

**EFFECT OF VALUE CHAIN ON LIVELIHOOD DEVELOPMENT OF
RDRS BENEFICIARIES**

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ABSTRACT

Effect of Value Chain on Livelihood Development of RDRS Beneficiaries

The main focuses of this study were to: i) determine and describe some of the selected characteristics of the beneficiaries, ii) determine the extent of livelihood development of the beneficiaries due to their involvement in value chain process of RDRS, iii) explore the relationship of selected characteristics of the beneficiaries with their livelihood development and iv) determine the problems faced by beneficiaries in implementing value chain process and suggestions to overcome those problems. The study was carried out in Gangachara upazila of Rangpur District. One hundred and two (102) beneficiaries were selected as sample from an updated list of 203 beneficiaries using multi-stage random sampling method. Data were collected by a pre-tested interview schedule during 1st March to 15th April 2014. Based on Livelihood Development Index (LDI) of the 30 activities varied from 3.9 to 273.5. Top three activities of three aspects were i) Knowledge on price of milk in the market (273.5), ii) Family planning (236.2) and iii) Cattle (211.8). Near about two-third (62.7 percent) of the beneficiaries had medium development, 19.6 percent low and 17.6 percent had high development. Thus, majority (82.3 percent) of the beneficiaries had low to medium development in three aspects (assets and shelter, social empowerment and bargaining capacity). Among nine selected characteristics of the beneficiaries seven characteristics like educational qualification, farm size, annual family income, extension media contact and cosmopolitaness, savings and attitude towards RDRS showed significant positive relationship with their livelihood development, while their age, family size had no relationships. The two important problems were 'lack of communication between buyers and producers' (93.14 percent) and 'lack of knowledge regarding value chain process in beneficiaries' level' (84.31 percent). The two important suggestions to overcome the problems were 'collaborative action can be taken by GOs and NGOs to improve the transport system' (95.10 percent) and 'development of more local actors for better input supply to the beneficiaries' (83.33percent).

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CHAPTER 1

INTRODUCTION

1.1 Background Information

Bangladesh is a developing and predominantly a rural and agrarian country having a population of 143.6 million (BBS, 2012). Agriculture is an important sector in the economic development and poverty alleviation drive of many countries. The role of agriculture has played in the industrial growth and development of most of the industrialized countries in the world cannot be over emphasized. The importance of this sector is more pronounced in the developing countries is the main thrust of national survival, employment and food (Muhammad *et al.* 2009).

One of the least developed countries of the World is Bangladesh with an area of 1,47,570 square kilometers and per capita Gross National Income (GNI) of US\$ 482. About 80 percent of its population lives in rural areas and 63.2 percent of the country's total labor force are engaged in agriculture (BBS, 2012).

Most of rural people in the country are living below the poverty line and so rural development is the most essential component of the development strategy in Bangladesh. With the help of the different government and non-governmental voluntary agencies the socio-economic conditions of the rural people have increased significantly. The poor and the landless in Bangladesh, elsewhere, do not have access to formal financial system for credit (UNDP, 2005). Providing the poor with access to financial services is one of the many ways to help them to increase their income and productivity. In many countries like Bangladesh, however, traditional financial institutions have failed to provide this service (World Bank, 2010).

The value chain as a concept describes the full range of activities that the farms and workers do to bring a product from its conception to its end use and beyond. This includes activities such as design, production, marketing, distribution and support to the final consumer. The activities that comprise a value chain can be contained within a single firm or divided among different firms. Value chain activities can produce goods or services, and can be contained within a single geographical location or spread over wider areas.

Value chain analysis has emerged since the early 1990s as a novel methodological tool for understanding the dynamics of economic globalization and international trade. The approach

focuses on 'vertical' relationships between buyers and suppliers and the movement of a good or service from producer to consumer. As an analytical tool, value chain analysis has become a key approach in both research and policy fields, with an increasing number of bilateral and multilateral aid organizations adopting it to guide several of their development interventions.

A wide range of donor-led activities are now labeled 'value chain interventions' or 'value chain development' initiatives. This has led to some confusion on what constitutes a value chain intervention and what does not. In this report, value chain interventions are distinguished from more general programs aimed at stimulating economic growth, developing the private sector, and/or increasing the commercialization of economic activities. What we call value chain interventions may indeed feed into any of these broader activities, but are essentially focused on improving or forging vertical linkages along value chains (in production, processing and trade functions) with the view of improving the terms of participation of selected target groups. Such interventions may be targeted at domestic, regional or international value chains.

The selection criteria used are not based on whether the interventions themselves are framed within a 'value chain language'. There will be interventions that call themselves 'private sector development projects' but which we consider value chain interventions, while other so called 'value chain projects' are aimed merely at providing extension services, generic skills development, improving organizational capacities etc. Value chain interventions included are therefore those which explicitly or implicitly aim at:

- creating new value chains;
- forging or strengthening new links within a value chain;
- increasing the capabilities of target groups to improve the terms of value chain participation;
- minimizing the possible negative impacts of value chain operations on nonparticipants and/or adjacent communities.

Value Chain Steps

1. **Value Chain Selection:** By the survey of group select some product under value chain product selection such as vegetables, chicken, goat/sheep, Dairy, Beef fattening.

2. **Value Chain Mapping:** By the group discussion to create a map for value chain product by numbering method. Here use some indicator for analysis of value chain product numbering.
3. **Relationship Build-up between Actor and beneficiaries:** Here, Rapport building producer with buyer. By a good understanding both side can be benefitted.
4. **Identify opportunities and problems:** To identify the unexpected problem which can be destroy the economic development of beneficiaries & create opportunity of new employment.
5. **Intervention Design:** By this way producer to consumer can be benefitted and also a good relationship.

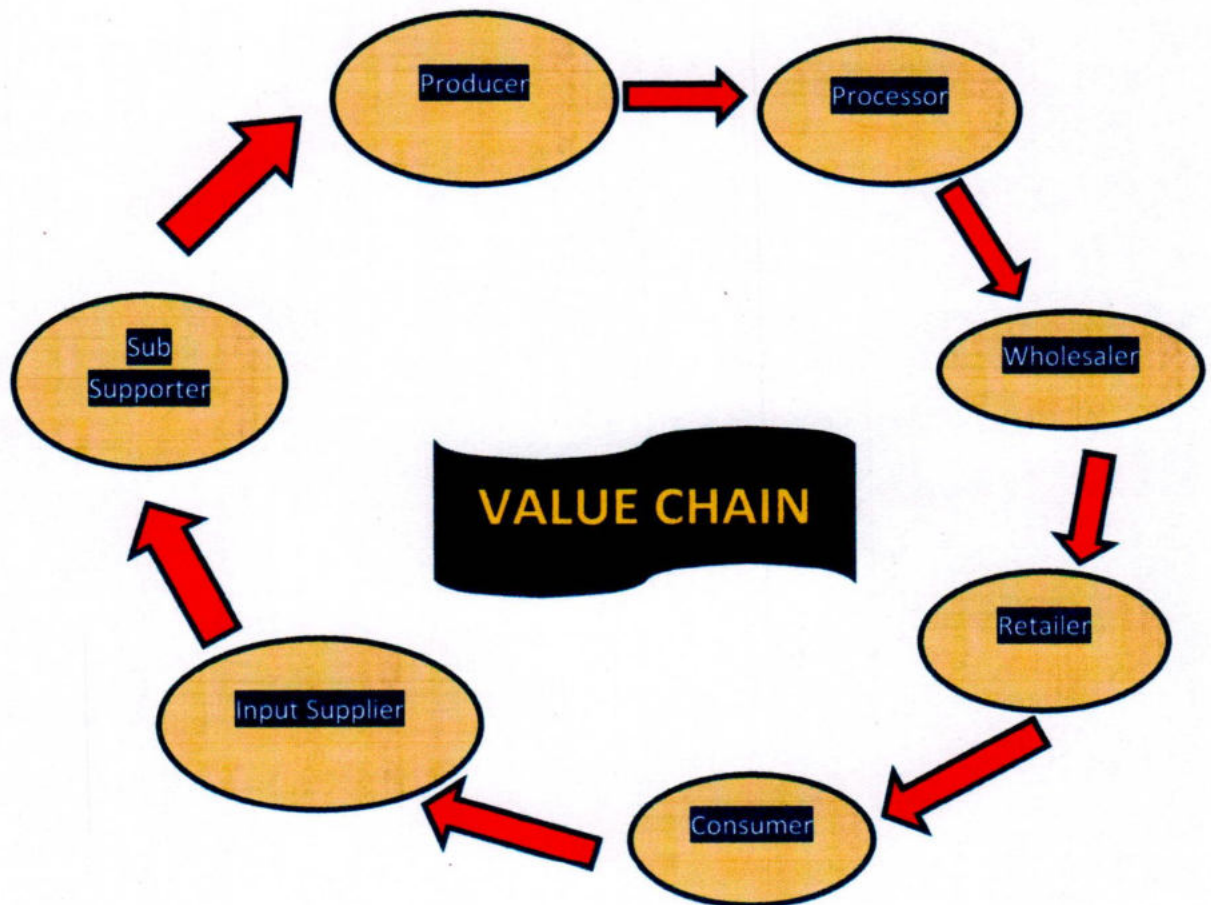


Figure 1.1 Value chain marketing process

Table 1.1 Weighted stage value chain process based on indicator ranking used for value chain product marking

Product	3	3	2	4	4	5	3	3	Weighted Average	Remarks
	Indicator									
	How many people benefitted?	Have beneficiaries experience?	Input and other facility	Market demand	Have one large buyer?	How many benefit	Weather is favorable	Beneficiaries and his family is favorable		
Hen rearing	5	5	5	5	4	5	5	5	131	
Vegetables Cult.	3	4	4	5	5	4	4	4	116	
Goat rearing	4	4	4	3	2	1	4	5	94	
Sheep rearing	2	3	4	2	3	1	4	5	71	
Duck rearing	2	3	2	4	4	1	3	4	77	
Dairy	3	4	3	5	5	5	5	0	102	
Beef fattening	1	2	3	4	5	4	5	2	92	

RDRS Bangladesh is a respected, long-established development NGO working to empower the rural poor in northwest Bangladesh for over 42 years. During its first five years has been provided a relief and rehabilitation services to all affected in the war-ravaged corner of northwest Bangladesh. In 1976, changing needs among its beneficiaries, RDRS launched rural development program. Over the next three decades, the program and project of RDRS has been regularly reworked to ensure a high quality of provision to meet the ever-growing aspirations of the rural poor.

RDRS emphasizes on those activities which are considered as initiatives that affect the economic aspects of people's lives through the use of credit, technology and training, which are being fulfilled by the three programs as micro-finance, agriculture and enterprise organize by RDRS. RDRS believes the participation of people in agricultural activities is important for their enhancing income as well as livelihood. For enhancing their information received capacity in participation, RDRS organizes the beneficiaries in formation of group and provide credit and training to utilize the credit in rightly. As most of the people chosen income generating activities, thus RDRS organizes training on new agricultural technology and establish study and demonstration plot for increasing knowledge and skill (RDRS, 2010).

A livelihood comprises the capabilities, assets (including both materials and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not understanding the natural resources base.

The fundamental requirement for the development of livelihoods of the household is to enhance peoples strength and activities essential for the means of living. The livelihood development is founded on a belief that people require a range of assets to achieve a positive livelihood outcome. The major livelihood component are human, social, financial, physical and natural capitals.

Livelihood development has been enjoined as a fundamental responsibility on the state by various policies in Bangladesh. So, livelihood development is therefore lies at the core of organizational economic policy. Bangladesh is also plays a leading role in the regional approach of livelihood in South Asia. A plan of action for the development of livelihood in Bangladesh within the regional context is currently under preparation implemented by RDRS.

Livelihood development and sustainability is the main issue in the various development countries. Considering the importance of the problem, both the pre and post independence of Bangladesh, government have accorded top priority to livelihood development programs. Different programs deal with development of the quality of life of the poor through promotion of viable economic and social activities under various government and non-government organizations.

1.2 Importance of the Study

The poor people of Bangladesh have very limited options to improve their socio-economic conditions. Many poor people in Bangladesh are found to seek employment outside the home are likely to trivialize their contribution through economic activity.

RDRS Bangladesh targets the beneficiaries to reduce their sufferings from different aspects of their life through technical knowledge, credit supply, and training for achieving economic development of their livelihood status. This study, thus likes to take initiatives to address the extent of livelihood development as well as impact on their living condition through implementing different approaches of RDRS. The study also provided the opportunity for people to highlight their concerns and expectations from RDRS.

RDRS, a microfinance institution, has been implementing its poverty reducing activities since 1981 to materialize the dream of poverty free Bangladesh. RDRS focused on integrated development, such as, development of education, mini irrigation, primary health, women's empowerment, etc. in 1984 but realized that value chain program was the most essential and effective one to reduce poverty. In 2002, considering all these, RDRS took the bold initiative to continue only the value chain program to bring a quick and positive change in the lives of the poor. Thus RDRS attained specialization in value chain from early 2000s.

