ORAL THERAPY EXTENSION PROGRAMME

PHASE II

FEBRUARY, 1983

BRAC

BANGLADESH RURAL ADVANCEMENT COMMITTEE
DHAKA, BANGLADESH

Oral Therapy Extension Programme

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February, 1983

Bangladesh Rural
Advancement Committee
Dhaka

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1. Bangladesh Rural Advancement Committee

1.1 BRAC - A comprehensive Rural Development Institution

The Bangladesh Rural Advancement Committee (BRAC) has the distinction of being one of the few completely indigenous organisation dedicated to total socio-economic independence of the poorest and the most disadvantaged sections of rural population. Began in a small way in 1972, with a registration of 1860 Societies Registration ACT, to rehabilitate the refugees of 1971 Liberation War in Sulla, under Sylhet district, BRAC has grown into an organisation with project and activities in several districts. The scope of operation has evolved from rehabilitation to integrated development, human and institutional development and the design testing and implementation of innovative approaches, techniques and methodologies for rural development. The focus has also been shifted from community approach to a participatory approach through mobilisation and organisation of the poor and disadvantaged sections of the population. In support of self-sustaining growth of activities, BRAC provides training, extension, credit and logistics assistance. Presently, about 1200 BRAC workers are working in more than 1200 villages under various projects in 10 districts.

a. Integrated Development Projects (ID)

BRAC has three integrated development projects at Sulla, Manikganj and Jamalpur where all the sectoral programmes such as agriculture, pisci-culture, horticulture, animal husbandry, duckery, poultry raising, nutrition, health care, family planning and functional education are initiated and controlled by co-operative groups of BRAC target people. Wherever possible these groups have taken up off-form activities like seri-culture, eri-culture, block printing, embroidery, weaving, etc. to generate income and employment. Of these three Integrated Development projects, the Jamalpur

project is completely a women's project dealing with only women groups by women BRAC workers.

b. Rural Credit & Training Project (RCTP)

RCTP, started in 1979, seeks to assist the landless, women and other economically disadvantaged groups in income and employment generating activities with credit support which they cannot get from official institutional sources. Training and extension services are also provided by BRAC workers to facilitate their efforts. At present 14 branches are in operation in different parts of the country to test an institutional model to help the poor in productive persuits.

c. Training & Resource Centre (TARC)

Training has always been an integral part of the total support service that BRAC provides its workers and beneficiaries for accelerating the multidisciplinary change process. Since 1976, TARC has been involved in systematically assessing training needs of BRAC staff, landless groups, other NGOs and Govt. Agencies. Modular courses on Human Relations and Occupational skills development are the two types of training that TARC has developed and offers. Courses are highly flexible in content and structure to adcomodate participant's needs and conditions. TARC staff, in collaboration with field based programme organisers, provideded continuous follow-up and extension support to landless groups to translate their ideas into meaningful actions.

d. Outreach Project

Outreach is one of the experimental programmes of BRAC with different approach. It is simply a progression in the line of reducing BRAC's managerial and decision making role in

the groups. Here the total responsibility of creating grass root level organisations and initiation of collective action attending their own needs and aspirations lie with the people themselves. At present about 140 male and female groups of BRAC target people are in action in 8 projects under the programme in different parts of the country.

e. Information and Materials Development Unit

In May 1974, BRAC embarked on a 21-month pilot project to develop innovative functional education materials and methodology for Bangladesh to meet the educational needs for a participatory development. MDU is also involved in writing books on health, nutrition, agriculture, etc. and booklets dealing with the major issues covered in the functional education course to prove a permanent source of reference for the neo-literates. Different types of visual aids are also produced by this unit as a facilitating materials. The unit is also running a number of experimental schools with a view to developing materials for non-formal basic education for young learners.

f. Gonokendra Journal

Since April, 1973 BRAC is regularly publishing a monthly Journal Gonokendra to reinforce the functional education programme. The journal's content is oriented to increasing the awareness of the problems of rural development and providing knowledge about matters of interest to the rural population. The present circulation of this 12-page journal is around 30,000.

g. Research & Evaluation Division

The Research and Evaluation activities in BRAC have been in response to the recent awareness that research on rural issues and institutions must be more deeply rooted in the lives and occupations of the rural populations. The theme of involving

villagers in the research concerns coincides with the view that development workers themselves must ask penetrating questions on rural issues to produce a greater movement towards participatory research. Simulteneously the concern has also been to bring the villagers into the research process and to encourage them in identifying and analysing their own situation in the socio-economic environment. In evaluation BRAC has continued to extend the baseline surveys within its peoject areas in order to gain demographic as well as socio-economic information. Programme evaluation has continued to monitor changes and development within programme operations.

h. Aarong and Textile Design Workshop

With the objective of generating employment among disadvantaged group of rural producers by providing support services, Aarong was established in 1978. Apart from collection, documentation and adaptation of traditional designs in various medium this programme has reduced the middlemanship in craft business by directly linking the poor craftsman in material procurement, production and marketing.

i. BRAC Printers

A modern printing press was established in 1978 with the dual objective of making BRAC less dependent on foreign donors and to facilitate the production of BRAC's educational materials and other publications. The press is already making profit and financing BRAC's monthly journal.

j. BRAC's Other Activities

Formation of Library based growth centres specially in rural areas. Another project BRAC Cold Storage to extend storage facilities of marginal potato growers on preferential basis is under construction.

In respect of its approach and strategy, BRAC tries to accomodate new techniques and methodologies for rural development through a constant effort to identify, acknowledge and correct its own errors which turned BRAC essentially to a learning organisation.

1.2 BRAC Medical Programme

In Manikganj and Sulla where BRAC has medical projects. Both the projects have staff physician, paramedics and village health workers. The village health workers under the supervision of paramedics are primarily responsible for curative side of medicare. Serious and complicated cases are referred to the physician. Preventive care includes health and nutrition education, immunisation, child welfare and family planning activities. At Manikganj, BRAC also funds a sterilisation clinic and nutrition centre for malnourished children.

1.3 BRAC Oral Therapy Programme

After nearly a year of research and field trials, BRAC developed an effective, safe, cheap, simple, acceptable and readily available method for the treatment of diarrhoea. This method can be used by anybody in their own homes. It can be easily taught to village women by other village women.

In June 1979, BRAC began the testing of an Oral Therapy Programme for a population of over 300,000 in three thanas of Sylhet district. On the basis of this experience, the first phase of an Oral Therapy Extension Programme was started from July 1980. A total of about 2.5 million households in the districts of Sylhet, Jessore, Faridpur, Khulna and Kushtia are being taught the oral therapy. The results coming out of this programme are encouraging and it further proves that it is an effective means of teaching oral therapy to village

women in Bangladesh. BRAC is thus proposing to initiate the second phase of the extension to cover additional seven districts of the country. The present programme will serve with some modifications as a prototype for the Phase II.

2. Oral Therapy

2.1 The Importance of Diarrhoea

Diarrhoea is by far one of the major killer in the developing world. It has been estimated that annually there are over 500 million episodes of diarrhoea in children under five years of age in Africa, Asia and Latin America. This results in five to eighteen million child deaths per year.

Diarrhoea can cause or exacerbate malnutrition. In fact, most diarrhoeal deaths in developing countries may be due to a cyclical process involving both diarrhoea and malnutrition. This is of particular significance to Bangladesh where malnutrition due to low calorie intake in young children is common.

In Bangladesh the average child suffers from diarrhoea about twice annually. At least several hundred thousand children under five die from diarrhoea per year. In addition, diarrhoea is one of the most common diseases in the adult population.

2.2 Clinical Effects of Diarrhoea

Diarrhoea is a system complex caused by a variety of causative organisms. Intestinal function and blood chemistry can be altered by the various organisms in a number of ways but the results have certain similarities. In severe, prolonged or recurrent diarrhoea due to any of the cause blood volume diminishes with fluid lose with the stool. When the fluid deficit is over five per cent of the body weight, tachycardia, hypotension, oliguria, severe thirst and stupor or coma develop. These are all signs of severe dehydration which is one of

the main factors in deaths from diarrhoea.

The long term effects of diarrhoea are primarily nutritional, especially in young children. Anorexia is often associated with dehydration. In Bangladesh, as in many developing countries, food is withheld from patients having diarrhoea in the belief that this will stop loose motion. If a child has recurrent episodes of diarrhoea, he may enter the cycle of diarrhoea, dehydration, weakness, reduced food in take, weight loss, malnutrition, reduced body resistance and diarrhoea. This cycle contributes significantly to the morbidity and mortality due to diarrhoea and malnutrition.

2.3 Development of Oral Therapy

Intervenous therapy is the most effective means of treating moderate to severe diarrhoea. However, because of cost, lack of trained personnel and logistic difficulties, especially in young children, intravenous fluid is used sparingly in most of the developing world. In search for alternative treatments for diarrhoea, oral therapy was developed.

