         |                              |                         |                              |                         |                              |                         |                              |
| Information on quality seeds       |                         |                              |                         |                              |                         |                              |                         |                              |                         |                              |
| Product marketing                  |                         |                              |                         |                              |                         |                              |                         |                              |                         |                              |
| Livestock rearing                  |                         |                              |                         |                              |                         |                              |                         |                              |                         |                              |
| Treatment of livestock             |                         |                              |                         |                              |                         |                              |                         |                              |                         |                              |
| Vaccination of livestock           |                         |                              |                         |                              |                         |                              |                         |                              |                         |                              |
| Health services                    |                         |                              |                         |                              |                         |                              |                         |                              |                         |                              |
| Local vaccinator                   |                         |                              |                         |                              |                         |                              |                         |                              |                         |                              |
| Family planning                    |                         |                              |                         |                              |                         |                              |                         |                              |                         |                              |
| Education                          |                         |                              |                         |                              |                         |                              |                         |                              |                         |                              |
| Hygienic water & sanitation system |                         |                              |                         |                              |                         |                              |                         |                              |                         |                              |
| <i>Khas</i> land                   |                         |                              |                         |                              |                         |                              |                         |                              |                         |                              |
| Khas jalmahal                      |                         |                              |                         |                              |                         |                              |                         |                              |                         |                              |
| Others                             |                         |                              |                         |                              |                         |                              |                         |                              |                         |                              |

F7. Is any member of your HH involved with NGO activities? ☐ 1= yes, 2= no F8. If yes, how many are involved? ☐

F9. If involved with NGO activities, provide the following information:

(1= BRAC, 2= ASA, 3= CARE, 4=Grameen Bank, 5=SLOPB, 6= SKS, 7= Others

| NGO | 1.<br>Micro credit | 2.<br>Education | 3.<br>Health | 4. Family<br>planning | 5. Skill development<br>training | 6. Awareness<br>building training | 7. Agricultural<br>support | 8.<br>Relief | 9.<br>Others |
|-----|--------------------|-----------------|--------------|-----------------------|----------------------------------|-----------------------------------|----------------------------|--------------|--------------|
|     |                    |                 |              |                       |                                  |                                   |                            |              |              |
|     |                    |                 |              |                       |                                  |                                   |                            |              |              |
|     |                    |                 |              |                       |                                  |                                   |                            |              |              |
|     |                    |                 |              |                       |                                  |                                   |                            |              |              |
|     |                    |                 |              |                       |                                  |                                   |                            |              |              |
|     |                    |                 |              |                       |                                  |                                   |                            |              |              |

F10. The results of becoming NGO beneficiary are very useful. (√)

Not at all correct      Not correct      Uncertain      Correct      Completely correct

F11. The results of becoming NGO beneficiary will last long.

Not at all correct      Not correct      Uncertain      Correct      Completely correct

F12. Through the NGO activities we got what we needed the most.

Not at all correct      Not correct      Uncertain      Correct      Completely correct



G. At the community level: (√)

G1. In the last couple of years, cyclone, flood, draught, river erosion etc. are occurring beyond the regular schedule.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

G2. In the last couple of years, cyclone, flood, draught, river erosion etc. are occurring frequently.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

G3. In the last couple of years, cyclone, flood, draught, river erosion etc. are occurring with high severity.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

G4. Because of cyclone, flood, draught, river erosion etc. danger and misery have increased in the last couple of years.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

G5. Because of cyclone, flood, draught, river erosion etc., in the last couple of years, damage to cultivated products and trees have increased.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

G6. In the last couple of years due to cyclone, flood, draught, river erosion etc. damage to livestock have increased

Not at all correct    Not correct    Uncertain    Correct    Completely correct

G7. Because of cyclone, flood, draught, river erosion etc. damage to our community buildings and houses have increased in the last couple of years.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

G8. In the last couple of years due to cyclone, flood, draught, river erosion etc. increase in health hazards/ diseases is evident.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

G9. Due to cyclone, flood, draught, river erosion etc. economic problems have increased in the last couple of years.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

G10. In the last couple of years because of cyclone, flood, draught, river erosion etc. our natural environment (land, river, wild animals and birds, plants etc.) is more damaged than before.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

H. At the HH level: (✓)

H1. Due to \*\* intervention the HH level losses of cyclone, flood, draught, river erosion, etc. have reduced.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

Using the knowledge gained through \*\* interventions our danger and misery will be less throughout the lifetime.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

H2. Because of \*\* interventions damage to cultivated products and trees have reduced presently.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

Using the knowledge gained through \*\* interventions damage to cultivated products and trees will be less throughout the lifetime.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

H3. Because of \*\* interventions damage to our livestock has reduced presently.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

Using the knowledge gained through \*\* interventions damage to our livestock will be less throughout the lifetime.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

H4. Because of \*\* interventions damage to our community buildings and houses has reduced presently.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

Using the knowledge gained through \*\* interventions damage to our community buildings and houses will be less throughout the lifetime.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

H5. Because of \*\* interventions health hazards/ diseases have reduced presently.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

Using the knowledge gained through \*\* interventions health hazards/ diseases will be less throughout the lifetime.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

H6. Because of \*\* interventions economic problems have lessen presently.

Not at all correct    Not correct    Uncertain    Correct    Completely correct



Using the knowledge gained through \*\* interventions economic problems will be less throughout the lifetime.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

H7. Due to \*\* interventions harm to our natural environment (land, river, wild animals and birds, plants, etc.) has reduced presently.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

Using the knowledge gained through \*\* interventions damage to our natural environment (land, river, wild animals and birds, plants etc.) will be less throughout the lifetime.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

i. Indicate the consequences of \*\* interventions for your HH comparing to previously prevailing situation (✓)

i1. \*\* interventions have solved some vital problems, which we had in our HH.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

i2. \*\* interventions have increased our HH level assets than before.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

i3. \*\* interventions have improved our HH livelihood.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

i4. \*\* interventions have reduced our disasters/ danger/ misery.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

i5. \*\* interventions have improved our infrastructure (house, roads, etc.).

Not at all correct    Not correct    Uncertain    Correct    Completely correct

i6. \*\* interventions have improved our social relations.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

i7. \*\* interventions have improved our health situation.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

i8. \*\* interventions have improved our natural environment (trees, vegetable gardens, etc.)

Not at all correct    Not correct    Uncertain    Correct    Completely correct

i9. \*\* interventions have improved the skill (through different trainings) of the HH members.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

i10. \*\* interventions have improved our HH members' education.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

i11. \*\* interventions have improved our HH level economic condition.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

i12. Our HH level development will continue for a long time due to \*\* interventions.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

i13. How the problems, misery and danger of your community people can be removed?

A

B

C

i14. How do you think the life/ livelihood of your HH will improve and the improvement will continue to persist?

A

B

C



BRAC - STUP

(● = negative item, y1-21 = activities)

y1. BRAC transferred asset within one month of providing training.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y2. Weekly support of Tk. 105 per beneficiary HH was sufficient

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y3. BRAC provided cattle that were appropriate for rearing in the *char* area.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y4. BRAC provided seeds and fertilizer, ideal for cultivation in the *char* area.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y5. BRAC staff trained us on ten issues under its social development activities through weekly home visit.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y6. BRAC provided sanitary latrine among the ultra poor.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y7. BRAC ensured safe water for the ultra poor.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y8. BRAC provided tin shed houses among the ultra poor beneficiaries.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y9. BRAC ensured vaccination of children between 0 to 5 years of age.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y10. BRAC ensured the vaccination of TT vaccine for women between the age of 15 and 49.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y11. For the schol-age children, BRAC ensured enrolment and regular attendance.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y12. BRAC ensured the plantation of at least two fruit trees for the ultra poor HHs.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y13. BRAC ensured health services for the ultra poor.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y14. BRAC ensured adaptation of different family planning methods.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y15. BRAC arranged various health awareness trainings for its beneficiaries.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y16. BRAC used to bear the cost of both complex and minor diseases of its beneficiaries.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y17. BRAC distributed tubewells among its beneficiaries.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y18. BRAC connected its beneficiaries with other health service centres.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y19. BRAC provided training to change food habits of its beneficiaries.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y20. To ensure service, BRAC worked with the government departments of health, agriculture, livestock and DPHE.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y21. BRAC conducted awareness-building activities on rights, HIV/AIDS, etc.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

(● = negative item, y22-36 = consequences)

y22. BRAC's health care activities were the most effective as it worked on awareness on and change in health care behaviour, health care during disasters, safe water, cleanliness, decision making of the female on child bear, etc.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●y23. The distribution activity of weekly support of Tk.105 was complex and time consuming.

Not at all correct    Not correct    Uncertain    Correct    Completely correct



y24. Essential health care (EHC) was the only health service available in our *char*.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●y25. Even after BRAC's interventions, our danger and misery in terms of livelihood is still like before.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●y26. Even after the interventions of BRAC our danger and misery continue to remain the same during disasters.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y27. We have already benefitted through vegetables and fruits cultivation following the instructions provided during training.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●y28. As we benefited with the BRAC intervention, our distance with the non-beneficiary HHs have increased.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y29. The incorporation of the social development activities with the main interventions was completely beneficial.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y30. The incorporation of infrastructural development activities with the main interventions was completely beneficial.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y31. Through installation of tubewell on the raised homestead plinth, BRAC has become successful in reducing danger during disasters.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y32. Through installation of tubewell on the raised homestead plinth, BRAC has become successful in reducing health hazards.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y33. Through distributing hygienic sanitary latrine and by ensuring use, BRAC has become successful in improving health situation.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y34. Due to BRAC's social development activities (education, health, rights) our social condition has improved.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y35. There was no alternative arrangement for the ultra poor but to live in the only tin house provided by BRAC.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y36. The illiteracy rate has been reduced through BRAC's initiative of ensuring school enrolment and attendance of the children.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

(● = negative item, y37-44 = sustainability)

y37. Due to BRAC interventions our income sources have increased which will allow us to continue the development for long in the future.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y38. Due to BRAC interventions child marriage, dowry, have reduced in our community and will not increase in the future.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y39. All have realised the benefits of using the hygienic sanitary latrine and will always continue to use in the future.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y40. We will be able to use the skills that we have learnt from the BRAC-STUP programme throughout our lifetime.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y41. Throughout our lifetime we will be able to use the knowledge on cleanliness and health care that we learnt from the BRAC-STUP training.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y42. All have realised the benefits of using safe water and will always continue to use safe water in the future.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y43. We will be able to use the knowledge on cattle rearing throughout our lifetime.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

y44. Our HH has developed and the development will increase gradually.

Not at all correct    Not correct    Uncertain    Correct    Completely correct



(● = negative item, a = activities, i = consequences, s = sustainability)

SLOPB - DPRM

S. Reducing the misery of cyclone and other disasters through training on disaster

1. We got necessary information and advice on disaster preparedness in the training provided by SLOPB.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●2.a We could not learn about the measures should be undertaken during disasters.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

3.a We could learn about the measures should be undertaken after disasters.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

4.a SLOPB-training on disaster is sufficient to address all the different types of natural disasters (flood, cyclone, hailstorm, cold wave, climate change, salinity, etc.) we experience in our area

Not at all correct    Not correct    Uncertain    Correct    Completely correct

5.a We got many new necessary information and advice on disaster during the SLOPB-training on disaster

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●6.i Even after the SLOPB-training on disaster our danger and misery continue to remain the same during disasters.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

7. SLOPB-training on disaster is highly effective and useful.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

8.s We will be able to use the knowledge gained through the SLOPB-training on disaster to prepare for disasters in the future.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

9.s We informed our neighbour about what we learnt through the SLOPB-training on disaster and they will be able to utilize the knowledge to prepare for disasters and mitigate disaster losses in the future.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

10.s Due to SLOPB-training on disaster, losses of life and property has been reduced and will be less in the future.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

11.s Due to SLOPB-training on disaster, losses of life and property will be less in the future to all different types of disasters we experience.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●12.a Even before the SLOPB-training on disaster, we had knowledge of training and personal knowledge on disasters.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

13.a We did not receive any other training on disaster from the government or any other private organization or NGO except the one from SLOPB.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

14. Beneficial consequences of SLOPB-training on disaster will last long.

Not at all correct    Not correct    Uncertain    Correct    Completely correct



(● = negative item, a = activities, i = consequences, s = sustainability)

T. Distribution of seed and fertilizer among the small farmers (possess small amount of land but are unable to buy seed due to poverty)

1.a The seed and fertilizer provided by SLOPB were timely.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●2.a Seeds appropriate for cultivation in the *char* lands was not supplied.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

3.a The months when SLOPB provided seed and fertilizer were typical for those crops as we are used to cultivate those crops in those months regularly.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

4.a SLOPB provided necessary training on how to cultivate the seed and use the fertilizer.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●5.a The seed and fertilizer provided by SLOPB were very insufficient for my own/ leased land.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

6.i In the after disaster phase, the seed and fertilizer provided by SLOPB were the most useful for us to get back to farming.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●7.i As SLOPB did not provide us any pesticide, we could not protect our crop from pest attack and incurred loss.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

8.i In the after disaster phase, the seed for homestead gardening from SLOPB was profitable in a short time.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

9.i We supplied some seed that SLOPB provided to our neighbour and that helped them to get back to farming.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

10.s We have preserved some seed for the next season that will be useful.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

- 11.a Even before receiving seed and fertilizer from, we already had sufficient seed and fertilizer necessary for cultivation.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

- 12.a We did not receive any seed and fertilizer from the government or any other private organization or NGO except from SLOPB.

Not at all correct    Not correct    Uncertain    Correct    Completely correct



(● = negative item, a = activities, i = consequences, s = sustainability)

U. Distribution of chicken and duckling among the poor female community members (widow and divorced will get priority)

1. The poultry provided by SLOPB was of good variety.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●2. The number of poultry provide by SLOPB was not sufficient to get back to poultry rearing as a source of livelihood.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

3. SLOPB provided necessary training and information on poultry rearing.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

4.i After losing poultry during disaster, the poultry provided by SLOPB was profitable to earn some money in a short time to run the HH.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

5. We were able to save our poultry with the medicine/ vaccination provided by SLOPB.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●6. i Due to disease/disasters we could not protect our poultry supplied by SLOPB for rearing.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●7. Even before receiving poultry from SLOPB, we already bought sufficient poultry necessary for rearing after SIDR.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

8. We did not receive any poultry from the government or any other private organization or NGO except from SLOPB.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

9. My family has developed by rearing poultry (provided by SLOPB) and the development will last long.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

(● = negative item, a = activities, i = consequences, s = sustainability)

V. Distribution of goats

1. The goat provided by SLOPB was of good variety.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

2. The number of goats provide by SLOPB was sufficient to get back to goat rearing.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

3. SLOPB provided necessary training and information on goat rearing to rear the goat.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

4.i In the after disaster phase, the goat for rearing from SLOPB was the most profitable.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●5.i Due to disease/disasters we could not protect our goat supplied by SLOPB for rearing.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●6.i We were unable to save our goat, as SLOPB did not arrange any medicine / vaccine.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●7.a Even before receiving the goat from SLOPB, we already had bought goat for rearing after SIDR.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

8.a We did not receive any goat from the government or any other private organization or NGO except from SLOPB.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

9. My family has developed by rearing the goat (provided by SLOPB) and the development will last long.

Not at all correct    Not correct    Uncertain    Correct    Completely correct



(● = negative item, a = activities, i = consequences, s = sustainability)

W. Installation of deep hand tubewell

1.i The crisis of safe water have been eliminated due to the installation of the tubewell by SLOPB.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

2.i SLOPB provided training to protect the tubewell during disaster and the tubewell is safe.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

3.i Water born diseases are less prevalent due to the installation of the tubewell by SLOPB.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

4. We did not receive any deep hand tubewell from the government or any other private organization or NGO except from SLOPB.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●5. Even after the installation of the deep hand tubewell by SLOPB- water related problems and danger remain the same as before.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

6. From the tubewell provided by SLOPB, we are getting and will continue get safe water in normal time and even in times of disasters.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

7.s From the tubewell provided by SLOPB not only the beneficiary HHs but also their neighbours are getting and will continue to get safe water in normal time and even in times of disasters.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●8. Even before receiving the deep hand tubewell installed by SLOPB, we had our own way of managing safe water/ tubewell water.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

9. Beneficial consequences of the deep hand tubewell by SLOPB will last long.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

10. Through the installation of tubewell by SLOPB we got what we needed the most.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

SKS - CLP

(● = negative item, clp1-10 = activities)

clp1. SKS ensured the full freedom of the beneficiaries in choosing the income-enhancing asset.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp2. SKS provided cattle that were appropriate for rearing in the *char* area.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp3. SKS ensured the preparatory meetings before buying the income-enhancing asset.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp4. SKS ensured the arrangement for all types of vaccination and de-worming system for the cattle.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●clp5. The value of the assets provided by SKS was insufficient compared to our need.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●clp6. The voucher system for cattle feed and treatment was complex and time consuming.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp7. SKS provided seed and fertilizer ideal for cultivation in the *char* areas.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp8. SKS taught us the technique of preparing bio-fertilizer for vegetable cultivation.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp9. Providing Tk. 350 taka monthly for 18 months was sufficient for the HHs.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp10. SKS helped us in getting health services provided by the government/ NGO/ private organizations, etc.

Not at all correct    Not correct    Uncertain    Correct    Completely correct



(● = negative item, clp11-34 = consequences)

●clp11. Even after SKS interventions, our danger and misery in terms of livelihood is still like before.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●clp12. Even after the interventions of SKS our danger and misery continue to remain the same during disasters.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp13. Fodder cultivation initiative of SKS was also useful as all chose to buy cattle.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp14. We were successful in cultivating vegetables, fruits and spices utilising the knowledge gained in the training.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp15. Following SKS guideline we were successful in preparing mixed fertilizer for homestead garden.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp16. In the preparatory meetings we learnt many new important information and advice on cattle purchasing and rearing.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp17. SKS ATP programme ensured livelihood security.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●clp18. SKS-arrangement of inappropriate vaccination and de-worming for the cattle led to loss.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp19. To improve our economic situation, SKS interventions were the best.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●clp20. Cattle rearing is a highly time consuming venture for ensuring livelihood security.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp21. Due to the SKS interventions presently we have achieved middleclass status from ultra-poor.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp22. As we benefited with the SKS intervention, our distance with the non-beneficiary HHs have increased.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp23. Due to the incorporation of social development, infrastructural development activities, etc. we have been benefitted in all sectors.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp24. We could be successful in vegetable/ fruit/ spice cultivation with the fertilizer distributed by SKS.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp25. The community safety net programme is useful for the elderly, disable community members.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp26. Through the community safety net programme the whole community developed.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp27. All *char* dwellers had access to SKS health services and thus their health service was ensured.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp28. The health services and health education, provided by SKS helped to prevent health problems of the mother, child and adolescent girls.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp29. The vegetables that we cultivate in our homestead garden and the milk, egg and meat that we get from our cattle and poultry helped to make the health services successfully.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp30. The work on issues like- changing health behaviour, increasing awareness, health care during disasters, safe water, cleanliness, child bearing decision making, etc. made the health care intervention of SKS the most effective.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp31. SKS is successful in reducing danger of disaster and health hazards through raising homestead plinth and installing tubewell there.

Not at all correct    Not correct    Uncertain    Correct    Completely correct



clp32. SKS is successful in improving the condition of environment and health by distributing sanitary latrine and ensuring the use of those.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp33. Ensuring efficient market system SKS has ensured our development.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp34. Through the village savings and loan programme, gradual development of the beneficiary HHs was ensured even after the programme.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

(● = negative item, clp35-43 = sustainability)

clp35. We will be able to use the knowledge gained from the training on cattle rearing throughout our lifetime.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp36. Throughout our lifetime, we will be able to use the knowledge gained from the training on homestead gardening and nutritional facts and importance of vegetables.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp37. Throughout our lifetime, we will be able to use the knowledge gained from the training on selection of mother tree for seed collection, collection of vegetable seed and preservation of seed.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp38. Throughout our lifetime, we will be able to use the knowledge gained from all different trainings by SKS.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp39. Through the activities of the beneficiaries, *para*<sup>1</sup> committee, village committee, etc. we will be benefitted throughout life.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp40. We will be able to use the knowledge gained and activities learnt on various social problems and their prevention throughout our lifetime.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

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<sup>1</sup> Small social unit composed of a few closely located HHs.

clp41. We will be able to use the necessary knowledge we have gained to avail various government/ NGO services throughout our lifetime.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp42. We will be able to use the knowledge gained from the training on cleanliness and health throughout our lifetime.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

clp43. Our HH has developed and the development will increase gradually.

Not at all correct    Not correct    Uncertain    Correct    Completely correct



RBP

(● = negative item, rbp1-13 = activities)

rbp1. Information on pre-disaster signals was disseminated through leaflets in a short time.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp2. Informing school children about water, hygienic sanitary system and disaster preparedness, community people were informed about the issues through them.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp3 SKS distributed leaflet on disaster preparation in the community.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp4. Through miking, information on health, cleanliness, education, sanitary system, pure water and personal cleanliness had been disseminated among the community people.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp5. To ensure safe birth SKS arranged training of traditional birth attendants.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp6. SKS arranged vaccination for the cattle they distributed to ensure livelihood security.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp7. TO ensure livelihood security SKS arranged need-based trainings.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp8. SKS arranged loan for the practical implementation of the trainings they provided to ensure livelihood security.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp9. SKS provided us with all the necessary trainings, seeds, fertilizer and plants for homestead gardening.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp10. Before distributing cattle SKS provided training on the benefits of cattle rearing and on methods of rear cattle.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp11. SKS first provided necessary training and then provided financial support for cattle, poultry, plants, small business, etc. To ensure livelihood security.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp12. SKS's activities on agricultural development encouraged the community people to cultivate different new varieties of crops and to use new equipments of farming.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp13. SKS had activities on awareness raising on rights and HIV/AIDS, etc.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

(● = negative item, rbp14-28 = consequences)

●rbp14. Even after SKS's interventions, our danger and misery in terms of livelihood is still like before.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●rbp15. Even after SKS's interventions, our danger and misery in terms of disaster is still like before.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp16. Due to SKS activities, hygienic sanitation system is established in the village.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp17. SKS has ensured people's participation and skill development through the formation of village disaster committee, market committee, etc.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp18. By installing solar panels, SKS has increased work opportunity of the community people at nighttime.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●rbp19. Although SKS has established NFP School in the community, the need for quality education is not met yet.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●rbp20. Even though SKS had meetings with various government departments, it could not ensure government services for the community.



Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp21. SKS has established different producer groups and ensured marketing arrangements of the products.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

●rbp22. Even after taking disaster preparedness measures taught by SKS, the losses of disasters in our community are not reduced.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp23. Due to SKS activities on hygienic sanitation system, diseases and environment pollution is reduced.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp24. As traditional birth attendants (SKS trained) are available in our community, incidence of mother and child mortality has reduced.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp25. Due to all the SKS activity on homestead gardening, the beneficiaries could ensure HH level nutrition and livelihood security.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp26. Beneficiaries could successfully rear the cattle provided by SKS and made profit.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp27. The group leaders utilise their knowledge on disaster preparedness at the community.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp28. With the pre-disaster signals disseminated by SKS using a microphone, the community people have become aware about the pre-disaster signals.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

(● = negative item, rbp29-37 = sustainability)

rbp29. The knowledge on disaster preparedness gained through various SKS interventions will be of use throughout lifetime,

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp30. The knowledge that we gained on hygienic sanitation system will be useful throughout life.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp31. we will be able to use the knowledge from SKS on cattle and vaccination throughout our life.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp32. The various trainings SKS arranged to ensure livelihood security will be useful throughout our life.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp33. Our HH has developed and the development will increase gradually.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp34. Our knowledge on homestead gardening, nutrition information and their importance will be useful throughout our life.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp35. We will be able to utilise our knowledge gained through different training of SKS throughout our life.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp36. We will be able to use the knowledge gained and activities learnt on various social problems and their prevention throughout our lifetime.

Not at all correct    Not correct    Uncertain    Correct    Completely correct

rbp 37. We will be able to use the knowledge gained from the training on cleanliness and health throughout our lifetime.

Not at all correct    Not correct    Uncertain    Correct    Completely correct



## (B) Household Survey Questionnaire in Bengali

তথ্য সংগ্রহকারীর নাম \_\_\_\_\_

স্বাক্ষর:

পদবী/তারিখ:

|                   |  |
|-------------------|--|
| ID Number         |  |
| Date of interview |  |
| Project           |  |

A. Basic Information

A1. খানা প্রধানের নাম: ১-----২. বয়স: .....৩. লিঙ্গ: ..... ৪. শিক্ষা: .....