RDRS succeeded in achieving the self-sustainable status by 2008, which is unique in Bangladesh. Since becoming self-reliant RDRS has been running as an independent institution free from any kind of foreign donation or grant (RDRS, 2009).

Presently, not only the RDRS of Bangladesh but also most of the NGOs of other developing countries are increasingly aware that they have a major responsibility for rural development and betterment of the livelihood of beneficiaries. Due to the lack of enough capacity, they didn't meet the challenges. Various government organizations are launching programs to eradicate poverty and trying to make the people's livelihood sustainable. Most of the government and non-government organizations are believed to be working to meet up the challenges for development of livelihood status of rural people since the independence of Bangladesh.

The GOs and NGOs are trying to improve the livelihood status of the poorest section of rural people. As village people have no sufficient employment opportunities and income earning sources to maintain their livelihood, they are the vulnerable class of the society and they are expected to uplift their personal, social and economic dimensions by increasing their access and control over resources.

For understanding any meaningful socio-economic development program, if the main target is to involve the poorer section of rural people in development activities, it needs to know the specific problem issues. The issues on socio-economic development need more attention and thus it deserves a specific investigation. It is necessary to conduct study regarding to the performance of different livelihood program activities. Considering the present livelihood condition, the RDRS is selected for this piece of research. The finding of the study are expected to be of great value to the researchers, extension service providers, students and particularly planners in formulating and designing for future livelihood development program.

1.3 Statement of the Problem

Bangladesh is still waiting to achieve the food security, employment and development of both social and natural environment for livelihood of their poor people. For the livelihood development, the Bangladesh government has taken different sector wise programmes since its independence. The NGOs and the private organizations also have come forward on these issues. All of their programmes are aimed at increasing employing opportunity, providing housing, accelerating income generation, improving health condition, uplifting housing condition, providing pure drinking water source, eradicating illiteracy and so on.

Now a day's most of the NGOs working in Bangladesh have been incorporating rural poor into their multiphase development activities. There are a good number of research studies reporting positive impact of value chain on socio-economic uplift of the lowest segment of people in Bangladesh. Hence, it is very necessary to undertake a research study on this aspect. In view of the foregoing discussion the researcher undertook a research study entitled "Effect of Value Chain on Livelihood Development of RDRS Beneficiaries." Therefore, the present study undertakes to endeavor with the followings research questions.

1. What are the characteristics of the beneficiaries that are related to livelihood development?
2. What livelihood development occurred among beneficiaries through value chain program of RDRS?
3. What is the relationship exists between selected characteristics of beneficiaries and their livelihood development due to involvement in value chain program of RDRS?
4. What are the problems faced by the beneficiaries and what will be the suggestions to overcome the problems?

1.4 Objectives of the Study

In view of the above discussion and in order to give proper direction to the study, the researcher undertook the present research with the following specific objectives:

1. To determine and describe some of the selected characteristics of the respondent. The characteristics are:
 - i) Age
 - ii) Educational qualification
 - iii) Family size
 - iv) Farm size
 - v) Annual family income
 - vi) Extension media contact
 - vii) Cosmopoliteness
 - viii) Savings
 - ix) Attitude towards RDRS
2. To determine the extent of livelihood development of the beneficiaries due to their involvement in value chain process of RDRS. The aspects of livelihood development include:
 - a) Family assets and shelter
 - b) Social empowerment
 - c) Bargaining capacity

3. To explore the relationship of selected characteristics of the beneficiaries with their livelihood development.
4. To determine the problems faced by beneficiaries in implementing value chain process and suggestions to overcome those problems.

1.5 Assumptions of the Study

An assumption is the supposition that an apparent fact or principle is true in the light of the available evidence. The researcher made following assumptions while under taking the study.

1. The respondents included in the sample were competent enough to reply queries designed for the study.
2. Responses furnished by the respondents were valid and reliable.
3. Views and opinions of respondents were reflective to whole population of the study.
4. The researcher was well adjusted to the social environment of the study area and the collected data were free from biasness.
5. The data were normally and independently distributed.
6. The items, questions and scales included in the questionnaire were relevant and appropriate.
7. The information sought reveals the real situation to satisfy the objectives of the study.
8. The results of the study were applicable for all areas of Bangladesh where more or less similar socio- economic status exists.

1.6 Limitations of the Study

From the researcher's point of view, in order to make the study meaningful and manageable way with the available fund, time and resources, the following limitations were considered:

1. Study was confined within Gangachara upazila of Rangpur District.
2. The study was restricted within the beneficiaries of value chain who are the members of the NGO called RDRS.
3. Due to time, money and other resource constrains small sample size was considered in conducting the present study.

4. Among many attributes or characteristics of the beneficiaries only nine were selected for investigation.
5. Furnished information was biased on the wills of beneficiaries and free from cross-check.
6. For information of the study, the researchers had to depend on data as furnished by the selected RDRS beneficiaries during data collection.
7. There are lots of activities performed by the beneficiaries regarding livelihood development status. Due to time and other constraints, only 30 activities against the three aspects were selected.

1.7 Definition of Important Terms

Certain terms used throughout the study are defined below for clear understanding.

Livelihood: Livelihood referred to those things (material and social) that allow a person to live well, or prevent a person from doing anything against development. It includes clean water, shelter and access to health care and education, freedom abuse, access to credit facilities, virtually anything that would contribute to get better life.

Livelihood aspects: It refers those indicators (family assets and shelter; social empowerment and bargaining capacity) which are used to measure the livelihood development status.

Food security: Food security exists when all people, at all time, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food performance for and active and healthy life.

Education: It is defined as the development of desirable knowledge, skill and attitude in an individual through the experience of reading, writing and other related activities. It refers to the formal schooling of respondents from school, college and other formal educational institute.

Family size: Family size refers to the actual number of members in a respondent's family including herself, her husband, children, parents, brother, sisters and other dependents who live together and eat from the same cooking arrangement.

Decision making ability: It referred to such kind of ability by which a person takes decision regarding important activities of his/her family.

Attitude: an attitude may be defined as predisposition to act towards an object in a certain manner. It is an enduring psychological system consisting of three interacting components such as i) cognitive component- the belief about the object; ii) the feeling component- the affect connected with the object and iii) the predisposition or action tendency component- the predisposition to take action with respect to the object (Sarker, 2007).

Social mobility: It referred to the degree to which individual orientation is external to his/her own social system.

Livelihood status: Livelihood status of an individual refers to the position of her/his household's living condition on the basis of her/his existing socio-economic status.

CHAPTER 2

REVIEW OF LITERATURE

This chapter deals with the review of available literature related to different dimension of the present study. Various books, journals, reports, MS and Ph.D. thesis were the sources of the literature review. Searching from the internet web site was also one of the sources of literature of the present study. So, the review were presented directly or indirectly related with the different aspects of livelihood development status due to effect of value chain process of RDRS.

2.1 Information Relating Livelihood Development

2.1.1 Livelihood

Chambers and Conway (1992) defined that "A livelihood comprises thee capabilities, assets (store, resources, claims and access) and activities required for a means of living. A livelihood is sustainable which can cope with and recovers 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 Gong and short-term."

Rennie and Singh (1996) mentioned that livelihood is a more tangible concept than 'development', easier to discuss, observe, describe and even quantity. Predominantly the poor of the world depend directly on natural resources, through cultivation, herding, collecting or hunting for their livelihoods. Therefore, the livelihoods to be sustainable, the natural resources must be sustained.

Carney (1998) stated that a livelihood comprises the capabilities, assets (including both material and social resources) and activities for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base.

DFID (1999) described that the livelihood approach is a way of thinking about the objectives, scope and priorities for development. The livelihood approach puts people at the centre of development. This focus on people is equally important at higher levels (when thinking about the achievement of objectives such as poverty reduction, economic reform or sustainable development) as it is at the micro or community level. The sustainable livelihood approach is broad and encompassing. It can, however, be distilled to six core objectives. DFID aims to

increase the sustainability of poor people's livelihoods through promoting: improved access to high-quality education, information, technologies and training and better nutrition and health, a more supportive and cohesive social environment; more secure access to, and better management of, natural resources, better access to basic and facilitating infrastructure, more secure access to financial resources; and policy and institutional environment that supports multiple livelihood strategies and promotes equitable access to competitive markets for all.

Barrett and Reardon (2000) describe livelihoods as being similar to a production functioning that they are processes that map assets (similar to factors of production) to outputs. As such livelihoods cannot be compared because they are by nature processes. They also note that the livelihood concept has tended to ignore the importance of prices and price risk, which is an important determinant of income from livelihood strategies.

Ellis (2000) defined 'A livelihood comprises the assets, the activities, and the access to these that together determine the living gained by an individual or households'. Household activities map into outcomes. Activities may lead to single or multiple outcomes. In certain circumstances, outcomes are directly linked to a household asset rather than obtained from a particular activity. The concept of livelihoods is, however, a dynamic concept that recognizes long-term planning by households.

UNDP (2005) described that livelihoods, are the means, activities and entitlements by which people make a living. A livelihood system is a dynamic realm that integrates both the opportunities and assets available to a group of people for achieving their goals and aspirations as well as interactions with and exposure to a range of beneficial or harmful ecological, social, economic and political perturbations that may help or hinder groups' capacities to make a living.

2.1.2 Livelihood development

Haqueet *al.* (2002) studied the effect of project intervention of RDRS on development of rural livelihood. The findings of the study indicating that the project interventions have exerted a broad impact on livelihood outcomes in terms of human, natural, financial, physical and social capital.

Habib (2003) in his study found that, due to the effect of loan provided by IBBL under Rural Development Scheme (RDS), the respondents had increased their income and production. There was a remarkable development in the living standard of the participants' households. It was also found that the asset position became much better after participation in the RDS activities.

Muniruzzaman *et al.* (2003) conducted a study and indicates overall growth of the poor households' in-terms of income, access to land, housing condition, domestic assets, health care, food security, education, women mobility, access to credit skills trainings.

Waheduzzaman (2004) in his study observed that before involvement in the Caritas CBFM-2 project, the majority women beneficiaries had low livelihood development (57 percent) and after involvement in the project, majority had medium livelihood development (71 percent).

Alam (2005) observed that the credit receivers have invested their income and production as well as remarkable development in their living standard. The respondents also had positive saving.

Islam (2005) conducted a study and found that 58 percent PDBF respondent had very high livelihood development, where 80 percent Caritas respondent had medium livelihood development. Path analysis result indicated that family income has the highest direct effect on livelihood development.

Sarkar (2006) reported that the respondents of village phone (VP) credit programme of Grameen Bank had brought positive change in different types of livelihood capital, food intake and so on. Positive changes also occurred in income and savings due to VP operation. The study also reveals that the 63.0 percent of the respondents had improved in their socio-economic condition.

Mondal (2007) observed that due to BRAC microcredit Programme, 61.4 percent of the respondents had moderate, 34.0 percent low and only 4.6 percent had high poverty alleviation.

Sarker (2007) in his study found that the poverty alleviation of the rural people increased significantly due to their participation in Chars Livelihoods Programme (CLP). Poverty alleviation measured through changes in food availability, source of drinking water, physical assets, sanitation and increasing scope of income.

2.2 Information Relating to Family Assets and Shelter of Livelihood Development

Ali (2003) found that the women involved with microcredit program of BRAC had significant increase in their housing environment (toilet condition and drinking water source).

Kabir (2005) in his study compare the livelihood development between the rural women of adibashi and native where the adibashi rural women had better livelihood development. They have better material possession i.e. assets.

2.3 Information Relating to Social Empowerment of Livelihood Development

Kamal (1998) found significant positive effects on economic empowerment and social empowerment of the women group members who received microcredit from Grameen Bank.

Parvin (1998) found that the income of the participants from various sources has increased and new scope of employment and extra employment has been generated. It also improves the decision-making status of the women.

Gony (2000) conducted study to assess the extent of empowerment of women by the microfinance program of GB (Grameen Bank). The study reveals that overall income of the respondents has increased to a greater extent. Economic as well as social status of the respondents expectedly improved due to GB (Grameen Bank) activities in the study area.

Rana *et al.* (2001) in a study revealed that freedom in decision-making matters of the family was likely to be higher for rural women involved with public or private development agencies.

Asaduzzaman (2003) found education, annual income, credit received and saving have significant correlation with their decision-making ability of women under microfinance activities of PROSHIKA which improve their empowerment.

Yeasmin (2004) in her study found that the rural women who joined the GB credit program have a development in their living standard and grow positive saving during the year of study. The program also found significant positive effects on social empowerment indicators, namely; i) decision- making; ii) mobility outside home; iii) participation in village arbitration; and iv) attitude towards daughters education.

Jalil (2005) found that annual income and expenditure of the women who joined the microcredit program of RDRS have increased. He also observed that the living standard of the respondents improved in respect of social awareness, freedom of attitude, financial freedom in decision-making activities compared to their previous situation.