Oral therapy is the administration of food, fluid and oral rehydration solution for the treatment of diarrhoea. Much of the work to perfect Oral Therapy has been done at the International Centre for Diarrhoeal Disease Research, Bangladesh, formerly the Cholera Research Laboratory. Oral Therapy is now recognised as an effective method of treatment for the vast majority of cases of diarrhoea. It has been used successfully both in the adverse conditions of the refugee camps of the 1972 Bangladesh Liberation War and a home therapy programme in one area of Punjab in India. Recent evidences indicate that early treatment of diarrhoea with oral therapy may also improve the nutritional status of children.

2.4 Formula of an Oral Rehydration Solution

Oral Rehydration Solution is composed of glucose and the electrolytes, sodium, potassium, chloride and bicarbonate. The WHO formula is acceptable for all age groups with different severities of diarrhoea (see table in Appendix 1). The WHO has a packaged mixture known as Oralyte. Various countries, such as India and Indonesia, also package the mixture. Most packets are made to be dissolved in one liter of water.

It is named oral rehydration solution because during the administration of this solution the water and electrolytes which are lost in the diarrhoeal stool are replaced. Glucose has been added because it enhances the movement of sodium from the intestinal lumen to the blood. Glucose also provides calories which improve the nutritional aspect, especially for young children. Sucrose has been found to be an excellent substitute for glucose.

2.5 Method of Treatment with Oral Rehydration Solution

In the treatment of diarrhoea with oral rehydration solution water and electrolyte lost in the stool should be replaced as rapidly as possible till the diarrhoea abates. Treatment should commence immediately after loose motions begin. If this is not done, then the initial fluid and electrolytes loss should be restored and oral rehydration solution equal to the rate of continuing stool loss should be given.

Vomitting may occur with diarrhoea, especially in young children. If vomitting occurs, small amounts of oral rehydration solution should be given repeatedly at more frequent intervals.

In a small percentage of cases of diarrhoea, less than 5% oral rehydration solution may be unsuccessful and intravenous therapy should be used. These include patients who for any reason cannot take fluid by mouth and those who are

already severely dehydrated and have symptoms of shock.

Antibiotics are effective in some cases of diarrhoea due to cholera and Shegellosis. However, these account for only a small portion of the total number of cases of diarrhoea in Bangladesh. Since the course of most episodes of diarrhoea is not affected by antibiotics, they should not be routinely given. Nor do other agents such as kaolin, dephenoxylate and belladonna change the course of diarrhoea. Well over 90% of cases are self-limited and cease within 48 hours. This is the reason why so many drugs are thought to be effective. The basic problem in diarrhoea remains fluid and electrolyte loss which must be replaced.

2.6 The role of Nutrition in the Treatment of Diarrhoea

In addition to oral rehydration solution, oral therapy includes food and fluid for the treatment of diarrhoea. Patients with diarrhoea should continue to eat and drink their usual diet. This is particularly important for children in order to minimize their weight loss. Children being breast fed should continue to be nursed. After diarrhoea, patients especially children, should eat more than their regular diet until they regain the weight lost during the episode of diarrhoea. This can be a critical measure to break the diarrhoea - malnutrition cycle.

2.7 Development of Lobon-Gur Saline

Packets of oral rehydration salt added to the proper amount of water provide an ideal solution for treatment for the vast majority of cases of diarrhoea. However, it is impractical to supply these to every household in Bangladesh. If every case of diarrhoea in Bangladesh was treated with packets, tens of millions of packets would have to be produced and diatributed annually in a country where 92% of the population live in

rural areas and where transportation is very poor. Cost considerations would also hamper widespread distribution of the packets. The per capita income is only slightly more than ₹ 100 per year and the market system tends to be exploitative especially when items are in short supply or are in great demand. In addition, success of the packet is dependent on adding the salt to the proper amount of water and administering it correctly. In Bangladesh, instructions on the packet would be inadequate since more than 80% of the population is illterate. A nation-wide publicity campaign would probably have limited success since only a small number of people even have a radio.

The problems with the packets are well recognised throughout the developing world. To avoid them, special spoons and special containers have been proposed. However, these modifications introduce unfamiliar materials not available in household home, which would seriously affect the knowledge about this method of treatment in Bangladesh. The lobon-gur saline, prepared by the pinch and scoop method, circumvents all these difficulties by using ingredients which can be found in almost every home, fluid volume which can be estimated fairly accurately by almost adult by finger measurements of the ingredients.

2.8 Formula of Lobon-Gur Saline

As mentioned earlier, oral rehydration solution is composed of glucose and the electrolytes, sodium, potassium, chloride and bicarbonate, Sucrose is an excellent substitute for glucose. Lobon-gur saline is a solution of lobon and gur in water. Lobon is Bengali for common table salt which is sodium chloride. Gur is locally available, unrefined sugar which is sucrose, Gur also contains potassium in approximately the proper proportions to sucrose (i.e. when the lobon-gur saline contains

approximately 110 mmol/L of glucose, it also contains between about 10 and 20 mmol/L of potassium). Since mild to moderate acidosis is easily compensated by the body, the bicarbonate is not an essential ingredient for patients not in severe shock. Patient in severe shock are not likely to be saved without intravenous fluid.

The lobon-gur saline is made by adding one three-finger pinch of salt (upto the first crease of the index finger) and one scoop of gur to one-half seer of water.

One half seer is a local measurement equal to 467 ml. A study done in the Sulla Project found that all homes have a container of this size and that 95% of a random sample of village women could estimate this volume within ± 25%. Two other studies done in other rural areas of Bangladesh showed similar results.

The range of the concentration of the constituents is large, but field trials in the BRAC Sulla Project have shown that the range is safe and effective for patients with diarrhoea. Although the lobon-gur saline may be less effective than the packet in some cases (e.g. cholera), it has more than compensated for this by its easy and widespread availability both in homes and throughout the country.

2.9 Dangers of Lobon-Gur Saline

Lobon-gur saline can be dangerous, (1) if too much salt is added to the saline, and (2) when aspiration of vomitus occurs, especially in infants and small children.

The optimal sodium concentration for oral rehydration solution is 90 mmol/L according to the WHO formula. Concentrations as low as 30 mmol/L are still effective for most cases of diarrhoea, especially in children. Concentrations upto 120 mmol/L are acceptable. So the safe and effective range of sodium concentrations is quite large.

However, sodium concentrations above 120 mmol/L are considered dangerous because they may cause hypernatremia. In this condition there is a deficit of water with respect to sodium throughout the body. It can be caused by dehydration or salt overloading or both. Irritability, twitching, mental confusion, stupor, irregular respirations, convulsions and eventually comma may occur..During treatment with the lobon gur saline it could be caused by adding too much salt to the saline or not enough water.

Aspiration of vomitus can result in the damage or obstruction of the airway and the flooding of the lungs with gastric contents. It can occur in infants and small children who have both diarrhoea and vomitting and are given large quantities of fluid. Aspiration can cause severe pneumonia or sudden death. This can be avoided by always giving infants and young children small, frequent feedings.

There is no indication that either of these dangers have caused any complications or deaths, in the area of Bangladesh where the lobon-gur saline is being used. Considering the large number of patients already using the lobon-gur saline prepared by the pinch and scoop method, it can reasonably be assumed that these complications are extremely uncommon.

2.10 Lobon-gur Saline, a Form of Oral Therapy

The lobon-gur saline, prepared by the pinch and scoop method is an indigenous form of oral therapy. It is an effective, safe, cheap, simple, acceptable and readily available means for treatment of diarrhoea. It can be safely used by ordinary people in their own home whenever it is needed.

3. The Present BRAC Oral Therapy Programme: A Prototype

3.1 Introduction

In July 1980, BRAC began the first phase of its oral therapy programme which would continue for 3 years. It is based on a year of pilot and another year of field research and experiences in rural Bangladesh. Simplicity is emphasized in all aspects of the programme because of the difficulty of the task.

This programme will serve with some modifications as a prototype for the phase II programme. Seven districts of the country will be covered through this phase (see Appendix 2). The method of oral therapy, the educational design and the organizational framework is the same in both.

3.2 Oral Therapy Education

The core of the programme is a simple - concise but comprehensive health message entitled "Seven Points to Remember" (see Appendix 3). It is the summary of all the information that a village woman needs to know to treat diarrhoea with home-made oral therapy. Oral Rehydration Workers (ORWs) train village women how to treat diarrhoea with oral therapy. The ORWs are all women mostly in their twenties and have usually 10 years of schooling. They visit all households in the village and teach atleast one woman in each about the Seven Points.