A2. খানা প্রধানের স্বামী/ স্ত্রীর নাম: ১-----২. বয়স: .....৩. লিঙ্গ: ..... ৪. শিক্ষা: .....

A3. আপনার পরিবারের মোট সদস্য সংখ্যা A4. আপনার খানার মোট বাচ্চার সংখ্যা 

A5. আপনার খানার মোট ছেলে বাচ্চার সংখ্যা  বয়স: ১ ....., ২ ....., ৩....., ৪....., ৫....., ৬....., ৭....., ৮.....  
(১৮ বছরের নিচে যাদের বিয়ে হয়নি )

শিক্ষা: ১ ....., ২ ....., ৩....., ৪....., ৫....., ৬....., ৭....., ৮.....

A6. আপনার খানার মোট মেয়ে বাচ্চার সংখ্যা  বয়স: ১ ....., ২ ....., ৩....., ৪....., ৫....., ৬....., ৭....., ৮.....

শিক্ষা: ১ ....., ২ ....., ৩....., ৪....., ৫....., ৬....., ৭....., ৮.....

A7. আর্থসামাজিক অবস্থা (কার্যক্রমের আগের)  1 = অতি দরিদ্র, 2 = দরিদ্র, 3 = নিম্ন মধ্যবিত্ত, 4 = মধ্যবিত্তA8. আর্থসামাজিক অবস্থা (কার্যক্রমের পরের)  1 = অতি দরিদ্র, 2 = দরিদ্র, 3 = নিম্ন মধ্যবিত্ত, 4 = মধ্যবিত্ত

A9. আপনার খানার প্রধান আয়ের উৎস (সবচেয়ে গুরুত্বপূর্ণ থেকে শুরু করে)

| কোড                        |    |                         |    |
|----------------------------|----|-------------------------|----|
| কৃষিজীবী                   | 1  | কুটির শিল্প             | 16 |
| বর্গা চাষী                 | 2  | কামার                   | 17 |
| জেলে                       | 3  | মাটি কাটার কাজ          | 18 |
| অন্যের বাড়িতে কাজ         | 4  | কাঠ মিস্ত্রী            | 19 |
| দিন মজুর                   | 5  | মিস্ত্রী                | 20 |
| বাঁধা শ্রমিক               | 6  | স্বর্ণকার               | 21 |
| মাইগ্রেন্ট শ্রমিক          | 7  | দরজি                    | 22 |
| এলাকার সাধারণ সম্পদ বিক্রি | 8  | প্রতিবন্ধী/ বয়স্ক ভাতা | 23 |
| গবাদিপশু পালন              | 9  | ভিক্ষা                  | 24 |
| মেশিন দিয়ে কাজ            | 10 | শিক্ষা উপবৃত্তি         | 25 |
| সবজী উৎপাদন                | 11 | মাঝি                    | 26 |
| মুরগী/ হাঁস পালন           | 12 | গোয়ালার                | 27 |
| রিক্সা বা ভ্যান চালক       | 13 | অন্যান্য                | 29 |
| চাকুরীজীবী                 | 14 | রেমিট্যান্স             | 32 |
| ক্ষুদ্র ব্যবসায়ী          | 15 |                         |    |

A10. ধর্ম:  1. ইসলাম 2. সনাতন 3. খ্রীষ্টান 4. অন্যান্য

A11. আপনার পরিবার কতদিন ধরে এখানে বাস করছেন?  বছর (বহিরাগত হলে কত বছর / নিজের বয়স / স্বামীর বয়স)



A12. (যদি জন্ম থেকে না হয়) আপনার পরিবার কোথা থেকে এসেছে?  1=মূল ভূখণ্ড, 2=পাশের চর, 3= পাশের জেলা, 4= দূরবর্তী জেলা থেকে

A13. (যদি জন্ম থেকে না হয়) আগের জায়গা ছেড়ে এসেছেন কেন?

1=নদী ভাঙ্গন, 2=উচ্ছেদ, 3=জমি দখল, 4=ঋণগ্রস্ত, 5=ব্যবসায় লোকসান, 6= রাজনৈতিক নির্যাতন, 7= কাজের সুযোগ না থাকায়,  
8= অন্যান্য উল্লেখ করুন).....  
.....

A14. (যদি জন্ম থেকে না হয়) কেন এখানে বসতি করেছেন?

1= আত্মীয়ের অবস্থান, 2=জোতদার নিয়ে এসেছে, 3=অন্য কোন উপায় নেই, 4= অর্থনৈতিক সুযোগ-সুবিধা, 5= নিজের জায়গায় ফিরে আসা (চর জাগায়), 6= কাজের সুযোগ থাকায়,  
7= অন্যান্য, উল্লেখ করুন).....

A15. আপনার খানা এ পর্যন্ত মোট কতবার জায়গা বদল করেছে ?

A16. খানার তথ্য:

| ক্রমিক<br>নং | পরিবারের সদস্যদের নাম<br>(খানা প্রধান থেকে শুরু<br>করতে হবে) | খা. প্রধান<br>এর সাথে<br>সম্পর্ক | বয়স | বৈবাহিক<br>অবস্থা | লিঙ্গ | শিক্ষা | প্রধান<br>পেশা | প্র. পে. থেকে<br>মাসিক গড় আয় | উপপেশা |  |  | উ. পে. থেকে<br>মাসিক গড় আয় |  |  | দক্ষতা |  |  |
|--------------|--------------------------------------------------------------|----------------------------------|------|-------------------|-------|--------|----------------|--------------------------------|--------|--|--|------------------------------|--|--|--------|--|--|
| 1            |                                                              |                                  |      |                   |       |        |                |                                |        |  |  |                              |  |  |        |  |  |
| 2            |                                                              |                                  |      |                   |       |        |                |                                |        |  |  |                              |  |  |        |  |  |
| 3            |                                                              |                                  |      |                   |       |        |                |                                |        |  |  |                              |  |  |        |  |  |
| 4            |                                                              |                                  |      |                   |       |        |                |                                |        |  |  |                              |  |  |        |  |  |
| 5            |                                                              |                                  |      |                   |       |        |                |                                |        |  |  |                              |  |  |        |  |  |
| 6            |                                                              |                                  |      |                   |       |        |                |                                |        |  |  |                              |  |  |        |  |  |
| 7            |                                                              |                                  |      |                   |       |        |                |                                |        |  |  |                              |  |  |        |  |  |
| 8            |                                                              |                                  |      |                   |       |        |                |                                |        |  |  |                              |  |  |        |  |  |
| 9            |                                                              |                                  |      |                   |       |        |                |                                |        |  |  |                              |  |  |        |  |  |
| 10           |                                                              |                                  |      |                   |       |        |                |                                |        |  |  |                              |  |  |        |  |  |



কোড

| সম্পর্ক            |    | স্বাক্ষরতা           |     | বৈবাহিক অবস্থা     |    | শিক্ষা              |        |          |
|--------------------|----|----------------------|-----|--------------------|----|---------------------|--------|----------|
| খানা প্রধান (নিজে) | 1  | নিরক্ষর              | 111 | বিবাহিত/বিবাহিতা   | 1  |                     | সাধারণ | মাদ্রাসা |
| স্বামী/ স্ত্রী     | 2  | শুধু পড়তে পারে      | 222 | অবিবাহিত/অবিবাহিতা | 2  | প্রথম শ্রেণী        | 1      | 1001     |
| পুত্র/কন্যা        | 3  | পড়তে এবং লিখতে পারে | 333 | বিধবা / বিপত্নীক   | 3  | দ্বিতীয় শ্রেণী     | 2      | 1002     |
| পিতা/মাতা          | 4  | স্বাক্ষরতা           | 444 | তালাকপ্রাপ্ত       | 4  | .. ..               |        |          |
| ভাই/বোন            | 5  | বাচ্চা (< ৭ বছর)     | 99  | বিছিন্ন            | 5  | দশম শ্রেণী          | 10     | 1010     |
| জামাতা/পুত্রবধু    | 6  |                      |     |                    |    | দ্বাদশ শ্রেণী       | 12     | 1012     |
| শ্বশুর/শাশুড়ী     | 7  | লিঙ্গ                |     | শিক্ষা             |    | প্রথম বর্ষ বি.এ.    | 13     | 1013     |
| গৃহকর্মী           | 8  | পুরুষ / ছেলে         | 1   | হাফিজিয়া          | 33 | দ্বিতীয় বর্ষ বি.এ. | 14     | 1014     |
| নাতি/নাতনী         | 9  | মহিলা / মেয়ে        | 2   | বাচ্চা (< ৭ বছর)   | 99 | তৃতীয় বর্ষ বি.এ.   | 15     | 1015     |
| অন্যান্য           | 10 |                      |     |                    |    | উচ্চ শিক্ষিত        | 15     | 1015     |

| পেশা উপপেশা এবং দক্ষতা কোড |    |                          |    |
|----------------------------|----|--------------------------|----|
| কৃষিজীবী                   | 1  | কুটির শিল্প              | 16 |
| বর্গা চাষী                 | 2  | কামার                    | 17 |
| জেলে                       | 3  | মাটি কাটার কাজ           | 18 |
| অন্যের বাড়িতে কাজ         | 4  | কাঠ মিস্ত্রী             | 19 |
| দিন মজুর                   | 5  | মিস্ত্রী                 | 20 |
| বাঁধা শ্রমিক               | 6  | স্বর্ণকার                | 21 |
| মাইগ্রেন্ট শ্রমিক          | 7  | দরজি                     | 22 |
| এলাকার সাধারণ সম্পদ বিক্রি | 8  | প্রতিবন্ধী/ বয়স্ক ভাতা  | 23 |
| গবাদিপশু পালন              | 9  | ভিক্ষা                   | 24 |
| মেশিন দিয়ে কাজ            | 10 | শিক্ষা উপবৃত্তি (উপপেশা) | 25 |
| সবজী উৎপাদন                | 11 | মাঝি                     | 26 |
| মুরগী/ হাঁস পালন           | 12 | গোয়াল                   | 27 |
| রিপ্সা বা ভ্যান চালক       | 13 | গৃহিনী / ঘরামি           | 28 |
| চাকুরীজীবী                 | 14 | অন্যান্য                 | 29 |
| ক্ষুদ্র ব্যবসায়ী          | 15 | বেকার                    | 30 |
| ছাত্র (প্রধান পেশা)        | 31 | বাচ্চা                   | 99 |

B. Productive HH assets and wealth before and after the intervention

B1. জমির মালিকানার ধরণ (শতাংশে) [১০০ শতাংশ = ১ একর] [জমির পরিমানের পুনরাবৃত্তি যেন না হয়] [পূর্বের / পরের = এন.জি.ও কার্যক্রমের পূর্বের / পরের]

| জমির ধরণ    | ১.<br>নিজ জমির<br>দলিল আছে<br>এমন জমি | ২.<br>ইজারা<br>নেয়া<br>জমি | ৩.<br>বন্ধক<br>নেয়া<br>জমি | ৪.<br>বন্ধক<br>দেয়া<br>জমি | ৫.<br>খাস জমি<br>বন্দেবস্ত<br>নেয়া | ৬.<br>খাস জমি<br>বন্দেবস্ত<br>না নেয়া | ৭.<br>বর্গা<br>নেয়া<br>জমি | ৮.<br>বর্গা<br>দেয়া<br>জমি | ৯.<br>উত্তরাধিকার<br>সূত্রে প্রাপ্ত<br>জমি | ১০.<br>কোন ভাড়া/সেবা/<br>উৎপাদিত পন্যের<br>অংশ না দিয়ে<br>অন্যের জমি ব্যবহার | ১১.<br>কোন ভাড়া/সেবা/<br>উৎপাদিত পন্যের<br>অংশ দিয়ে অন্যের<br>জমি ব্যবহার |
|-------------|---------------------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------------|----------------------------------------|-----------------------------|-----------------------------|--------------------------------------------|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| ১.বসতিভিটা  |                                       |                             |                             |                             |                                     |                                        |                             |                             |                                            |                                                                                |                                                                             |
| ২.কৃষি জমি  |                                       |                             |                             |                             |                                     |                                        |                             |                             |                                            |                                                                                |                                                                             |
| ৩.পুকুর     |                                       |                             |                             |                             |                                     |                                        |                             |                             |                                            |                                                                                |                                                                             |
| ৪.পতিতজমি   |                                       |                             |                             |                             |                                     |                                        |                             |                             |                                            |                                                                                |                                                                             |
| ৫. অন্যান্য |                                       |                             |                             |                             |                                     |                                        |                             |                             |                                            |                                                                                |                                                                             |

B2. \*\* কার্যক্রমের ফলাফলে বৃদ্ধিপ্রাপ্ত জমির পরিমান ... .. (শতাংশ) (\*\* = যে এনজিওর কার্যক্রমের সাথে জড়িত তার নাম)

B3. পারিবারিক সম্পদ

| ক্রমিক নং | সম্পদের বিবরণ      | সংখ্যা<br>(পূর্বে) | সংখ্যা<br>(বর্তমানে) | পূর্ব মূল্য* | বর্তমান মূল্য |
|-----------|--------------------|--------------------|----------------------|--------------|---------------|
| ১         | ঘর                 |                    |                      |              |               |
| ২         | খাট/চৌকি           |                    |                      |              |               |
| ৩         | টেবিল/চেয়ার       |                    |                      |              |               |
| ৪         | আলমারী/আলনা /বাক্স |                    |                      |              |               |
| ৫         | রেডিও              |                    |                      |              |               |
| ৬         | ঘড়ি               |                    |                      |              |               |
| ৭         | অলংকার (সোনা/রূপা) |                    |                      |              |               |

| ক্রমিক<br>নং | সম্পদের বিবরণ                                 | সংখ্যা<br>(পূর্বে) | সংখ্যা<br>(বর্তমানে) | পূর্ব<br>মূল্য * | বর্তমান<br>মূল্য |
|--------------|-----------------------------------------------|--------------------|----------------------|------------------|------------------|
| ৮            | মোবাইল                                        |                    |                      |                  |                  |
| ৯.           | কৃষি উপকরণ কোদাল,<br>নিড়ানী, স্প্রে মেশিন... |                    |                      |                  |                  |
| ১০.          | মাছ ধরার জাল                                  |                    |                      |                  |                  |
| ১১.          | নৌকা                                          |                    |                      |                  |                  |
| ১২.          | রিম্মা/ভ্যান                                  |                    |                      |                  |                  |
| ১৩.          | সাইকেল                                        |                    |                      |                  |                  |
| ১৪.          | অন্যান্য                                      |                    |                      |                  |                  |



## B4. খানার মাসিক গড় আয় ও ব্যয় (টাকায়)

| ক্রম | আয়ের উৎসসমূহ                                                                   | মাসিক গড় আয় (ভা) | মাসিক গড় আয় (খা) | ক্রম | ব্যয়ের খাতসমূহ                  | মাসিক গড় ব্যয় (ভা) | মাসিক গড় ব্যয় (খা) |
|------|---------------------------------------------------------------------------------|--------------------|--------------------|------|----------------------------------|----------------------|----------------------|
| 1    | মজুরী ও বেতন হতে আয়                                                            |                    |                    | 01   | খাদ্য (উৎপাদিত খাদ্য বাদে)       |                      |                      |
| 2    | এন্টারপ্রাইজ ও ব্যবসা হতে খানার মোট আয় (অ-কৃষি)                                |                    |                    | 02   | পোশাক/বস্ত্র                     |                      |                      |
| 3    | কৃষি ফসল হতে খানার মোট আয়                                                      |                    |                    | 03   | শিক্ষা                           |                      |                      |
| 4    | ফসল ব্যতীত অন্যান্য কৃষিভিত্তিক উৎস (গাছ/ বাঁশ ঝাড়/ অন্যান্য হতে খানার মোট আয় |                    |                    | 04   | স্বাস্থ্য/চিকিৎসা                |                      |                      |
| 5    | খানার বাইরে অবস্থানকারী সদস্য হতে প্রাপ্ত অর্থ                                  |                    |                    | 05   | গৃহ/ জমি ব্যবস্থাপনা/বাড়ি ভাড়া |                      |                      |
| 6    | ভাড়া, উপহার, দান, রিলিফ, ইত্যাদি খাত হতে আয়                                   |                    |                    | 06   | উৎসব (ধর্মীয় ও সাংস্কৃতিক)      |                      |                      |
| 7    | মাছ হতে আয়                                                                     |                    |                    | 07   | যাতায়াত/যোগাযোগ                 |                      |                      |
| 8    | সেফটি নেট (ভি.জি.এফ; কাজের বিনাময়ে খাদ্য ইত্যাদি)                              |                    |                    | 08   | অন্যান্য                         |                      |                      |
| 9    | অন্যান্য                                                                        |                    |                    |      |                                  |                      |                      |

## B5. আপনার পরিবারে কতজন সদস্য পেশার ও উপপেশার সাথে লিপ্ত ১ বৎসরের আয়?

|           | কতজন আয় করে | কতজন বেকার | আয় বৃদ্ধি (হাঁ = ১, না = ২) | গড় মাসিক আয় বৃদ্ধির পরিমাণ |
|-----------|--------------|------------|------------------------------|------------------------------|
| i. পুরুষ  |              |            |                              |                              |
| ii. মহিলা |              |            |                              |                              |
| iii. শিশু |              |            |                              |                              |

## B6. খানার বাইরে অবস্থানকারী কতজন সদস্য খানায় অর্থনৈতিক অবদান রাখে?

## B7. খানার বাইরে অবস্থানকারী, খানায় অর্থনৈতিক অবদান রাখে এমন সদস্য গত ১ বছরে খানায় দিয়েছে ..... টাকা

B8. গবাদিপশু, হাঁস-মুরগী ও গাছপালার তথ্য:

| ক্রমিক<br>নং | ধরণ              | নিজের (পূর্বে) | নিজের<br>(বর্তমানে) | আধি দেয়া / নেওয়া<br>(পূর্বে) | আধি দেয়া / নেওয়া<br>(বর্তমানে) | নিজের + ভাগের পূর্বের<br>দাম | নিজের + ভাগের বর্তমান<br>দাম |
|--------------|------------------|----------------|---------------------|--------------------------------|----------------------------------|------------------------------|------------------------------|
| 1            | গরু              |                |                     |                                |                                  |                              |                              |
| 2            | মহিষ             |                |                     |                                |                                  |                              |                              |
| 3            | ছাগল             |                |                     |                                |                                  |                              |                              |
| 4            | ভেড়া            |                |                     |                                |                                  |                              |                              |
| 5            | মুরগী/হাঁস/কবুতর |                |                     |                                |                                  |                              |                              |
| 6            | গাছ              |                |                     |                                |                                  |                              |                              |
| 7            | বাঁশ ঝাড়        |                |                     |                                |                                  |                              |                              |
| 8            | অন্যান্য         |                |                     |                                |                                  |                              |                              |

B9. \*\*পরিবারের ঘরের ধরণ (পূর্বে) (সংখ্যা লিখুন):  পাকা  আধাপাকা  কাঁচা টিনের

কাঁচা ছনের বা খড়ের ঘর  মাটির ঘর (টিনের বা ছনের চাল)

B10. পরিবারের ঘরের ধরণ (বর্তমানে) (সংখ্যা লিখুন):  পাকা  আধাপাকা  কাঁচা টিনের

কাঁচা ছনের বা খড়ের ঘর  মাটির ঘর (টিনের বা ছনের চাল)



### C. Loan

C1. গত বছর আপনি কোন টাকা ধার করেছেন কি? ☐ 1= হ্যাঁ, 2= না

C2. যদি হ্যাঁ হয়, ঋণ গ্রহণের উদ্দেশ্যগুলো কি। 1= কৃষি উপকরণাদি কেনা, 2= বীজ, সার, কীটনাশক.. কেনা, 3= গবাদি পশু কেনা 4= ভাড়া/খাজনার দেয়া, 5=ব্যবসা শুরু করা  
☐ ☐ ☐ 6= পরিবারের খাবার কেনা 7= যাতায়াত খরচ, 8= ঘর মেরামত/ তৈরি, 9= ঔষধপত্র বা চিকিৎসা, 10= শিক্ষা সংক্রান্ত খরচ মিটানো,  
 11= বিবাহ সংক্রান্ত খরচ, 12= দুর্যোগ মোকাবেলা, 13 =অন্যান্য

C3. গত এক বছরে আপনি আপনার বিপদের দিনে বিভিন্ন উৎস থেকে কত টাকা ধার করেছেন তার বিবরণ দিন।

| উৎস               | পরিমান (টাকা) | ফেরত দিতে হবে/ হয়েছে মোট কত টাকা পরিমান | কত দিনে টাকা ফেরত দিতে হবে/ হয়েছে |
|-------------------|---------------|------------------------------------------|------------------------------------|
| 1. আত্মীয় স্বজন  |               |                                          |                                    |
| 2. প্রতিবেশী      |               |                                          |                                    |
| 3. বন্ধু          |               |                                          |                                    |
| 4. দোকানদার/ডিলার |               |                                          |                                    |
| 5. ব্যবসায়ী      |               |                                          |                                    |
| 6. মহাজন          |               |                                          |                                    |
| 7. সমিতি (NGO)    |               |                                          |                                    |
| 8. অন্যান্য (উৎস) |               |                                          |                                    |

## D. Food &amp; Health Security

D1. গতকাল আপনার পরিবারের সদস্যরা যে খাবার গ্রহণ করেছেন; পর্যাপ্ত খাবার =1, অপর্যাপ্ত খাবার =2, খাবার নেই=3

|        | সকালের নাস্তা | দুপুরের খাবার | রাতের খাবার |
|--------|---------------|---------------|-------------|
| পুরুষ  |               |               |             |
| মহিলা  |               |               |             |
| বাচ্চা |               |               |             |

D2. বছরের কোন কোন মাসে আপনার পরিবারে খাদ্যের অভাব দেখা দেয়? ১.বৈ ২.জৈ ৩.আষা ৪.শ্রা ৫.ভা ৬.আ ৭.কা ৮.অ ৯.পৌ ১০.মা ১১.ফা ১২.চৈ

D3. গত এক বছরে আপনার পরিবার কোন খাদ্য শস্য উৎপাদন করেছে কি? ☐ হ্যাঁ =1, না =2

D4. যদি হ্যাঁ হয়, বছরের কত দিন এই উৎপাদিত খাদ্য দিয়ে আপনার সংসার চলে? ☐ দিন

D5. গত বছর আপনার পরিবারের কোন সদস্য গুরুতর অসুস্থ হয়ে থাকলে কি রোগ হয়েছিল?

| রোগের নাম                 | √ দিন | আক্রান্তের সংখ্যা | রোগের নাম                | √ দিন | আক্রান্তের সংখ্যা |
|---------------------------|-------|-------------------|--------------------------|-------|-------------------|
| ১.এ্যাপেনডিসাইটিস         |       |                   | ৪.ডায়রিয়া              |       |                   |
| ২.চর্ম রোগ                |       |                   | ৯.আমাশয়                 |       |                   |
| ৩.নিউমোনিয়া              |       |                   | ১০.জ্বর (অতিমাত্রা)      |       |                   |
| ৪.এ্যাজমা / হাঁপানি       |       |                   | ১১.গ্যাসট্রিক আলসার      |       |                   |
| ৫.রাত কানা                |       |                   | ১২.মেয়েলী রোগ           |       |                   |
| ৬.ব্লাড প্রেসার/ রক্ত চাপ |       |                   | ১৩. দুর্ঘটনা             |       |                   |
| ৭.জন্ডিস                  |       |                   | ১৪.অন্যান্য(উল্লেখ করুন) |       |                   |



## E. Disaster Risk, Vulnerability, Mitigation and Coping Strategy

E ১। গত ১ বছরের দুর্যোগের কারনে আপনার খানা যে বিপদের সম্মুখীন হয়েছে তা কাটিয়ে উঠার জন্য কি কৌশল গ্রহণ করেছিলেন তা উল্লেখ করুন?