Kabir (2005) in his study found that adibashi rural women have better cosmopoliteness (part of social empowerment habit) than native rural women.

2.4 Information Relating to Bargaining Capacity of Livelihood Development

From searching home and abroad no research result was found related to bargaining capacity of livelihood development.

2.5 Literature Related to the Characteristic of the Beneficiaries with their Livelihood Development

2.5.1 Age and livelihood development

Ali (2003) observed that age of the respondent had significant positive relationship with housing environment.

Islam (2003) found that there was a significant positive relationship between age of the beneficiaries of seed production program of Proshika and their living status in terms of annual income, food consumption, housing condition, household assets, drinking water source and medicare facilities in their technological intervention.

Mortuzaet *al.* (2004) observed in his study that age had no significant relationship with their livelihood in the coastal region in Bangladesh.

Saifuddin (2004) found that age of the rural women had positive relationship with their development of socio-economic status due to climatic preventive activities.

Khatun (2004) found that age of the respondent had significant positive relationship with extent of contact with information system on sustainable livelihood.

Sharmin (2005) observed that age of the respondents did not show any significant relationship with their livelihood development.

Rahman (2005) observed that age of the respondent was positively significant with their development in food availability, negatively significant with their development in income but not significant with their development in housing.

Hoque (2011) found a negative relationship between age and livelihood status in his study on socio-economic development of the commercial fish beneficiaries due to transformation from crop farming to aquaculture.

2.5.2 Educational qualification and livelihood development

Kabir (2003) conducted a study and found that there was no relationship between education of the beneficiaries of PDBF and their living condition.

Asaduzzaman (2003) revealed that education had significant positive relationship with livelihood development.

Ali (2003) revealed that education had significant positive relationship with living status.

Rokanuzzaman (2004) found that education had not significant relationship with their livelihood status due to joining CBFM-2 project activities of the beneficiaries.

Saifuddin (2004) found that education level of the rural women had no significant relationship with their development of socio economic status.

Hoque (2011) found a negative relationship between level of education and livelihood status in his study on socio economic development of the commercial fish beneficiaries due to transformation from crop farming to aquaculture.

Rashid (2012) found a positive relationship between years of schooling and livelihood status in his study on status of fruit cultivation by the beneficiaries of Satkhira district in response to climate change.

Billah (2013) observed in his study that level of formal education had significant relationship with their livelihood status in the adoption of farming practices due to climate change.

2.5.3 Family size and livelihood development

Rahman (2002) observed that family size had no significant relationship with livelihoods beneficiaries of Caritas.

Saufiddin (2004) that household size of the rural woman had significant and positive relationship with their development of socio economic status.

Mortuzaet *al.* (2004) found that family size of group member had no significant relationship with livelihood status of the respondent.

Rokanuzzaman (2004) found that family size had no significant relationship with their livelihood status due to joining the CE3FM-2 project activities of the beneficiaries.

Islam (2005) observed that family size had no significant relationship with livelihood development.

Haque (2011) found a negative relationship between household size and livelihood status in his study on socio economic development of the commercial fish beneficiaries due to transformation from crop farming to aquaculture.

Rashid (2012) found a positive significant relationship between family size and livelihood status in his study on status of fruit cultivation by the beneficiaries of Satkhira district in response to climate change.

2.5.4 Farm size and livelihood development

Islam (2002) reported that there was no significant relationship between farm size of the beneficiaries of Grameen Bank and their living status.

Ali (2003) found a significant positive relationship between farm size of the BRAC's beneficiaries and their livelihood condition.

Mortuzaet *al.* (2004) found that farm size of group member had no significant positive relationship with their livelihood.

Rokanuzzaman (2004) found that farm size had no significant relationship with their livelihood status due to joining the CBFM-2 project activities of the beneficiaries.

2.5.5 Annual family income and livelihood development

Waheduzzaman (2004) observed that annual family income had significant positive relationship with livelihood.

Mortuzaet *al.* (2004) found that family income had significant positive relationship with livelihood.

Islam (2005) observed that annual family income had significant positive relationship with livelihood development.

Hossain (2010) reported that annual income is positively significant with their living status in a coastal district.

Haque (2011) found a positive significant relationship between family income and livelihood status in his study on socio economic development of the commercial fish beneficiaries due to transformation from crop farming to aquaculture.

Rashid (2012) found a positive relationship between annual income and livelihood status of fruit cultivation by the beneficiaries of Satkhira district in response to climate change.

Billah (2013) observed in his study that annual income had positive significant relationship with their livelihood status on the adoption of farming practices by the smallholder beneficiaries in response to climate change.

2.5.6 Extension media contact and livelihood development

Islam (2004) observed that extension media contact showed significant positive relationship with the extent of knowledge on livelihood.

Rokanuzzaman (2004) found that extension media contact had no significant relationship with their livelihood status due to joining the CBFM-2 project activities of the beneficiaries.

Hossain (2010) conducted a study on human living status and their income generating activities, he reported that communication exposure is positively significant with their living status in a coastal district.

Haque (2011) found a negative relationship between communication exposure and livelihood status in his study on socio economic development of the commercial fish beneficiaries due to transformation from crop farming to aquaculture.

Rashid (2012) found a positive significant relationship between extension media contact and livelihood status.

Billah (2013) observed in his study that communication exposure had positive significant relationship with their livelihood status on the adoption of farming practices by the smallholder's beneficiaries in response to climate change.

2.5.7 Cosmopoliteness and livelihood development

Islam (2004) observed that cosmopoliteness showed significant positive relationship with the extent of knowledge on livelihood.

Rashid (2012) found a positive significant relationship between cosmopoliteness and livelihood status.

Billah (2013) observed that cosmopoliteness had positive significant relationship with their livelihood status on the adoption of farming practices by the smallholder's beneficiaries in response to climate change.

2.5.8 Savings and livelihood development

Ali (2003) revealed that annual savings had significant positive relationship with food consumption and housing environment.

Asaduzzaman (2003) observed that annual savings had significant positive relationship with decision-making ability.

Islam (2005) observed that annual savings had significant positive relationship with livelihood development.

Kabir (2005) observed that savings had no relationship with livelihood development.

2.5.9 Attitude towards RDRS and livelihood development

Kabir (2003) found no relationships between attitude towards NGO and decision-making ability livelihood.

Ali (2003) found that attitude towards NGO had significant positive relationship with food consumption and housing environment.

Waheduzzaman (2004) revealed that attitude towards NGO had significant positive relationship with livelihood.

Khatun (2004) found that attitude towards RDRS had significant positive relationship with extent of contact with information system on sustainable livelihood.

Mortuza *et al.* (2004) revealed that attitude towards NGO had significant positive relationship with livelihood.

2.6 Conceptual Framework of the Study

Framing the structural arrangement for the dependent and independent variables of the research, the conceptual framework of Rahman (2002) and Rashid (2006) was kept in mind. This study was concerned with dependent variable-livelihood development status and the selected individual characteristics of respondents as independent variables. There are many factors which influence livelihood development. According to DFID (2000), there are 5 core assets or types of capital upon which livelihood status built. These “asset pentagon” are a) human capital; b) natural capital; c) financial capital; d) physical capital; and e) social capital. But considering the review of literature and actual situation in the research area, only three aspects of livelihood development i.e. a) family assets and shelter; b) social empowerment; and c) bargaining capacity were included in the research. There are many characteristics which influence the livelihood development but only nine characteristics are included in this study. The selected characteristics are- age, educational qualification, family size, farm size, annual family income, extension media contact, cosmopolitaness, savings and attitude towards RDRS. Considering the past research and main theme of present study, a conceptual model was constructed which is self-explanatory (Figure 2.1).



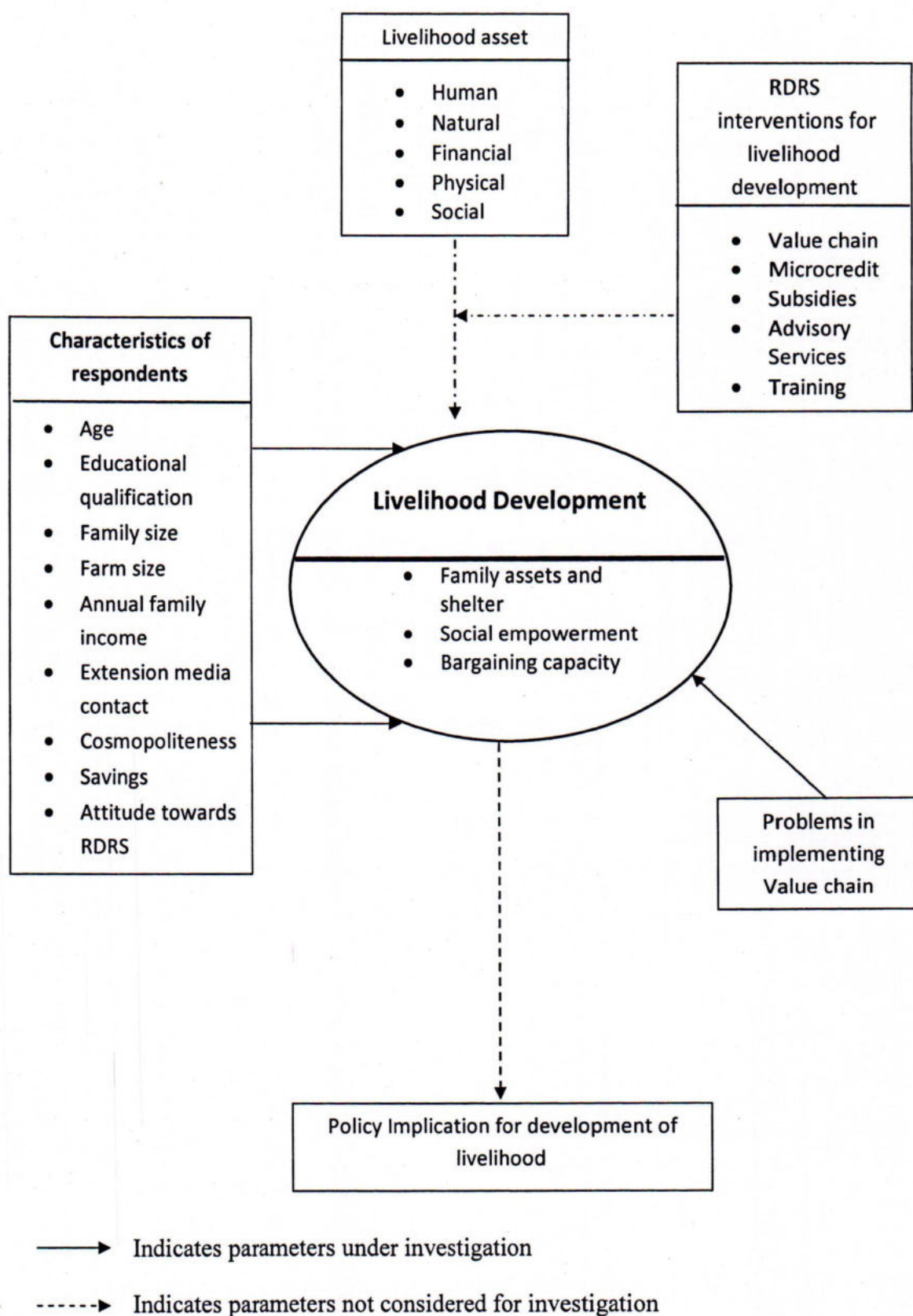


Figure 2.1 The conceptual framework of the study

CHAPTER 3

METHODOLOGY

Methodology deserves very careful consideration in any scientific research. Methodology used for collection and analysis of data are one of the prime consideration for yielding valid and reliable findings. The methods and procedures that were followed in conducting this piece of research are described in this Chapter under the following subsequent sub-sections.

3.1 Locale of the Study

Gangachara upazila under Rangpur district was selected as the study area for this research. Gangachara upazila consists of 6 unions namely Balapara, Mornia, Gajgnonta, Laxmitary, Kolkonda, and Alambiditar. Out of these 6 unions 2 of them namely Laxmitary and Mornia was selected randomly for conducting the study where value chain programme implemented milk business activity operated by RDRS. There are six milk business group in this two unions namely Dolonchapa, Doel, Dishari, Shapla, Golap, and Joba. A map of Rangpur district including its upazilas as well as Bangladesh (inset) and a map of Gangachara upazila are presented in Figure 3.1 and Figure 3.2 respectively.

3.2 Population and Sample

The beneficiaries of value chain Project under RDRS of Gangachara upazila under Rangpur district were the population of the study. Rangpur district was purposively selected due to investigators familiarity, language and culture of the respondents. Gangachara upazila was also selected purposively for same reason. Gangachara upazila consists of 6 unions out of which two unions namely Laxmitary and Mornia were selected randomly. An updated list of 203 beneficiaries of the study area was collected from NGO named RDRS. Out of 203 respondents a sample of 102 respondents (around 50 percent) were selected by simple random sampling technique. Simultaneously a reserve list of 10 respondents (around 10 percent of the population) was prepared out of this list to use in case of non-availability of sampled respondents. Distribution of respondents constituting the population, sample and reserve list in selected two unions under Gangachara upazila is presented in Table 3.1. The detailed plan of selection and distribution of population and sample are shown in Figure 3.3.