To facilitate and reinforce oral therapy education in each village, meetings are organized which is usually attended by male members. The Programme Organizers (P.O.) explain the purpose of oral therapy education to be conducted in the village and seek cooperation and assistance of the villagers in the ORW's work. The meeting also identifies members of the community who will assist the ORWs in course of their work. The programme Organisers also conduct seminars with village

Before the home visits start all the educational institutions are contacted and dates are fixed for discussions and demonstration of oral therapy. Batches of children and teachers are given oral therapy education. The students who are found keen are given specific responsibilities to promote oral therapy in their own villages. Children are found eager learners and volunteers. Children and teachers are a great help in mobilizing opinions in favour of oral therapy in the locality.

During the home visit the ORW first introduces herself and engages in friendly conversation with the woman. The ORW gradually leads the conversation to the seven points. She invites queries as she talks in order to clarify confusion and resolve doubts. After the ORW is confident that the woman understands the message, she teaches her how to make the Lobon-Gur Oral Saline. She shows how to measure half seer of water accurately in a container from her home. Then she asks the woman to make the saline herself. Finally the ORW questions her to make certain that she fully understands the seven points. A flip chart containing a pictoral representations of the points has been provided to each ORW. This has simplified the teaching. Following each home visit the ORW records the village, the para, the women's name and the name of husband/head of the household in diary. This is done in order to identify the woman in later date. Each house visit takes approximately 30-35 minutes. Each ORW makes an average of 10 house visits per work day. The remainder of her workday is spent travelling to and from her assigned village and between houses.

Another innovation which developed in the earlier stage of the programme is a mobile diarrhoea treatment centre. As soon as the team camps in an area, a diarrhoea treatment centre is opened where all cases of diarrhoeaare treated with ORS and

where required by administering intravenous saline. A good amount of emphasis is given into this as demonstration is considered very important for raising people's confidence on the method. As per our experiences, male contacts are very important for the success of the programme as males are the family decision makers. Thus all efforts are made to contact and motivate the males. This is done through personal contact, small group discussions, Haat (village market) meetings and meetings at mosques on Friday prayer days.

The ORWs remain in a team of 7-8 ORWs, 2 P.O.s and a service staff. It takes about a month and a half to cover one union (approximately 2,500 households).

3.3 Personnel

The programme staff is composed of a programme Manager based at Dhaka. He contracts the programme in the five on-going districts with the help of one Regional Manager who is also based in Dhaka. The Programme Manager is responsible for smooth conduct of the programme. The programme area is divided into several areas. Each area is headed by an Area Manager (AM) and has usually an office in the Sub-divisional head quarter. He has under his 10-12 teams of ORWs and three Reinforcement Teams (See 3.4). He has also such other office staff as an Accountant, an Office Assistant and a Laboratory Assistant.

An Information and Public Relations Manager based in Dhaka is looking after the publicity of the programme. The Accountants at the area offices are looked after by a Senior Accountant based at Dhaka. The Evaluation staff consists of an Evaluation Manager, several Statisticians, Programmers, Editors, Coders, etc. There are also a number of field staff taking part in data collection operations. Besides a group of Trainers visit different areas for training of ORWs and P.O.s.

3.4 Reinforcement and Quality Control

There are a number of Reinforcement Teams working in each area./A Reinforcement Team consists of 3-4 staff. They have three main responsibilities. About a month after the ORW activities, this team visit the unions covered by ORW teams. They organise follow-up meetings. These include village meetings, school meetings and meeting with village elites, quacks and doctors.

The members of such staff also make random visit to five percent of households visited by ORWs to monitor how many of the seven points are remembered by the women. They also collect samples of ORS prepared by village women for analysis in laboratory. The ORWs are paid salary based on assessment (see Sec. 3.5). This measure takes the quality control into consideration. The third responsibility of the Reinforcement Team is to conduct surveys in randomly selected households to assess the usage of LGS. A re-teaching and motivation is provided where a non-use is encountered. This also takes care of the quality of the programme in behavioral aspect. Form used by the Reinforcement Teams for monitoring the ORW activities is given in Appendix 5.

3.5 ORW Incentive Salary System

Each woman who is interviewed by a Reinforcement Team member for monitoring is graded according to the answers about seven points and also on her skill in preparing the lobon-gur saline. Stress is laid on the importance of each point and the total points is 10. There are four grades. Grade A means that she remembered all points (i.e. receive a score of 10) and made a safe and effective solution. Grade B means that she scored 7-9½ points and could prepare the required ORS. Grade C means that she scored less than seven points but still could prepare ORS correctly. Grade D means that she could not prepare

ORS correctly. From these results the number of households visited by each ORW in each grade is calculated (see Appendix 5). The ORWs are paid according to the number of households visited in a month under each grade. They receive four Taka for each household in Grade A, two taka in Grade B, one taka in Grade C and no payment for Grade D. The average ORW salary is about 650-750 taka (1 US $ = 24 taka approximately). Apart from this salary they also receive a bonus which is on the basis of this grading over a longer period.

3.6 Laboratory

There is one laboratory serving two areas and managed by a trained Laboratory Assistant. She analyses the chloride contents of ORS samples collected by members of the Reinforcement Teams. The chloride estimate is done by the simple titration method using silver nitrate. The Lab. Assistant reports to the A.M. but a Lab. Technician controls the quality of this analysis by making visits and by counter checking 10 percent of analysed samples. This Lab. Technician is based at the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) Dhaka and uses their facilities. He is under the direct supervision of the Programme Manager.

3.7 Publicity

The publicity of the programme is looked after by the Information and Public Relation Manager under the guidance of the Programme Manager. A number of communication media are used for proper publicity of the programme. Posters, leaflets, folders, etc. have been developed and are being used for publicity. A regular daily radio broadcast and television advertisement are parts of the total publicity campaign.

3.8 Evaluation and Some Results

The Research and Evaluation Division of BRAC shoulders the responsibility of evaluating the programme. They receive advisory services from an International Technical Advisory Committee (See Appendix 32). The major activity is to measure impact of the programme on mortality. A research design was prepared after long study and field testing and is now being executed in eight unions. These unions were selected through a stratified "sliding" sampling and involve multi-round surveys. The data are still coming in and the computer facilities at ICDDR,B are being utilised to process the data. The programming assistance is being received from ICDDR,B and the University of Namur, Belgium, through collaborative arrangements. It is, a little early; to predict anything on the impact.

There are some other aspects of the evaluation which are also looked after by the Research Division. Adhoc studies are undertaken to study any particular aspect relevant to the programme for increasing its effectiveness. These may include surveys to study the retention of knowledge about the method over time, study to devise appropriate methodology for measuring the extent of utilization or usage of the method or anthropological study to know the reason of low usage. Some results are available from the built-in evaluation systems and also from some adhoc studies. Results show that the programme quality with respect to the teaching are well under control. Nearly 50 percent of women were graded in A. A similar proportion were graded in B. Proportion in Grade D (i.e. those who could not make correct ORS) were negligible (about 1 percent). Sodium (or chloride) concentration results are also available from the same samples.

Mean concentrations are mostly in 60-70 mmol/L range. Detailed results are given in Appendix 7 & 8. Some fragmentary results are also available on the utilization of the method. The range is very wide (8-80%). Many new strategies have been undertaken to ensure a higher utilization. Results are still coming in and preliminary assessment speak of improvements. Further, improvement is expected as results of new media campaign and reinforcement drives.

4. A Proposal for Oral Therapy Extension Programme Phase II

4.1 Introduction

The present BRAC Oral Therapy Extension Programme Phase I is the model for this programme (see part 3). The method of oral therapy, the educational design and the organizational frame-work is the same in both. The significant differences are the size of the programme and concentrated reinforcement activities in some selected areas. But this will not require any change in programme strategy.

4.2 Objectives

The objective of this programme is the same as that of Phase I. It will disseminate information concerning oral therapy to about four million households in seven districts of Bangladesh over a period of 2.75 years and will motivate people to use the method in case of diarrhoeal episodes in order to reduce mortality and morbidity.

4.3 General Description

This programme is designed to fit within BRAC's operational capabilities. It will begin on October 1, 1983 and will continue for 2.75 years until June 30, 1986. The related activities have already begun.

The population of Bangladesh is little over 90 million. They live in about 16 million households. In the present Oral therapy programme, the ORWs are unable to contact or teach women in about one-fourth of the households. As a result of these factors, total number of households that could be covered by ORW will be approximately 12 million. But out of these about 2.5 million would have been visited by the Phase I as well as the pilot programme and the urban population will not be covered as alternate facilities are available there. Thus out of the remaining nine million households, four million are planned to be covered during the Phase II.

A programme of this kind will encounter innumerable obstacles and difficulties in Bangladesh. However, many of these have already been solved in course of the present programme and others have been taken into account in the preparation of this proposal. Time has been allotted for the inevitable delays and steff has been included to compensate for dismissal and resignations.