|    | প্রাকৃতিক দুর্যোগ             | কতবার | কৌশল | কৌশল | কৌশল | কৌশল |    | সামাজিক দুর্যোগ                       | কতবার | কৌশল | কৌশল | কৌশল | কৌশল |
|----|-------------------------------|-------|------|------|------|------|----|---------------------------------------|-------|------|------|------|------|
| 1  | নদী ভাঙ্গন                    |       |      |      |      |      | 13 | পরিবারের সদস্যদের মৃত্যু              |       |      |      |      |      |
| 2  | বন্যা (আকস্মিক / ঋতু ভিত্তিক) |       |      |      |      |      | 14 | আয় উপার্জনকারী ব্যক্তির মৃত্যু       |       |      |      |      |      |
| 3  | খরা                           |       |      |      |      |      | 15 | বিবাহ বিচ্ছেদ                         |       |      |      |      |      |
| 4  | প্রচন্ড বায়ু প্রবাহ          |       |      |      |      |      | 16 | প্রভাবশালী ব্যক্তি কর্তৃক সম্পদ বেদখল |       |      |      |      |      |
| 5  | অতিবৃষ্টি                     |       |      |      |      |      | 17 | যৌতুক                                 |       |      |      |      |      |
| 6  | টর্নেডো                       |       |      |      |      |      | 18 | তালাক                                 |       |      |      |      |      |
| 7  | শৈত্য প্রবাহ                  |       |      |      |      |      | 19 | চুরি/ডাকাতি                           |       |      |      |      |      |
| 8  | নৌকা দুর্ঘটনা                 |       |      |      |      |      | 20 | উচ্ছেদ                                |       |      |      |      |      |
| 9  | খাদ্যাভাব                     |       |      |      |      |      | 21 | কাজের সুযোগ বন্ধ হয়ে যাওয়া          |       |      |      |      |      |
| 10 | ফসলে পোকাকার আক্রমণ           |       |      |      |      |      | 22 | উপার্জনকারী ব্যক্তির গ্রেফতার         |       |      |      |      |      |
| 11 | রোগ                           |       |      |      |      |      | 23 | দ্রব্যমূল্য বৃদ্ধি                    |       |      |      |      |      |
| 12 | হাঁস/মুরগী/গরু/ ছাগলের মৃত্যু |       |      |      |      |      | 24 | সামাজিক দ্বন্দ্ব                      |       |      |      |      |      |
| 26 | অন্যান্য                      |       |      |      |      |      | 25 | জমি হারানো                            |       |      |      |      |      |

\*কৌশলের তালিকা : 1 = প্রতিবেশী/আত্মীয়ের নিকট থেকে ধার গ্রহন, 2 = অর্থলগ্নিকারী মহাজনের কাছ থেকে ঋন গ্রহন, 3 = এনজিও থেকে ঋন, 4 = ব্যবসায়ীদের কাছ থেকে নগদ অর্থ ধার, 5 = ঘর বিক্রি, 6 = জমি বিক্রি, 7 = গৃহস্থালীর দ্রব্যাদি বিক্রি, 8 = হাঁস/মুরগী বিক্রি, 9 = গাছ-বিক্রি, 10 = অলংকার বিক্রি, 11 = ঘরের টিন বিক্রি, 12 = গাছের ফল আগাম বিক্রি, 13 = আগাম শ্রম বিক্রি, 14 = দৃষ্টিক্ষ কালীন খাদ্য গ্রহন, 15 = খাবারের বার বা পরিমাণ কমিয়ে দেয়া, 16 = চাল/আটা বাকীতে খাওয়া, 17 = বাড়ী/জমি বন্ধক রাখা, 18 = পেশার পরিবর্তন, 19 = শিশু শ্রম বিক্রি, 20 = রিলিফ সামগ্রী গ্রহন করা, 21 = ভিক্ষাবৃত্তি, 22 = স্থায়ীভাবে স্থানান্তরিত, 23 = সাময়িকভাবে স্থানান্তরিত, 24 = কাজের জন্য এলাকা থেকে বহিঃগমন, 25 = সঞ্চিত অর্থ ব্যবহার করা, 26 = বসতভিটা উঁচু করা, 27 = গ্রাম্য শালিশ, 28 = আদালত, 29 = পরিবারের সদস্যদের সহায়তা, 30 = প্রতিবেশীদের সহায়তা, 31 = প্রভাবশালী ব্যক্তির সহায়তা, 32 = ইউ.পি সদস্য / সরকারী সহায়তা (আইনগত, রিলিফ, অন্যান্য), 33 = কোন কৌশল অবলম্বন করিনি, 34 = অন্যান্য (উল্লেখ করুন)

E২। বিভিন্ন প্রাকৃতিক দুর্যোগের ফলে গত ১ বছর আপনার পরিবারের কি কি ক্ষতি হয়েছে?

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1 = কাজের অভাব হয়েছে, 2 = জীবিকার সরঞ্জাম যেমন: নৌকা, জাল, কৃষি উপকরন ইত্যাদির ক্ষতি হয়েছে, 3 = গবাদি পশু-পাখি হারিয়ে গেছে অথবা মারা গেছে বা অসুখ বিসুখ হয়েছে, 4 = ফসলের ক্ষতি হয়েছে, 5 = জমির ক্ষতি হয়েছে, 6 = বাজারজাত করনের ব্যবস্থা নষ্ট হয়েছে, 7 = মনোবল নষ্ট হয়েছে, 8 = পরিবারের সদস্যদের শারীরিক ক্ষতি / মৃত্যু হয়েছে, 9 = ঋণগ্রস্ত হয়েছে, 10 = ঘর-বাড়ির ক্ষতি হয়েছে, 11 = যোগাযোগ ব্যবস্থার ক্ষতি হয়েছে, 12 = ভাঙন এর ফলে জমি নদীগর্ভে বিলীন হয়েছে, 13 = ঘর-বাড়ি বিলীন হয়েছে, 14 = গৃহস্থালী সম্পত্তির ক্ষতি হয়েছে, 15 = গাছ-পালা নদীগর্ভে বিলীন হয়ে গেছে বা মারা গেছে, 16 = খাদ্যাভাব হয়েছে, 17 = সঞ্চিত খাবার নষ্ট হয়ে গেছে, 18 = দুর্যোগের পরে রোগ-ব্যাধি বৃদ্ধি হয়েছে, 19 = অন্যান্য

E৩। বিভিন্ন প্রাকৃতিক দুর্যোগের ফলে \*\* কার্যক্রমের সুফল পাওয়া যায়নি / কম পাওয়া গেছে।

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১ = হ্যাঁ, ২ = না

E৪। বিভিন্ন সামাজিক সমস্যার কারণে গত ১ বছর আপনার পরিবারের কি কি ক্ষতি হয়েছে?

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1 = অর্থনৈতিক উন্নতি ব্যাহত হয়েছে, 2 = সামাজিক সম্পর্ক নষ্ট হয়েছে, 3 = ঋণগ্রস্ত হয়েছে, 4 = অধিকার রক্ষাকরা সম্ভব হয়নি, 5 = বিপদ ও বিপর্যয় বেড়েছে, 6 = স্থানান্তরিত হতে বাধ্য হয়েছে, 7 = মনোবল নষ্ট হয়েছে, 8 = অন্যান্য

E৫। বিভিন্ন সামাজিক সমস্যার কারণে \*\* কার্যক্রমের সুফল পাওয়া যায়নি / কম পাওয়া গেছে।

☐

১ = হ্যাঁ, ২ = না

E6. বিভিন্ন দুর্যোগের ফলে আপনি গত ১ বছরে যে ক্ষতির সম্মুখীন হয়েছিলেন বলে জানানো তা মোকাবেলা করার ক্ষেত্রে

\*\* কার্যক্রমের ফলাফল অত্যন্ত লাভজনক ছিল। (✓)

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

\*\* কার্যক্রমের ফলে ভবিষ্যতেও এ ধরনের দুর্যোগ মোকাবেলা করতে সুবিধা হবে।

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| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
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\*\* কার্যক্রমের মাধ্যমে আমাদের যা সবচেয়ে বেশী প্রয়োজন ছিল তাই আমরা পেয়েছি।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|



F. Government and NGO programmes

F1. খানার সদস্য কি গত দুই বছরে কোন সরকারী সেবা পেয়েছেন?

(1=সন্তুষ্ট, 2= মোটামুটি, 3= অসন্তুষ্ট)

| সেবার নাম                                                         | ( √ )  | সন্তুষ্টির ধরণ |
|-------------------------------------------------------------------|--------|----------------|
| 1. বিধবা ভাতা                                                     | F1_1r  |                |
| 2. বয়স্ক ভাতা                                                    | F1_2r  |                |
| 3. মুক্তিযোদ্ধা ভাতা                                              | F1_3r  |                |
| 4. ভিজিডি/ ভি জি এফ                                               | F1_4r  |                |
| 5. খাসজমি                                                         | F1_5r  |                |
| 6. উপবৃত্তি                                                       | F1_6r  |                |
| 7. বীজ                                                            | F1_7r  |                |
| 8. কাজের বিনিময়ে খাদ্য                                           | F1_8r  |                |
| 9. আশ্রয়ণ                                                        | F1_9r  |                |
| 10. রিলিফ                                                         | F1_10r |                |
| 11. স্বাস্থ্য সেবা                                                | F1_11r |                |
| 12. সপ্তা (জন্ম নবন্ধন, মৃত্যু নবন্ধন ভোটার রেজি:, বিবাহ নিবন্ধন) | F1_12r |                |
| 13. পশু সম্পদ সংক্রান্ত                                           | F1_13r |                |
| 14. কৃষি সংক্রান্ত                                                | F1_14r |                |
| 15. পরিবার পরিকল্পনা সংক্রান্ত                                    | F1_15r |                |
| 16. টিকাদান সেবা                                                  | F1_16r |                |
| 17. অন্যান্য---                                                   | F1_17r |                |
| মোট                                                               |        |                |

F2. প্রাপ্ত সরকারী সেবা সমূহের ফলাফল অত্যন্ত লাভজনক। (✓)

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

F3. প্রাপ্ত সরকারী সেবা সমূহের ফলাফলের স্থায়িত্ব অনেক দিন থাকবে।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

F4. প্রাপ্ত সরকারী সেবা সমূহের মাধ্যমে যা আমাদের সবচেয়ে প্রয়োজন ছিল তাই আমরা পেয়েছি।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

F5. স্থানীয় সরকার সম্পর্কে ধারণা ও মতামত: : (১ = হ্যাঁ, ০ = না)

|                                                                                                |  |
|------------------------------------------------------------------------------------------------|--|
| F5_1. আপনি কি গত এক বছরে স্থানীয় ইউনিয়ন পরিষদ অফিসে গিয়েছিলেন?                              |  |
| F5_2. গত এক বছরে আপনি কি ইউনিয়ন পরিষদ থেকে কোন সেবা পেয়েছেন/ গ্রহণ করেছেন?                   |  |
| F5_3. গত এক বছরে ইউনিয়ন পরিষদ সেবার গুণগত মান ভাল করতে কোন উদ্যোগ নিয়েছেন কি?                |  |
| F5_4. আপনি কি ইউনিয়ন পরিষদের বার্ষিক উন্নয়ন পরিকল্পনা সম্পর্কে কিছু জানেন?                   |  |
| F5_5. আপনি কি ইউনিয়ন পরিষদের বার্ষিক উন্নয়ন বাজেট সম্পর্কে কিছু জানেন?                       |  |
| F5_6. গত ৫ বছরে আপনার চরে ইউপি দ্বারা কোন অব-কাঠামো তৈরী হয়েছে কি?                            |  |
| F5_7. ইউনিয়ন পরিষদে কি জন্ম, মৃত্যু, ভোটার রেজিঃ, বিবাহ ইত্যাদির রেজিস্ট্রেশনের ব্যবস্থা আছে? |  |
| F5_8. আপনার এলাকায় প্রাথমিক বিদ্যালয়ের কার্যক্রম, ইউনিয়ন পরিষদ সুপারভাইজ করে কি?            |  |
| F5_9. ইউনিয়ন পরিষদ কি বাচ্চাদের স্কুলে পাঠানোর ব্যাপারে আপনাদেরকে উৎসাহিত করে?                |  |
| F5_10. আপনার এলাকায় আইন-শৃংখলা রক্ষা ও সন্ত্রাস নিয়ন্ত্রণে ইউনিয়ন পরিষদ কাজ করে কি?         |  |
| F5_11. ইউনিয়ন পরিষদে কি আপনার এলাকার নারী নির্যাতন প্রতিরোধে কাজ করে?                         |  |
| F5_12. আপনার এলাকার এন.জি.ও এবং এ ধরনের কার্যক্রম ইউনিয়ন পরিষদ উৎসাহিত করে কি?                |  |



F6. আপনি সাধারণত নিম্নলিখিত বিষয়ে কোথা থেকে পরামর্শ বা তথ্য সংগ্রহ করেন?

(সম্ভাব্য ধরণ: 1=সম্ভাব্য, 2= মোটামুটি, 3= অসম্ভাব্য)

1=কৃষি সম্প্রসারণ, 2=মৎস্য অফিস, 3= পশু সম্পদ অফিস, 4= বি.আর.ডি.বি, 5= জনস্বাস্থ্য প্রকৌশল, 6=উপজেলা স্বাস্থ্য অফিস, 7=শিক্ষা বিভাগ, 8= উপজেলা ভূমি রেজিঃ অফিস, 9=তহশীল অফিস, 10=পি.আই.ও, 11= ইউনিয়ন পরিষদ, 12=এম.পি. 13= রেডিও / টিভি, ..14= NGO, 15= প্রতিবেশী, 16= মোবাইল ফোন, 17=জ্ঞানী ব্যক্তি, 18 = ডিলার/দোকানদার, 19= অন্যান্য

| বিষয়                                      | সেবা<br>প্রদানকারী | সম্ভাব্য<br>ধরণ | সেবা<br>প্রদানকারী | সম্ভাব্য<br>ধরণ | সেবা<br>প্রদানকারী | সম্ভাব্য<br>ধরণ | সেবা<br>প্রদানকারী | সম্ভাব্য<br>ধরণ | সেবা<br>প্রদানকারী | সম্ভাব্য<br>ধরণ |
|--------------------------------------------|--------------------|-----------------|--------------------|-----------------|--------------------|-----------------|--------------------|-----------------|--------------------|-----------------|
| 1. কৃষি বিষয়ক প্রশিক্ষণ                   |                    |                 |                    |                 |                    |                 |                    |                 |                    |                 |
| 2. ভাল বীজ সংক্রান্ত তথ্য                  |                    |                 |                    |                 |                    |                 |                    |                 |                    |                 |
| 3. পণ্য বিক্রি                             |                    |                 |                    |                 |                    |                 |                    |                 |                    |                 |
| 4. হাঁস মুরগী পালন                         |                    |                 |                    |                 |                    |                 |                    |                 |                    |                 |
| 5. গবাদি পশুর চিকিৎসা                      |                    |                 |                    |                 |                    |                 |                    |                 |                    |                 |
| 6. গবাদি-পশু ও হাঁসমুরগীর টিকাদান          |                    |                 |                    |                 |                    |                 |                    |                 |                    |                 |
| 7. স্বাস্থ্য সেবা                          |                    |                 |                    |                 |                    |                 |                    |                 |                    |                 |
| 8. স্থানীয় টিকাদানকারী                    |                    |                 |                    |                 |                    |                 |                    |                 |                    |                 |
| 9. পরিবার পরিকল্পনা                        |                    |                 |                    |                 |                    |                 |                    |                 |                    |                 |
| 10. শিক্ষা                                 |                    |                 |                    |                 |                    |                 |                    |                 |                    |                 |
| 11. নিরাপদ পানি ও স্বাস্থ্য সম্মত পায়খানা |                    |                 |                    |                 |                    |                 |                    |                 |                    |                 |
| 12. খাস জমি সংক্রান্ত                      |                    |                 |                    |                 |                    |                 |                    |                 |                    |                 |
| 13. খাস জলমহল                              |                    |                 |                    |                 |                    |                 |                    |                 |                    |                 |
| 14. অন্যান্য                               |                    |                 |                    |                 |                    |                 |                    |                 |                    |                 |

F7. আপনার খানার কোন সদস্য কি এনজিও কার্যক্রমের সাথে জড়িত?  1= হ্যাঁ, 2= না

F8. এনজিও কার্যক্রমে জড়িত হলে আপনার পরিবারের কতজন NGO এর সাথে জড়িত রয়েছেন?

F9. এনজিও কার্যক্রমে জড়িত হলে নীচের ছকটি পূরণ করুন: 1= ব্র্যাক 2= আশা, 3= কেয়ার, 4=গ্রামীণ ব্যাংক, 5=স্লোব, 6= SKS, 7= অন্যান্য

| এনজিও | ১. ক্ষুদ্র ঋণ | ২. শিক্ষা | ৩. স্বাস্থ্য | ৪. পরিবার পরিকল্পনা | ৫. দক্ষতা উন্নয়ন প্রশিক্ষণ | ৬. সচেতনতা বৃদ্ধির প্রশিক্ষণ | ৭. কৃষি সহায়তা | ৮. রিলাফ | অন্যান্য |
|-------|---------------|-----------|--------------|---------------------|-----------------------------|------------------------------|-----------------|----------|----------|
|       |               |           |              |                     |                             |                              |                 |          |          |
|       |               |           |              |                     |                             |                              |                 |          |          |
|       |               |           |              |                     |                             |                              |                 |          |          |
|       |               |           |              |                     |                             |                              |                 |          |          |
|       |               |           |              |                     |                             |                              |                 |          |          |
|       |               |           |              |                     |                             |                              |                 |          |          |

F10. এনজিওসমূহে সদস্য হওয়ার ফলাফল অত্যন্ত লাভজনক। (✓)

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

F11. এনজিও সমূহে সদস্য হওয়ার ফলাফলের স্থায়িত্ব অনেক দিন থাকবে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

F12. এনজিওসমূহের কার্যক্রমের মাধ্যমে যা আমাদের সবচেয়ে প্রয়োজন ছিল তাই আমরা পেয়েছি।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক



G. গ্রাম পর্যায়ে: ( $\sqrt{\quad}$  দিন)

G১. গত কয়েক বছর ধরে সাইক্লোন, বন্যা, খরা, নদীর ভাঙন ইত্যাদি দুর্যোগ নির্ধারিত সময়ের বাইরে হচ্ছে।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

G২. গত কয়েক বছর ধরে সাইক্লোন, বন্যা, খরা, নদীর ভাঙন ইত্যাদি দুর্যোগ ঘন ঘন হচ্ছে।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

G৩. গত কয়েক বছর ধরে সাইক্লোন, বন্যা, খরা, নদীর ভাঙন ইত্যাদি দুর্যোগ তীব্র ভাবে হচ্ছে।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

G৪. গত কয়েক বছর ধরে সাইক্লোন, বন্যা, খরা, নদীর ভাঙন ইত্যাদির ফলে বিপদ ও বিপর্যয় আগের চেয়ে বেড়েছে।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

G৫. গত কয়েক বছর ধরে সাইক্লোন, বন্যা, খরা, নদীর ভাঙন ইত্যাদির ফলে আমাদের চাষ করা ফসল ও গাছপালার ক্ষতি আগের চেয়ে বেশী হয়।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

G৬. গত কয়েক বছর ধরে সাইক্লোন, বন্যা, খরা, নদীর ভাঙন ইত্যাদির ফলে আমাদের হাঁস / মুরগী, গরু / ছাগলের ক্ষতি আগের চেয়ে বেশী হয়।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

G৭. গত কয়েক বছর ধরে সাইক্লোন, বন্যা, খরা, নদীর ভাঙন ইত্যাদির ফলে আমাদের স্কুল/কলেজ/মসজিদ/মাদ্রাসা/ঘর/বাড়ির ক্ষতি আগের চেয়ে বেশী হয়।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

G৮. গত কয়েক বছর ধরে সাইক্লোন, বন্যা, খরা, নদীর ভাঙন ইত্যাদির ফলে আমাদের স্বাস্থ্য সমস্যা / অসুখ-বিসুখ বেড়েছে।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

G৯. গত কয়েক বছর ধরে সাইক্লোন, বন্যা, খরা, নদীর ভাঙন ইত্যাদির ফলে আমাদের অর্থনৈতিক সমস্যা বেড়েছে।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

G১০. গত কয়েক বছর ধরে সাইক্লোন, বন্যা, খরা, নদীর ভাঙন ইত্যাদির ফলে আমাদের প্রাকৃতিক পরিবেশের (জমি, নদী, বন্য পশু-পাখি, গাছ-পালা ইত্যাদির) ক্ষতি আগের চেয়ে বেড়েছে।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

H. পরিবার পর্যায়ে: ( $\sqrt{}$  দিন)

H১. \*\*কার্যক্রমের ফলে আমার পরিবারে সাইক্লোন, বন্যা, খরা, নদীর ভাঙন ইত্যাদির ক্ষতি বর্তমানে কম হয়।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

ভবিষ্যতে \*\* মাধ্যমে প্রাপ্ত জ্ঞান ব্যবহার করে সারাজীবনই আমাদের বিপদ ও বিপর্যয় কম হবে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

H২. \*\* কার্যক্রমের ফলে আমাদের চাষ করা ফসল ও গাছপালার ক্ষতি বর্তমানে কম হয়।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

ভবিষ্যতে \*\* মাধ্যমে প্রাপ্ত জ্ঞান ব্যবহার করে সারাজীবনই আমাদের ফসল ও গাছ-পালার ক্ষতি কম হবে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

H৩. \*\* কার্যক্রমের ফলে আমার পরিবারের হাঁস / মুরগী, গরু / ছাগলের ক্ষতি বর্তমানে কম হয়।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

ভবিষ্যতে \*\* মাধ্যমে প্রাপ্ত জ্ঞান ব্যবহার করে সারাজীবনই আমাদের হাঁস / মুরগী, গরু / ছাগলের ক্ষতি কম হবে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

H৪. \*\* কার্যক্রমের ফলে আমাদের স্কুল/কলেজ/মসজিদ/মাদ্রাসা/ঘর/বাড়ির ক্ষতি বর্তমানে কম হয়।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

ভবিষ্যতে \*\* মাধ্যমে প্রাপ্ত জ্ঞান ব্যবহার করে সারাজীবনই আমাদের ঘর/বাড়ির ক্ষতি কম হবে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

H৫. \*\* কার্যক্রমের ফলে আমার পরিবারে স্বাস্থ্য সমস্যা / অসুখ-বিসুখ বর্তমানে কম হয়।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

ভবিষ্যতে \*\* মাধ্যমে প্রাপ্ত জ্ঞান ব্যবহার করে সারাজীবনই আমাদের স্বাস্থ্য সমস্যা / অসুখ-বিসুখ কম হবে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

H৬. \*\* কার্যক্রমের ফলে আমাদের অর্থনৈতিক সমস্যা বর্তমানে কম হয়।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

ভবিষ্যতে \*\* মাধ্যমে প্রাপ্ত জ্ঞান ব্যবহার করে সারাজীবনই আমাদের অর্থনৈতিক সমস্যা কম হবে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক



H৭. \*\* কার্যক্রমের ফলে আমাদের প্রাকৃতিক পরিবেশের (জমি, নদী, বন্য পশু-পাখি, গাছ-পালা ইত্যাদির) ক্ষতি বর্তমানে কম হয়।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

ভবিষ্যতে \*\* মাধ্যমে প্রাপ্ত জ্ঞান ব্যবহার করে সারাজীবনই আমাদের প্রাকৃতিক পরিবেশের (জমি, নদী, বন্য পশু-পাখি, গাছ-পালা ইত্যাদির) ক্ষতি কম হবে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

i. আপনার পরিবারের জন্য \*\* কার্যক্রম এর ফলাফল নির্দেশ করুন (✓ দিন)

i1. \*\* এর কার্যক্রম আমাদের পরিবারে আগে ছিল এমন গুরুত্বপূর্ণ সমস্যা সমাধানে কাজ করেছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

i2. \*\* এর কার্যক্রম আগের তুলনায় আমাদের পরিবারের সম্পদ বাড়িয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

i3. \*\* এর কার্যক্রম আগের তুলনায় আমাদের পরিবারের জীবিকার উন্নয়ন করেছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

i4. \*\* এর কার্যক্রম আগের তুলনায় আমাদের পরিবারের দুর্যোগ / বিপদ / বিপর্যয় কমিয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

i5. \*\* এর কার্যক্রম আগের তুলনায় আমাদের পরিবারের অবকাঠামোগত (ঘর-বাড়ি, রাস্তা-ঘাট ইত্যাদির) উন্নয়ন করেছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

i6. \*\* এর কার্যক্রম আগের তুলনায় আমাদের পরিবারের সামাজিক সম্পর্কের উন্নয়ন করেছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

i7. \*\* এর কার্যক্রম আগের তুলনায় আমাদের পরিবারের স্বাস্থ্যগত উন্নয়ন করেছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

i8. \*\* এর কার্যক্রম আগের তুলনায় আমাদের পরিবারের প্রাকৃতিক পরিবেশের (গাছ-পালা, সবজি বাগান ইত্যাদির) উন্নয়ন করেছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

i9. \*\* এর কার্যক্রম আগের তুলনায় আমাদের পরিবারের সদস্যদের দক্ষতার (বিভিন্ন প্রশিক্ষণের মাধ্যমে) উন্নয়ন করেছে।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

i10. \*\* এর কার্যক্রম আগের তুলনায় আমাদের পরিবারের সদস্যদের শিক্ষার উন্নয়ন করেছে।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

i11. \*\* এর কার্যক্রম আগের তুলনায় আমাদের পরিবারের অর্থনৈতিক অবস্থার উন্নয়ন করেছে।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

i12. \*\* এর কার্যক্রমের ফলে আমাদের পরিবারের উন্নতি দীর্ঘদিন অব্যাহত থাকবে।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

i13. কিভাবে আপনার এলাকার মানুষের সমস্যা, বিপর্যয় ও বিপদ দূর করা যায়?