Figure 3.1 Map of Rangpur district showing study area (Bangladesh inset)

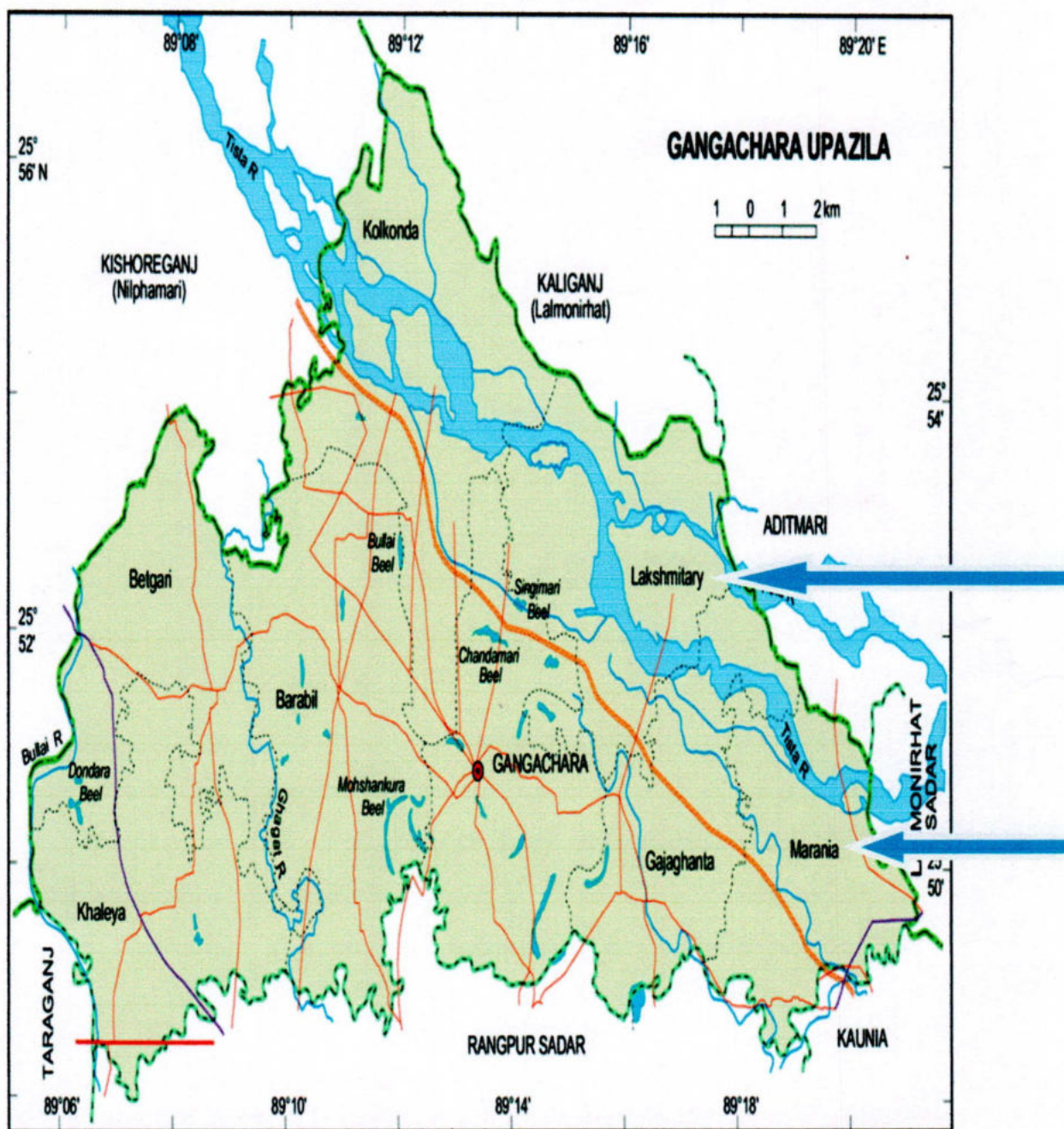


Figure 3.2 Map of Gangachara upazila showing the study area

Table 3.1 Distribution of the population and sample

Unions	Milk business group	Population	Sample	Reserve list
Laxmitary	Dolonchapa	34	17	2
	Doel	33	17	2
	Dishari	36	18	1
Mornia	Shapla	30	15	2
	Golap	29	15	2
	Joba	41	20	1
Total		203	102	10

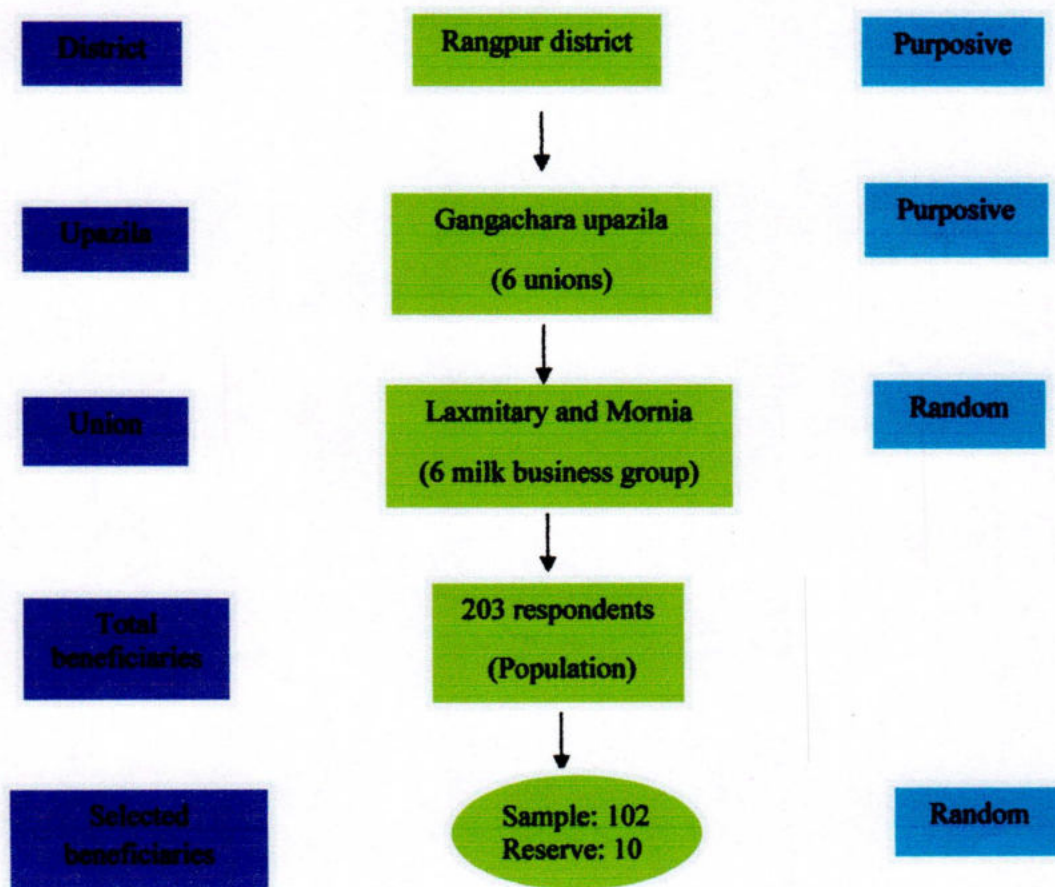


Figure 3.3 Layout of the sampling procedure of the study area

3.3 Criteria for Selecting Respondent

- i The respondents were kept confined within the beneficiaries of value chain project of RDRS.
- ii Respondents, who were engaged in the milk business group of RDRS, had been considered as the respondents.

3.4 Variables of the Study and their Measurement

Variables are those attributes of objects, events, things and being which vary and can be measured. In other words, variables are the characteristics or conditions that can be observed, manipulated or controlled by the researcher. A well organized piece of research usually contains at least two important elements, viz. a dependent variable and an independent variable. Dependent variable may be defined as the phenomenon or characteristics hypothesized to be the outcome, effect, consequence or output of some input variables. Its occurrence depends on some other variable which had preceded it in time. On the other hand, the phenomenon or characteristics to be the input or antecedent variable is called independent variable. It is presumed to cause the dependent variable and is selected, manipulated or measured prior to measuring the outcome or dependent variable (Ray and Mondal, 2004). In this study nine independent variables are selected namely age, educational qualification, family size, farm size, annual family income, extension media contact, cosmopolitaness, savings and attitude towards RDRS. On the other hand, livelihood development was the dependent variable of the study.

3.4.1 Measurement of independent variables

The procedures followed for measuring the independent variables of the study are presented below:

3.4.1.1 Age

Age of a respondent was measured in terms of complete years from her birth to the time of interview. A unit score was assigned for each year of one's age.

3.4.1.2 Educational qualification

Educational qualification was measured in terms of one's year of schooling. One score was given for passing each level in an educational institution. For example, if a respondent did not know how to read and write his score was taken as zero (0). A score of 0.5 was assigned to that respondent who could sign his name only. Besides this, a respondent was given actual score of one for every year of schooling i.e. 1 for class one, 2 for class two and so on.

3.4.1.3 Family size

The family size of a respondent was measured on the basis of the actual number of members in her family living in a dwelling unit and used to eat from the same cooking arrangement. The family members included the respondent him/herself, husband/wife; children together with dependent members who lived jointly. A unit score was assigned for each member of the family. If a respondent has 5 members in his/her family then his/her family size score was 5 (Huda, 2011).

3.4.1.4 Farm size

Farm size of a respondent refers to the total area of land on which his family carried out operations by benefit. It was measured in terms of full benefit to the respondent and was expressed in hectare. It was computed in hectare by using following formula (Mondol, 2009)

$$FS = A_1 + A_2 + 1/2(A_3 + A_4) + A_5 + A_6$$

Where,

FS = Farm size

A1 = Homestead area (including fallow land)

A2 = Own land under own cultivation

A3 = Land given to others on barga

A4 = Land taken from others on barga

A5 = land taken from others on lease

A6 = Others (if any)

3.4.1.5 Annual family income

The annual family income of a farmer was measured on the basis of his family's yearly earnings from crops (rice, wheat, maize, potato), fish farm, livestock, land lease, business, service and others. The annual family income was expressed in Taka. In measuring the variable, total earning in Taka of a respondent was converted into unit score. A score of one (1) was assigned for each '1000' Taka of the annual income of a respondent.

3.4.1.6 Extension media contact

Extension media contact score was computed for each respondent on the basis of his extent of contact with 12 selected extension media. For measuring the extension media contact score was assigned for the extension media 0, 1, 2 and 3 for the extent of contact 'not at all', 'rarely', 'occasionally' and 'regularly' respectively.

Extension media contact score was determined by summing the scores of all the 12 communication media. Extension media contact score could range from 0 to 36, where 0 indicated no media contact and 36 indicated the highest media contact.

3.4.1.7 Cosmopoliteness

Cosmopoliteness was measured by a 4-point scale such as 'frequently', 'occasionally', 'seldom' and 'not at all' were used in this purpose and weights were assigned to each of the scale responses as 3 for 'frequently', 2 for 'occasionally', 1 for 'seldom' and 0 for 'not at all'. The cosmopoliteness of a respondent was therefore determined by adding the score against the 6 places of visit. Thus, the cosmopoliteness of a respondent could range from 0 to 18, where 0 indicated not at all and 18 indicated high cosmopoliteness.

3.4.1.8 Savings

Savings of a respondent was measured in terms of the amount of money deposited by him from any saving source like NGOs, bank etc. A score of one (1) was given for each thousand Taka.

3.4.1.9 Attitude towards RDRS

Attitude may be defined as "the degree of positive or negative effect associated with psychological object like symbol, phrase, slogan, person, institution, ideal or ideas towards which people can differ in varying degrees" (Thurstone, 1946). So the attitude of a respondent towards RDRS is used to refer her feeling, believe and action tendency towards the various aspects of activities of RDRS. A total of 8 statements (4 positive and 4 negative) were used to measure the attitude towards RDRS. A five point Likert scale was used to measure the attitude of the respondent by checking the responses- 'strongly agree', 'agree', and 'undecided', 'disagree' and 'strongly disagree'. Scores assigned to the rating scale was 5, 4, 3, 2 and 1 respectively for the positive statements and reverse-scoring methods were followed in case of the negative statements. The attitude score of a respondent was measured by adding scores for all the statements. Thus, the possible attitude scores of the respondent could range from 8 to 40, where 8 indicating very unfavorable attitude and 40 indicating very favorable attitude towards RDRS.