4.4 Operational Plan
(see Appendix 9 & 10)

The phase II programme will last for 2.75 years and will cover four million households in seven districts in Bangladesh namely:-

1. Dhaka
2. Comilla
3. Tangail
4. Mymensingh
5. Jamalpur
6. Patuakhali
7. Barisal.

During the first year the goal will be to visit 14,00,000 households. During the second and third year the households visited will be 14,00,000 and 12,00,000 respectively.

4.5 Organisational Structure

(see Appendix 11)

The Executive Director of BRAC will have ultimate responsibility for the programme. All major decisions will be made by him in consultation with senior staff members. The Programme Manager will manage all Operational aspects of the Programme.

The administrative staff for the programme will be located in the BRAC office at Dhaka (see Appendix 12). It will coordinate finance, logistics, recruitment and training of staff, quality control, statistics, publicity and public relations for the programme.

The programme area will be divided into two regions depending on the geographical locations. A Regional Manager will coordinate the programme in each region. There will approximately be 10 areas at a time for the whole programme. In each area there will be approximately 9 - 10 ORW teams, three regular Reinforcement Teams and three Concentrated Reinforcement Teams. Each Area will be headed by an Area Manager who will have an office within geographical location of the area. Details about the organisation is given in Appendix 11.

4.6 Personnel

The number of ORWs determines programme capacity as well as the number of other staff members needed by the programme at any given time.

During the first year the ORWs will visit 1.4 million households or about 35% of all households in the Phase II programme. Our experiences in Phase I have shown that an ORW visits an average about ten households per workday and approximately there are 22 workdays per month. The attrition rate for women

workers in this kind of programme is high in Bangladesh. Only two-thirds of those who complete the CHW training are eligible for hiring. Approximately a fifth of the hired CHWs will leave or their services be terminated by the programme in the first few months, one tenth of the remaining CHWs usually depart from the programme every year. With about 400 CHWs joining from Phase I, an estimated 720 CHWs will be working at the end of the first year.

Personnel at other levels have been kept more or less as in the on going phase. The main additions are only at the two echelons. One, a post of an Administrative Officer, has been added. The incumbent will be stationed at H.Q., Dhaka to look after all administrative and logistics matters pertaining to CCDP. P.O.s 2 in number have been added in each area. They will be utilised i) To replace any P.O. going on leave or falling sick, ii) to augment efforts on teaching male population in to villages through seminars/ meetings, iii) any other odd jobs that may come up. These posts have been included basing on experiences of the current phase activities. (The personnel chart in detail for all staff is given in Appendix 13).

4.7 Recruitment and Training

The Regional and Area Managers as well as members of the training and evaluation staff will be regular BRAC staff. Many of them will have experiences working in the Phase I of the programme. Most of the P.O.s of CHW and Reinforcement Teams will be taken from the present phase workers and the rest will be taken from other BRAC projects. New CHWs will be recruited through advertisements in local and national newspapers. According to our experience only about 10% applicants will be selected for training.

The ORW training course will last for five days (see Appendix 14). It will concentrate primarily on the seven points to remember including how to make the Lotob-gur saline. These will be reiterated repeatedly through lectures, group discussions, demonstrations, role playing and actual field work. There will also be a two-day ORW refresher course for each team every four months throughout the programme. The refresher courses are designed to provide feedback from the Reinforcement team members and other supervisory staff and also to boost their morale.

4.8 Housing and Transportation

Usually 3-4 teams will be assigned to a thana. The members of the team will live in the union until one woman in each household has been taught oral therapy. Housing accomodation will be rented unless it is donated by local residents. Accomodation for a team of approximately 10 members are usually not difficult to find in each union. When all the unions of a thana have been covered, the teams will shift to another thana. Each area will have an office supervised by an Area Manager. It will be located near the teams and preferably in a sub-divisional town. Just as the teams will shift after a union or thana has been covered, the area office will shift after a sub-division has been covered.

Most of the movements for field work in the programme will be by foot or bicycle or by country-boat. Local transportation facilities will also be utilised whenever available. Use of motorized vehicles for carrying out field work has not been provided because of the high cost of fuel, spare parts and also the scarcity of maintainance facilities.

4.9 Regular Reinforcement and Quality Control

The activity of the Reinforcement Teams will remain the same as in phase I. The activity of a reinforcement team has been described in sec. 3.4. The activities include the actual reinforcement of knowledge through public contacts, monitoring of ORW activities and usage surveys.

4.10 Special Reinforcement in Phase I Area

Significant changes have been brought about in the ORW and reinforcement team activities since October, 1982. ORW team activities now include systematic coverage of male population through male seminars, quack seminars and other methods of contacts through meetings in market places, mosques etc. The Reinforcement Team activities have also been rationalised and now includes monitoring, usage survey and other motivational meetings and follow up seminars. The current package of field activities being carried out is thought to be significantly more effective than that used to be carried out prior to October 1982. It is proposed that the areas covered earlier will need to be revisited in order to implement programme elements which are now considered vital for increasing usage rate and better practices in Oral Rehydration Therapy. These are male seminars, quack seminars and male contact through pre-arranged meetings in mosques etc. which were not systematically carried out prior to October 1982 as currently done.

Out of a total of 682 unions covered earlier it is expected that additional reinforcement visits will be completed in 207 unions during the Phase I period. The remaining 475 unions will need to be additionally covered during Phase II.

4.11 Concentrated Reinforcement in Selected Areas

During Phase II a total of 150 rural thanas will be covered by the programme. In each of these thanas one union (population 18,000) will be selected for programme concentration on primary health care and preventative medicine in addition to reinforcement of Oral Therapy over a period of six months. A team consisting of three Oral Rehydration Workers and three male Programme Organisers will be suitably trained for deployment in each of these unions. A pilot project to determine the most effective programme is being started during phase I. It is however, envisaged that the programme will consist of some or all of the following:

1. Training of village women (two in each village) to operate as Primary Health Workers in their own villages.
2. Training of village birth attendants for upgrading their skills and imporving practices relating to sterilization techniques.
3. Conducting health education for womens groups in each village.
4. Immunization for children and mothers - DPT, Measles, Tetanus Toxoid etc.
5. Conducting Oral Rehydration usage campaign throughout the surrounding unions during diarrhoea season.
6. Conducting campaign against scabies, intestinal worms and other common ailments and in favour of better sanitation and drinking water.

The programmes as indicated above will be introduced through technology improvement in some aspect of village life. The traditional stove/oven for cooking is considered to be vitally in need of improvement in view of growing scarcity

of fuel in the household. It is estimated that only about 6% of the energy consumed is utilized in cooking in the traditional stoves/oven presently being used in Bangladesh. Better designs can double the utilization rate. An attempt will be made to design improved stoves/ovens suitable for different types of fuel use. Demonstration of these new designs to popularise the most suitable model and assistance for making these will be provided by the programme staff.

The programme concentration in one selected union in each thana is expected to lead to better health care practices and significantly higher use rate of oral rehydration therapy within the area. The selection of the union for programme concentration will need to be made with sufficient care so that it encompasses the main communication arteries of the thana. Significant spread affect of this programme concentration will then take place throughout the thana.

4.12 Involvement During Gastro-Intestinal Disease Epidemic

OTEP personnel will be taking active role in combatting diarrhoeal disease epidemic in the areas under operation. These will be done in cooperation with public health authorities and other agencies working in such areas.

4.13 Publicity

The existing publicity campaigns will be further geared up with the introduction of new posters, TV films and radio broadcasts. Publicity will also be initiated through daily newspapers, weekly magazines and display boards at fixed places.

4.14 Laboratory

The existing system of setting up a laboratory for two Area levels will be continued in Phase II. Quality Control procedure will also be strengthened. Details about the electrolytes analysis is given in Appendix 17.

4.15 Evaluation

As in Phase I, the project to measure the impact of the programme on mortality will be continued in the same areas and extended to other new areas. Because of the slow nature of the long range impact, the present study in eight unions will be continued during the second phase as well. As the evaluation project undertaken by BRAC is unique in many ways in respect of the design, techniques applied and the quality of data generated, will provide opportunity for studying other processess related to health and demography and may also be used for other purposes. In phase II, the project will be extended to six other unions of the Phase II thanas with two unions selected from each stratum. In addition, a study will be undertaken to measure the impact of the programme on nutrition and morbidity. Some ground work done in Phase I will be utilised to design the study in Phase II.

4.16 Budget

A detailed budget for the 2.75 years of the programme has been divided into the following categories:
Recruitment and Training, ORW Team, Reinforcement Team, Area Field Support, Organisational Requirement, Publicity, Laboratory, Evaluation and Administration. The budget for the entire programme is Tk.8,00,79,880 (US $ 3,336,662).