A

B

C

i14. কিভাবে আপনার / পরিবারের জীবন ও জীবিকার উন্নতি হবে এবং এই উন্নতি দীর্ঘদিন থাকবে?

A

B

C



BRAC - STUP

(● = নেতিবাচক প্রশ্ন, y1-21 = কার্যক্রম)

y1. BRAC প্রশিক্ষণ দেবার ১ মাসের মধ্যে সম্পদ হস্তান্তর করেছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y2. পরিবারসমূহকে সপ্তাহে ১০৫/- টাকা হারে আয় সহায়তা দেয়াটাই যথেষ্ট ছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y3. BRAC চর এলাকার জন্য উপযুক্ত গবাদিপশু প্রদান করেছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y4. BRAC থেকে চর এলাকায় চাষের উপযোগী বীজ ও সার সরবরাহ করা হয়েছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y5. BRAC এর সামাজিক উন্নয়ন কার্যক্রমের আওতায় সাপ্তাহিক হোম ভিজিটের মাধ্যমে আমাদের মোট ১০টি ইস্যুর উপর শিক্ষা দিয়েছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y6. BRAC অতি-দরিদ্রদের স্বাস্থ্যসম্মত পায়খানা প্রদান করেছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y7. BRAC অতি-দরিদ্রদের নিরাপদ পানির ব্যবস্থা নিশ্চিত করেছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y8. BRAC অতি-দরিদ্রদের টিনের চালা ঘর তৈরী করে দিয়েছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y9. BRAC ০ থেকে ৫ বছরের শিশুদের টিকা দেবার ব্যবস্থা নিশ্চিত করেছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y10. BRAC ১৫ থেকে ৪৯ বছরের মহিলাদের টি.টি টিকা দেবার ব্যবস্থা নিশ্চিত করেছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y11. BRAC স্কুল উপযোগী শিশুদের ভর্তিসহ স্কুলে যাওয়া নিশ্চিত করেছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y12. BRAC অতি-দরিদ্রদের জন্য কমপক্ষে ২টি করে ফলজ গাছ লাগানো নিশ্চিত করেছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y13. BRAC অতি-দরিদ্রদের চিকিৎসা সেবা নিশ্চিত করেছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y14. BRAC পরিবার পরিকল্পনা পদ্ধতি গ্রহণ নিশ্চিত করেছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y15. BRAC সদস্যদের বিভিন্ন স্বাস্থ্য-সচেতনতা বিষয়ক প্রশিক্ষণের ব্যবস্থা করেছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y16. BRAC সদস্যদের জটিল ও হালকা রোগের চিকিৎসা ব্যায় বহন করেছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y17. BRAC সদস্যদের টিউবওয়েল প্রদান করেছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y18. BRAC সদস্যদের অন্যান্য স্বাস্থ্যসেবা কেন্দ্রের সাথে যোগাযোগ স্থাপন করে দিয়েছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y19. BRAC সদস্যদের খাদ্যাভ্যাস পরিবর্তনের শিক্ষা প্রদান করেছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y20. সরকারের বিভিন্ন বিভাগ যেমন স্বাস্থ্য, কৃষি, পশু সম্পদ, এবং DPHE - সেবা নিশ্চিত করার জন্য BRAC তাদের সাথে কাজ করেছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

y21. অধিকার, HIV / AIDS- BRAC ইত্যাদির বিষয়ে সচেতনতা মূলক কাজ করেছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

(● = নেতিবাচক প্রশ্ন, y22-36 = ফলাফল)

y22. স্বাস্থ্য সম্পর্কিত আচরণের পরিবর্তন ও সচেতনতা বৃদ্ধি, দুর্যোগের সময় স্বাস্থ্যের যত্ন, বিপন্ন পানি, পরিষ্কার পরিচ্ছন্নতা, সন্তান গ্রহন বিষয়ে মহিলাদের সিদ্ধান্ত গ্রহন ইত্যাদি বিষয়ে BRAC কাজ করার ফলে এর স্বাস্থ্য যত্ন কার্যক্রম সর্বাধিক কার্যকর।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|



●y23. পরিবারসমূহকে সপ্তাহে ১০৫/- টাকা হারে সহায়তা প্রদান কার্যক্রম জটিল ও সময়-স্বাপেক্ষ ছিল।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

y24. এসেনসিয়াল হেলথ কেয়ার (ই.এইচ.সি) আমাদের চরে একমাত্র স্বাস্থ্যসেবা পাবার উপায়।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

●y25. BRAC এর কার্যক্রমের পরেও জীবিকা নিরাপত্তার ক্ষেত্রে আমাদের বিপদ ও বিপর্যয় আগের মতই রয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

●y26. BRAC এর কার্যক্রমের পরেও দুর্যোগের ক্ষেত্রে আমাদের বিপদ ও বিপর্যয় আগের মতই রয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

y27. প্রশিক্ষনে প্রাপ্ত জ্ঞান অনুযায়ী শাকসবজি ও ফল চাষ করার ফলে ইতিমধ্যেই লাভ করতে পেরেছি।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

●y28. BRAC এর কার্যক্রমের ফলে আমাদের উন্নতি হওয়ায় এলাকার সুবিধাভোগী নয় এমন পরিবারগুলোর সাথে আমাদের দূরত্ব বেড়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

y29. BRAC এর প্রধান কার্যক্রমের সাথে সামাজিক উন্নয়ন কার্যক্রমের ফলে আমরা সর্বাঙ্গিন ভাবে লাভবান হয়েছি।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

y30. BRAC এর প্রধান কার্যক্রমের সাথে সাথে অবকাঠামো উন্নয়ন কার্যক্রমের ফলে আমরা সর্বাঙ্গিন ভাবে লাভবান হয়েছি।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

y31. বসত ভিটা উঁচুকরণ এবং সেখানে টিউবওয়েল স্থাপনের মাধ্যমে BRAC দুর্যোগের ফলে যে বিপদ, তা আগের চেয়ে কমাতে সফল হয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

y32. উঁচু বসতভিটায় টিউবওয়েল স্থাপনের মাধ্যমে BRAC স্বাস্থ্য সম্পর্কে বিপদ আগের চেয়ে কমাতে সফল হয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

y33. স্বাস্থ্যসম্মত পায়খানা ব্যবস্থা প্রদান এবং ব্যবহার নিশ্চিত করনের মাধ্যমে BRAC আগের চেয়ে স্বাস্থ্য উন্নতিতে সফল হয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

y34. BRAC এর সামাজিক উন্নয়ন কার্যক্রমের (শিক্ষা, স্বাস্থ্য, অধিকার..) ফলে আমাদের সমাজের অবস্থা আগের চেয়ে অনেক উন্নত হয়েছে।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

y35. BRAC প্রদত্ত টিনের চালা ঘর ছাড়া অতি-দরিদ্রদের বসবাসের আর কোন বিকল্প ব্যবস্থা ছিল না।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

y36. শিশুদের ভর্তিসহ স্কুলে যাওয়া নিশ্চিত করার ফলে এলাকায় নিরক্ষরের হার আগের চেয়ে কমেছে।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

(● = নেতিবাচক প্রশ্ন, y37-44 = স্থায়িত্ব অনেক দিন)

y37. BRAC এর উন্নয়ন কার্যক্রমের ফলে আমাদের আয়ের উৎস বেড়েছে যা ভবিষ্যতে দীর্ঘদিন আমাদের উন্নতিকে অব্যাহত রাখবে।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

y38. BRAC কার্যক্রমের ফলে আমাদের এলাকায় বাল্য বিবাহ, যৌতুক ইত্যাদি অনেক কমেছে এবং ভবিষ্যতে তা বাড়বে না।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

y39. স্বাস্থ্যসম্মত পায়খানা ব্যবহার করার সুফল বুঝে সবাই ভবিষ্যতে সবসময় তা ব্যবহার করবে।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

y40. BRAC এর STUP কার্যক্রমের ফলে আমাদের যে দক্ষতা বৃদ্ধি পেয়েছে তা সারা জীবন কাজে লাগাবো।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

y41. পরিষ্কার পরিচ্ছন্নতা ও স্বাস্থ্য সম্পর্কে যে প্রশিক্ষণ পেয়েছি তা স্বু-স্বাস্থ্য নিশ্চিতকরনে সারা জীবন কাজে লাগাতে পারবো।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

y42. BRAC এর কার্যক্রমের ফলে নিরাপদ পানির ব্যবহারের সুফল বুঝতে পারায় সবাই সবসময় নিরাপদ পানি ব্যবহার করবে।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক

y43. গবাদি পশু পালন প্রশিক্ষণের মাধ্যমে প্রাপ্ত জ্ঞান সারা জীবন কাজে লাগাবো।

একেবারেই ঠিক নয়      ঠিক নয়      অনিশ্চিত      সঠিক      সম্পূর্ণ সঠিক



y44. আমাদের পরিবারের উন্নতি হয়েছে এবং এই উন্নতি উত্তরোত্তর বৃদ্ধি পাবে।

একেবারেই ঠিক নয়

ঠিক নয়

অনিশ্চিত

সঠিক

সম্পূর্ণ সঠিক

(● = নেতিবাচক প্রশ্ন, a = কার্যক্রম, i = ফলাফল, s = স্থায়িত্ব অনেক দিন)

SLOPB - DPRM

S. দুর্যোগ সংক্রান্ত প্রশিক্ষণের মাধ্যমে সাইক্লোন অথবা অন্যান্য দুর্যোগের বিপর্যয় কমানো

১.a স্লোব প্রদত্ত দুর্যোগের প্রশিক্ষণে আমরা দুর্যোগের পূর্ব প্রস্তুতি সম্পর্কে প্রয়োজনীয় তথ্য ও পরামর্শ পেয়েছি।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

●২.a স্লোব প্রদত্ত প্রশিক্ষণে দুর্যোগ চলাকালীন সময়ে করণীয় সম্পর্কে জানতে পারিনি।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

৩.a স্লোব প্রদত্ত প্রশিক্ষণে দুর্যোগ পরবর্তী সময়ে করণীয় সম্পর্কে জানতে পেয়েছি।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

৪.a আমাদের এলাকায় বিভিন্ন ধরনের যত প্রাকৃতিক দুর্যোগ (বন্যা, সাইক্লোন, শিলাবৃষ্টি, শৈত্যপ্রবাহ, জলবায়ু পরিবর্তন, লবনজতা ইত্যাদি) হয় সেই সবগুলোর জন্যই স্লোব প্রদত্ত সাইক্লোন ও দুর্যোগের প্রশিক্ষণই যথেষ্ট।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

৫.a স্লোব প্রদত্ত দুর্যোগের প্রশিক্ষণে দুর্যোগ সম্পর্কে অনেক নতুন প্রয়োজনীয় তথ্য ও পরামর্শ আমরা পেয়েছি।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

●৬.i স্লোব প্রদত্ত দুর্যোগের প্রশিক্ষণ পাওয়া স্বত্ত্বেও দুর্যোগে আমাদের বিপর্যয় ও বিপদ আগের মতই রয়েছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

৭.i স্লোব প্রদত্ত দুর্যোগের প্রশিক্ষণ অত্যন্ত কার্যকর ও লাভজনক।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

৮.S দুর্যোগ প্রশিক্ষণে প্রাপ্ত জ্ঞান আমরা ভবিষ্যতে দুর্যোগের প্রস্তুতির জন্য কাজে লাগাতে পারব।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

৯.S স্লোব প্রদত্ত দুর্যোগের প্রশিক্ষণে প্রাপ্ত জ্ঞান আমরা প্রতিবেশীদেরকে আলাপের মাধ্যমে জানিয়েছি এবং সে জ্ঞান তারা ভবিষ্যতে দুর্যোগের প্রস্তুতি ও মোকাবেলায় কাজে লাগাতে পারবে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

১০.S প্রশিক্ষণ পাওয়ার ফলে দুর্যোগে আমাদের জীবন ও সম্পত্তির ক্ষয়ক্ষতি কম হয়েছে ও ভবিষ্যতেও কম হবে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

১১.S স্লোব প্রদত্ত দুর্যোগের প্রশিক্ষণ পাওয়ার ফলে বিভিন্ন ধরনের সকল প্রাকৃতিক দুর্যোগে আমাদের জীবন ও সম্পত্তির ক্ষয়ক্ষতি কম হবে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|



●১২.৯ স্লোবের প্রশিক্ষণ পাওয়ার আগেও আমাদের দুর্যোগ সম্পর্কে প্রশিক্ষনের জ্ঞান/ আমাদের নিজস্ব জ্ঞান ছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

১৩.৯ স্লোব প্রদত্ত দুর্যোগের প্রশিক্ষণ ছাড়া সরকারী বা অন্য কোন বেসরকারী প্রতিষ্ঠান বা এনজিও থেকে আমরা দুর্যোগ বিষয়ে প্রশিক্ষণ পাইনি।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

১৪.৯ স্লোব প্রদত্ত দুর্যোগের প্রশিক্ষণের উপকারিতার স্থায়িত্ব অনেক দিন থাকবে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

(● = নেতিবাচক প্রশ্ন, a = কার্যক্রম, i = ফলাফল, s = স্থায়িত্ব অনেক দিন)

T. ক্ষুদ্র চাষীদের (যাদের অল্প পরিমাণ চাষযোগ্য জমি আছে কিন্তু দারিদ্র্যের কারণে বীজ ক্রয়ে অক্ষম) মধ্যে বীজ ও সার বিতরণ

১.a স্লোব সময় উপযোগী বীজ ও সার সরবরাহ করেছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

●২.a যে ফসল আমাদের চর এলাকার জন্য উপযুক্ত সেই বীজ স্লোব আমাদের সরবরাহ করেনি।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

৩.a যে মাসে স্লোব আমাদের যে বীজ ও সার দিয়েছিল প্রতিবছর সেই মাসে আমরা সেইসব ফসল ও সবজি চাষ করেই অভ্যস্ত

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

৪.a স্লোব প্রদত্ত বীজ চাষ ও সার ব্যবহারের প্রয়োজনীয় প্রশিক্ষণ / তথ্য স্লোব আমাদের দিয়েছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

●৫.a স্লোব যে পরিমাণ বীজ দিয়েছিল তা আমার নিজস্ব / বর্গা নেওয়া চাষের জমির তুলনায় অত্যন্ত কম ছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

৬.i দুর্যোগ পরবর্তী সময়ে আবার কৃষক হিসেবে কাজে ফিরে আসার ক্ষেত্রে স্লোব প্রদত্ত বীজ ও সার আমাদের জন্য সর্বাধিক লাভজনক ছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

●৭.i স্লোব আমাদের কোন কীটনাশক না দেয়ায় পোকাকার আক্রমণ থেকে ফসল রক্ষা করতে পারিনি বলে লোকসান হয়েছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

৮.i দুর্যোগ পরবর্তী সময়ে স্লোব প্রদত্ত উঠানে সবজি চাষের বীজ কম সময়ের ভিতরেই লাভজনক হয়েছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

৯.i স্লোব প্রদত্ত বীজ আমরা আমাদের প্রতিবেশীদের কিছুটা দিয়েছি বলে কৃষক হিসেবে আবার কাজে ফিরে আসার ক্ষেত্রে তা তাদের সহায়তা করেছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

১০.s স্লোব প্রদত্ত বীজ আমরা পরবর্তী মৌসুমের চাষের জন্য কিছুটা রেখে দিয়েছি যা সহায়তা করবে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

●১১.a স্লোব প্রদত্ত বীজ না পেলেও চাষ করার জন্য পর্যাপ্ত বীজ আমাদের ছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

১২.a দুর্যোগ পরবর্তী সময়ে স্লোব ছাড়া সরকারী বা অন্য কোন বেসরকারী প্রতিষ্ঠান বা এনজিও থেকে আমরা কৃষিকাজে ফিরে আসার জন্য বিনামূল্যে সার ও বীজ পাইনি।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|



(● = নেতিবাচক প্রশ্ন, a = কার্যক্রম, i = ফলাফল, s = স্থায়িত্ব অনেক দিন)

U. হাঁস/মুরগী বিতরণ প্রান্তিক দরিদ্র মহিলা (বিধাব ও তালুকপ্রাপ্ত) অগ্রাধিকার পাবে

১. a স্লোব যে হাঁস /মুরগী দিয়েছে তা অত্যন্ত উন্নত জাতের।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

●২. a যে কয়টি করে হাঁস /মুরগী স্লোব দিয়েছিল সে কয়টি আমাদের জন্য হাঁস /মুরগী পালনে ফিরে আসার ক্ষেত্রে অপরিপাক ছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

৩. a স্লোব প্রদত্ত হাঁস /মুরগী পালনের জন্য প্রয়োজনীয় প্রশিক্ষণ / তথ্য স্লোব আমাদের দিয়েছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

৪. i দুর্ঘোণে হাঁস /মুরগী মারা/হারিয়ে যাবার পরে স্লোব আমাদের হাঁস /মুরগী দেওয়ায় অল্প সময়ের ভিতরে সংসার চালানোর জন্য কিছু অর্থ সংস্থান হয়েছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

৫. i স্লোব আমাদের জন্য মড়কের ঔষধ /ভ্যাক্সিন ইত্যাদির ব্যবস্থা করায় হাঁস /মুরগী রক্ষা করতে পেরেছি।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

●৬. i স্লোব প্রদত্ত হাঁস /মুরগী পালন করলেও অসুখ/মড়ক/ অন্যান্য প্রাকৃতিক দুর্ঘোণ থেকে হাঁস/মুরগী রক্ষা করতে পারি নাই।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

●৭. a স্লোব প্রদত্ত হাঁস /মুরগী না পেলেও পালন করার জন্য পর্যাপ্ত হাঁস /মুরগী সিডরের পরে আমরা কিনে ফেলেছিলাম।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

৮. a স্লোব ছাড়া সরকারী বা অন্য কোন বেসরকারী প্রতিষ্ঠান বা এনজিও থেকে আমরা জীবিকা পুনরুদ্ধারের জন্য হাঁস /মুরগী পাই নাই।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

৯. s স্লোব প্রদত্ত হাঁস /মুরগী পালন করে বর্তমানে আমাদের পারিবারিক অবস্থার উন্নতি হয়েছে এবং এই উন্নতির প্রভাব দীর্ঘদিন থাকবে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

(● = নেতিবাচক প্রশ্ন, a = কার্যক্রম, i = ফলাফল, s = স্থায়িত্ব অনেক দিন)

## V. ছাগল বিতরণ

১. a স্লোব যে ছাগল দিয়েছে তা অত্যন্ত উন্নত জাতের।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

২. a যে কয়টি করে ছাগল স্লোব দিয়েছিল সে কয়টি ছাগল, ছাগল পালনে ফিরে আসার ক্ষেত্রে পর্যাপ্ত ছিল।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

৩. a স্লোব প্রদত্ত ছাগল পালনের জন্য প্রয়োজনীয় প্রশিক্ষণ / তথ্য স্লোব আমাদের দিয়েছিল।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

৪. i দুর্যোগ পরবর্তী সময়ে আবার ছাগল পালন শুরু করার ক্ষেত্রে স্লোব প্রদত্ত ছাগল আমাদের জন্য সর্বাধিক লাভজনক ছিল।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

●৫. i স্লোব প্রদত্ত ছাগল পালন করলেও অসুখ/অন্যান্য প্রাকৃতিক দুর্যোগ থেকে ছাগল রক্ষা করতে পারি নাই।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

●৬. i স্লোব আমাদের ছাগলের চিকিৎসা/ ভ্যাক্সিনের কোন ব্যবস্থা না করায় ছাগল রক্ষা করতে পারিনি।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

●৭. a স্লোব প্রদত্ত ছাগল না পেলেও পালন করার জন্য ছাগল সিডরের পরে আমরা কিনে ফেলেছিলাম।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

৮. a স্লোব ছাড়া অন্য কোন সরকারী বা বেসরকারী প্রতিষ্ঠান বা এনজিও থেকে আমরা জীবিকা পুনরুদ্ধারের জন্য ছাগল পাই নাই।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

৯. s স্লোব প্রদত্ত ছাগল পালন করে বর্তমানে আমাদের পারিবারিক অবস্থার উন্নতি হয়েছে এবং এই উন্নতির প্রভাব দীর্ঘদিন থাকবে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক



(● = নেতিবাচক প্রশ্ন, a = কার্যক্রম, i = ফলাফল, s = স্থায়িত্ব অনেক দিন)

W. ডীপ হ্যান্ড টিউবওয়েল স্থাপন

১. i স্লোব প্রদত্ত ডীপ হ্যান্ড টিউবওয়েল স্থাপনের ফলে খাবার বিশুদ্ধ পানির সংকট দূর হয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

২. i দুর্যোগের সময় ডীপ হ্যান্ড টিউবওয়েল সংরক্ষণের জন্য স্লোব প্রশিক্ষণ দেবার ফলে টিউবওয়েল সংরক্ষিত রয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

৩. i স্লোব প্রদত্ত ডীপ হ্যান্ড টিউবওয়েল পাওয়ার ফলে পানিবাহিত অসুখ কম হয়।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

৪. a স্লোব প্রদত্ত ডীপ হ্যান্ড টিউবওয়েল ছাড়া সরকারী বা অন্য কোন বেসরকারী প্রতিষ্ঠান বা এনজিও থেকে আমরা কোন ডীপ হ্যান্ড টিউবওয়েল পাইনি।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

●৫. i স্লোব প্রদত্ত ডীপ হ্যান্ড টিউবওয়েল পাওয়া স্বত্তেও পানি সংক্রান্ত সমস্যা ও বিপদ আমাদের আগের মতই রয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

৬. s স্লোব প্রদত্ত ডীপ হ্যান্ড টিউবওয়েল কাজে লাগিয়ে আমরা বর্তমানে ও ভবিষ্যতে স্বাভাবিক ও দুর্যোগপূর্ণ সময়ে বিশুদ্ধ পানি পাব।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

৭. s যে কয়টি পরিবারের জন্য স্লোব ডীপ হ্যান্ড টিউবওয়েল দিয়েছে তার বাইরেও প্রতিবেশীরা বর্তমানে ও ভবিষ্যতে স্বাভাবিক ও দুর্যোগ পূর্ণ সময়ে বিশুদ্ধ পানি নেয় ও নিতে পারবে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

●৮. a স্লোব প্রদত্ত ডীপ হ্যান্ড টিউবওয়েল পাওয়ার আগেও বিশুদ্ধ পানির / টিউবওয়েলের পানির ব্যবস্থা আমাদের ছিল।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

৯. s স্লোব প্রদত্ত ডীপ হ্যান্ড টিউবওয়েলের উপকারিতার স্থায়িত্ব অনেক দিন থাকবে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

১০. a স্লোব প্রদত্ত ডীপ হ্যান্ড টিউবওয়েল স্থাপনের ফলে আমাদের যেটি সবচেয়ে প্রয়োজন ছিল তাই আমরা পেয়েছি।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

SKS - CLP

(● = নেতিবাচক প্রশ্ন, clp1-10 = কার্যক্রম)

clp1. SKS আয়বর্ধক সম্পদ ইত্যাদি পছন্দকরনে সুবিধাভোগীদের পূর্ণ স্বাধীনতা নিশ্চিত করেছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

clp2. SKS চর এলাকার জন্য উপযুক্ত গবাদিপশুই প্রদাণ করেছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

clp3. আয়বর্ধক সম্পদ ক্রয়ে SKS প্রস্তুতিমূলক সভাসমূহের ব্যবস্থা নিশ্চিত করেছিল

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

clp4. SKS গবাদিপশুর সকল প্রকার টিকা এবং কৃমি মুক্তকরণের ব্যবস্থা নিশ্চিত করেছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