3.4.2 Measurement of dependent variable

Livelihood development is the dependent variable of the study. It was measured by computing a 'Livelihood Development Index' (LDI) in mainly three aspects of livelihood development. They are identified through literature review, visit to study area and consultation with members of the supervisory committee. The aspects were: i) family assets and shelter, ii) social empowerment and iii) bargaining capacity. After that selection, from the three aspects, total 30 activities (15 from assets and shelter, 8 from social empowerment and 7 from bargaining capacity) were identified and selected. The measurement procedure of three aspects of dependent variable are describes as follows:

3.4.2.1 Family assets and shelter

This aspect of Livelihood development status is divided into two sub-sections i.e. a) Family assets and b) shelter.

- a) Family assets: It was measured on the basis of asset possession of a respondent household. Twelve main family asset items was selected to measure the family assets.
- b) Shelter: Shelter is the housing unit condition of the respondent. Three items was selected to measure the shelter status during interviewing.

Thus total 15 activities were selected to measure the health and sanitation condition of the respondent.

3.4.2.2 Social empowerment

It can be easily understood that respondent's participation in decision-making, social mobility outside home etc. are the main paramount indicators of social empowerment. By considering that point mentioned above three indicators i.e. a) decision-making ability, b) social participation and c) social mobility are selected to measure the social empowerment of poor women.

- a) Decision-making ability: It refers to the activity of respondents in a decision-making process in her family affairs. Four statements were selected to measure the role or interaction of respondents with the decision-making process in the family.
- b) Social participation: It is the degree to which people are involved in social activities like marriage, birthday etc. and formal organizations office bearers or members and regularity in their attendance to meeting. Two statements were selected for the measurement of social participation.
- c) Social mobility: It is the degree of movements of an individual's from outside of his/her social system. Two mobility indicators were used to measure the social mobility.

For measurement of the social empowerment of respondents in total 8 activities was selected.

3.4.2.3 Bargaining capacity

For measurement of bargaining capacity seven statements were selected in respect with the livelihood development of respondents.

The respondents were asked to express opinion on how extent her livelihood status has been improved in each of 30 activities along a 4-point scale: 'high', 'moderate', 'low' and 'not at all'. The responses of the scale was given scores as 3 for 'high', 2 for 'moderate', 1 for 'low' and 0 for 'not at all'. The summation of the scores against all the 30 specific activities produces the 'livelihood development scores' of a respondent. This score could range from 0 to 90, where 0 indicating not at all development and 90 indicating high development.

3.4.2.4 Development of indices

For comparative analysis of livelihood development status of a respondent in individual activities a "Livelihood Development Index" was calculated by considering the concept and formula used by Huda (2011) and using the following formula:

Livelihood Development Index, $LDI = P_{hi} \times 3 + P_{mi} \times 2 + P_{li} \times 1 + P_{ni} \times 0$

Where,

P_{hd} = Percentage of beneficiaries with high development

P_{md} = Percentage of beneficiaries with moderate development

P_{ld} = Percentage of beneficiaries with low development

P_{nd} = Percentage of beneficiaries with not at all development

In respect of any activities in livelihood development status the "Livelihood Development Index" could range from 0 to 300, where 0 indicating no development and 300 indicating high development. Livelihood development indices on 30 activities of 3 aspects of development and rank order were computed for each selected livelihood development activity.

3.5 Measurements of Problems and Suggestions

The respondents were requested to mention the problems that hinder the operation of value chain, and were also requested to mention the means to solve these problems. In this case, an open ended question was used. Then the mentioned problems and suggestions were ranked on the basis of number of citations on the respective areas.

3.6 Instrument for Data Collection

A structured interview schedule was used for collection of relevant information. Both closed and open form questions were included in the schedule. The questions included were simple and direct to ascertain the opinion of the respondents regarding a number of aspects. To determine the effect of value chain scales were developed. A draft interview schedule was prepared in accordance with the objectives of the study. The interview schedule was pre-tested with 15 respondents of the study area before finalizing for data collection. Based on the pre-test result, necessary correction, addition and modification were made in the interview schedule. The modified, corrected and adjusted interview schedule was printed in the final form in English (Appendix A) which was transferred to Bengali version for clear understanding of the respondents and enumerator. Finally, data were collected from the study area during 1st March to 15th April 2014.

3.7 Data Collection Procedure

Personal interviewing was followed by the researcher himself for data collection. Prior to data collection, the researcher contact with the coordinator of value chain project of RDRS. Researcher requested them to provide necessary help and co-operation for information collection. Respective officers of the study area introduced local leader with the researcher who were also very helpful for the researcher in collecting information. The researcher made all possible efforts to establish rapport with the respondents so that they could feel free to respond to the questions contained in the schedule. All possible efforts were made to explain the purpose of the study to the respondents and their answers were recorded sincerely. Whenever, any respondent felt difficulty in understanding any question, care was taken to help them getting understand of the same. The researcher in collecting data faced no serious problem. Though the researcher made every effort to arrive all the respondents' house and field, it was not possible to collect data from two respondents under the samples, as they were not available during interviewing. Therefore, the researcher compelled to replace the unavailable respondents by two respondents from the reserve list.

3.8 Hypothesis

A hypothesis is a proposition, which can be put to a test to determine its validity (Goode and Hatt, 1981). According to Kerlinger (1973) a hypothesis is a conjectural statement of the relation between or more variables. It may prove to be correct or incorrect. In any event, it leads to an empirical test. Hypothesis may be broadly classified into two types, namely research hypothesis (H_a) and null hypothesis (H_0).

Research hypothesis (H_a) states anticipated relationships between concerned variables. Based on review literature and development of conceptual framework, the research hypothesis was: "there are relationships between nine selected characteristics of the respondents with the livelihood development".

Null hypothesis (H_0) states that there is no relationship between the concerned variables. Therefore, the null hypothesis of the study is "there are no relationships between nine selected characteristics of the respondents with their livelihood development".

3.9 Data Processing and Analysis

After completion of field survey, data from all the interview schedules were coded, compiled, tabulated and analyzed in accordance with the objectives of the study. In this process, all the responses in the interview schedule were given numerical coded value. Local units were converted into standard units and qualitative data were converted into quantitative ones by means of suitable scoring whenever necessary. The responses to the questions in the interview schedules were transferred to a master sheet to facilitate tabulation.

For describing the different characteristics and their livelihood development, the respondents were classified into several categories. These categories were developed by considering the nature of distribution of data, general understanding prevailing in the social system and possible scores system. The procedure for categorization of data in respect of different variables will be elaborately discussed while describing those variables in Chapter 4.

The analysis was performed using Statistical Package for Social Science (SPSS) computer package. Descriptive analysis such as range, number, percentage, mean, standard deviation and rank order were used whenever necessary. For clarity of understanding tables were also used for presenting the data. Pearson's Product Moment Correlation Co-efficient (r) was used to examine the relationships of independent variables of the respondents with their livelihood development.

CHAPTER 4

RESULTS AND DISCUSSION

The results of the present study are presented in this chapter with the help of proper statistical analysis along with their logical interpretations. This study has been conveniently presented in four sections according to the objectives. The first section deals with the selected characteristics of the beneficiaries of RDRS. The second section deals with the effect of value chain on the livelihood development of the beneficiaries of RDRS, third section deals with correlation between dependent and independent variables and the last and fourth section deals with the problems faced by the beneficiaries of RDRS in implementing value chain and their probable suggestions to overcome the problems.

4.1 Selected Characteristics of the beneficiaries of RDRS

4.1.1 Age

The age of the respondents was varied from 20 to 60 years with a mean and standard deviation was 35.34 and 8.64 respectively. The respondents were classified into three categories on the basis of their age: 'young' (up to 27 years); 'middle' (28-44 years) and 'old' (>44 years). On the basis of the age, the respondents were distributed into three categories as presented in Table 4.1.

Table 4.1 Distribution of the beneficiaries according to their age

Categories	Respondents (102)		Range	Mean	SD
	Number	Percent			
Young (up to 27)	20	19.6	20-60	35.34	8.64
Middle (28-44)	61	59.8			
Old (above 44)	21	20.6			

Data contained in Table 4.1 revealed that near about three-fifths (59.8 percent) of respondents were in the middle aged category followed by 19.6percent young and 20.6percent under old. This lead to understanding that overwhelming portion (79.4 percent) of the respondents belonged to young to middle age group i.e. active age group.

4.1.2 Educational qualification

The educational qualification scores of the respondents were ranged from 0 to 8, the mean being 1.62 and standard deviation 2.10. Based on the educational qualification scores, the respondents were classified as 'illiterate (0)'; 'can sign only' (0.5); 'primary' (1-5); and

'secondary' (6-10). The distribution of the respondents on the basis of their educational qualification has been presented in Table 4.2.

Table 4.2 Distribution of the beneficiaries according to their educational qualification

Categories	Respondents (102)		Range	Mean	SD
	Number	Percent			
Illiterate (0)	17	16.7	0-8	1.62	2.10
Can sign only (0.5)	53	52.0			
Primary (1-5)	25	24.5			
Secondary (6-10)	7	6.9			

Data presented in Table 4.2 indicate that 52.0 percent were can sign only, 24.5 percent had primary education, 16.7 percent of the respondents were illiterate, and only 6.9 percent of the respondents had secondary education. The situation might appear to be normal in a usual rural background of Bangladesh. So, it may be mentioned here that among various social welfare program of RDRS, adult literacy program should expand which will enhance a general advancement in literacy level in the study area.

4.1.3 Family size

The minimum and maximum family size scores were 1 and 9 respectively. The average family size was 3.94 with a standard deviation 1.44. According to family size score, the respondents were classified into three categories like 'small' (up to 3); 'medium' (4-5); 'large' (above 5) are presented in Table 4.3.

Table 4.3 Distribution of the beneficiaries according to their family size

Categories	Respondents (102)		Range	Mean	SD
	Number	Percent			
Small (up to 3)	37	36.3	1-9	3.94	1.44
Medium (4-5)	56	54.9			
Large (above 5)	9	8.8			

The data furnished in Table 4.3 revealed that more than half (54.9 percent) of the respondents had medium family size, 36.3 percent had small family size and only 8.8 percent had large family. Thus, overwhelming portion (91.2 percent) of the respondents had small to medium family size. This may be due to the intervention of the family planning program of the RDRS in the study area.

4.1.4 Farm size

The farm size scores range of the respondent was 0.01-2.17. The mean value of farm size was 0.49 with a standard deviation of 0.44. According to farm size scores, the respondents were

categorized into four categories like 'landless' (up to 0.02); 'marginal' (0.021-.20); 'small' (0.21-1.0) and medium (above 1.0) are presented in Table 4.4.

Table 4.4 Distribution of the beneficiaries according to their farm size

Categories	Respondents (102)		Range	Mean	SD
	Number	Percent			
Landless (up to 0.02)	7	6.9	0.01-2.17	0.49	0.44
Marginal (0.021-0.20)	13	12.7			
Small (0.21-1.0)	74	72.5			
Medium (above 1.0)	8	7.8			

Data presented in Table 4.4 shown that majority (72.5 percent) of the beneficiaries had small farm size, 12.7 percent had marginal farm size, 7.8 percent had medium and 6.9 percent are in the landless category. Though RDRS works with ultra-poor beneficiaries so, most of the beneficiaries are in landless to small farm size category (92.2 percent).

4.1.5 Annual family income

The annual family income score of the respondents were ranged from 33.20 to 714.50 with a mean of 148.93 and standard deviation 132.16. According to the annual family income scores, the beneficiaries were classified into three categories such as 'low' (up to 100); 'Medium' (100.1-180) and 'High' (above 180) as shown in Table 4.5. Similar category was done by Huda (2011) in his research work.

Table 4.5 Distribution of the beneficiaries according to their annual family income

Categories	Respondents (102)		Range	Mean	SD
	Number	Percent			
Low (up to 100)	48	47.1	33.20-714.50	148.93	132.16
Medium (100.1-180)	36	35.3			
High (above 180)	18	17.6			

Near about half (47.1 percent) of the respondents belong to the low income category while 35.3 percent of the respondents had medium income and rest 17.6 percent were fell in the high income category. Majority of the beneficiaries (82.4 percent) were in the low to medium income category. The findings of Kabir (2005) were in conformity with the present study.

4.1.6 Extension media contact

The extension media contact scores of the respondents ranged from 4 to 30 against the possible range of 0 to 36 with a mean of 12.68 and standard deviation of 4.84. According to the extension media contact scores, the beneficiaries were categorized in to three categories such as 'low' (up to 8); 'Medium' (9-17) and 'High' (above 17) as shown in Table 4.6.