Appendix - I

WHO FORMULA

Composition of Oral Rehydration Solution*
(in mo Eq/L)

Sodium	90
Potasium	20
Chloride	80
Bicarbonate	30
Glucose	110
or	
Sucrose**	110

*After being dissolved in the proper amount of water

**Sucrose is an excellent substitute for glucose.

COVERED IN PHASE- I

TO BE COVERED IN PHASE- II

Appendix - 2

'SEVEN POINTS TO REMEMBER'

1. Loose motion and increased frequency of motion are the first symptoms of diarrhoea. Water and salt contents drain out from the body with each loose motion. If such loose motions continue for some time, symptoms like vomitting tendency, loss of apetite, indigestion and spasm of hands and legs may set in. Loose motion then turns into diarrhoea, which may prove to be fatal. So necessary measures should be taken in time to save the diarrhoea-patients.

2. In order to save ourselves from this disease, we should drink tube-well, tap water. If such water is not available, water from other sources should be boiled and then cooled before use. Rotten food should not be eaten. All foodstuffs should be covered well so that flies cannot sit on them. Hands and mouth should be washed properly before eating.

   Remember that breast-milk is always harmless. But children fall sick when they suck dirty breasts. So the nipples of breast should be kept clean.

3. The only treatment of diarrhoea is to replenish by any means the water and salt lost. Previously it used to be done by intravenous saline injection. Injectable saline contain water, salt and glucose. But there are some difficulties to use, such as, saline for injections are not easily available in the villages; and since these injections are intravenous, the services of a doctor are necessary moreover is expensive. It is, therefore, necessary to take timely measures so that loose motions do not turn into diarrhoea. The easiest treatment is to administer Oral Rehydration Saline. This saline is also made of salt, water and sugar like saline for injections. But the advantage of it is that it can be prepared right in the house and it requires only a little bit of salt, molasses and pure water.

4. Oral Rehydration Saline is to be prepared by mixing a pinch of salt with the help of tips of three fingers and a fistful of molasses in half a seer of water well stirred. Care should be taken to mix salt, molasses and water in right proportion.

..../

5. Oral saline should be administered immediately after the first loose motion. If it is delayed, it may be difficult to replenish the lost water and salt. As a result, there may be shortage of water in the system of the patient, and he/she may become weak. If dehydration takes place, saline injections become essential.

6. Adult patients should be given at the rate of half a seer of oral saline as prepared at a time after each motion. The children should be given only as much as they want, but at frequent intervals.

7. Advice in regard to nutrition: During the disease, the patient should be given to take plenty of water and foodstuffs like rice, curry along with oral saline. In case of children, breast feeding by mothers must not be stopped. The patient should be given increased amount of water and food at least for seven days after recovery. This will help to cure malnutrition and weakness of the patient and minimise the possibilities of his/her falling victim of the disease again.

Appendix - 4

Questions on Seven Points to Remember

Initially the monitor asks the woman to explain what she learned from the ORW about diarrhoea and its treatment. If the woman does not mention all the points, then the Monitor asks one or more of the following questions to determine if she remembers the answer(s).

1. What is the first symptom of diarrhoea?
2. When loose motion turns into diarrhoea?
3. What is the treatment for diarrhoea?
4. When should you begin treatment of diarrhoea?
5. How much lobon-gur mixture should you give to a child? And an adult?
6. Should a patient with diarrhoea change his eating habits? How?
7. Have you used this treatment for diarrhoea?

The answers to all of these questions are contained in the Seven Points to Remember (see Appendix 3). The responses to these questions will be recorded on the ORW Activity Monitoring Form (see Appendix - 5). If the woman has used the lobon-gur saline, the monitor will collect ORS sample.

ORAL THERAPY EXTENSION PROGRAMME (OTEP)

ORW ACTIVITY MONITORING FORM

W CODE NO.
AM NO.
RIOD:

SERVE _____ OF THE FOLLOWING
(No)

Learner's Name	Name of Head of Household (HH)	Learner's relationship with HH	Para	Village	Union	1 What is the first symptom of diarrhoea(1)	2 When loose motion turns into diarrhoea (1)	3 Treatment (LGS, Water & normal diet) (1)	4 When to begin & Why(1+1)	5 How much (1+1)	6 Prevention (1)	7 Nutrition (1 + 1)	8 Total Correct	9 LGS-Practical preparation	10 Grade	11 Sample vial number	12 Water Measurement (in c.c.)	13 Name of youngest child

Y:
Nos. 1 - 7: Number in the bracket indicates alloted marks
9. Lobon-Cur-Saline; C = Correct; N = Not correct; O = No knowledge

ADES:
A = 10 marks and LGS Correct; B = 7 to 9½ marks and LGS Correct;
C = Less than 7 marks and LGS Correct; D = LGS Incorrect.

Grading Abstract			
A	B	C	D

Appendix - 6

ORAL THERAPY EXTENSION PROGRAMME (OTEP)

ORW's Monthly Salary Calculation Sheet

ORW's Name: _____ Month: _____

Monitoring Grade	No. of households monitored per Grade	Total Households monitored	% of household monitored per Grade	Total households visited during the month	No. of households per Grade	Payment for each household per Grade	Total Payment Grade wise
A							
B							
C							
D							
Total: Taka							Tk.

Recipient's Signature

Certified by:

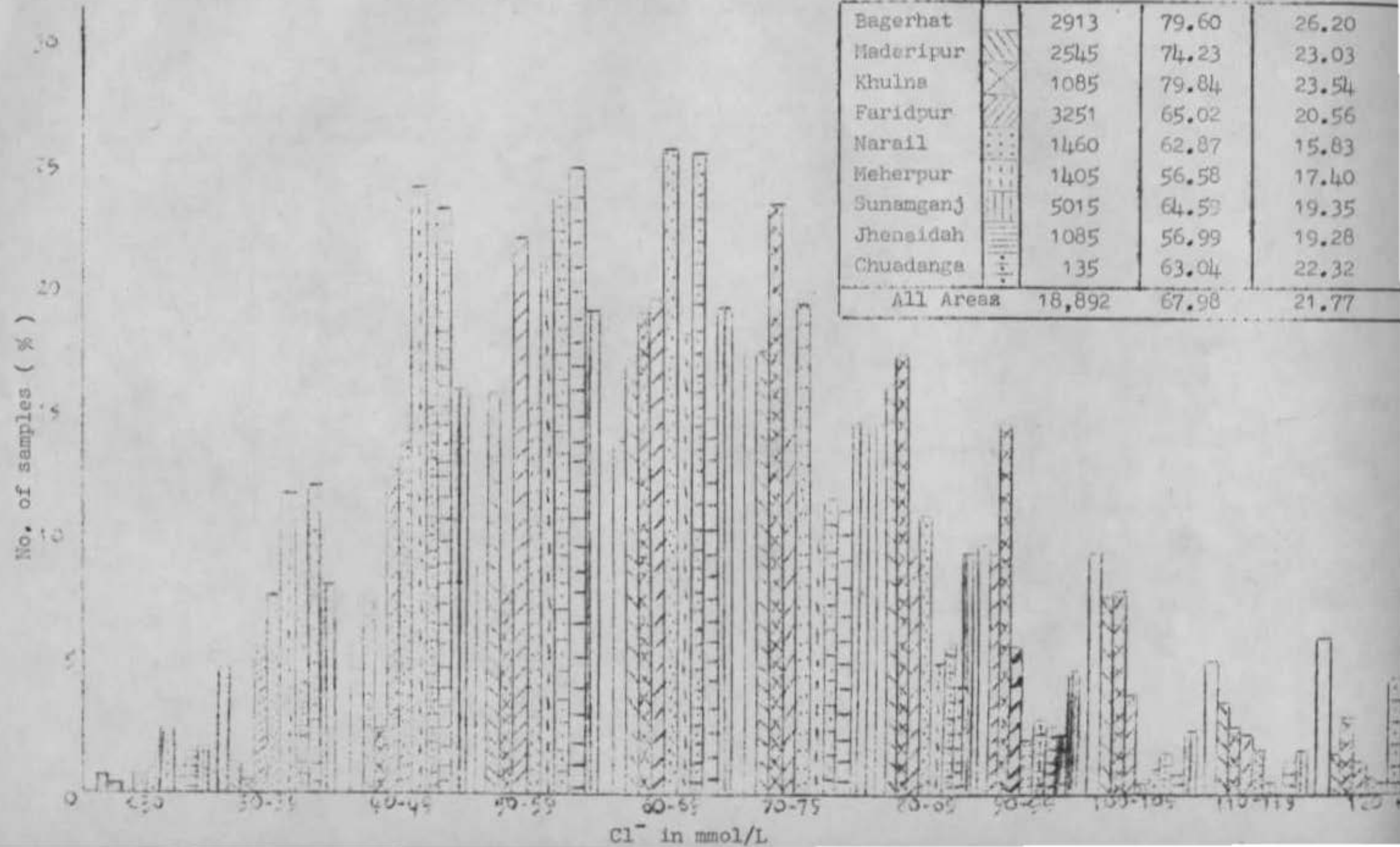
Area Manager

Appendix - 7

Result of Six Month Period Chloride Concentrations of different Areas.