●clp5. SKS যে পরিমাণ টাকার সম্পদ দিয়েছিল তা আমাদের প্রয়োজনের তুলনায় অত্যন্ত কম ছিল।।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

●clp6. পশুর খাদ্য ক্রয় বা চিকিৎসা সেবার জন্য ভাউচারের মাধ্যমে SKS এর সেবা প্রদান কার্যক্রম জটিল ও সময়-স্বাপেক্ষ ছিল।।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

clp7. SKS থেকে চরে চাষের উপযোগী বীজ ও সার সরবরাহ করা হয়েছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

clp8. শাক-সজি চাষের জন্য জৈব সার তৈরী করা SKS আমাদের শিখিয়েছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

clp9. পরিবারসমূহকে মাসে ৩৫০/- টাকা হারে ১৮ মাস পর্যন্ত আয় সহায়তা দেয়াটাই যথেষ্ট ছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

clp10. বিভিন্ন সরকারী / এন.জি.ও / প্রাইভেট প্রতিষ্ঠান যে স্বাস্থ্যসেবা দেয়, তা পাবার ক্ষেত্রে SKS সাহায্য করে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

(● = নেতিবাচক প্রশ্ন, clp11-34 = ফলাফল)

●clp11. SKS এর কার্যক্রমের পরেও জীবিকা নিরাপত্তার ক্ষেত্রে আমাদের বিপদ ও বিপর্যয় আগের মতই রয়েছে।।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|



●clp12. SKS এর কার্যক্রমের পরেও দুর্যোগের ফলে বিপদ ও বিপর্যয় আগের মতই রয়েছে।।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

clp13. সবাই গবাদি পশু ক্রয় করায় SKS এর ফড়ার উৎপাদনের ব্যবস্থাও অত্যন্ত সুবিধাজনক হয়েছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

clp14. প্রশিক্ষনে প্রাপ্ত জ্ঞান অনুযায়ী শাকসবজি, ফল ও মসলা ইত্যাদি সফল ভাবে চাষ করতে পেরেছি।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

clp15. SKS এর প্রশিক্ষন অনুযায়ী মিশ্রসার প্রস্তুত করে সবজী বাগানে ব্যবহার করে সফলতা পেয়েছি।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

clp16. প্রস্তুতিমূলক সভাসমূহে গবাদি পশু ক্রয় এবং পালন সংক্রান্ত অনেক নতুন প্রয়োজনীয় তথ্য ও পরামর্শ আমরা পেয়েছি।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

clp17. SKS এর ATP কার্যক্রমের মাধ্যমে জীবীকার নিরাপত্তা নিশ্চিত হয়েছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

●clp18. SKS এর টিকা এবং কৃমিমুক্ত করণের ব্যবস্থা উপযুক্ত না হওয়ায় লোকসান গেছে।।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

clp19. আমাদের অর্থনৈতিক অবস্থার উন্নতির জন্য SKS এর কার্যক্রম সর্বোৎকৃষ্ট ছিল।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

●clp20. গরু / বকনা বা গাভী / ছাগল বা ভেড়া পালন জীবীকার নিরাপত্তা নিশ্চিত করনে অত্যন্ত সময় স্বাপেক্ষ প্রক্রিয়া।।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

clp21. SKS কার্যক্রমের ফলে আমরা অতি-দরিদ্র থেকে বর্তমানে মধ্যবিত্ত পর্যায়ে এসেছি।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

clp22. SKS এর কার্যক্রমের ফলে আমাদের উন্নতি হওয়ায় এলাকার সুবিধাভোগী নয় এমন পরিবারগুলোর সাথে আমাদের দূরত্ব বেড়েছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

clp23. SKS কার্যক্রমের সাথে সাথে সামাজিক উন্নয়ন, অবকাঠামো উন্নয়ন ইত্যাদি কার্যক্রমের ফলে আমরা সর্বাঙ্গিন ভাবে লাভবান হয়েছি।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

clp24. SKS এর সারের ব্যবস্থায় শাকসবজি / ফল ও মসলা চাষ / গাছ লাভ-জনক হয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

clp25. যে কমিউনিটি সেফটিনেট প্রোগ্রাম করা হয়েছে তার মাধ্যমে গ্রামের বয়স্ক, প্রতিবন্ধি এ ধরনের সদস্যরা উপকৃত হয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

clp26. যে কমিউনিটি সেফটিনেট প্রোগ্রাম করা হয়েছে তার মাধ্যমে পুরো গ্রামের উন্নতি হয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

clp27. চরে সকল মানুষের SKS এর স্বাস্থ্য সেবা পাবার ব্যবস্থা থাকায় সকলের স্বাস্থ্য সেবা নিশ্চিত হয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

clp28. SKS যে স্বাস্থ্যসেবা ও শিক্ষা প্রদান করে তা মা, শিশু এবং কিশোরীদের স্বাস্থ্য সমস্যা প্রতিরোধে সাহায্য করেছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

clp29. আমরা উঠানে যে সবজী চাষ করি এবং গবাদী পশু থেকে যে দুধ, ডিম, মাংশ পাই ইত্যাদি স্বাস্থ্যসেবা গুলোকে সফল করার ক্ষেত্রে সহায়তা করেছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

clp30. স্বাস্থ্য সম্পর্কিত আচরনের পরিবর্তন ও সচেতনতা বৃদ্ধি, দুর্যোগের সময় স্বাস্থ্যের যত্ন, বিশুদ্ধ পানি, পরিষ্কার পরিচ্ছন্নতা, সন্তান গ্রহন বিষয়ে মহিলাদের সিদ্ধান্ত গ্রহন ইত্যাদি বিষয়ে SKS কাজ করার ফলে এর স্বাস্থ্য যত্ন কার্যক্রম সর্বাধিক কার্যকর।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

clp31. বসত ভিটা উচ্চকরন এবং সেখানে টিউবওয়েল স্থাপনের মাধ্যমে SKS দুর্যোগ ও স্বাস্থ্য সম্পর্কে বিপদ কমাতে সফল হয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

clp32. স্বাস্থ্যসম্মত পায়খানা ব্যবস্থা প্রদান এবং ব্যবহার নিশ্চিত করনের মাধ্যমে SKS গ্রামের পরিবেশ এবং স্বাস্থ্য উন্নতিতে সফল হয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

clp33. সুষ্ঠু বাজার ব্যবস্থা নিশ্চিত করে SKS আমাদের উন্নতি নিশ্চিত করেছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

clp34. ভিলেজ সেভিংস ও লোন প্রোগ্রাম এর মাধ্যমে সুবিধাভোগী পরিবারগুলো প্রজেক্ট কর্মকাণ্ড শেষ হবার পরেও যাতে নিজেদের উন্নতি অব্যাহত রাখতে পারে সে বিষয়টি নিশ্চিত হয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক



(● = নেতিবাচক প্রশ্ন, clp35-43 = স্থায়ীত্ব অনেক দিন)

clp35. গবাদি পশু পালন প্রশিক্ষনের মাধ্যমে প্রাপ্ত জ্ঞান সারা জীবন কাজে লাগাবো।

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| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
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clp36. বসত বাড়িতে সবজি বাগান ও শাকসবজির পুষ্টিগুণ ও প্রয়োজনীয়তা সম্পর্কিত যে জ্ঞান আমরা পেয়েছি তা সারা জীবন কাজে লাগাবো।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
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clp37. বীজ সংগ্রহের জন্য মাতৃগাছ নির্বাচন, সবজি বীজ সংগ্রহ এবং সংরক্ষণ পদ্ধতি সম্পর্কিত যে জ্ঞান পেয়েছি তা সারা জীবন কাজে লাগাবো।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
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clp38. SKS এর প্রশিক্ষণের ফলে আমরা যা যা শিখেছি তা সারা জীবন কাজে লাগাবো।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
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clp39. বেনিফিশিয়ারী, পাড়া কমিটি, ভিলেজ কমিটি ইত্যাদির কার্যক্রমের সুবিধা সারা জীবন কাজে লাগাবো।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
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clp40. সামাজিক সমস্যাসমূহ এবং সেগুলো রোধ করার জন্য যে সমস্ত কার্যক্রম শিখেছি সেগুলো সারা জীবন কাজে লাগাবো।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
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clp41. আমরা বিভিন্ন সরকারী / এন.জি.ও সেবা সম্পর্কে এবং তা পাবার উপায় সম্পর্কে যা জেনেছি তা সারা জীবন কাজে লাগাবো।

|                  |         |          |      |               |
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| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
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clp42. পরিস্কার পরিচ্ছন্নতা ও স্বাস্থ্য সম্পর্কে যে প্রশিক্ষণ পেয়েছি তা সারা জীবন কাজে লাগাবো।

|                  |         |          |      |               |
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| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
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clp43. আমাদের পরিবারের উন্নতি হয়েছে এবং এই উন্নতি উত্তরোত্তর বৃদ্ধি পাবে।

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| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
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RBP

(● = নেতিবাচক প্রশ্ন, rbp1-13 = কার্যক্রম)

rbp1. দুর্যোগ পূর্ববর্তী সংকেত সম্পর্কে তথ্য, লিফলেটের মাধ্যমে অল্প সময়ে জনগনের মধ্যে বিতরণ করা হয়।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

rbp 2. স্কুলের শিশুদেরকে পানি ও পয়ঃ নিষ্কাশন এবং দুর্যোগের প্রস্তুতি সম্পর্কে অবহিত করা হয় এবং তাদের মাধ্যমে গ্রামবাসীকে বিষয়গুলো জানানো হয়।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

rbp 3. SKS- দুর্যোগের পূর্ব প্রস্তুতী সম্পর্কিত লিফলেট গ্রামে বিতরণ করে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

rbp 4. মাইকিং এর মাধ্যমে স্বাস্থ্য, পরিষ্কার পরিচ্ছন্নতা, শিক্ষা, পয়ঃ ব্যবস্থা, বিপদ পানি ও ব্যক্তিগত পরিষ্কার পরিচ্ছন্নতার বিষয় সমূহও গ্রামবাসীকে জানানো হয়।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

rbp 5. এলাকায় নিরাপদ প্রসব নিশ্চিত করনের জন্য SKS বেশ কয়েকজনের জন্য ধাত্রী প্রশিক্ষনের ব্যবস্থা করেছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

rbp 6. SKS জীবিকা নিশ্চিত করণের জন্য যে গবাদী পশু বিতরণ করেছে সেগুলোর জন্য টিকা দানের ব্যবস্থা নিশ্চিত করেছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

rbp 7. জীবিকা নিরাপত্তা নিশ্চিতকরণের জন্য SKS প্রয়োজন ভিত্তিক প্রশিক্ষনের ব্যবস্থা করেছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

rbp8. জীবিকা নিরাপত্তা নিশ্চিতকরণের জন্য SKS প্রশিক্ষণ প্রদানের পরেই বাস্তবে জ্ঞান কাজে লাগানোর জন্য ধারের ব্যবস্থা করেছিল।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

rbp9. উঠানে সবজী চাষের জন্য প্রয়োজনীয় সকল প্রশিক্ষণ, বীজ, সার ও চারা SKS প্রদান করেছিল।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

rbp10. SKS গরু / ছাগল পালনের সুবিধাসমূহ, এবং পালনের পদ্ধতি সম্পর্কিত প্রশিক্ষণ দিয়ে গরু / ছাগল বিতরণ করেছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক



rbp11. SKS জীবীকার নিরাপত্তা নিশ্চিত করার জন্য প্রয়োজনীয় প্রশিক্ষণ দিয়ে গবাদী পশু-পাখি, চারা, ক্ষুদ্র ব্যবসা ইত্যাদির জন্য অর্থ সাহায্য প্রদান করেছিল।

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| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
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rbp12. কৃষির উন্নয়নে SKS এর বিভিন্ন কার্যক্রম, গ্রাম বাসীকে নিত্য নতুন উন্নত জাতের ফসল চাষ ও যন্ত্রপাতির ব্যবহারে উৎসাহিত করেছিল।

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| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
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rbp13. SKS অধিকার, HIV / AIDS- ইত্যাদির বিষয়ে সচেতনতা মূলক কাজ করেছে।

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| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
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(● = নেতিবাচক প্রশ্ন, rbp14-28 = ফলাফল, s = স্থায়িত্ব অনেক দিন)

●rbp14. SKS এর কার্যক্রমের পরেও জীবিকা নিরাপত্তার ক্ষেত্রে আমাদের বিপদ ও বিপর্যয় আগের মতই রয়েছে।।

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| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
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●rbp15. SKS এর কার্যক্রমের পরেও দুর্ভোগের ফলে বিপদ ও বিপর্যয় আগের মতই রয়েছে।।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

rbp16. SKS এর কার্যক্রমের ফলে এলাকায় স্বাস্থ্য সম্মত পয়োগনিষ্কাশন ব্যবস্থা প্রতিষ্ঠিত হয়েছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

rbp17. SKS বিভিন্ন কমিটি যেমন ভিলেজ ডিজাস্টার কমিটি, হাট কমিটি ইত্যাদির মাধ্যমে জনগণের অংশগ্রহণ ও দক্ষতা বৃদ্ধি নিশ্চিত করেছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

rbp18. সোলার প্যানেল স্থাপনের মাধ্যমে SKS গ্রাম-বাসীর রাতে কাজ করার সুযোগ বাড়িয়ে দিয়েছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

●rbp19. গ্রামে SKS এর NFP স্কুল স্থাপনের পরেও উন্নত শিক্ষার চাহিদা পূরণ হয়নি।।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

●rbp20. সরকারের বিভিন্ন বিভাগে আলাপের মাধ্যমে SKS গ্রামবাসীর জন্য সরকারী সেবা নিশ্চিত করতে পারেনি।।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

rbp21. SKS বিভিন্ন প্রভিউসার গ্রুপ গঠন করেছে এবং উৎপাদিত পণ্যের বাজারজাত করণের ব্যবস্থা নিশ্চিত করেছে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

●rbp22. SKS এর শিখানো পন্থায় দুর্যোগের পূর্ব প্রস্তুতি গ্রহণের পরেও এলাকায় দুর্যোগের ফলে ক্ষতি কম হয় না।।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

rbp23. SKS এর কার্যক্রমের ফলে এলাকায় স্বাস্থ্য সম্মত পয়োগনিষ্কাশন ব্যবস্থা হওয়ায় অসুখ-বিসুখ ও পরিবেশের দূষণ কম হয়।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

rbp24. SKS এর উদ্যোগে এলাকায় প্রশিক্ষণপ্রাপ্ত ধাত্রী থাকার কারণে মা ও শিশুর মৃত্যু কম হয়।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

rbp25. সবজি চাষ সংক্রান্ত SKS এর সকল কার্যক্রমের ফলে সুবিধা-ভোগিরা পারিবারিক পুষ্টি ও জীবিকা নিশ্চিত করতে পেরেছিল।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

rbp26. SKS যে গরু / ছাগল বিতরণ করেছিল তারা সাফল্যের সাথে তা পালন করতে পেরেছি ও লাভবান হয়েছি।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

rbp27. দুর্যোগের প্রস্তুতি সম্পর্কে গ্রুপ লিডারদের প্রশিক্ষণের ফলে তারা গ্রামে সেই জ্ঞান কাজে লাগায়।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

rbp28. SKS এর মাইকিং এর মাধ্যমে দুর্যোগপূর্ব সংকেত দেয়ার ফলে গ্রামবাসী দুর্যোগপূর্ব সংকেত সম্পর্কে সচেতন হয়েছে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

(● = নেতিবাচক প্রশ্ন, rbp29-37 = স্থায়িত্ব অনেক দিন)

rbp29. দুর্যোগের পূর্ব প্রস্তুতি সম্পর্কে SKS এর বিভিন্ন কার্যক্রমের মাধ্যমে যে জ্ঞান পেয়েছি তা সারা জীবন কাজে লাগাব।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

rbp30. পয়োগনিষ্কাশন ব্যবস্থা সম্পর্কে SKS এর কার্যক্রমের ফলে যে জ্ঞান পেয়েছি তা সারা জীবন কাজে লাগবে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক

rbp31. SKS কতৃক গবাদি পশুপাখি ও ভ্যাকসিনেশন সম্পর্কে যে জ্ঞান পেয়েছি তা সারা জীবন কাজে লাগবে।

একেবারেই ঠিক নয় ঠিক নয় অনিশ্চিত সঠিক সম্পূর্ণ সঠিক



rbp32. জীবিকা নিরাপত্তা নিশ্চিত করনের জন্য SKS যে বিভিন্ন প্রশিক্ষণের ব্যবস্থা করেছিল তার থেকে প্রাপ্ত শিক্ষা সারা জীবন কাজে লাগবে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

rbp33. আমাদের পরিবারের উন্নতি হয়েছে এবং এই উন্নতি উত্তরোত্তর বৃদ্ধি পাবে।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

rbp34. বসত বাড়িতে সবজি বাগান ও শাকসবজির পুষ্টিগুণ ও প্রয়োজনীয়তা সম্পর্কিত যে জ্ঞান আমরা পেয়েছি তা সারা জীবন কাজে লাগাবো।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

rbp35. SKS এর প্রশিক্ষণের ফলে আমরা যা যা শিখেছি তা সারা জীবন কাজে লাগাবো।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

rbp36. সামাজিক সমস্যাসমূহ এবং সেগুলো রোধ করার জন্য যে সমস্ত কার্যক্রম শিখেছি সেগুলো সারা জীবন কাজে লাগাবো।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

rbp 37. পরিস্কার পরিচ্ছন্নতা ও স্বাস্থ্য সম্পর্কে যে প্রশিক্ষণ পেয়েছি তা সারা জীবন কাজে লাগাবো।

|                  |         |          |      |               |
|------------------|---------|----------|------|---------------|
| একেবারেই ঠিক নয় | ঠিক নয় | অনিশ্চিত | সঠিক | সম্পূর্ণ সঠিক |
|------------------|---------|----------|------|---------------|

## APPENDIX 2

**Explanation of the Variables for Results Interpretation**

- (A) Grouping of questionnaire items (questions) used for different analyses &  
 (B) List of Independent variable their item numbers in the questionnaire and labels

(A) Grouping of questionnaire items (questions) used for different analyses

| Items                                                                                                        | Title of tables                                                              | Result presented in table |
|--------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|---------------------------|
| A11                                                                                                          | Duration of respondents' stay (years) in <i>Char</i> Wadel and in Pepulia    | 4.1                       |
| A12                                                                                                          | Settlement history                                                           | 4.2                       |
| A15                                                                                                          | Displacement history                                                         | 4.3                       |
| A13                                                                                                          | Reasons for leaving the previous residence                                   | 4.4                       |
| A14                                                                                                          | Reasons for settling in the <i>Char</i>                                      | 4.5                       |
| F1                                                                                                           | Government services availed by the HHs in the last two years                 | 4.6                       |
| F2, F3, F4                                                                                                   | Consequences, sustainable development, and topicality of government services | 4.7                       |
| F5                                                                                                           | Information and opinion on local government issues                           | 4.8                       |
| F6 (OPTIONS:<br>Government: 1-12;<br>NGO: 14;<br>Community people: 5,17,18;<br>Electronic equipments: 13,16) | Different sources of information                                             | 4.9                       |
| F10, F11, F12                                                                                                | Consequences, sustainable development and topicality of NGO interventions    | 4.10                      |
| A4, A5, A6                                                                                                   | Distribution of children, male children, and female children                 | 4.11                      |



|                                                                                 |                                                                                   |      |
|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|
| A5 (age), A6 (age)                                                              | Distribution of male and female children within 129 HHs                           | 4.12 |
| B5                                                                              | Male, female, and child earning and unemployed members                            | 4.13 |
| A16 (1, HH head male/female)                                                    | Male and female headed HHs                                                        | 4.14 |
| D5                                                                              | Occurrence of different diseases among respondent HH members in the last one year | 4.15 |
| A5 (education), A6 (education)                                                  | Male and female children in education                                             | 4.16 |
| B10                                                                             | Houses of the studied HHs                                                         | 4.18 |
| B3 (9)                                                                          | Average price of agricultural equipments (after intervention)                     | 4.19 |
| B3 (10,11)                                                                      | Average price of fishing nets & boats (after intervention)                        | 4.20 |
| E1 (1-12)                                                                       | Natural disaster affected and unaffected HHs                                      | 4.21 |
| E1 (1-12)                                                                       | Number of natural disaster affected HHs in the last one year                      | 4.22 |
| E1 (1-12)                                                                       | Different strategies adopted by HHs to overcome the 'consequences' of natural     | 4.23 |
| E2                                                                              | Losses within the last year due to natural disasters                              | 4.24 |
| A16 (Main occupation)                                                           | Main occupation of the respondent HHs                                             | 4.26 |
| A16 (Secondary occupation)                                                      | Secondary occupation of the respondent HHs                                        | 4.27 |
| C2 (OPTIONS:<br>Livelihood: 1, 2, 3, 5, 10;<br>Survival: 4, 6, 7, 8, 9, 11, 12) | Loan for livelihood or survival                                                   | 4.28 |
| E1 (13-25)                                                                      | Social disaster affected and unaffected HHs                                       | 4.29 |
| E1 (13-25)                                                                      | Number of social disaster affected HHs in the last one year                       | 4.30 |
| E1 (13-25)                                                                      | Different strategies adopted to overcome the consequences of the social disasters | 4.31 |
| E4                                                                              | Losses within the last year due to social disasters                               | 4.32 |

|                                      |                                                                                                    |                    |
|--------------------------------------|----------------------------------------------------------------------------------------------------|--------------------|
| A7, A8                               | Socio-economic status prior to intervention and change in socio-economic status after intervention | 5.1                |
| B1                                   | Amount of land possessed / used for livelihood by the HH after intervention                        | 5.2                |
| B2                                   | Land increased after intervention                                                                  | 5.3                |
| B3 (previous value, present value)   | Information on change in HH level asset value                                                      | 5.4                |
| B3 (previous value, present value)   | Mean HH level asset value prior to and after intervention                                          | 5.5                |
| B3 (previous value, present value)   | ANOVA showing significance of difference of mean asset value                                       | 5.5.1 (Appendix 3) |
| B8 (previous value, present value)   | Mean values of HH level livestock and trees prior to and after intervention                        | 5.6                |
| B8 (previous value, present value)   | ANOVA showing significance of difference of mean values of livestock and trees                     | 5.6.1              |
| B8 (previous value, present value)   | Information on change in values of HH level livestock and trees                                    | 5.7                |
| B4                                   | Mean monthly income in good and bad times                                                          | 5.8                |
| B4                                   | ANOVA showing significance of difference of mean monthly income in good times                      | 5.8.1 (Appendix 3) |
| B4                                   | ANOVA showing significance of difference of mean monthly income in bad times                       | 5.8.2 (Appendix 3) |
| B4                                   | Mean monthly expenditure in good and bad times                                                     | 5.9                |
| B4                                   | ANOVA showing significance of difference of mean monthly expenditure in good times                 | 5.9.1 (Appendix 3) |
| B4                                   | ANOVA showing significance of difference of mean monthly expenditure in bad times                  | 5.9.2 (Appendix 3) |
| B4                                   | Mean monthly savings in good and bad times                                                         | 5.10               |
| STUP weighted consequences (weighted | Averages for consequences and sustainability for STUP, DPRM, CLP,                                  | 5.11.1             |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--|
| <p>for 20 items): BRAC - STUP: y22-y36;<br/>STUP weighted sustainability (weighted for 10 items): BRAC - STUP: y37-y44;</p> <p>DPRM weighted consequences (weighted for 20 items): SLOPB - DPRM: S6+ S7 + (T6 + T7+ T8+ T9) or (U4+ U5+ U6) or (V4+ V5+ V6) or (W1+ W2+ W3+ W5);</p> <p>DPRM weighted sustainability (weighted for 10 items): SLOPB - DPRM: S8+ S9+ S10+ S11+ S14 + T10 or U9 or V9 or (W6+ W7+ W9);</p> <p>CLP weighted consequences (weighted for 20 items): SKS- CLP: clp11-clp34;<br/>CLP weighted sustainability (weighted for 10 items): SKS- CLP: clp35-clp43;</p> <p>RBP weighted consequences (weighted for 20 items): SKS- RBP: rbp 14-rbp28;<br/>RBP weighted sustainability (weighted for 10 items): SKS- RBP: rbp29-rbp37;</p> | <p>and<br/>RBP</p> |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--|