Table 4.6 Distribution of the beneficiaries according to their extension media contact

Categories	Respondents (102)		Range		Mean	SD
	Number	Percent	Possible	Observed		
Low (up to 8)	19	18.6	0-36	4-30	12.68	4.84
Medium (9-17)	70	68.6				
High (above 17)	13	12.7				

More than two-thirds (68.6 percent) of the respondent had medium extension media contact, 18.6 percent of the respondents had low media contact and 12.7 percent had high extension media contact. Thus, majority of the beneficiaries (87.3 percent) had low to medium extension media contact. Because, the extension agents might be did not contact with the beneficiaries as and when necessary. On the other hand, unconscious rural beneficiaries did not maintain well communication with the extension agents as well as to the agricultural officers of the RDRS. Therefore, a large number of the beneficiaries had low to medium extension media contact.

4.1.7 Cosmopoliteness

Cosmopoliteness scores of the respondents ranged from 1 to 12 against the possible range of 0 to 18 with a mean of 5.44 and standard deviation of 2.84. On the basis of overall scores of cosmopoliteness, the respondents were categorized into three categories such as low (up to 3), medium (4-8) and high (above 8) as shown in Table 4.7.

Table 4.7 Distribution of the beneficiaries according to their cosmopoliteness

Categories	Respondents (102)		Range		Mean	SD
	Number	Percent	Possible	Observed		
Low (up to 3)	20	19.6	0-18	1-12	5.44	2.84
Medium (4-8)	59	57.8				
High (above 8)	23	22.5				

It is observed from the Table 4.7 that more than half of the respondents (57.8 percent) had medium cosmopoliteness while 22.5 percent having high and 19.6 percent having low cosmopoliteness. The finding indicates that slightly more than four-fifth of the beneficiaries (80.3 percent) had medium to high cosmopoliteness which is little bit contradictor with their extension media contact phenomenon.

4.1.8 Savings

The savings scores of all the respondents ranged from 0 to 50 thousand with a mean and standard deviation of 9.26 and 10.71 respectively. The respondents were categorized into three categories as 'low savings (up to 5); 'medium savings' (5.1-15) and 'high savings'

(above 15) on the basis of savings score (Table 4.8). Similar category was done by Huda (2011) in his research work.

Table 4.8 Distribution of beneficiaries according to their savings

Categories	Respondents (102)		Range	Mean	SD
	Number	Percent			
Low savings (up to 5)	64	62.7	0-50	9.26	10.71
Medium savings (5.1-15)	12	11.8			
High savings (above 15)	26	25.5			

Slightly more than three-fifths (62.7 percent) of respondents had low savings where as little more than one-fourths (25.5 percent) of them had high savings and remaining 11.8 percent had medium savings. Thus, about three-fourths (74.5 percent) of the respondents had low to medium savings.

4.1.9 Attitude towards RDRS

The attitude score of respondents could range from 8 to 40, while the observed scores ranged from 28 to 40. The mean was 35.41 and standard deviation 3.29. The respondents were categorized as 'less favorable' (up to 32); 'moderately favorable' (33-38) and 'highly favorable' (>38) as shown in Table 4.9.

Table 4.9 Distribution of the beneficiaries according to their attitude towards RDRS

Categories	Respondents (102)		Range		Mean	SD
	Number	Percent	Possible	Observed		
Less favorable (up to 32)	27	26.5	8-40	28-40	35.41	3.29
Moderately favorable (33-38)	55	53.9				
Highly favorable (above 38)	20	19.6				

Data presented in Table 4.9 revealed that the more than half (53.9 percent) of the respondents had moderately favorable attitude towards RDRS, followed by 26.5 percent had less favorable and 19.6 percent had high favorable attitude towards RDRS. In comparison to other NGO's working in the research area, RDRS offering better benefits to the respondents. This might be the reason for medium to high favorable attitude (73.5 percent) towards the RDRS.

4.2 Livelihood Development of the Beneficiaries

4.2.1 Livelihood development of beneficiaries in family assets and shelter

The indices of fifteen family assets and shelter ranged from 3.9 to 211.8 against the possible range of 0-300. Distribution of the beneficiaries according to their family assets and shelter are presented in Table 4.10. As the respondents are poor beneficiaries, RDRS try to improve the livelihood status of them. That is why, a new concept value chain is introduced and cattle are given to the beneficiaries as family asset for improving their livelihood status. As a result, cattle

as asset possession are in the first positions in the rank order having LDI value of 211.8. Due to similar reason, poultry as asset possession are in the second positions in the rank order having LDI value of 189.1. Furniture is always needed for better living status. Besides high price of timber, there are other comparatively cheap sources like steal or partex for preparing furniture. 'Furniture' as asset possession is in the third positions having index value of 180.5 which also are familiar with our present social condition.

Table 4.10 Distribution of livelihood development of beneficiaries according to their assets and shelter

Sl. No.	Considerable subject matter	Extent of livelihood development (%)				LDI	Rank
		High	Moderate	Low	Not at all		
1.	Cattle	30.4	51.0	18.6	0	211.8	1
2.	Goat	2.0	32.4	50.0	15.6	120.8	7
3.	Poultry	18.6	53.9	25.5	2.0	189.1	2
4.	Furniture	6.9	70.6	18.6	3.9	180.5	3
5.	Solar energy	1.0	16.7	33.3	49.0	69.7	9
6.	Television	1.0	4.9	17.6	76.5	30.4	10
7.	Cassette player	1.0	2.9	5.9	90.2	14.7	11
8.	Solar Fridge	0	0	3.9	96.1	3.9	15
9.	Mobile	0	33.3	55.9	10.8	122.5	6
10.	Bi-cycle	0	19.6	54.9	25.5	94.1	8
11.	Motor-cycle	0	2.0	1.0	97.0	5.0	14
12.	Sewing machine	0	2.9	2.9	94.2	8.7	13
13.	Hut/tin shed house	16.7	46.1	36.2	1.0	178.5	4
14.	Tin shed building	6.9	53.9	28.4	10.8	156.9	5
15.	Building	0	3.9	2.9	93.2	10.7	12

Ownership of sewing machine, motor-cycle and solar fridge involves big amount of money and generally rich people enjoy that facilities. Poor people have little scope to avail it. So, 'sewing machine', 'motor-cycle' and 'solar fridge' was found as lowest, second lowest and third lowest in the rank table having index value of 3.9, 5 and 8.7 respectively.

4.2.2 Livelihood development of beneficiaries in social empowerment

The LDI of eight selected areas related to social empowerment of beneficiaries varied from 42.2 to 236.2. Distribution of the beneficiaries according to their social empowerment related areas are presented in Table 4.11. Three sub-sections namely a) decision-making ability, b) social participation and c) social mobility constitute the social empowerment aspect of livelihood development status of this study. After involving in value chain process of RDRS,

the beneficiaries had wide vision and their decision making ability, awareness and access to family planning materials and advices have been increased. On the other hand, different family planning programmes are being implemented in Bangladesh for controlling the fast population growth. Hence 'family planning' became top in the rank shown in Table 4.11 obtaining the LDI value of 236.2. For obtaining better livelihood development status, health consciousness's are mostly needed which is increased due to various NGOs health related interventions especially by RDRS in the study area. As a result, comparatively high development in healthcare sector was observed in the research area. Consequence to that phenomenon, their decision-making ability in 'family healthcare' became second in the table with index value of 231.4. Generally the ultra poor farmer had limited opportunity to visit own upazila head quarter rather they have some personal or organization related works to do there. In Bangladesh, head of the family have to do hard works in the field for their survival besides the NGO directed work. So 'visit to own upazila head quarter' and 'visit to NGO office' was found as lowest and second lowest in the rank table having LDI value of 42.2 and 87.3 respectively.

Table 4.11 Distribution of livelihood development of beneficiaries according to their social empowerment

Sl. No.	Activities	Extent of livelihood development (%)				LDI	Rank
		High	Moderate	Low	Not at all		
1.	Purchase, sell or mortgage of land	34.3	52.9	6.9	5.9	215.6	4
2.	Child Education	37.3	53.9	8.8	0	228.5	3
3.	Family healthcare	45.1	44.1	7.9	2.9	231.4	2
4.	Family planning	50.0	38.2	9.8	2.0	236.2	1
5.	Participation in social function (marriage, birthday etc.)	2.0	67.6	29.4	1.0	170.6	5
6.	Participation in village meeting	2.0	37.3	47.1	13.6	127.7	6
7.	Visit to NGO office	2.0	22.5	36.3	39.2	87.3	7
8.	Visit to own upazila head quarter	2.0	8.8	18.6	70.6	42.2	8

4.2.3 Livelihood development of beneficiaries in bargaining capacity

The LDI of seven selected areas related to bargaining capacity of beneficiaries varied from 160.7 to 273.5. Distribution of the beneficiaries according to their bargaining capacity related areas are presented in Table 4.12.

Table 4.12 Distribution of livelihood development of beneficiaries according to their bargaining capacity

Sl. No.	Items	Extent of livelihood development (%)				LDI	Rank
		High	Moderate	Low	Not at all		
1.	Knowledge about price of grain crops in the market	21.6	37.2	39.2	2.0	178.4	6
2.	Knowledge on nature of vegetable buyers	29.4	52.0	16.6	2.0	208.8	4
3.	Knowledge on communication of the nearest market	19.6	23.5	54.9	2.0	160.7	7
4.	Knowledge about price of livestock in the market	29.4	26.5	39.2	4.9	180.4	5
5.	Knowledge on price of vegetable in the market	32.4	55.8	11.8	0	220.6	3
6.	Knowledge on price of poultry and egg in the market	46.1	51.0	2.9	0	243.2	2
7.	Knowledge on price of milk in the market	75.5	22.5	2.0	0	273.5	1

As mentioned earlier, after involving in value chain process of RDRS, cattle and poultry as family asset has been increased and also the beneficiaries' knowledge, ability to bargain, and awareness about marketing has been increased. So, 'knowledge on price of milk in the market' and 'knowledge on price of poultry and egg in the market' became the first and second in the rank order having LDI value of 273.5 and 243.2 respectively. 'Knowledge on communication of the nearest market' and 'Knowledge about price of grain crops in the market' was found as lowest and second lowest in the rank shown in Table 4.12 having LDI value of 160.7 and 178.4 respectively

4.2.4 Total livelihood development of beneficiaries in three aspects

Scores of the total livelihood development of the beneficiaries varied from 20 to 67 against possible range of 0 to 90. The mean and standard deviation were 42.70 and 9.63 respectively. On the basis of the above mentioned scores, the beneficiaries were classified in to three categories viz. 'low' (up to 33); 'medium' (34-52) and 'high' (above 52). Near about two-thirds (62.7 percent) of the beneficiaries had medium development, 19.6 percent low and 17.6 percent had high development (Table 4.13 and Figure 4.1).

Table 4.13 Distribution of beneficiaries according to their total livelihood development

Categories	Respondents (102)		Range		Mean	SD
	Number	Percent	Possible	Observed		
Low (up to 33)	20	19.6	0-90	20-67	42.70	9.63
Medium (34-52)	64	62.7				
High (above 52)	18	17.6				

Thus, majority (82.4 percent) of the beneficiaries had low to medium development in three aspects (assets and shelter, social empowerment and bargaining capacity). For further development in these aspects beneficiaries need to improve educational level Overall the extensive and coordinated development approach from both the GOs and NGOs are needed in the research area.

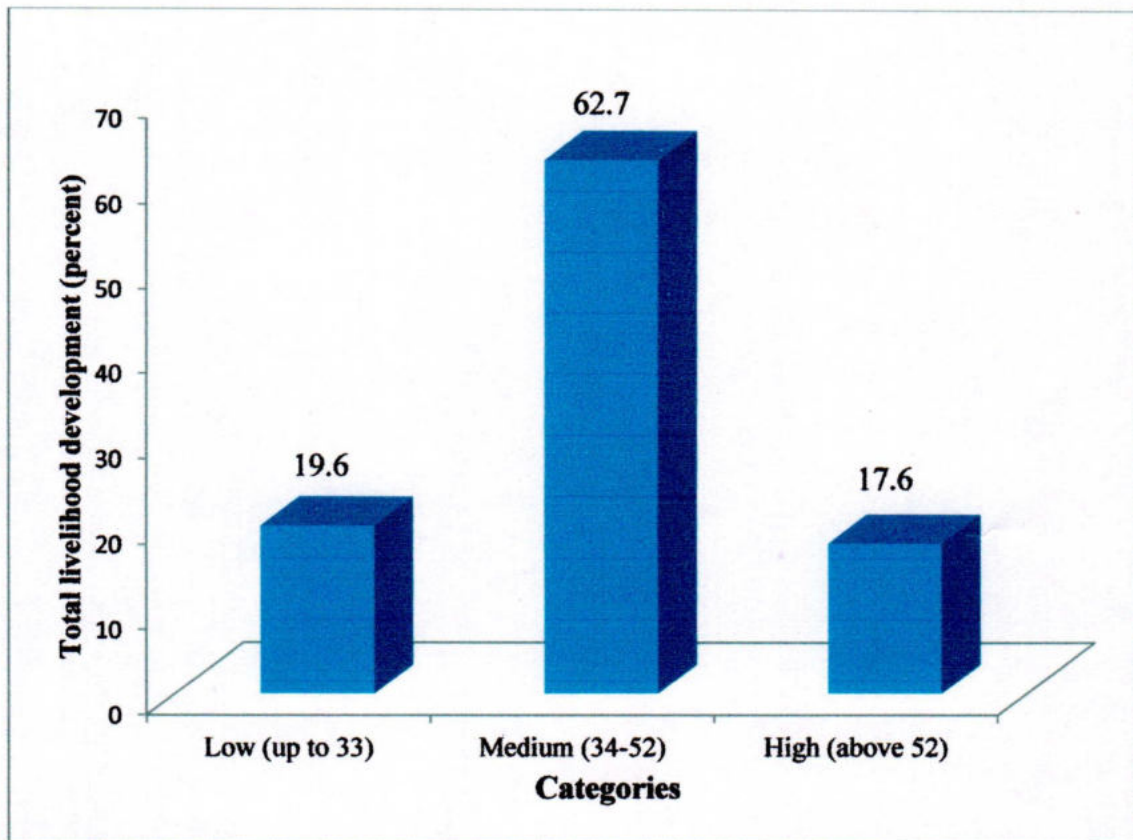


Figure 4.1 Bar graph showing distribution of beneficiaries based on total livelihood development

4.3 Relationship between the Characteristics of the Beneficiaries and Livelihood Development

Pearson's Product Moment Correlation Co-efficient (r) was computed in order to explore the relationship between the selected characteristics of the beneficiaries and their livelihood development. The relationship has been presented in Table 4.1. However, the interrelationships among the different variable have also been computed by using Pearson's Product Moment Correlation Co-efficient and the correlation matrix has been presented in Appendix B.