IDENTIFICATION OF AREA

	n	$\bar{x}$	dn
Bagerhat	2913	79.60	26.20
Madaripur	2545	74.23	23.03
Khulna	1085	79.84	23.54
Faridpur	3251	65.02	20.56
Narail	1460	62.87	15.83
Meherpur	1405	56.58	17.40
Sunamganj	5015	64.59	19.35
Jhenaidah	1085	56.99	19.28
Chuadanga	135	63.04	22.32
All Areas	18,892	67.98	21.77



Appendix - 8

Result of Six month period Percentage of Household Monitored/Grade

Area	Percentage of Households/Grade																	
	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	
Bagerhat	46.1	45.2	4.7	46.4	41.0	5.0	46.9	42.5	6.9	50.0	42.3	5.9	----					
Madaripur	43.2	52.8	3.8	43.2	52.7	3.8	47.0	49.4	2.7	48.1	48.4	3.2	50.2	47.0	2.3	54.3	42.8	
Khulna Sadar	55.5	41.0	3.4	56.6	39.7	3.5	50.3	41.9	7.3	51.6	42.6	4.9	53.9	41.7	3.4	49.8	47.1	
Faridpur Sadar	45.6	48.1	4.6	40.7	49.4	5.7	42.7	50.8	3.0	44.5	45.8	4.9	49.1	44.8	3.3	48.8	48.6	
Narail	47.7	50.7	0.8	50.1	48.1	0.8	49.7	46.6	1.6	----								
Meherpur	49.5	50.0	0.3	44.0	53.8	1.8	48.0	50.2	0.9	53.9	45.8	0.3	49.8	48.5	0.8	53.1	46.6	
Gunamganj	47.3	50.1	2.2	44.6	49.2	3.8	52.0	41.4	1.5	43.4	52.3	1.8	47.0	48.2	2.8	44.1	50.9	
Jhenaidah	----						45.0	54.7	---	53.6*	43.5	2.1	50.3	48.0	1.2	50.3	47.9	
Satkhira	----												58.2	38.6	3.0	48.6	46.9	
Chuadanga	----												52.6	45.2	2.2	52.1	46.5	

Appendix - 9

District with No. of Thana & Households(HHs) to be covered

Sl. No.	Name of the District	No.of Thana	No.of Total HHs	No.of HHs in Urban Centre	No.of HHs in Rural Areas	75% of Rural HHs
1.	Comilla	25	12,02,766	46,999	11,55,767	8,66,825
2.	Dhaka	48	17,04,924	6,01,006	11,03,918	8,27,939
3.	Barisal	27	8,29,533	32,171	7,97,362	5,98,022
4.	Patuakhali	11	3,21,116	10,690	3,10,426	2,32,819
5.	Tangail	10	4,20,309	18,529	4,01,780	3,01,335
6.	Jamalpur	11	4,52,594	25,390	4,27,204	3,20,403
7.	Mymensingh	33	12,07,637	52,617	11,55,020	8,66,265
		165	61,38,879	7,87,402	53,51,477	40,13,608

App. 40,00,000 HHs to be covered in 2.75 years
(October 83 - June 86).

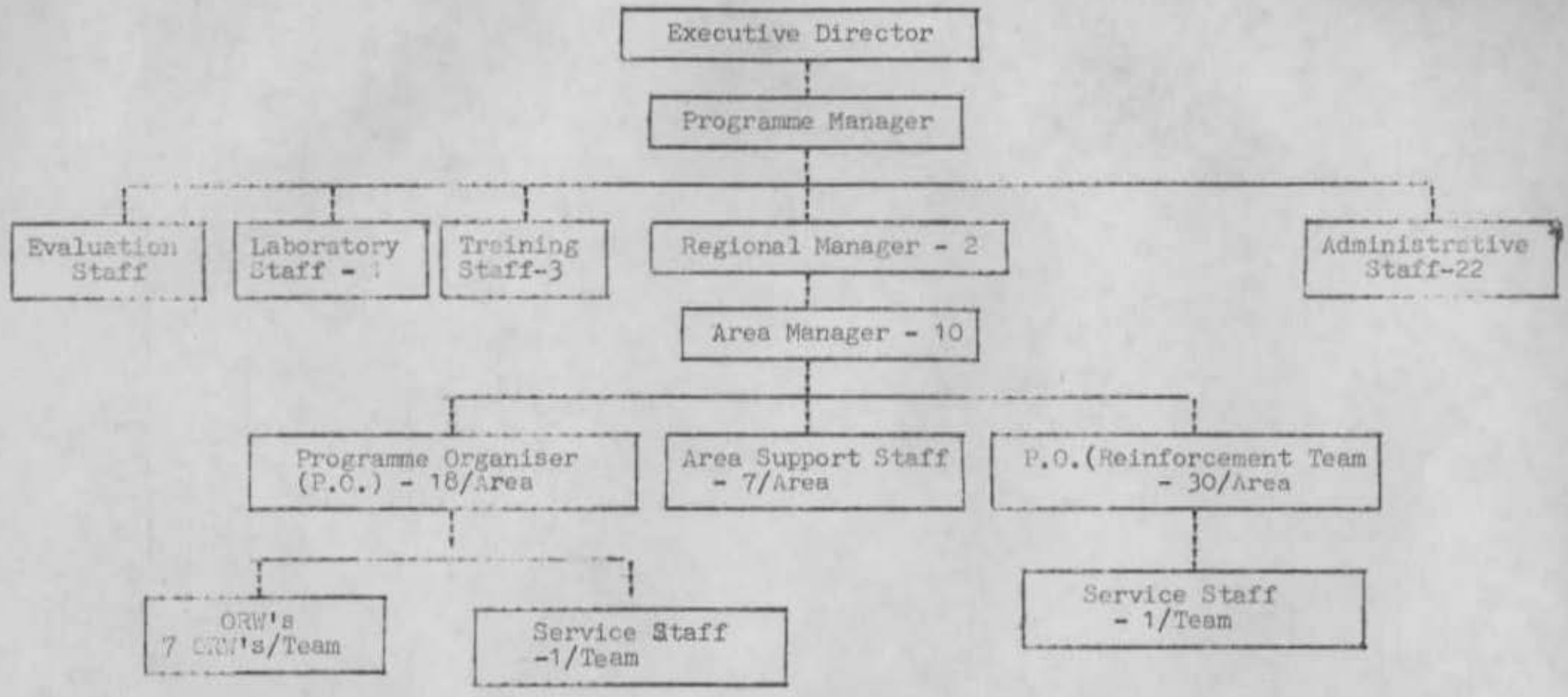
Households Visited by ORWs/Year

12 Million Total Households out of which 2.5 Million Covered in Phase I Programme

PHASE II (COVERING PERIOD OCTOBER 1983 TO JUNE 1986)

Year of Programme Phase II	Households Visited Per Year	Cumulative Total Households Visited
1st	14,00,000	14,00,000
2nd	14,00,000	28,00,000
3rd	12,00,000	40,00,000

Organizational Chart*



*Number given in each category represents peak period deployment.

Appendix - 12

Administrative Staff

Departments	Number of Staff Members
Recruitment and others	1 Administrative Officer
Logistics	2 Logistics Officers
	3 Drivers
Accounting	3 Internal Auditors
	2 Accountants
	4 Asstt. Accountants
General Office Staff	1 Publicity & Public Relation Officer
	2 Secretaries
	3 Office Asstts.
	1 Night Watcher
Total:-	22

PERSONNEL CHART

	New ORWs Trained	New ORWs hired	ORWs at the end of year	New Programme Organiser (P.O.) hired		P.O. Trained		P.O. at the end of year			Service Staff			Area Field support Staff	Training Evaluation and Lab. Staff	Admn. Staff	
				ORW Team	Reinforcement Team	ORW Team	Reinforcement Team	ORW Team	Reinforcement	Concentrated Reinforcement	ORW Team	Reinforcement Team	Concentrated Reinforcement				
	500	330	720	85	50	60	45	180	120	90	90	30	30	65	44	22	
	125	85	720	45	30	36	24	180	120	90	90	30	30	65	44	22	
	125	85	720	45	30	36	24	180	120	90	90	30	30	65	41	22	
	750	500	-	175	110	132	93	-	-	-	-	-	-	-	-	-	

Assuming

- 400 ORWs, 120 P.O.s of ORW team, 75 P.O.s of reinforcement team and 72 P.O.s of special reinforcement team join from Phase I Programme.
- Two-thirds of those who complete ORW training course will be hired.
- One-fifth of hired ORWs will leave or be terminated in the first few months.
- One-tenth of the remaining ORWs will depart from the programme in every year.
- One-fifth of hired P.O. will leave the programme in every year.