|                                                                                                                                              |                                                                                                                |                       |
|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------|
| Dependent variable: STUP weighted consequences (weighted for 20 items):<br>BRAC - STUP: y22-y36;<br>Independent variable: following list (B) | Model summary for the dependent variable: STUP weighted consequences                                           | 5.12.1                |
| Dependent variable: STUP weighted consequences (weighted for 20 items):<br>BRAC - STUP: y22-y36;<br>Independent variable: following list (B) | Model summary for the dependent variable: STUP weighted consequences (detailed)                                | 5.12.1.1 (Appendix 3) |
| Dependent variable: STUP weighted consequences (weighted for 20 items):<br>BRAC - STUP: y22-y36;<br>Independent variable: following list (B) | ANOVA for the dependent variable: STUP weighted consequences                                                   | 5.12.2 (Appendix 3)   |
| Dependent variable: STUP weighted consequences (weighted for 20 items):<br>BRAC - STUP: y22-y36;<br>Independent variable: following list (B) | Coefficients of the dependent variable: STUP weighted consequences                                             | 5.12.3                |
| Dependent variable: STUP weighted consequences (weighted for 20 items):<br>BRAC - STUP: y22-y36;<br>Independent variable: following list (B) | Coefficients for the dependent variable: STUP weighted consequences (detailed)                                 | 5.12.3.1 (Appendix 3) |
| Dependent variable: STUP weighted consequences (weighted for 20 items):<br>BRAC - STUP: y22-y36;                                             | Coefficient Correlations for the independent variables with the dependent variable: STUP weighted consequences | 5.12.4 (Appendix 3)   |



|                                                                                                                                                        |                                                                                   |                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------|
| Independent variable: following list (B)                                                                                                               |                                                                                   |                       |
| Dependent variable: STUP weighted sustainability (weighted for 10 items):<br>BRAC - STUP: y37-y44;<br>Independent variable: following list (B)         | Model summary for the dependent variable: STUP weighted sustainability            | 5.13.1                |
| Dependent variable: STUP weighted sustainability (weighted for 10 items):<br>BRAC - STUP: y37-y44;<br>Independent variable: following list (B)         | Model Summary for the dependent variable: STUP weighted sustainability (detailed) | 5.13.1.1 (Appendix 3) |
| Dependent variable: STUP weighted sustainability (weighted for 10 items):<br>BRAC - STUP: y37-y44;<br>Independent variable: following list (B)         | ANOVA for the dependent variable: STUP weighted sustainability                    | 5.13.2 (Appendix 3)   |
| Dependent variable: STUP weighted sustainability (weighted for 10 items):<br>BRAC - STUP: y37-y44;<br>Independent variable: following list (B)         | Coefficients of the dependent variable: STUP weighted sustainability              | 5.13.3                |
| Dependent variable: STUP weighted sustainability (weighted for 10 items):<br>BRAC - STUP: y37-y44;<br>Independent variable: following list (B)         | Coefficients for the dependent variable: STUP weighted sustainability (detailed)  | 5.13.3.1 (Appendix 3) |
| Dependent variable: DPRM weighted consequences (weighted for 20 items):<br>SLOPB - DPRM: S6+ S7 + (T6 + T7+ T8+ T9) or (U4+ U5+ U6) or (V4+ V5+ V6) or | Model summary for the dependent variable: DPRM weighted consequences              | 5.14.1                |

|                                                                                                                                                                                                                      |                                                                                 |                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------|
| (W1+ W2+ W3+ W5);<br>Independent variable: following list (B)                                                                                                                                                        |                                                                                 |                       |
| Dependent variable: DPRM weighted consequences (weighted for 20 items):<br>SLOPB - DPRM: S6+ S7 + (T6 + T7+ T8+ T9) or (U4+ U5+ U6) or (V4+ V5+ V6) or (W1+ W2+ W3+ W5);<br>Independent variable: following list (B) | Model summary for the dependent variable: DPRM weighted consequences (detailed) | 5.14.1.1 (Appendix 3) |
| Dependent variable: DPRM weighted consequences (weighted for 20 items):<br>SLOPB - DPRM: S6+ S7 + (T6 + T7+ T8+ T9) or (U4+ U5+ U6) or (V4+ V5+ V6) or (W1+ W2+ W3+ W5);<br>Independent variable: following list (B) | ANOVA for the dependent variable: DPRM weighted consequences                    | 5.14.2 (Appendix 3)   |
| Dependent variable: DPRM weighted consequences (weighted for 20 items):<br>SLOPB - DPRM: S6+ S7 + (T6 + T7+ T8+ T9) or (U4+ U5+ U6) or (V4+ V5+ V6) or (W1+ W2+ W3+ W5);<br>Independent variable: following list (B) | Coefficients of the dependent variable: DPRM weighted consequences              | 5.14.3                |
| Dependent variable: DPRM weighted consequences (weighted for 20 items):<br>SLOPB - DPRM: S6+ S7 + (T6 + T7+ T8+ T9) or (U4+ U5+ U6) or (V4+ V5+ V6) or (W1+ W2+ W3+ W5);                                             | Coefficients for the dependent variable: DPRM weighted consequences (detailed)  | 5.14.3.1 (Appendix 3) |



|                                                                                                                                                                                                                      |                                                                                                                |                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------|
| Independent variable: following list                                                                                                                                                                                 |                                                                                                                |                       |
| Dependent variable: DPRM weighted consequences (weighted for 20 items):<br>SLOPB - DPRM: S6+ S7 + (T6 + T7+ T8+ T9) or (U4+ U5+ U6) or (V4+ V5+ V6) or (W1+ W2+ W3+ W5);<br>Independent variable: following list (B) | Coefficient Correlations for the independent variables with the dependent variable: DPRM weighted consequences | 5.14.4 (Appendix 3)   |
| Dependent variable: DPRM weighted sustainability (weighted for 10 items):<br>SLOPB - DPRM: S8+ S9+ S10+ S11+ S14 + T10 or U9 or V9 or (W6+ W7+ W9);<br>Independent variable: following list (B)                      | Model summary for the dependent variable: DPRM weighted sustainability                                         | 5.15.1                |
| Dependent variable: DPRM weighted sustainability (weighted for 10 items):<br>SLOPB - DPRM: S8+ S9+ S10+ S11+ S14 + T10 or U9 or V9 or (W6+ W7+ W9);<br>Independent variable: following list (B)                      | Model summary for the dependent variable: DPRM weighted sustainability (detailed)                              | 5.15.1.1 (Appendix 3) |
| Dependent variable: DPRM weighted sustainability (weighted for 10 items):<br>SLOPB - DPRM: S8+ S9+ S10+ S11+ S14 + T10 or U9 or V9 or (W6+ W7+ W9);<br>Independent variable: following list (B)                      | ANOVA for the dependent variable: DPRM weighted sustainability                                                 | 5.15.2 (Appendix 3)   |
| Dependent variable: DPRM weighted sustainability (weighted for 10 items):<br>SLOPB - DPRM: S8+ S9+ S10+ S11+ S14                                                                                                     | Coefficients of the dependent variable: DPRM weighted sustainability                                           | 5.15.3                |

|                                                                                                                                                                                              |                                                                                                                  |                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------|
| + T10 or U9 or V9 or (W6+ W7+ W9);<br>Independent variable: following list                                                                                                                   |                                                                                                                  |                       |
| Dependent variable: DPRM weighted sustainability (weighted for 10 items): SLOPB - DPRM: S8+ S9+ S10+ S11+ S14 + T10 or U9 or V9 or (W6+ W7+ W9);<br>Independent variable: following list     | Coefficients for the dependent variable: DPRM weighted sustainability (detailed)                                 | 5.15.3.1 (Appendix 3) |
| Dependent variable: DPRM weighted sustainability (weighted for 10 items): SLOPB - DPRM: S8+ S9+ S10+ S11+ S14 + T10 or U9 or V9 or (W6+ W7+ W9);<br>Independent variable: following list (B) | Coefficient Correlations for the independent variables with the dependent variable: DPRM weighted sustainability | 5.15.4 (Appendix 3)   |
| Dependent variable: CLP weighted consequences (weighted for 20 items): SKS- CLP: clp11-clp34;<br>Independent variable: following list (B)                                                    | Model summary for the dependent variable: CLP weighted consequences                                              | 5.16.1                |
| Dependent variable: CLP weighted consequences (weighted for 20 items): SKS- CLP: clp11-clp34;<br>Independent variable: following list (B)                                                    | Model summary for the dependent variable: CLP weighted consequences (detailed)                                   | 5.16.1.1 (Appendix 3) |
| Dependent variable: CLP weighted consequences (weighted for 20 items): SKS- CLP: clp11-clp34;<br>Independent variable: following list (B)                                                    | ANOVA for the dependent variable: CLP weighted consequences                                                      | 5.16.2 (Appendix 3)   |
| Dependent variable: CLP weighted                                                                                                                                                             | Coefficients of the dependent variable: CLP weighted consequences                                                | 5.16.3                |



|                                                                                                                                                |                                                                                                               |                       |
|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------|
| consequences (weighted for 20 items):<br>SKS- CLP: clp11-clp34;<br>Independent variable: following list (B)                                    |                                                                                                               |                       |
| Dependent variable: CLP weighted consequences (weighted for 20 items):<br>SKS- CLP: clp11-clp34;<br>Independent variable: following list (B)   | Coefficients for the dependent variable: CLP weighted consequences (detailed)                                 | 5.16.3.1 (Appendix 3) |
| Dependent variable: CLP weighted consequences (weighted for 20 items):<br>SKS- CLP: clp11-clp34;<br>Independent variable: following list (B)   | Coefficient Correlations for the independent variables with the dependent variable: CLP weighted consequences | 5.16.4 (Appendix 3)   |
| Dependent variable: CLP weighted sustainability (weighted for 10 items):<br>SKS- CLP: clp35-clp43;<br>Independent variable: following list (B) | Model summary for the dependent variable: CLP weighted sustainability                                         | 5.17.1                |
| Dependent variable: CLP weighted sustainability (weighted for 10 items):<br>SKS- CLP: clp35-clp43;<br>Independent variable: following list (B) | Model summary for the dependent variable: CLP weighted sustainability (detailed)                              | 5.17.1.1 (Appendix 3) |
| Dependent variable: CLP weighted sustainability (weighted for 10 items):<br>SKS- CLP: clp35-clp43;<br>Independent variable: following list (B) | ANOVA for the dependent variable: CLP weighted sustainability                                                 | 5.17.2 (Appendix 3)   |
| Dependent variable: CLP weighted sustainability (weighted for 10 items):                                                                       | Coefficients of the dependent variable: CLP weighted sustainability                                           | 5.17.3                |

|                                                                                                                                                |                                                                                                                 |                       |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------|
| SKS- CLP: clp35-clp43;<br>Independent variable: following list (B)                                                                             |                                                                                                                 |                       |
| Dependent variable: CLP weighted sustainability (weighted for 10 items):<br>SKS- CLP: clp35-clp43;<br>Independent variable: following list (B) | Coefficients for the dependent variable: CLP weighted sustainability (detailed)                                 | 5.17.3.1 (Appendix 3) |
| Dependent variable: CLP weighted sustainability (weighted for 10 items):<br>SKS- CLP: clp35-clp43;<br>Independent variable: following list (B) | Coefficient Correlations for the independent variables with the dependent variable: CLP weighted sustainability | 5.17.4 (Appendix 3)   |
| Dependent variable: RBP weighted consequences (weighted for 20 items):<br>SKS- RBP: rbp 14-rbp28;<br>Independent variable: following list (B)  | Model summary for the dependent variable: RBP weighted consequences                                             | 5.18.1                |
| Dependent variable: RBP weighted consequences (weighted for 20 items):<br>SKS- RBP: rbp 14-rbp28;<br>Independent variable: following list (B)  | Model summary for the dependent variable: RBP weighted consequences (detailed)                                  | 5.18.1.1 (Appendix 3) |
| Dependent variable: RBP weighted consequences (weighted for 20 items):<br>SKS- RBP: rbp 14-rbp28;<br>Independent variable: following list (B)  | ANOVA for the dependent variable: RBP weighted consequences                                                     | 5.18.2 (Appendix 3)   |
| Dependent variable: RBP weighted consequences (weighted for 20 items):<br>SKS- RBP: rbp 14-rbp28;                                              | Coefficients of the dependent variable: RBP weighted consequences                                               | 5.18.3                |



|                                                                                                                                                |                                                                                  |                       |
|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------|
| Independent variable: following list (B)                                                                                                       |                                                                                  |                       |
| Dependent variable: RBP weighted consequences (weighted for 20 items):<br>SKS- RBP: rbp 14-rbp28;<br>Independent variable: following list (B)  | Coefficients for the dependent variable: RBP weighted consequences (detailed)    | 5.18.3.1 (Appendix 3) |
| Dependent variable: RBP weighted sustainability (weighted for 10 items):<br>SKS- RBP: rbp29-rbp37;<br>Independent variable: following list (B) | Model summary for the dependent variable: RBP weighted sustainability            | 5.19.1                |
| Dependent variable: RBP weighted sustainability (weighted for 10 items):<br>SKS- RBP: rbp29-rbp37;<br>Independent variable: following list (B) | Model summary for the dependent variable: RBP weighted sustainability (detailed) | 5.19.1.1 (Appendix 3) |
| Dependent variable: RBP weighted sustainability (weighted for 10 items):<br>SKS- RBP: rbp29-rbp37;<br>Independent variable: following list (B) | ANOVA for the dependent variable: RBP weighted sustainability                    | 5.19.2 (Appendix 3)   |
| Dependent variable: RBP weighted sustainability (weighted for 10 items):<br>SKS- RBP: rbp29-rbp37;<br>Independent variable: following list (B) | Coefficients of the dependent variable: RBP weighted sustainability              | 5.19.3                |
| Dependent variable: RBP weighted sustainability (weighted for 10 items):<br>SKS- RBP: rbp29-rbp37;<br>Independent variable: following list (B) | Coefficients for the dependent variable: RBP weighted sustainability (detailed)  | 5.19.3.1 (Appendix 3) |

(B) List of Independent and dependent variables, their item numbers in the questionnaire and labels

The 'Independent Variables'

A3 = Total number of Household (HH) members

A4 = Total number of HH children

A7 = Socio-economic status prior to intervention

A8 = Socio-economic status after intervention

A15 = Total how many times displaced

F1\_1r = Aailed government widow-allowance service

F1\_2r = Aailed government elderly allowance service

F1\_3r = Aailed government freedom fighter allowance service

F1\_4r = Aailed government VGD/ VGF service

F1\_5r = Aailed government *Khas* land service

F1\_6r = Aailed government educational stipend service

F1\_7r = Aailed government seed service

F1\_8r = Aailed government food for work service

F1\_9r = Aailed government *asrayon* (shelter) service

F1\_10r = Aailed government relief service

F1\_11r = Aailed government health services

F1\_12r = Aailed government registration (birth, death, voter and marriage)

F1\_13r = Aailed government livestock related service



F1\_14r = Aailed government agriculture related service

F1\_15r = Aailed government family planning related service

F1\_16r = Aailed government vaccination service

F2 = Beneficial consequences of government services

F3 = Sustainability of consequences (SD) of government services

F4 = Topicality of government services

G1\_3 (G1+G2+G3) = Extent of occurrence of climate change related events

F5tot (F5\_1+ F5\_2+ F5\_3+ F5\_4+ F5\_5+ F5\_6+ F5\_7+ F5\_8+ F5\_9+ F5\_10+ F5\_11+ F5\_12) = Extent of possessing information and positive opinion on local government issues

F10 = Beneficial consequences of NGO membership

F11= Sustainability of consequences (SD) of NGO membership

F12 = Topicality of NGO interventions

Of the many options, six main occupations were found to be major for all the programme and project beneficiaries. Those were identified and selected as:

A9.1.1 = Farming

A9.1.2 = Contractual farmer

A9.1.3 = Fishing

A9.1.4 = Day labourer

A9.1.5 = Livestock

A9.1.6 = Small business

The 'Dependent Variables'

STUP\_Cons\_w = y22 to y36 = STUP weighted consequences

STUP\_sus\_w = y37 to y44 = STUP weighted sustainability

DPRM\_Cons\_w = S6+ S7 + (T6 + T7+ T8+ T9) or (U4+ U5+ U6) or (V4+ V5+ V6) or (W1+ W2+ W3+ W5) = DPRM weighted consequences

DPRM\_sus\_w = S8+ S9+ S10+ S11+ S14 + T10 or U9 or V9 or (W6+ W7+ W9) = DPRM weighted sustainability

CLP\_Cons\_w = clp11 to clp34 = CLP weighted consequences

CLP\_sus\_w = clp35 to clp43 = CLP weighted sustainability

RBP\_Cons\_w = rbp14 to rbp28 = RBP weighted consequences

RBP\_sus\_w = rbp29 to rbp37 = RBP weighted sustainability



### Appendix 3

#### Supplementary Result Tables

Table 5.5.1 ANOVA showing significance of difference in mean asset values prior to and after the programme and project interventions

|                                                               |                |            | Sum of Squares   | df  | Mean Square    | F     | Sig. |
|---------------------------------------------------------------|----------------|------------|------------------|-----|----------------|-------|------|
| asset value prior to intervention<br>* programmes and project | Between Groups | (Combined) | 7949704503.941   | 3   | 2649901501.314 | 8.732 | .000 |
|                                                               | Within Groups  |            | 46129458693.976  | 152 | 303483280.881  |       |      |
|                                                               | Total          |            | 54079163197.917  | 155 |                |       |      |
| asset value after intervention<br>* programmes and project    | Between Groups | (Combined) | 23844281427.842  | 3   | 7948093809.281 | 4.010 | .009 |
|                                                               | Within Groups  |            | 301301507654.902 | 152 | 1982246760.888 |       |      |
|                                                               | Total          |            | 325145789082.744 | 155 |                |       |      |

Table 5.6.1 ANOVA showing significance of difference in mean values of livestock and trees prior to and after the programme and project interventions

|                                                                         |                |            | Sum of Squares  | df  | Mean Square    | F      | Sig. |
|-------------------------------------------------------------------------|----------------|------------|-----------------|-----|----------------|--------|------|
| Values of livestock & trees prior to Intervention * Programme & project | Between Groups | (Combined) | 1036901759.209  | 3   | 345633919.736  | 1.596  | .193 |
|                                                                         | Within Groups  |            | 32920728015.630 | 152 | 216583736.945  |        |      |
|                                                                         | Total          |            | 33957629774.840 | 155 |                |        |      |
| Values of livestock & trees after intervention * Programme & project    | Between Groups | (Combined) | 8572929334.878  | 3   | 2857643111.626 | 13.481 | .000 |
|                                                                         | Within Groups  |            | 32219589558.711 | 152 | 211970983.939  |        |      |
|                                                                         | Total          |            | 40792518893.590 | 155 |                |        |      |

Table 5.8.1 ANOVA showing significance of difference in mean monthly income in good times

|                                                       |                |            | Sum of Squares | df  | Mean Square  | F     | Sig. |
|-------------------------------------------------------|----------------|------------|----------------|-----|--------------|-------|------|
| Monthly income in good times * programmes and project | Between Groups | (Combined) | 245810133.304  | 3   | 81936711.101 | 7.993 | .000 |
|                                                       | Within Groups  |            | 1558191234.773 | 152 | 10251258.124 |       |      |
|                                                       | Total          |            | 1804001368.076 | 155 |              |       |      |



Table 5.8.2 ANOVA showing significance of difference in mean monthly income in bad times

|                                                         |                           | Sum of Squares | df  | Mean Square   | F      | Sig. |
|---------------------------------------------------------|---------------------------|----------------|-----|---------------|--------|------|
| Monthly income in bad times<br>* programmes and project | Between Groups (Combined) | 309494962.419  | 3   | 103164987.473 | 11.181 | .000 |
|                                                         | Within Groups             | 1402492075.914 | 152 | 9226921.552   |        |      |
|                                                         | Total                     | 1711987038.333 | 155 |               |        |      |

Table 5.9.1 ANOVA showing significance of difference in mean monthly expenditure in good times

|                                                               |                           | Sum of Squares | df  | Mean Square  | F      | Sig. |
|---------------------------------------------------------------|---------------------------|----------------|-----|--------------|--------|------|
| Monthly expenditure in good times<br>* programmes and project | Between Groups (Combined) | 53064933.685   | 3   | 17688311.228 | 12.311 | .000 |
|                                                               | Within Groups             | 218395521.154  | 152 | 1436812.639  |        |      |
|                                                               | Total                     | 271460454.840  | 155 |              |        |      |

Table 5.9.2 ANOVA showing significance of difference in mean monthly expenditure in bad times

|                                                              |                           | Sum of Squares | df  | Mean Square  | F      | Sig. |
|--------------------------------------------------------------|---------------------------|----------------|-----|--------------|--------|------|
| Monthly Expenditure in bad times<br>* programmes and project | Between Groups (Combined) | 57968855.863   | 3   | 19322951.954 | 13.050 | .000 |
|                                                              | Within Groups             | 225071140.112  | 152 | 1480731.185  |        |      |
|                                                              | Total                     | 283039995.974  | 155 |              |        |      |

Table 5.12.1.1 Model summary for the dependent variable: STUP weighted consequences (detailed)

| Model | R       | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|---------|----------|-------------------|----------------------------|
| 1     | .450(a) | .202     | .177              | 5.28293                    |
| 2     | .579(b) | .335     | .292              | 4.89992                    |
| 3     | .646(c) | .418     | .359              | 4.66233                    |
| 4     | .721(d) | .521     | .454              | 4.30239                    |

a Predictors: (Constant), F4

b Predictors: (Constant), F4, F3

c Predictors: (Constant), F4, F3, A9.1.3

d Predictors: (Constant), F4, F3, A9.1.3, F1\_6r

Table 5.12.2 ANOVA for the dependent variable: STUP weighted consequences

| Model |            | Sum of Squares | df | Mean Square | F     | Sig.    |
|-------|------------|----------------|----|-------------|-------|---------|
| 1     | Regression | 226.484        | 1  | 226.484     | 8.115 | .008(a) |
|       | Residual   | 893.098        | 32 | 27.909      |       |         |
|       | Total      | 1119.582       | 33 |             |       |         |
| 2     | Regression | 375.297        | 2  | 187.648     | 7.816 | .002(b) |
|       | Residual   | 744.285        | 31 | 24.009      |       |         |
|       | Total      | 1119.582       | 33 |             |       |         |
| 3     | Regression | 467.462        | 3  | 155.821     | 7.168 | .001(c) |
|       | Residual   | 652.120        | 30 | 21.737      |       |         |
|       | Total      | 1119.582       | 33 |             |       |         |
| 4     | Regression | 582.777        | 4  | 145.694     | 7.871 | .000(d) |
|       | Residual   | 536.805        | 29 | 18.511      |       |         |
|       | Total      | 1119.582       | 33 |             |       |         |

a Predictors: (Constant), F4

c Predictors: (Constant), F4, F3, A9.1.3

e Dependent Variable: STUP\_Cons\_w

b Predictors: (Constant), F4, F3

d Predictors: (Constant), F4, F3, A9.1.3, F1\_6r



Table 5.12.3.1 Coefficients for the dependent variable: STUP weighted consequences (detailed)