Table 4.14 Relationships between the dependent and independent variables

Dependent variable	Independent variables	Computed values of 'r' with 110 df	Tabulated value of 'r' with 100 d.f.	
			0.05 level	0.01 level
Livelihood development	Age	0.057	± 0.195	± 0.254
	Educational qualification	0.233*		
	Family size	0.099		
	Farm size	0.383**		
	Annual family income	0.331**		
	Extension media contact	0.592**		
	Cosmopoliteness	0.726**		
	Savings	0.489**		
	Attitude towards RDRS	0.303**		

*Correlation is significant at the 0.05 level and ** Correlation is significant at the 0.01 level

4.3.1 Age and livelihood development

The correlation coefficient between age and livelihood development of the beneficiaries was 0.057 as shown in the Table 4.14. Based on the computed 'r' value, the concerned null hypothesis could not be rejected. Hence, the relationship between age and livelihood development of the respondent was insignificant. Therefore, with the change of the age of the respondents, their livelihood development did not change significantly. So, it may be concluded that age of the beneficiaries is not an important indicator for their livelihood development. Mortuza et al. (2004) and Rokanuzzaman (2004) also observed similar relationships in their respective study.

4.3.2 Educational qualification and livelihood development

The correlation coefficient between educational qualification and livelihood development of the beneficiaries was 0.233 as shown in the Table 4.14. Based on the computed 'r' value, the concerned null hypothesis could be rejected at 0.05 level of probability with 100 df. Hence, the relationship between educational qualification and livelihood development of the respondent was positively significant. It means that a person having more education, the livelihood will be more improved and less education, the livelihood development will be reverse.

4.3.3 Family size and livelihood development

The correlation coefficient between family size and livelihood development of the beneficiaries was 0.099 as shown in the Table 4.14. Based on the computed 'r' value, the

concerned null hypothesis could not be rejected. Hence, the relationship between family size and livelihood development of the respondent was insignificant. So, family size was not related to livelihood development of the beneficiaries. Studies of Alam (2001), Islam (2002), Rahman (2002), Kabir (2003), Mortoza *et al.* (2004) and Rokanuzzaman (2004) showed that there was no significant relationship between family size and livelihood in their study. Hence, family size was not an important factor for their livelihood development.

4.3.4 Farm size and livelihood development

The correlation coefficient between farm size and livelihood development of the beneficiaries was 0.383 as shown in the Table 4.14. Based on the computed 'r' value, the concerned null hypothesis could be rejected at 0.01 level of probability with 100df. Hence, the relationship between farm size and livelihood development of the respondent was positively significant. This indicates that livelihood development increased with the increase of farm size. Ahmed (1977) also observed similar relationships in his respective study. Farming land is a vital resource of the beneficiaries. Without this capital none can produce food crops, cash crops, fishes, poultry and livestock. The beneficiaries having larger farm size logically had more livelihood assets. Thus, the larger their farm size, the more would be their livelihood assets.

4.3.5 Annual family income and livelihood development

The correlation coefficient between annual family income and livelihood development of the beneficiaries was 0.331 as shown in the Table 4.14. Based on the computed 'r' value, the concerned null hypothesis could be rejected. Hence, the relationship between annual family income and livelihood development of the respondent was positively significant. This indicates that livelihood development increased with the increase of annual family income. Hossain (2000) and Islam (2004) also observed similar relationships in their respective study. Sources of annual family income were not only farm based but also service oriented. So, annual family income of the beneficiaries remarkably helped themselves to improve livelihood.

4.3.6 Extension media contact and livelihood development

The correlation coefficient between extension media contact and livelihood development of the beneficiaries was 0.592 as shown in the Table 4.14. Based on the computed 'r' value, the concerned null hypothesis could be rejected at even 0.01 level of probability. Hence, the relationship between extension media contact and livelihood development of the respondent

was positively significant. This indicates that livelihood development increased with the increase of their extension media contact. Ahmed (1977), Latif (1974) and Lionberger (1966) also found similar relationships in their respective study. The beneficiaries who maintain regular contact with different communication media can obtain valuable information. This information may be helpful for the betterment of their livelihoods. That is why beneficiaries having higher contact with extension media had significantly stronger livelihood development.

4.3.7 Cosmopoliteness and livelihood development

The correlation coefficient between cosmopoliteness and livelihood development of the beneficiaries was 0.726 as shown in the Table 4.14. Based on the computed 'r' value, the concerned null hypothesis could be rejected. Hence, the relationship between cosmopoliteness and livelihood development of the respondent was positively significant. This indicates that livelihood development increased with the increase of their cosmopoliteness.

4.3.8 Savings and livelihood development

The correlation coefficient between savings and livelihood development of the beneficiaries was 0.489 as shown in the Table 4.14. Based on the computed 'r' value, the concerned null hypothesis could be rejected. Hence, the relationship between saving and livelihood development of the respondent was positively significant. This means with the increase of savings livelihood development will be increased. The finding has conformity with the findings of Islam (2005).

4.3.9 Attitude towards RDRS and livelihood development

The correlation coefficient between attitude towards RDRS and livelihood development of the beneficiaries was 0.303 as shown in the Table 4.14. Based on the computed 'r' value, the concerned null hypothesis could be rejected. Hence, the relationship between attitude towards RDRS and livelihood development of the respondent was positively significant. This means with the increase of attitude towards RDRS, livelihood development will be increased. The finding has conformity with the findings of Huda (2011).

4.4 Problems and Suggestions

Beneficiaries may face several problems. For easy understanding of the problems faced by the beneficiaries and the suggestions to overcome the problems given by them are listed in this section with their number of citation, percent and rank order.

4.4.1 Problems faced by the beneficiaries

The researcher made an attempt to identify the various problems in implementing value chain for livelihood development. These are given in Table 4.15.

Table 4.15 Rank order of problems faced by the beneficiaries

Problems	No. of citation	Percent	Rank order
Lack of communication between buyers and producers	95	93.14	1
Lack of knowledge regarding value chain process in the beneficiaries level	86	84.31	2
Lack of proper transport system	81	79.41	3
Unavailable input support	74	72.55	4
Difficult to adopt value chain market system rather than traditional market system	68	66.67	5

It is evident from the data contained in the Table 4.15 that 'lack of communication between buyers and producers' (93.14 percent) emerged as the most important problem opined by the beneficiaries. The result might be due to that the RDRS may not arrange sufficient training and for the buyers and producers. Although some short duration trainings are arranged to increase their communication skill but they are not so effective.

'Lack of knowledge regarding value chain process in the beneficiaries level' (84.31 percent) was the second most problem perceived by the beneficiaries. It may be due to that the educational status of the beneficiaries is not so good that's why their knowledge regarding value chain process is also less. On the other hand value chain is a new concept; development of perception among the less educated rural beneficiaries is difficult.

The least (66.67 percent) perceived problem mentioned by the farmer was 'difficult to adopt value chain market system rather than traditional market system'. The result may be due to that the value chain marketing process is a complex process which cannot easily understand by the beneficiaries.

4.4.2 Suggestions opined by the beneficiaries to overcome the problems

Many suggestions were suggest by the respondents to overcome the problems. These are given in Table 4.16.

It is noted from the data in Table 4.16 that the foremost (95.10 percent) suggestion cited by the beneficiaries was 'collaborative action can be taken by GOs and NGOs to improve the transport system'.

Table 4.16 Rank order of suggestions offered by the respondent to overcome the problems

Suggestions	No. of citation	Percent	Rank order
Collaborative actions can be taken by GOs and NGOs to improve the transport system	97	95.10	1
Development of more local actors for better input supply to the beneficiaries	85	83.33	2
Motivational training programme and workshop can be enhanced in this regards	78	76.47	3
Regular liaisons can be maintained between buyers and producers	69	67.65	4
Capacity building training regarding this context can be increased among beneficiaries level	51	50.00	5

‘Development of more local actors for better input supply to the beneficiaries’ was the second most important (83.33percent) suggestion offered by the beneficiaries. More Training programmes, seminar and workshop are required which will be helpful to prepare more local actors.

‘Capacity building training regarding this context can be increased among beneficiaries level’ (50.00 percent) was suggested by the beneficiaries as the last suggestion. This is due to that capacity building training improves the capacity and skill of the beneficiaries.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of the Findings

This study was undertaken to determine and describe some of the selected characteristics of the respondent, to determine the extent of livelihood development of the beneficiaries due to their involvement in value chain process of RDRS, to explore the relationship of selected characteristics of the beneficiaries with their livelihood development and to determine the problems faced by beneficiaries in implementing value chain process and suggestions to overcome those problems. The study was carried out in Gangachara upazila under Rangpur district. One hundred and two (102) beneficiaries were selected as sample from an updated list of 203 beneficiaries using multi-stage random sampling method. Data were collected by a pre-tested interview schedule during 1st March to 15th April 2014. A summary of the major findings are given in the subsequent sections.

5.1.1 Selected characteristics of the respondents

The **age** of the respondents varied from 20 to 60 years with a mean and standard deviation were 35.34 and 8.64 respectively. Near about three-fifths (59.8 percent) of respondents were in the middle, followed by 19.6 percent young and 20.6 percent under old aged category.

The **educational qualification** scores of the respondents ranged from 0 to 8, the mean being 1.62 and standard deviation 2.10. More than half (52.0 percent) were can sign only, 24.5 percent had primary education, 16.7 percent of the respondents were illiterate, and only 6.9 percent of the respondents had secondary education.

The minimum and maximum **family size** scores were 1 and 9 respectively. The average family size was 3.94 with a standard deviation 1.44. More than half (54.9 percent) of the respondents had medium family size, 36.3 percent had small family size and only 8.8 percent had large family.

The **farm size** range of the respondent was 0.01-2.17. The mean value of farm size was 0.49 with a standard deviation of 0.44. Majority (72.5 percent) of the beneficiaries had small farm size, 12.7 percent had marginal farm size, 7.8 percent had medium and 6.9 percent are in the landless category.

The **annual family income** scores of the respondents ranged from 33.20 to 714.50 with a mean of 148.93 and standard deviation 132.16. Near about half (47.1 percent) of the respondents belong to the low income category while 35.3 percent of the respondents had medium income and rest 17.6 percent were fell in the high income category.

The **extension media contact** of the respondents ranged from 4 to 30 against the possible range of 0 to 36 with a mean of 12.68 and standard deviation 4.84. More than two-thirds (68.6 percent) of the respondent had medium extension media contact, 18.6 percent had low and only 12.7 percent had high extension media contact. Thus, majority of the beneficiaries (87.3 percent) had low to medium extension media contact.

Cosmopoliteness scores of the respondents ranged from 1 to 12 against the possible range of 0 to 18 with a mean of 5.44 and standard deviation of 2.84. More than half of the respondents (57.8 percent) had medium cosmopoliteness while 22.5 percent having high and 19.6 percent having low cosmopoliteness.

The **savings** scores of all the respondents ranged from 0 to 50 with a mean and standard deviation of 9.26 and 10.71 respectively. Slightly more than three-fifths (62.7 percent) of respondents had low savings where as little more than one-fourth (25.5 percent) of them had high savings and remaining 11.8 percent had medium savings.

The **attitude towards RDRS** scores of respondents could range from 8 to 40, while the observed scores ranged from 28 to 40. The mean was 35.41 and standard deviation 3.29. More than half (53.9 percent) of the respondents had moderately favorable attitude towards RDRS, followed by 26.5 percent had less favorable and 19.6 percent had high favorable attitude towards RDRS.