ORW PRE-SELECTION TRAINING MODULE

1st Day:

Getting acquaintance.
Ex.I. Description of BRAC.
Ex.II. Warm-up (perception of the participants)
Tea Break
Ex.III. Discussion on Diarrhoea.
L u n c h
Ex.IV. Objective of OTEP
Ex.V. Explanation of 7 points.
Ex.VI. Demonstration: How to make Lobon-Gur Saline.
Ex.VII. Distribution of 7 points scripts
C L O S E D

2nd Day:

Ex.VIII. Written Examination on 7 points
Ex.IX. Practical Examination: Make the LGS.
Tea Break.
Ex.X. Demonstration of Role Playing through Flip Chart.
L u n c h.
Ex.XI. Role playing by all participants.
Ex.XII. Discussion: What participants learned & how to improve.
C L O S E D.

3rd Day:

Ex.XIII. Distribution of materials & Directives of Field work.
Ex.XIV. Field Work
L u n c h.
Ex.XV. Review of 7 points.
Ex.XVI. Group discussion: Problem faced and to solve.
C L O S E D.

4th Day:

Ex.XVII. Examination on 7 points.
Ex.XVIII. Role of ORW in OTEP.
Tea Break.
Ex.XIX. Basic Guidelines (Session I)
L u n c h.
Ex.XX. Basic Guidelines (Session II)
Ex.XXI. Discussion on Operational Plan.
C L O S E D.

5th Day:

Ex.XXII. Field Work.
XXIII. Problems encountered and to solve
Announcement of Result.

Appendix - 15

Chart of Area Month, Team Month and Staff Months

Year	No. of Area	Area Months	Team Months			Staff Months				
			ORW Team	Reincorcement Team	Concentrated Reinforcement Team	ORW (ORW Team month X7)	P.O.(ORW Team) (ORW Team months X 2)	P.O.(Reinforcement Team)	P.O.(Male)Concentrated Reinforcement (Concentrated Reinforcement Team month X 3)	P.O.(Fem Concentra Reinforce Team
1st	10	110	1087	242	180	7609	2174	968	540	540
2nd	10	120	1087	242	360	7609	2174	968	1080	1080
3rd	10	90	932	207	360	6524	1864	828	1080	1080
Total:-	-	320	3106	691	900	21742	6212	2764	2700	2700

Appendix - 16

Replacement Chart of Team Supplies

Year	No. of Teams at the Beginning				No. of Teams at the End of Year				Replacement		
	ORW Team	Reinforcement Team	Concentrated Reinforcement Team	Reinforcement Team in Phase I	ORW Team	Reinforcement Team	Concentrated Reinforcement Team	Reinforcement Team in Phase I	ORW Team	Reinforcement Team	Concentrated Reinforcement Team
1st	58	20	-	36	90	30	30	-	-	-	-
2nd	100	30	30	-	90	30	30	-	58	20	10
3rd	100	30	30	-	90	30	30	-	45	15	20
								Total:	103	35	30

Appendix - 17

ELECTROLYTE ANALYSIS CHART

Year	HHs to be Covered	No.of Samples for Cl analysis at field lab(5% of covered HH)	No. of Samples for Cl, Na & K analysis at ICDDR, B.(10% of Lab. analysed sample)	No. of samples for glucose analysis at ICDDR,B (5% of Cl, Na & K analysed sample
1st	14,00,000	70,000	7,000	350
2nd	14,00,000	70,000	7,000	350
3rd	12,00,000	60,000	6,000	30
Total:-	40,00,000	2,00,000	20,000	730

DETAILED BUDGET

Phase - II

1. RECRUITMENT AND TRAINING

A. Staff Recruitment

Position	Number[a]	Cost/Person	Cost/Position	Taka
ORW	500	200	1,00,000	
P.O.ORW Team	175	1400	2,45,000	
P.O.Reinforcement Team	110	1200	1,32,000	
			4,77,000	4,77,000

B. Staff Training

ORW	750	200	1,50,000	
P.O.ORW Team	132	4200	5,54,400	
P.O. Reinforcement Team	93	3600	3,34,800	
			10,39,200	10,39,200

C. ORW Refresher Course

Year	No.of ORWs	No.of Days	Cost/Day/ORW	Cost/Year	
1st	630	6	40	1,51,200	
2nd	630	6	40	1,51,200	
3rd	630	4	40	1,00,800	
				4,03,200	4,03,200

D. Salaries & Benefits

Trainers:

Position	No.	Month	Salary/Month	Cost/Position	
Trainer	1	24	1600	38,400	
Asstt.Trainer	2	15	1000	30,000	
House Rent & Other fringe benefits 50% of Salary				34,200	
				1,02,600	1,02,600

a. see Appendix - 13

E. Transportation

	Taka	Taka
Tk.1000/Trainer/month for 3 Trainers for 15 months	45,000	45,000
Total Recruitment & Training Costs:		20,67,000

2. ORW TEAM

A. Salaries & Benefits

I. Oral Rehydration Worker (ORW) Salaries & Benefits

Home Visits

Grade	Household/grade	Cost/grade	Total Cost
A	20,00,000	4	80,00,000
B	19,20,000	2	38,40,000
C	80,000	1	80,000

ORW Benefit

Tk. 200/ORW/month for 21,742 ORW months[b]		43,48,400
		1,62,68,400

II. Programme Organiser(P.O.)

Salaries and Benefits

Tk.1200/P.O./month for 6,212 P.O. months[b]	74,54,400	
Fringe benefit 30% of Salary	22,36,320	
	96,90,720	

III. Service Staff

Salaries & Benefits

Tk.500/service staff/month for 3106 service staff months[b]	15,53,000	
Fringe benefit 30% of salary	4,65,900	
	20,18,900	
		2,79,78,020

b. See Appendix - 15

B. Housing & Transportation

Transportation

Position	Staff month[b]	Cost/month	Cost/Position	Taka
ORW	21,742	200	43,48,400	
P.O.	6,212	200	12,42,400	
			55,90,800	

Housing

Tk. 250/month/Team for 3106 team months[b]	7,76,500	
	63,67,300	63,67,300

C. Team Supplies

I. Initial

Tk.12,000/team for 32 teams	3,84,000	

II. Operational

Item	Number	Cost/Unit	Cost/Item	
Gur	40,00,000 HH	0.40/HH	16,00,000	
Replacement of team supplies	103[c]	4,000/team	4,12,000	
Lighting lantern	3106[b]	200/team/month	6,21,200	
Miscellaneous team expenses	3106[b]	200/team/month	6,21,200	
			32,54,400	

III. Promotional

School Programme

Tk.60/school for 16,000 schools	9,60,000	45,98,400

D. Team Office Supplies & Stationery

Tk.300/team/month for 3106 team months[b]	9,31,800	9,31,800
Total ORW Team Expenses		3,98,75,520

b. See Appendix - 15

c. See Appendix - 16

3. REINFORCEMENT TEAM

3.1 REGULAR REINFORCEMENT

A. Salaries and Benefits

I. Programme Organiser (P.O.)

Salaries & Benefits		Taka
Tk.1000/P.O./month for 2764 P.O. months[b]	27,64,000	
Fringe benefit 30% of salary	8,29,200	
	35,93,200	

II. Service Staff

Salaries & Benefits		
Tk.500/service staff/month for 691 service staff months[b]	3,45,500	
Fringe benefit 30% of salary	1,03,650	
	4,49,150	40,42,350

B. Housing & Transportation

Transportation		
Tk.400/P.O./month for 2764 P.O. months[b]	11,05,600	
Housing		
Tk.150/team/month for 691 team months[b]	1,03,650	
	12,09,250	12,09,250

C. Team Supplies

I. Initial

Tk.5000/team for 10 teams	50,000

II. Operational

Item	Number	Cost/Unit	Cost/Item	
Gur	2,00,000 HH	0.40/HH	80,000	
Replacement of Team supplies	35[c]	1400/Team	49,000	
Lighting Lantern	691[b]	100/team	69,100	
Miscellaneous Team expenses	691[b]	100/team	69,100	
			2,67,200	3,17,200

b. See Appendix - 15

c. See Appendix - 16.