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 53.303                      | 2.366      |                           | 22.528 | .000 |
|       | F4         | 2.379                       | .835       | .450                      | 2.849  | .008 |
| 2     | (Constant) | 61.299                      | 3.890      |                           | 15.758 | .000 |
|       | F4         | 2.555                       | .778       | .483                      | 3.285  | .003 |
|       | F3         | -2.638                      | 1.060      | -.366                     | -2.490 | .018 |
| 3     | (Constant) | 59.565                      | 3.796      |                           | 15.692 | .000 |
|       | F4         | 2.437                       | .742       | .461                      | 3.284  | .003 |
|       | F3         | -2.699                      | 1.009      | -.375                     | -2.676 | .012 |
|       | A9.1.3     | 3.458                       | 1.679      | .288                      | 2.059  | .048 |
|       | (Constant) | 60.674                      | 3.531      |                           | 17.184 | .000 |
| 4     | F4         | 2.169                       | .693       | .410                      | 3.129  | .004 |
|       | F3         | -2.837                      | .933       | -.394                     | -3.043 | .005 |
|       | A9.1.3     | 4.250                       | 1.582      | .354                      | 2.687  | .012 |
|       | F1_6r      | -8.083                      | 3.238      | -.331                     | -2.496 | .018 |
|       | (Constant) |                             |            |                           |        |      |

a Dependent Variable: STUP\_Cons\_w

Table 5.12.4 Coefficient Correlations for the independent variables with the dependent variable: STUP weighted consequences

| Model |              |        | F4    | F3    | A9.1.3 | F1_6r  |
|-------|--------------|--------|-------|-------|--------|--------|
| 1     | Correlations | F4     | 1.000 |       |        |        |
|       | Covariances  | F4     | .697  |       |        |        |
| 2     | Correlations | F4     | 1.000 | -.091 |        |        |
|       |              | F3     | -.091 | 1.000 |        |        |
|       | Covariances  | F4     | .605  | -.075 |        |        |
|       |              | F3     | -.075 | 1.123 |        |        |
| 3     | Correlations | F4     | 1.000 | -.089 | -.077  |        |
|       |              | F3     | -.089 | 1.000 | -.029  |        |
|       |              | A9.1.3 | -.077 | -.029 | 1.000  |        |
|       | Covariances  | F4     | .551  | -.066 | -.096  |        |
|       |              | F3     | -.066 | 1.018 | -.050  |        |
|       |              | A9.1.3 | -.096 | -.050 | 2.820  |        |
| 4     | Correlations | F4     | 1.000 | -.078 | -.106  | .155   |
|       |              | F3     | -.078 | 1.000 | -.041  | .059   |
|       |              | A9.1.3 | -.106 | -.041 | 1.000  | -.201  |
|       |              | F1_6r  | .155  | .059  | -.201  | 1.000  |
|       | Covariances  | F4     | .481  | -.050 | -.116  | .348   |
|       |              | F3     | -.050 | .870  | -.060  | .180   |
|       |              | A9.1.3 | -.116 | -.060 | 2.502  | -1.027 |
|       |              | F1_6r  | .348  | .180  | -1.027 | 10.487 |

a Dependent Variable: STUP\_Cons\_w



Table 5.13.1.1 Model summary for the dependent variable: STUP weighted sustainability (detailed)

| Model | R       | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|---------|----------|-------------------|----------------------------|
| 1     | .461(a) | .213     | .188              | 2.34236                    |

a Predictors: (Constant), F1\_12r

Table 5.13.2 ANOVA for the dependent variable: STUP weighted sustainability

| Model |            | Sum of Squares | df | Mean Square | F     | Sig.    |
|-------|------------|----------------|----|-------------|-------|---------|
| 1     | Regression | 47.451         | 1  | 47.451      | 8.648 | .006(a) |
|       | Residual   | 175.573        | 32 | 5.487       |       |         |
|       | Total      | 223.024        | 33 |             |       |         |

a Predictors: (Constant), F1\_12r

b Dependent Variable: STUP\_sus\_w

Table 5.13.3.1 Coefficients for the dependent variable: STUP weighted sustainability (detailed)

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 35.625                      | 1.171      |                           | 30.418 | .000 |
|       | F1_12r     | 3.667                       | 1.247      | .461                      | 2.941  | .006 |

a Dependent Variable: STUP\_sus\_w

Table 5.14.1.1 Model summary for the dependent variable: DPRM weighted consequences (detailed)

| Model | R       | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|---------|----------|-------------------|----------------------------|
| 1     | .375(a) | .140     | .119              | 11.391                     |
| 2     | .488(b) | .238     | .199              | 10.862                     |

a Predictors: (Constant), F1\_13r

b Predictors: (Constant), F1\_13r, A7

Table 5.14.2 ANOVA for the dependent variable: DPRM weighted consequences

| Model |            | Sum of Squares | df | Mean Square | F     | Sig.    |
|-------|------------|----------------|----|-------------|-------|---------|
| 1     | Regression | 846.886        | 1  | 846.886     | 6.527 | .015(a) |
|       | Residual   | 5190.256       | 40 | 129.756     |       |         |
|       | Total      | 6037.143       | 41 |             |       |         |
| 2     | Regression | 1435.830       | 2  | 717.915     | 6.085 | .005(b) |
|       | Residual   | 4601.313       | 39 | 117.982     |       |         |
|       | Total      | 6037.143       | 41 |             |       |         |

a Predictors: (Constant), F1\_13r

b Predictors: (Constant), F1\_13r, A7

c Dependent Variable: DPRM\_Cons\_w

Table 5.14.3.1 Coefficients for the dependent variable: DPRM weighted consequences (detailed)

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 65.103                      | 1.824      |                           | 35.692 | .000 |
|       | F1_13r     | -17.436                     | 6.825      | -.375                     | -2.555 | .015 |
| 2     | (Constant) | 57.711                      | 3.738      |                           | 15.439 | .000 |
|       | F1_13r     | -20.527                     | 6.653      | -.441                     | -3.085 | .004 |
|       | A7         | 5.242                       | 2.346      | .319                      | 2.234  | .031 |

a Dependent Variable: DPRM\_Cons\_w



Table 5.14.4 Coefficient Correlations for the independent variables with the dependent variable: DPRM weighted consequences

| Model |              |        | F1_13r | A7     |
|-------|--------------|--------|--------|--------|
| 1     | Correlations | F1_13r | 1.000  |        |
|       | Covariances  | F1_13r | 46.579 |        |
| 2     | Correlations | F1_13r | 1.000  | -.208  |
|       |              | A7     | -.208  | 1.000  |
|       | Covariances  | F1_13r | 44.267 | -3.246 |
|       |              | A7     | -3.246 | 5.504  |

a Dependent Variable: DPRM\_Cons\_w

Table 5.15.1.1 Model summary for the dependent variable: DPRM weighted sustainability (detailed)

| Model | R       | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|---------|----------|-------------------|----------------------------|
| 1     | .452(a) | .204     | .184              | 6.403                      |
| 2     | .569(b) | .324     | .289              | 5.976                      |
| 3     | .676(c) | .457     | .414              | 5.427                      |
| 4     | .726(d) | .527     | .476              | 5.131                      |
| 5     | .779(e) | .607     | .552              | 4.744                      |
| 6     | .816(f) | .666     | .609              | 4.430                      |
| 7     | .854(g) | .729     | .673              | 4.054                      |
| 8     | .876(h) | .768     | .711              | 3.809                      |

a Predictors: (Constant), F2

b Predictors: (Constant), F2, F1\_16r

c Predictors: (Constant), F2, F1\_16r, A9.1.1

d Predictors: (Constant), F2, F1\_16r, A9.1.1, F1\_13r

e Predictors: (Constant), F2, F1\_16r, A9.1.1, F1\_13r, F1\_10r

f Predictors: (Constant), F2, F1\_16r, A9.1.1, F1\_13r, F1\_10r, F1\_14r

g Predictors: (Constant), F2, F1\_16r, A9.1.1, F1\_13r, F1\_10r, F1\_14r, A7

h Predictors: (Constant), F2, F1\_16r, A9.1.1, F1\_13r, F1\_10r, F1\_14r, A7, F10

Table 5.15.2 ANOVA for the dependent variable: DPRM weighted sustainability

| Model |            | Sum of Squares | df | Mean Square | F      | Sig.    |
|-------|------------|----------------|----|-------------|--------|---------|
| 1     | Regression | 420.146        | 1  | 420.146     | 10.249 | .003(a) |
|       | Residual   | 1639.687       | 40 | 40.992      |        |         |
|       | Total      | 2059.833       | 41 |             |        |         |
| 2     | Regression | 667.129        | 2  | 333.565     | 9.341  | .000(b) |
|       | Residual   | 1392.704       | 39 | 35.710      |        |         |
|       | Total      | 2059.833       | 41 |             |        |         |
| 3     | Regression | 940.661        | 3  | 313.554     | 10.646 | .000(c) |
|       | Residual   | 1119.172       | 38 | 29.452      |        |         |
|       | Total      | 2059.833       | 41 |             |        |         |
| 4     | Regression | 1085.787       | 4  | 271.447     | 10.311 | .000(d) |
|       | Residual   | 974.047        | 37 | 26.326      |        |         |
|       | Total      | 2059.833       | 41 |             |        |         |
| 5     | Regression | 1249.644       | 5  | 249.929     | 11.105 | .000(e) |
|       | Residual   | 810.189        | 36 | 22.505      |        |         |
|       | Total      | 2059.833       | 41 |             |        |         |
| 6     | Regression | 1372.858       | 6  | 228.810     | 11.657 | .000(f) |
|       | Residual   | 686.975        | 35 | 19.628      |        |         |
|       | Total      | 2059.833       | 41 |             |        |         |
| 7     | Regression | 1501.127       | 7  | 214.447     | 13.050 | .000(g) |
|       | Residual   | 558.706        | 34 | 16.433      |        |         |
|       | Total      | 2059.833       | 41 |             |        |         |
| 8     | Regression | 1581.042       | 8  | 197.630     | 13.621 | .000(h) |
|       | Residual   | 478.791        | 33 | 14.509      |        |         |
|       | Total      | 2059.833       | 41 |             |        |         |

a Predictors: (Constant), F2



- b Predictors: (Constant), F2, F1\_16r  
 c Predictors: (Constant), F2, F1\_16r, A9.1.1  
 d Predictors: (Constant), F2, F1\_16r, A9.1.1, F1\_13r  
 e Predictors: (Constant), F2, F1\_16r, A9.1.1, F1\_13r, F1\_10r  
 f Predictors: (Constant), F2, F1\_16r, A9.1.1, F1\_13r, F1\_10r, F1\_14r  
 g Predictors: (Constant), F2, F1\_16r, A9.1.1, F1\_13r, F1\_10r, F1\_14r, A7  
 h Predictors: (Constant), F2, F1\_16r, A9.1.1, F1\_13r, F1\_10r, F1\_14r, A7, F10  
 i Dependent Variable: DPRM\_sus\_w

Table 5.15.3.1 Coefficients for the dependent variable: DPRM weighted sustainability (detailed)

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 20.830                      | 4.180      |                           | 4.983  | .000 |
|       | F2         | 3.617                       | 1.130      | .452                      | 3.201  | .003 |
| 2     | (Constant) | 18.031                      | 4.044      |                           | 4.459  | .000 |
|       | F2         | 3.535                       | 1.055      | .441                      | 3.351  | .002 |
|       | F1_16r     | 4.996                       | 1.900      | .346                      | 2.630  | .012 |
| 3     | (Constant) | 15.574                      | 3.760      |                           | 4.142  | .000 |
|       | F2         | 4.225                       | .984       | .528                      | 4.292  | .000 |
|       | F1_16r     | 5.921                       | 1.752      | .411                      | 3.380  | .002 |
|       | A9.1.1     | -12.507                     | 4.104      | -.380                     | -3.048 | .004 |
| 4     | (Constant) | 15.726                      | 3.555      |                           | 4.423  | .000 |
|       | F2         | 4.309                       | .931       | .538                      | 4.627  | .000 |
|       | F1_16r     | 6.074                       | 1.657      | .421                      | 3.665  | .001 |
|       | A9.1.1     | -13.192                     | 3.891      | -.401                     | -3.390 | .002 |
|       | F1_13r     | -7.243                      | 3.085      | -.266                     | -2.348 | .024 |
| 5     | (Constant) | 17.450                      | 3.349      |                           | 5.211  | .000 |
|       | F2         | 4.812                       | .881       | .601                      | 5.462  | .000 |
|       | F1_16r     | 6.836                       | 1.558      | .474                      | 4.387  | .000 |

Table 5.15.4 Coefficient Correlations for the independent variables with the dependent variable: DPRM weighted sustainability

| Model |              |        | F2    | F1_16r | A9.1.1 | F1_13r | F1_10r | F1_14r | A7 | F10 |
|-------|--------------|--------|-------|--------|--------|--------|--------|--------|----|-----|
| 1     | Correlations | F2     | 1.000 |        |        |        |        |        |    |     |
|       | Covariances  | F2     | 1.276 |        |        |        |        |        |    |     |
| 2     | Correlations | F2     | 1.000 | -.029  |        |        |        |        |    |     |
|       |              | F1_16r | -.029 | 1.000  |        |        |        |        |    |     |
|       | Covariances  | F2     | 1.113 | -.059  |        |        |        |        |    |     |
|       |              | F1_16r | -.059 | 3.608  |        |        |        |        |    |     |
| 3     | Correlations | F2     | 1.000 | .012   | -.230  |        |        |        |    |     |
|       |              | F1_16r | .012  | 1.000  | -.173  |        |        |        |    |     |
|       |              | A9.1.1 | -.230 | -.173  | 1.000  |        |        |        |    |     |
|       | Covariances  | F2     | .969  | .020   | -.929  |        |        |        |    |     |
|       |              | F1_16r | .020  | 3.068  | -1.247 |        |        |        |    |     |
|       |              | A9.1.1 | -.929 | -1.247 | 16.843 |        |        |        |    |     |
| 4     | Correlations | F2     | 1.000 | .013   | -.232  | -.039  |        |        |    |     |
|       |              | F1_16r | .013  | 1.000  | -.176  | -.039  |        |        |    |     |
|       |              | A9.1.1 | -.232 | -.176  | 1.000  | .075   |        |        |    |     |
|       |              | F1_13r | -.039 | -.039  | .075   | 1.000  |        |        |    |     |
|       | Covariances  | F2     | .867  | .020   | -.840  | -.111  |        |        |    |     |
|       |              | F1_16r | .020  | 2.747  | -1.133 | -.201  |        |        |    |     |
|       |              | A9.1.1 | -.840 | -1.133 | 15.140 | .899   |        |        |    |     |
|       |              | F1_13r | -.111 | -.201  | .899   | 9.515  |        |        |    |     |
| 5     | Correlations | F2     | 1.000 | .051   | -.220  | -.057  | -.212  |        |    |     |
|       |              | F1_16r | .051  | 1.000  | -.167  | -.055  | -.181  |        |    |     |
|       |              | A9.1.1 | -.220 | -.167  | 1.000  | .072   | -.031  |        |    |     |
|       |              | F1_13r | -.057 | -.055  | .072   | 1.000  | .092   |        |    |     |
|       |              | F1_10r | -.212 | -.181  | -.031  | .092   | 1.000  |        |    |     |



|   |              |        |       |       |        |        |       |        |       |  |
|---|--------------|--------|-------|-------|--------|--------|-------|--------|-------|--|
|   | Covariances  | F2     | .776  | .070  | -.698  | -.144  | -.349 |        |       |  |
|   |              | F1_16r | .070  | 2.428 | -.937  | -.246  | -.528 |        |       |  |
|   |              | A9.1.1 | -.698 | -.937 | 12.955 | .739   | -.208 |        |       |  |
|   |              | F1_13r | -.144 | -.246 | .739   | 8.204  | .492  |        |       |  |
|   |              | F1_10r | -.349 | -.528 | -.208  | .492   | 3.503 |        |       |  |
| 6 | Correlations | F2     | 1.000 | .102  | -.229  | -.121  | -.200 | .172   |       |  |
|   |              | F1_16r | .102  | 1.000 | -.181  | -.175  | -.157 | .314   |       |  |
|   |              | A9.1.1 | -.229 | -.181 | 1.000  | .095   | -.034 | -.074  |       |  |
|   |              | F1_13r | -.121 | -.175 | .095   | 1.000  | .065  | -.404  |       |  |
|   |              | F1_10r | -.200 | -.157 | -.034  | .065   | 1.000 | .046   |       |  |
|   |              | F1_14r | .172  | .314  | -.074  | -.404  | .046  | 1.000  |       |  |
|   | Covariances  | F2     | .698  | .130  | -.644  | -.295  | -.293 | .533   |       |  |
|   |              | F1_16r | .130  | 2.348 | -.937  | -.782  | -.422 | 1.786  |       |  |
|   |              | A9.1.1 | -.644 | -.937 | 11.361 | .940   | -.202 | -.927  |       |  |
|   |              | F1_13r | -.295 | -.782 | .940   | 8.552  | .334  | -4.394 |       |  |
|   |              | F1_10r | -.293 | -.422 | -.202  | .334   | 3.062 | .301   |       |  |
|   |              | F1_14r | .533  | 1.786 | -.927  | -4.394 | .301  | 13.820 |       |  |
| 7 | Correlations | F2     | 1.000 | .106  | -.220  | -.135  | -.197 | .178   | .076  |  |
|   |              | F1_16r | .106  | 1.000 | -.174  | -.184  | -.155 | .318   | .063  |  |
|   |              | A9.1.1 | -.220 | -.174 | 1.000  | .071   | -.031 | -.063  | .094  |  |
|   |              | F1_13r | -.135 | -.184 | .071   | 1.000  | .057  | -.415  | -.227 |  |
|   |              | F1_10r | -.197 | -.155 | -.031  | .057   | 1.000 | .049   | .031  |  |
|   |              | F1_14r | .178  | .318  | -.063  | -.415  | .049  | 1.000  | .105  |  |
|   |              | A7     | .076  | .063  | .094   | -.227  | .031  | .105   | 1.000 |  |
|   | Covariances  | F2     | .587  | .114  | -.522  | -.283  | -.242 | .467   | .052  |  |
|   |              | F1_16r | .114  | 1.974 | -.759  | -.710  | -.349 | 1.528  | .079  |  |
|   |              | A9.1.1 | -.522 | -.759 | 9.597  | .605   | -.155 | -.671  | .260  |  |
|   |              | F1_13r | -.283 | -.710 | .605   | 7.549  | .249  | -3.903 | -.556 |  |

|   |              |        |        |        |        |        |       |        |        |        |
|---|--------------|--------|--------|--------|--------|--------|-------|--------|--------|--------|
|   |              | F1_10r | -.242  | -.349  | -.155  | .249   | 2.566 | .270   | .044   |        |
|   |              | F1_14r | .467   | 1.528  | -.671  | -3.903 | .270  | 11.700 | .321   |        |
|   |              | A7     | .052   | .079   | .260   | -.556  | .044  | .321   | .793   |        |
| 8 | Correlations | F2     | 1.000  | .183   | -.299  | -.406  | -.180 | .407   | .320   | -.502  |
|   |              | F1_16r | .183   | 1.000  | -.209  | -.257  | -.156 | .362   | .150   | -.185  |
|   |              | A9.1.1 | -.299  | -.209  | 1.000  | .196   | -.026 | -.178  | -.041  | .227   |
|   |              | F1_13r | -.406  | -.257  | .196   | 1.000  | .056  | -.618  | -.481  | .628   |
|   |              | F1_10r | -.180  | -.156  | -.026  | .056   | 1.000 | .031   | .016   | .018   |
|   |              | F1_14r | .407   | .362   | -.178  | -.618  | .031  | 1.000  | .367   | -.556  |
|   |              | A7     | .320   | .150   | -.041  | -.481  | .016  | .367   | 1.000  | -.526  |
|   |              | F10    | -.502  | -.185  | .227   | .628   | .018  | -.556  | -.526  | 1.000  |
|   | Covariances  | F2     | .693   | .204   | -.745  | -1.121 | -.226 | 1.312  | .262   | -.496  |
|   |              | F1_16r | .204   | 1.804  | -.838  | -1.144 | -.315 | 1.882  | .198   | -.294  |
|   |              | A9.1.1 | -.745  | -.838  | 8.934  | 1.948  | -.118 | -2.053 | -.121  | .805   |
|   |              | F1_13r | -1.121 | -1.144 | 1.948  | 11.011 | .278  | -7.933 | -1.569 | 2.473  |
|   |              | F1_10r | -.226  | -.315  | -.118  | .278   | 2.266 | .178   | .024   | .033   |
|   |              | F1_14r | 1.312  | 1.882  | -2.053 | -7.933 | .178  | 14.963 | 1.396  | -2.553 |
|   |              | A7     | .262   | .198   | -.121  | -1.569 | .024  | 1.396  | .968   | -.614  |
|   |              | F10    | -.496  | -.294  | .805   | 2.473  | .033  | -2.553 | -.614  | 1.407  |

a Dependent Variable: DPRM\_sus\_w



Table 5.16.1.1 Model summary for the dependent variable: CLP weighted consequences (detailed)

| Model | R       | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|---------|----------|-------------------|----------------------------|
| 1     | .744(a) | .553     | .541              | 5.94820                    |
| 2     | .846(b) | .716     | .701              | 4.80357                    |
| 3     | .868(c) | .753     | .733              | 4.53830                    |

a Predictors: (Constant), F5tot

b Predictors: (Constant), F5tot, F11

c Predictors: (Constant), F5tot, F11, A7

Table 5.16.2 ANOVA for the dependent variable: CLP weighted consequences

| Model |            | Sum of Squares | df | Mean Square | F      | Sig.    |
|-------|------------|----------------|----|-------------|--------|---------|
| 1     | Regression | 1663.419       | 1  | 1663.419    | 47.014 | .000(a) |
|       | Residual   | 1344.480       | 38 | 35.381      |        |         |
|       | Total      | 3007.899       | 39 |             |        |         |
| 2     | Regression | 2154.149       | 2  | 1077.075    | 46.678 | .000(b) |
|       | Residual   | 853.750        | 37 | 23.074      |        |         |
|       | Total      | 3007.899       | 39 |             |        |         |
| 3     | Regression | 2266.439       | 3  | 755.480     | 36.681 | .000(c) |
|       | Residual   | 741.461        | 36 | 20.596      |        |         |
|       | Total      | 3007.899       | 39 |             |        |         |

a Predictors: (Constant), F5tot

b Predictors: (Constant), F5tot, F11

c Predictors: (Constant), F5tot, F11, A7

d Dependent Variable: CLP\_Cons\_w

Table 5.16.3.1 Coefficients for the dependent variable: CLP weighted consequences (detailed)