5.1.2 Livelihood development of the beneficiaries

Livelihood Development Index (LDI) of the 30 activities varied from 3.9 to 273.5. However, based on the indices value, top three activities of three aspects were i) Knowledge on price of milk in the market (273.5), ii) Family planning (236.2) and iii) Cattle (211.8). The lowest LDI of three activities of three aspects were i) Solar Fridge (3.9), ii) Visit to upazila head quarter (42.2) and iii) Knowledge on communication of the nearest market (160.7).

5.1.2.1 Total livelihood development of beneficiaries in three aspects

Scores of the total livelihood development of the beneficiaries' varied from 20 to 67 against possible range of 0 to 90. The mean and standard deviation were 42.70 and 9.63 respectively. Near about two-thirds (62.7 percent) of the beneficiaries had medium development, 19.6 percent low and 17.6 percent had high development. Thus, majority (82.4 percent) of the beneficiaries had low to medium development in three aspects (assets and shelter, social empowerment and bargaining capacity).

5.1.3 Relationship between selected characteristics of the beneficiaries' and livelihood development

According to the computed correlation coefficient (r) among the nine selected characteristics of the beneficiaries seven like educational qualification, farm size, annual family income, extension media contact, cosmopolitaness, savings and attitude towards RDRS showed significant positive relationship with their livelihood development, while their age, family size had no relationships.

5.1.4 Problems and Suggestions

5.1.4.1 Problems faced by the beneficiaries

'Lack of communication between buyers and producers' (93.14 percent) emerged as the most important problem opined by the beneficiaries. The least (66.67 percent) perceived problem mentioned by the farmer was 'difficult to adopt value chain market system rather than traditional market system'.

5.1.4.2 Suggestions opined by the beneficiaries to overcome the problems

The prime (95.10 percent) suggestion cited by the beneficiaries was 'collaborative action can be taken by GOs and NGOs to improve the transport system'. 'Capacity building training regarding this context can be increased among beneficiaries level' (50.00 percent) was suggested by the beneficiaries as the last suggestion.

5.2 Conclusions

On the basis of the findings and their logical interpretations in the light of relevant facts, the conclusions are presented below:

1. Near about two-thirds (62.7 percent) of the beneficiaries had medium development, 19.6 percent low and 17.6 percent had high development. Thus, majority (82.3 percent) of the beneficiaries had low to medium development in three aspects (assets and shelter, social empowerment and bargaining capacity). So, it may be concluded that the extensive and coordinated developmental approach can be taken by both the GOs and NGOs.
2. Livelihood development Index (LDI) of the 30 activities varied from 3.9 to 273.5. based on the indices value, top three activities of three aspects were i) Knowledge on price of milk in the market (273.5); ii) Family planning (236.2) and iii) Cattle (211.8). The lowest LDI of three activities of three aspects were i) Solar Fridge (3.9); ii) Visit to upazila head quarter (42.2); iii) Knowledge on communication of the nearest

market (160.7). So, it may be concluded that considerable development is occurred in some areas but still there is a great scope to improve in other areas for which necessary measures can be taken.

3. Among the nine selected characteristics of the beneficiaries seven like educational qualification, farm size, annual family income, extension media contact and cosmopolitaness, savings and attitude towards RDRS showed significant positive relationship with their livelihood development. The finding leads to conclude that certain attributes of the beneficiaries played an important role in their livelihood development.
4. The beneficiaries mentioned five problems in implementing value chain and also cite five suggestions to overcome those problems. So it may be concluded that concern agencies have scope to minimize the problems considering the respondents suggestion.

5.3 Recommendations

Recommendations based on the findings, and conclusions of study have been divided into two part: 1) recommendation for policy implications, and 2) recommendation for further studies.

5.3.1 Recommendations for policy implication

The following recommendations were made on the basis of the findings and their logical interpretations:

1. Majority (82.3 percent) of the beneficiaries had low to medium development in three aspects (assets and shelter, social empowerment and bargaining capacity). Few 'Family assets and shelter' and social empowerment related activities are not improved in expected level. So, it is recommended that concerned government authorities as well as NGOs should come forward with special care for improving these areas.
2. Out of nine, seven influencing characteristics, namely, educational qualification, farm size, annual family income, extension media contact, cosmopolitaness, savings and attitude towards RDRS had positive effect on the livelihood development of the beneficiaries. But other influencing characteristics i.e. age and family size had no effect on the same. Therefore, it is recommended that these characteristics might be considered while planning and executing livelihood development for the beneficiaries.

3. RDRS and other concerned organization should take proper steps for distribution of desirable amount of input support to the beneficiaries in value chain process. Different motivational approach should also be taken to overcome other problems for proper utilization of input for maximization of output.
4. Special care should be taken by RDRS and other concerned organizations working in the study area so that more beneficiaries could be included in their value chain process for enhancing livelihood development.

5.3.2 Recommendations for further study

Considering the scope and limitations of the study and unbiased observations, the following recommendations are made for further study:

1. The present study was conducted in Gangachara under Rangpur district of Bangladesh. Further study needs to be conducted in other places of Bangladesh to examine the variation of livelihood development by the beneficiaries due to value chain effect.
2. Only nine characteristics of the beneficiaries were included in the study. But there might be other characteristics of the beneficiaries which may have influence on livelihood development. So, it is recommended that further study should be conducted involving other unexplored characteristics than these nine characteristics.
3. In this study 'livelihood development' has been studied on three aspects such as: i) asset and shelter, ii) social empowerment and iii) bargaining capacity. In each of the three aspects, few related activities were identified and selected. In further study, more specific activities may be included in each of aspects of livelihood development.

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Appendix A

English Version of the Interview Schedule

Department of Agricultural Extension

Hajee Mohammad Danesh Science and Technology University, Dinajpur

An interview schedule on

EFFECT OF VALUE CHAIN ON LIVELIHOOD DEVELOPMENT OF RDRS BENEFICIARIES

Date: -----

Serial No.

Name of Respondent ----- Father's/Husband's Name -----

Village:----- Union -----Upazila-----

(Please answer the following questions and put tick (✓) whenever necessary)

1. Age: What is your present age? Years

2. Educational qualification: Please mention of your educational qualification

- a) Can't read and write
- b) Can sign name only
- c) Studied up to class (.....)
- d) Passed class

3. Family Size: Please mention the number of your family members including you

A. Maleb) Female..... c) Total.....

4. Farm Size: Please indicate the area of land in your possession

Sl. No.	Nature of holding	Area	
		Local Unit	Hectare
a.	Homestead (including garden and fallow land)		
b.	Own land under own cultivation		
c.	Land given to others on barga		
d.	Land taken from others on barga		
e.	land taken from others on lease		
f.	Others (if any)		
Total			

5. Annual Family Income: Give details about your family income of last year from different sources

Sl. No.	Sources of income	Production (Kg)	Market price	Total (TK.)
1.	Crops			
2.	Vegetables			
3.	Fruits			
4.	Poultry			
5.	Dairy			
6.	Fish			
7.	Service			
8.	Business			
9.	Day Labor			
10.	Rickshaw/Auto- Rickshaw driving			
11.	Others (if any)			
Total				

6. Extension Media Contact: Please indicate your frequency of communication with the following extension media

Sl. No.	Name of extension media	Extent of contact			
		Not at all	Rarely	Occasionally	Regularly
A. Individual Contact					
1.	Ideal farmers		1 time/week	2-3 times/week	4-5 times/week
2.	Local leaders		Do	Do	Do
3.	NGOs workers		1 time/month	2-3 times/month	1 time/week
4.	Sub-Assistant Agriculture Officer		Do	2 times/month	3 times/month
5.	Agriculture Extension Officer		2 times/year	1 time/season	2 times/season
6.	Upazila Agricultural Officer		Do	Do	Do
B. Group Contact					
1.	Participation in Result Demonstration meeting		1 time/year	2 times/ year	>2 times/ year
2.	Participation in farmers field day		Do	Do	Do
3.	Participation in training		Do	Do	Do
C. Mass Contact					
1.	Watching agriculture TV program		1-3 day/month	1-3 day/ week	4-7 day/week
2.	Reading agriculture related books		1-2 copy/year	2 copy/month	1 copy/season
3.	Reading agricultural poster, booklet, bulletin etc.		Do	Do	Do

7. Cosmopolitaness: State your extent of visit of the following places.

Sl. No.	Places of visit	Extent of visit (times)			
		Frequently	Occasionally	Seldom	Not at all
1.	Visit friends or relatives houses	>5times/month	3-4 times/month	1-2 times/month	
2.	Visit union parisad office	Do	Do	Do	
3.	Visit own upazila head quarter	>5times/season	3-4times/season	1-2 times/season	
4.	Visit own district town	Do	Do	Do	
5.	Visit other district town	>5times/year	3-4 times/year	1-2 times/year	
6.	Visit division or capital city	Do	Do	Do	

8. Savings: Please mention your savings status.

Sl. No.	Sources of savings	Amount (Tk.)
1.	NGO group	
2.	Bank	
3.	Own hand from agriculture	
4.	Others (if any)	
Total		

9. Attitude towards RDRS: Please express your opinion towards RDRS in the following aspects.

Sl. No.	Statements	Nature of opinion				
		SA	A	U	D	SD
1.(+)	My overall livelihood condition is increasing due to involvement in to value chain system of RDRS					
2.(-)	Poor men and women are not benefited by the activities of RDRS					
3(+)	Overall development of people depend on participation of RDRS activities					
4.(-)	RDRS activities are highly challenging comparison to other NGOs'					
5.(+)	RDRS value chain program is better than any other NGO's programs					
6.(-)	Local people are unhappy on RDRS because they don't put barrier to their religious sentiments					
7.(+)	The activities of RDRS are important for socio-cultural development					
8(-)	RDRS has high interest rate which is very uneconomic and injustice					

SA=Strongly Agree, A=Agree, UD=Undecided, D=Disagree and SD=Strongly disagree

10. Livelihood Development

10.1 Family Assets and shelter: Please answer the following information about your development

Sl. No.	Name of assets	Extent of development			
		High	Moderate	Low	Not at all
a) Family assets					
1.	Cattle				
2.	Goat				
3.	Poultry				
4.	Furniture				
5	Solar Energy				
6.	TV				
7.	Cassette player				
8.	Solar Fridge				
9.	Mobile phone				
10.	Bi-cycle				
11.	Motor Cycle				
12.	Sewing Machine				
b) Shelter					
13.	Hut/tin shed house				
14.	Tin shed building				
15.	Building				

10.2 Social Empowerment: Please answer the following information.

Sl. No.	Nature of assets	Extent of development			
		High	Moderate	Low	Not at all
a) Decision making ability					
1.	Purchase, sell or mortgage of land				
2.	Education of children				
3.	Family healthcare and treatment				
4.	Family planning				
b) Social participation:					
5.	Participation in social function such as marriage, birthday, chehnam, puja etc.				
6.	Participation in village meeting/shalish				
c) Social mobility					
7.	Visit to nearby NGO office				
8.	Visit to own upazilahead quarter				

10.3 Bargaining Capacity Increase: Please mention the extent of development following questions

Sl. No.	Statements	Extent of development			
		High	Moderate	Low	Not at all
1.	Knowledge about price of grain crops in the market				
2.	Knowledge on nature of vegetable buyers				
3.	Knowledge on communication of the nearest market				
4.	Knowledge about price of livestock in the market				
5.	Knowledge on price of vegetable in the market				
6.	Knowledge on price of poultry and egg in the market				
7.	Knowledge on price of milk in the market				

14. Problems: Please state the problem in implementing value chain process.

- a)
- b)
- c)
- d)
- e)

15. Probable suggestions to overcome the problems: Please state the probable suggestions you think to resolve the problems.

- a)
- b)
- c)
- d)
- e)

Thank you for your cooperation.

Signature of the interviewer with date

Appendix B

Correlation matrix for dependent and independent variables

	Age	Educational qualification	Family size	Farm size	Annual family income	Extension media contact	Cosmopoliteness	Savings	Attitude towards RDRS	Livelihood Development
Age	1									
Educational qualification	.009	1								
Family size	.107	-.158	1							
Farm size	.076	.030	.077	1						
Annual family income	.043	-.040	.077	.898**	1					
Extension media contact	.036	.235*	.138	.137	.185	1				
Cosmopoliteness	.147	.241*	-.001	.228*	.202*	.617**	1			
Savings	-.002	.106	.202*	.658**	.579**	.464**	.370**	1		
Attitude towards RDRS	-.119	.092	.137	.145	.097	.465**	.209*	.423**	1	
Livelihood Development	.057	.233*	.099	.383**	.331**	.592**	.726**	.489**	.303**	1

* Correlation is significant at the 0.05 level (2-tailed), ** Correlation is significant at the 0.01 level (2-tailed).