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 30.131                      | 3.194      |                           | 9.433  | .000 |
|       | A9.1.3     | -30.131                     | 5.758      | -.389                     | -5.233 | .000 |
| 2     | (Constant) | -24.770                     | 11.564     |                           | -2.142 | .034 |
|       | A9.1.3     | -30.583                     | 5.370      | -.394                     | -5.695 | .000 |
|       | F11        | 15.011                      | 3.055      | .340                      | 4.913  | .000 |
| 3     | (Constant) | 6.903                       | 13.908     |                           | .496   | .620 |
|       | A9.1.3     | -28.362                     | 5.185      | -.366                     | -5.470 | .000 |
|       | F11        | 12.499                      | 3.005      | .283                      | 4.159  | .000 |
|       | A3         | -5.326                      | 1.411      | -.259                     | -3.776 | .000 |
| 4     | (Constant) | -9.756                      | 14.052     |                           | -.694  | .489 |
|       | A9.1.3     | -28.389                     | 4.973      | -.366                     | -5.708 | .000 |
|       | F11        | 9.287                       | 3.006      | .210                      | 3.090  | .002 |
|       | A3         | -5.250                      | 1.353      | -.255                     | -3.880 | .000 |
|       | F12        | 8.004                       | 2.123      | .251                      | 3.771  | .000 |
| 5     | (Constant) | -4.945                      | 13.847     |                           | -.357  | .722 |
|       | A9.1.3     | -22.091                     | 5.353      | -.285                     | -4.127 | .000 |
|       | F11        | 8.448                       | 2.954      | .191                      | 2.859  | .005 |
|       | A3         | -5.060                      | 1.325      | -.246                     | -3.819 | .000 |
|       | F12        | 8.794                       | 2.094      | .276                      | 4.199  | .000 |
|       | F1_10r     | -14.014                     | 4.981      | -.196                     | -2.814 | .006 |
| 6     | (Constant) | 4.872                       | 14.049     |                           | .347   | .729 |
|       | A9.1.3     | -20.251                     | 5.290      | -.261                     | -3.828 | .000 |
|       | F11        | 8.765                       | 2.897      | .199                      | 3.025  | .003 |
|       | A3         | -4.771                      | 1.303      | -.232                     | -3.663 | .000 |
|       | F12        | 8.864                       | 2.052      | .278                      | 4.319  | .000 |
|       | F1_10r     | -13.409                     | 4.885      | -.187                     | -2.745 | .007 |



|   |            |         |        |       |        |      |
|---|------------|---------|--------|-------|--------|------|
|   | A7         | -10.525 | 3.911  | -.168 | -2.691 | .008 |
| 7 | (Constant) | 10.661  | 13.923 |       | .766   | .445 |
|   | A9.1.3     | -20.937 | 5.186  | -.270 | -4.037 | .000 |
|   | F11        | 8.284   | 2.843  | .188  | 2.914  | .004 |
|   | A3         | -4.986  | 1.278  | -.242 | -3.901 | .000 |
|   | F12        | 8.724   | 2.011  | .274  | 4.339  | .000 |
|   | F1_10r     | -13.432 | 4.784  | -.187 | -2.807 | .006 |
|   | A7         | -11.394 | 3.843  | -.181 | -2.965 | .004 |
|   | F1_7r      | -28.353 | 10.451 | -.164 | -2.713 | .007 |
| 8 | (Constant) | 21.980  | 14.315 |       | 1.535  | .127 |
|   | A9.1.3     | -26.256 | 5.473  | -.339 | -4.797 | .000 |
|   | F11        | 7.397   | 2.808  | .168  | 2.634  | .009 |
|   | A3         | -5.567  | 1.273  | -.270 | -4.375 | .000 |
|   | F12        | 8.882   | 1.972  | .279  | 4.503  | .000 |
|   | F1_10r     | -14.239 | 4.702  | -.199 | -3.029 | .003 |
|   | A7         | -11.347 | 3.769  | -.181 | -3.011 | .003 |
|   | F1_7r      | -27.995 | 10.249 | -.162 | -2.731 | .007 |
|   | A9.1.4     | -13.664 | 5.196  | -.175 | -2.630 | .009 |
| 9 | (Constant) | 19.546  | 14.199 |       | 1.377  | .171 |
|   | A9.1.3     | -25.421 | 5.425  | -.328 | -4.686 | .000 |
|   | F11        | 7.094   | 2.779  | .161  | 2.552  | .012 |
|   | A3         | -5.506  | 1.258  | -.267 | -4.376 | .000 |
|   | F12        | 8.054   | 1.989  | .253  | 4.049  | .000 |
|   | F1_10r     | -17.103 | 4.843  | -.239 | -3.531 | .001 |
|   | A7         | -10.685 | 3.739  | -.170 | -2.858 | .005 |
|   | F1_7r      | -32.602 | 10.366 | -.189 | -3.145 | .002 |
|   | A9.1.4     | -12.619 | 5.160  | -.162 | -2.445 | .016 |
|   | F5tot      | 1.849   | .879   | .135  | 2.104  | .037 |

a Dependent Variable: CLP\_Cons\_w

Table 5.16.4 Coefficient Correlations for the independent variables with the dependent variable: CLP weighted consequences

| Model |              |       | F5tot | F11   | A7     |
|-------|--------------|-------|-------|-------|--------|
| 1     | Correlations | F5tot | 1.000 |       |        |
|       | Covariances  | F5tot | .095  |       |        |
| 2     | Correlations | F5tot | 1.000 | .013  |        |
|       |              | F11   | .013  | 1.000 |        |
|       | Covariances  | F5tot | .062  | .003  |        |
|       |              | F11   | .003  | 1.068 |        |
| 3     | Correlations | F5tot | 1.000 | .009  | -.220  |
|       |              | F11   | .009  | 1.000 | .019   |
|       |              | A7    | -.220 | .019  | 1.000  |
|       | Covariances  | F5tot | .058  | .002  | -.249  |
|       |              | F11   | .002  | .954  | .089   |
|       |              | A7    | -.249 | .089  | 22.205 |

a Dependent Variable: CLP\_Cons\_w

Table 5.17.1.1 Model summary for the dependent variable: CLP weighted sustainability (detailed)

| Model | R       | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|---------|----------|-------------------|----------------------------|
| 1     | .758(a) | .574     | .563              | 3.15042                    |
| 2     | .823(b) | .677     | .659              | 2.78186                    |

a Predictors: (Constant), F5tot

b Predictors: (Constant), F5tot, F11



Table 5.17.2 ANOVA for the dependent variable: CLP weighted sustainability

| Model |            | Sum of Squares | df | Mean Square | F      | Sig.    |
|-------|------------|----------------|----|-------------|--------|---------|
| 1     | Regression | 508.771        | 1  | 508.771     | 51.261 | .000(a) |
|       | Residual   | 377.155        | 38 | 9.925       |        |         |
|       | Total      | 885.926        | 39 |             |        |         |
| 2     | Regression | 599.593        | 2  | 299.796     | 38.740 | .000(b) |
|       | Residual   | 286.333        | 37 | 7.739       |        |         |
|       | Total      | 885.926        | 39 |             |        |         |

a Predictors: (Constant), F5tot

b Predictors: (Constant), F5tot, F11

c Dependent Variable: CLP\_sus\_w

Table 5.17.3.1 Coefficients for the dependent variable: CLP weighted sustainability (detailed)

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 38.459                      | .794       |                           | 48.418 | .000 |
|       | F5tot      | 1.166                       | .163       | .758                      | 7.160  | .000 |
| 2     | (Constant) | 30.026                      | 2.560      |                           | 11.731 | .000 |
|       | F5tot      | 1.172                       | .144       | .762                      | 8.153  | .000 |
|       | F11        | 2.051                       | .599       | .320                      | 3.426  | .002 |

a Dependent Variable: CLP\_sus\_w

Table 5.17.4 Coefficient Correlations for the independent variables with the dependent variable: CLP weighted sustainability

| Model |              |       | F5tot | F11   |
|-------|--------------|-------|-------|-------|
| 1     | Correlations | F5tot | 1.000 |       |
|       | Covariances  | F5tot | .027  |       |
| 2     | Correlations | F5tot | 1.000 | .013  |
|       |              | F11   | .013  | 1.000 |
|       | Covariances  | F5tot | .021  | .001  |
|       |              | F11   | .001  | .358  |

a Dependent Variable: CLP\_sus\_w

Table 5.18.1.1 Model summary for the dependent variable: RBP weighted consequences (detailed)

| Model | R       | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|---------|----------|-------------------|----------------------------|
| 1     | .378(a) | .143     | .120              | 6.20649                    |

a Predictors: (Constant), F5tot

Table 5.18.2 ANOVA for the dependent variable: RBP weighted consequences

| Model |            | Sum of Squares | df | Mean Square | F     | Sig.    |
|-------|------------|----------------|----|-------------|-------|---------|
| 1     | Regression | 244.267        | 1  | 244.267     | 6.341 | .016(a) |
|       | Residual   | 1463.778       | 38 | 38.520      |       |         |
|       | Total      | 1708.044       | 39 |             |       |         |

a Predictors: (Constant), F5tot

b Dependent Variable: RBP\_Cons\_w



Table 5.18.3.1 Coefficients for the dependent variable: RBP weighted consequences (detailed)

| del | Mo         | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-----|------------|-----------------------------|------------|---------------------------|--------|------|
|     |            | B                           | Std. Error | Beta                      |        |      |
| 1   | (Constant) | 64.831                      | 1.565      |                           | 41.434 | .000 |
|     | F5tot      | 1.067                       | .424       | .378                      | 2.518  | .016 |

a Dependent Variable: RBP\_Cons\_w

Table 5.19.1.1 Model summary for the dependent variable: RBP weighted sustainability (detailed)

| Model | R       | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|---------|----------|-------------------|----------------------------|
| 1     | .346(a) | .120     | .097              | 2.65786                    |

a Predictors: (Constant), F1\_7r

Table 5.19.2 ANOVA for the dependent variable: RBP weighted sustainability

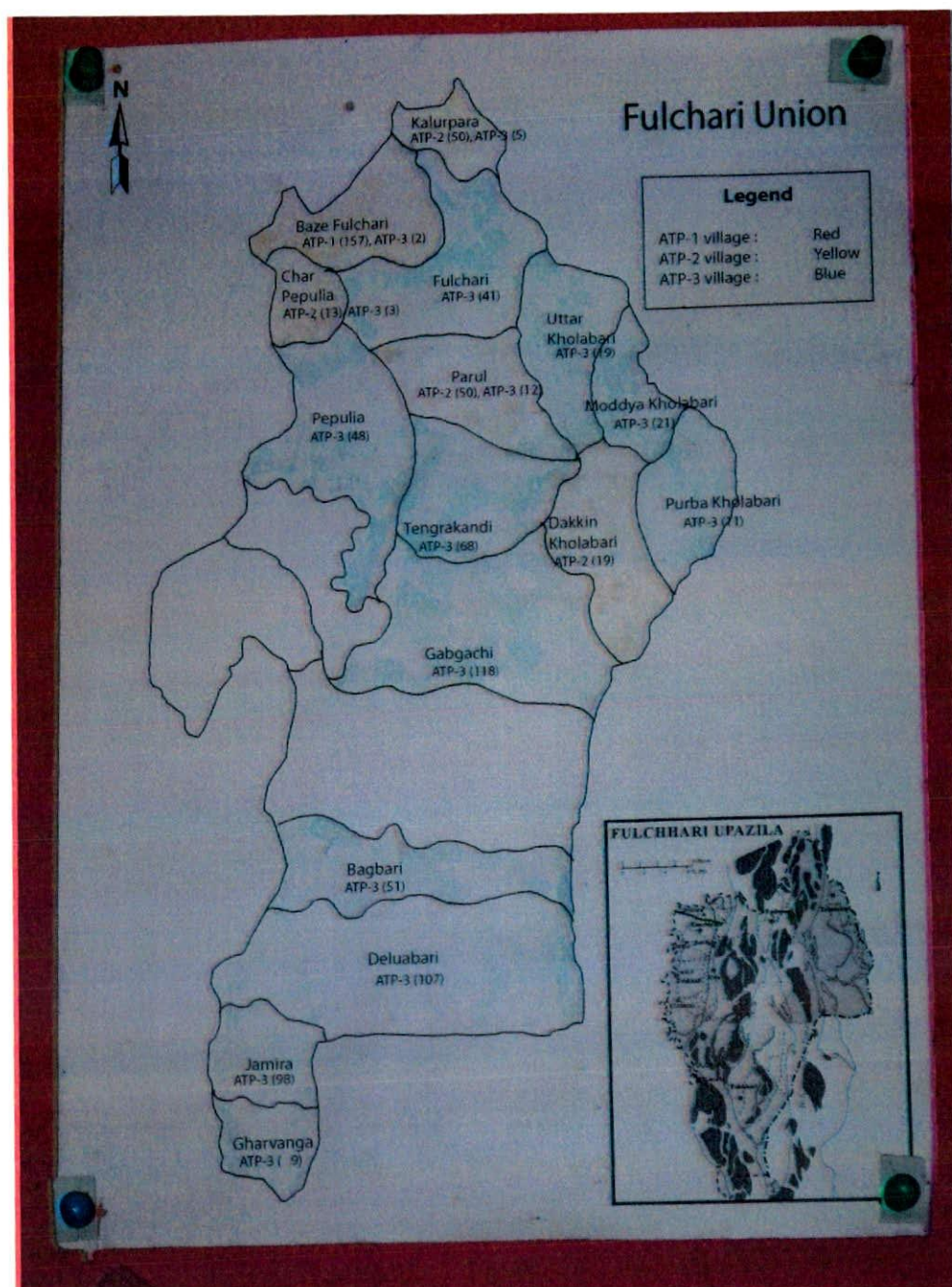
| Model |            | Sum of Squares | df | Mean Square | F     | Sig.    |
|-------|------------|----------------|----|-------------|-------|---------|
| 1     | Regression | 36.534         | 1  | 36.534      | 5.172 | .029(a) |
|       | Residual   | 268.441        | 38 | 7.064       |       |         |
|       | Total      | 304.975        | 39 |             |       |         |

a Predictors: (Constant), F1\_7r

b Dependent Variable: RBP\_sus\_w

## APPENDIX 4

### Supplementary Maps



Map 1 Fulchhari Union  
Source: Collected from SKS





Map 2 Tangrakandi (community mapping)

Source: Based on community map prepared by the participants during the fieldwork

Source: Based on community map prepared by the participants during the fieldwork





Map 4 Gabgachi

Source: Based on community map prepared by the participants during the fieldwork





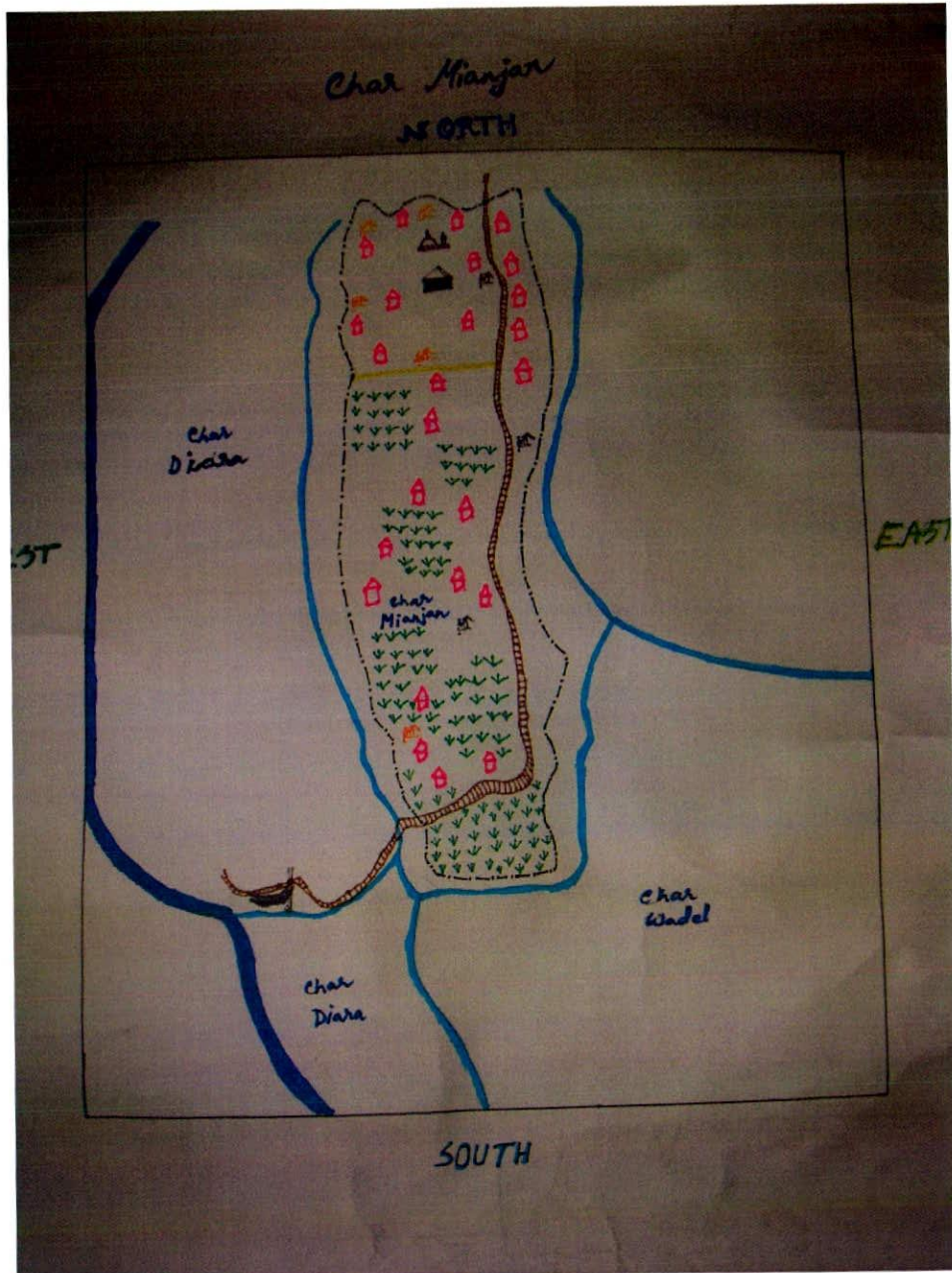
Map 5 Char Mianjan  
(Community map prepared by the participants during the fieldwork)





Map 6 Char Wadel

Source: Based on community map prepared by the participants during the field work



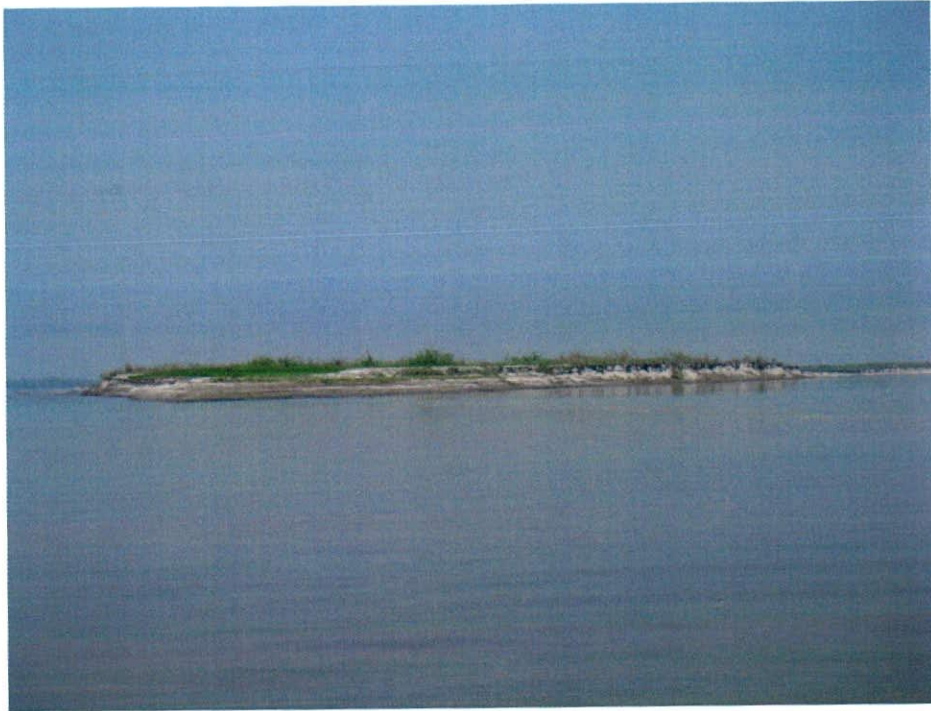
Map 7 Char Mianjan

Source: Based on community map prepared by the participants during the fieldwork



## APPENDIX 5

### Photographs



Photograph 1 A River *Char* in Jamuna River



Photograph 2 With the FGD participants during the initial exploratory phase in a Jamuna *Char*





Photograph 3 FGD participants  
during the initial exploratory phase in a Jamuna *Char*



Photograph 4 Community people  
during the initial exploratory phase in a Jamuna *Char*





Photograph 5 In a non-formal primary school during the initial exploratory phase in Jamuna *Char*



Photograph 6 With the FGD participants during the initial exploratory phase in a Jamuna *Char*





Photograph 7 After a visit to Lifebuoy Friendship hospital in a Jamuna *Char*



Photograph 8 At a RC household that relies on a multipurpose machine for livelihood (during the initial exploratory phase in Jamuna *Char*)





Photograph 8 During a meeting with the TNO of Fulchhari Upazila



Photograph 9 During a meeting with the Chairman of Fulchhari Union



Photograph 10 During a meeting with the Union Parisad Members of Fulchhari Union



Photograph 11 During the FGD in Tangrakandi





Photograph 12 On the way to Pepulia



Photograph 13 On the way to Pepulia





Photograph 14 With FGD participants during the data collection phase in Pepulia



Photograph 15 During community mapping of the data collection phase in Pepulia





Photograph 16 FGD participants during the data collection phase in Pepulia



Photograph 17 During a household level interviewing and questionnaire survey in Pepulia



Photograph 18 Happy char dwellers with cultivated corn in a Jamuna *Char*



Photograph 19 Dwellers of Pepulia in the daily trawler





Photograph 20 Eroded char in Fulchhari Upazila



Photograph 21 Eroded Pepulia





Photograph 22 With the follow up FGD participants of RBP in Jamuna Char

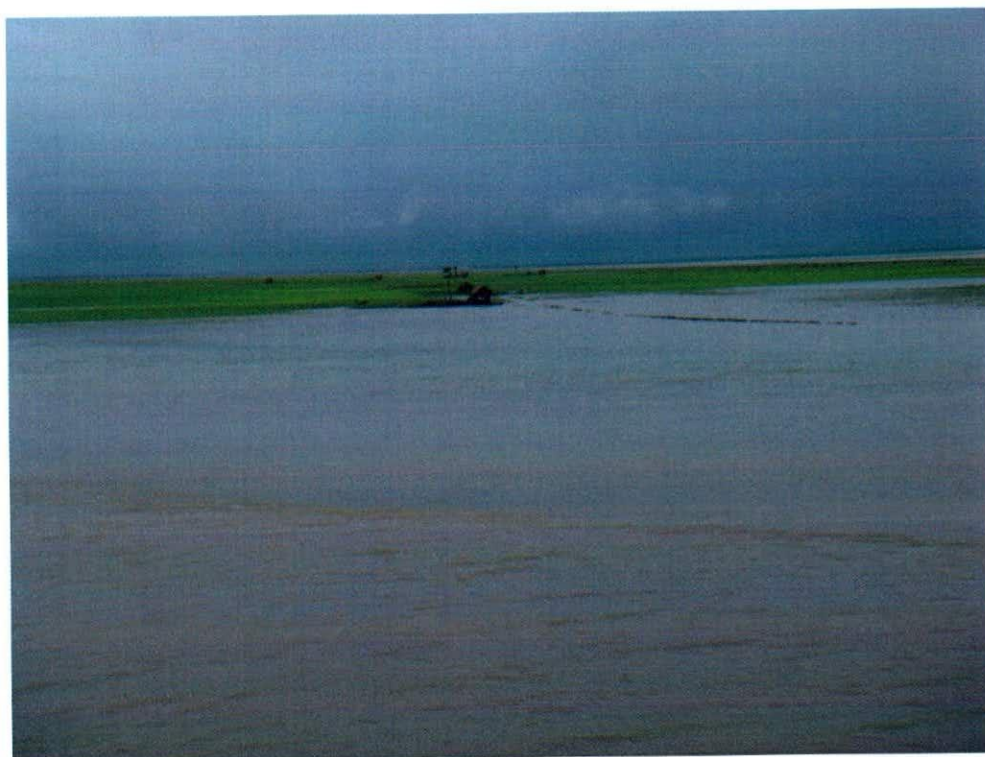


Photograph 23 With the follow up FGD participants of CLP in Jamuna Char





Photograph 24 During a cultural programme at SKS Office at Bharatkali by the training participants



Photograph 25 A River Estuarine *Char* in Tentulia River



Photograph 26 On the way to a REC in the Tentulia River during the piloting phase



Photograph 27 The SLOPB employees during the piloting phase





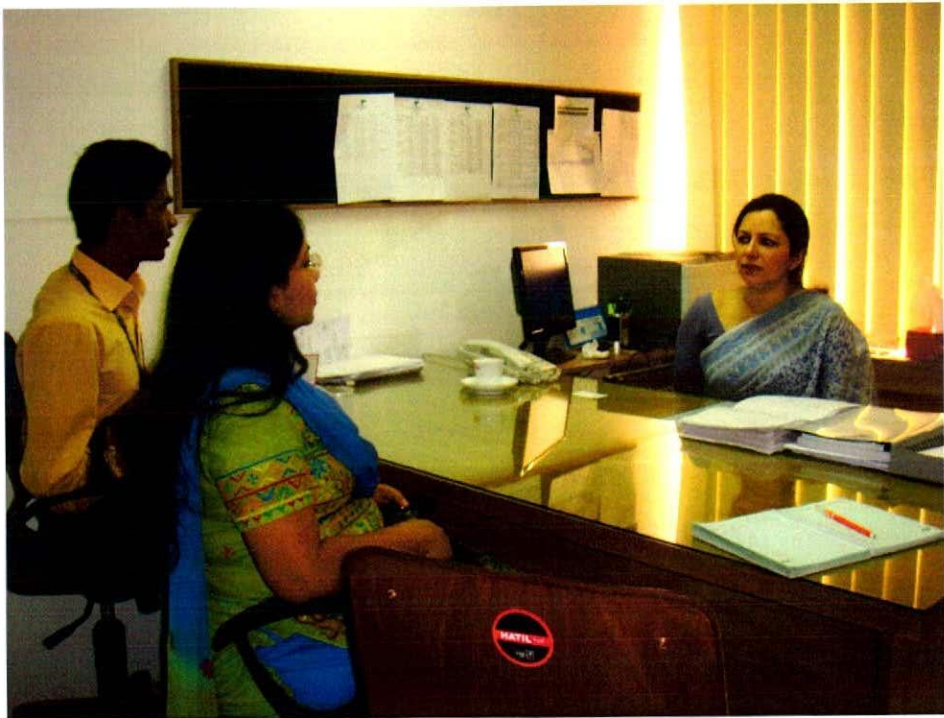
Photograph 28 With SLOPB employees during the piloting phase



Photograph 29 Dwellers of *Char* Wadel on the daily trawler



Photograph 30 The unique varieties of plants and trees available in the estuarine *chars*



Photograph 31 During a meeting with the BRAC officials





Photograph 32 With FGD participants during the data collection phase in *Char* Wadel