D. Team Office Supplies & Stationery

	Taka	Taka
Tk.150/team/month for 691 team months[b]	1,03,650	1,03,650

3.2 Special Reinforcement Activities in Phase I Area

Tk.3,000/Union for 475 unions	14,25,000	14,25,000

3.3 CONCENTRATED REINFORCEMENT IN SELECTED AREAS

A. Salaries and Benefits

I. Programme Organiser (P.O.)

Salaries & Benefits

Tk.1200/P.O./month for 2,700 P.O. months[b]	32,40,000	
Fringe benefit 30% of salary	9,72,000	
	42,12,000	

II. Programme Organiser (Female)

Salaries & Benefits

Tk.800/P.O./month for 2,700 P.O. months[b]	21,60,000	
Fringe benefit 30% of salary	6,48,000	
	28,08,000	

III. Service Staff

Salaries & Benefits

Tk.500/service staff/month for 900 service staff months[b]	4,50,000	
Fringe benefit 30% of salary	1,35,000	
	5,85,000	
		76,05,000

B. Housing & Transportation

Transportation

Tk.150/P.O./month for 5,400 P.O. months[b]	8,10,000	

Housing

Tk.500/Team/month for 900 team months[b]	4,50,000	
	12,60,000	12,60,000

b. See Appendix - 15

C. Team Supplies

I. Initial

	Taka	Taka
Tk.8,000/team for 30 teams	2,40,000	

II. Operational

Item	Number	Cost/unit	Cost/item	
Educational Materials, Medicines, vaccines, First-Aid box, kits & others	150	12,000	18,00,000	
Replacement of team supplies	30[c]	1,500	45,000	
Lighting-lantern	900[b]	150	1,35,000	
Miscellaneous team expenses	900[b]	150	1,35,000	
			21,15,000	23,55,000

D. Training

Tk.20/day/person for 30 women for 15 days for 150 unions	13,50,000	13,50,000

E. Team Office Supplies & Stationery

Tk.250/team/month for 900 team months[b]	2,25,000	2,25,000
Total expenses for Reinforcement Team		1,98,92,450

4. AREA FIELD SUPPORT

A. Salaries & Benefits

I. Area Support Staff

Salaries & Benefits

Position	NO/Area	Area Month[b]	Salary/month	Cost/Position
Area Supervisor	1	320	2000	6,40,000
Area Accountant	1	320	1200	3,84,000
P.O.	2	320	1200	7,68,000
Courier	1	320	600	1,92,000
Lab. Asstt.	1/ Two area	160	600	96,000
Fringe benefit 30% of salary				6,24,000
				27,04,000

b. See Appendix - 15

c. See Appendix - 16

5. ORGANISATIONAL REQUIREMENT

A. Central Office

Item	No.	Cost/unit	Cost/item	Taka
Land Rover	1	3,50,000	3,50,000	
Micro-computer & accessories	2		8,00,000	11,50,000
			11,50,000	

B. Area Office

Motor Cycle	4	20,000	80,000	
Speed boat engine	1	50,000	50,000	
			1,30,000	1,30,000

Total cost on organisational requirement 12,80,000

6. PUBLICITY

A. Posters

Distributed to	Poster/unit	Number	Cost/poster	Total	
Each & every village of a union	150/union	1600	2	4,80,000	
School	5/school	16000	2	1,60,000	
				6,40,000	6,40,000

B. Radio

I. Commetary production (with revised and alternative as required) 10,000

II. Spot Charge

Spot(in second)	No.in 33 months	Cost/spot	Total	
30 second	330	150	49,500	
45 second	300	175	52,500	
			1,02,000	1,12,000

C. Television

I. Film production: Three 60 seconds film (one in colour and 2 black & white)including 3 prints of each 1,30,000

II. Spot Change (60 Second)

Tk.2000/spot for 750 spots 15,00,000

16,30,000 16,30,000

II. Service Staff

Salaries & Benefits	Taka	Taka
Tk.500/service staff/month for 320 service staff months[b]	1,60,000	
Fringe benefit 30% of salary	48,000	
	2,08,000	29,12,000

B. Office Accomodation & Transportation

Transportation

Tk.3,000/month/Area for 320 Area Months[b]	9,60,000	

Office Accomodation

Tk.3,000/month Area for 320 Area months[b]	9,60,000	
	19,20,000	19,20,000

C. Area Office Supplies

I. Initial

Item	Number	Cost/Area	Cost/item
Maintenance & equipment	4	40,000	1,60,000
Lab.Instrument	4	4,000	16,000
			1,76,000

II. Operational

Item	Area/month[b]	Cost/Area/month	Cost/item	
Utilities	320	500	1,60,000	
Chemicals	160	500	80,000	
Office Supplies	320	300	96,000	
			3,36,000	5,12,000

D. Office Maintenance & General Expenses

Tk.200/month/area for 320 Area months[b]	64,000	64,000
Total Area Field support expenses		54,08,000

b. See Appendix - 15

D. News Paper/Journal Publicity

	Taka	Taka
Tk.4,600/display advertisement (size 4 col. x 10") for 66 display	3,03,600	3,03,600

E. Bill Board

Tk.8,000/bill board display for 70 boards	5,60,000	5,60,000
Total cost of publicity		32,45,600

7. LABORATORY

A. Salaries & Benefits

Laboratory Technician

Salaries & Benefits

Tk.1,400/month for 33 months	46,200	
House Rent and Other fringe benefit 50% of salary	23,100	
	69,300	69,300

B. Transportation

Tk.1000/month for 15 months	15,000	15,000

C. Operational

Electrolyte	Number[d]	Cost/Sample Analysis	Total	
Glucose	730	27	19,710	
Chloride, Sodium and Potasium	20,000	11	2,20,000	
			2,39,710	2,39,710
Total Laboratory costs				3,24,010

d. See Appendix - 17

8. EVALUATION

A. Data Collection

I. Staff Salaries & Benefits	Taka	Taka
Tk.1000/Field Investigator./month for 825 investigator months	8,25,000	
Tk.500/service staff/month for 165 service staff months	82,500	
Fringe benefit 30% of salary	2,72,250	
	11,79,750	
II. Transportation		
20% of salaries	2,35,950	
III. Supplies		
Initial supplies Tk.5000/team for 5 teams	25,000	
Miscellaneous team expenses Tk.200/team/month for 165 team months	33,000	
	58,000	
IV. Printing and Stationery		
Tk.1000/team/month for 165 team months	1,65,000	
		16,38,700

B. Data Processing

I. Salaries & Benefits

Position	No.	Months	Salary/month	Cost/position	Taka
Evaluation Manager	1	33	3,000	99,000	
Programmer	1	33	2,000	66,000	
Statistician	2	33	1,500	99,000	
Coders	10	33	1,000	3,30,000	
Typist	1	33	1,000	33,000	
House Rent & other fringe benefits 50% of salary				3,13,500	
				9,40,500	

II. Transportation	Taka	Take
Tk.1,000/Person/Month for 3 persons for 33 months	99,000	
III. Stationery		
Tk.1,000/month for 33 months	33,000	
IV. Computer Time and Data Processing	6,00,000	
		18,72,500
C. Adhoc Studies (All Costs)		
Tk.20,000/Year for 3 years	60,000	60,000
D. Nutrition & Morbidity		
Study (All Costs):	3,00,000	3,00,000
Total Evaluation Costs:-		36,71,200

9. ADMINISTRATION

A. Salaries & Benefits

Position	No.	Months	Salary/Month	Cost/Position	
Programme Manager	1	33	4,000	1,32,000	
Regional Manager	2	33	3,000	1,98,000	
Information & Public Relation Manager	1	33	3,000	99,000	
Administrative Officer	1	33	2,000	66,000	
Internal Auditor	3	33	1,600	1,58,400	
Accountant	2	33	1,600	1,05,600	
Asstt.Acctt.	3	33	1,400	1,38,600	
Logistics Officer	2	33	1,400	92,400	
Secretary	2	33	1,000	66,000	
Driver	3	33	700	69,300	
Office Asstt.	3	33	600	59,400	
Night Watchman	1	33	600	19,800	
House Rent and other fringe benefit 50% of salary				6,02,250	
				13,06,750	18,06,750

e. See Appendix - 12

	Cost/Position	Take
A. Travelling Expenses		
20% of salary	3,61,350	3,61,350
C. Office Space		
Rs.10,000/month for 33 months	3,30,000	3,30,000
D. Utilities		
Rs.4000/month for 33 months (including electricity, telephone, water rates, etc.)	1,32,000	1,32,000
E. Office Supplies		
Rs.6,000/month for 33 months	1,98,000	1,98,000
F. Transport Running Cost		
Rs.12,000/month for 33 months	3,96,000	3,96,000
G. Office Maintenance & General Expenses		
Rs.4,000/month for 33 months	1,32,000	1,32,000
H. Furniture and Equipment		
Including furniture and fixture calculator, typewriter, ceiling-fan etc.	3,00,000	3,00,000
I. Head Office Support		
Rs.20,000/month for 33 months	6,60,000	6,60,000
		33,16,100

Appendix - 30

BUDGET SUMMARY

Category	Total (Taka)
1. Recruitment and Training	20,67,000
2. ORT Team	3,98,75,520
3. Reinforcement Team	1,98,92,450
4. Area Field Support	54,08,000
5. Organisational Requirement	12,80,000
6. Publicity	32,45,600
7. Laboratory	3,24,010
8. Evaluation	36,71,200
9. Administration	43,16,100
Total Budget	Tk.8,00,79,880

US $ @ Tk.24/--, Total Budget US $ 3,336,662

Cost of covering 40,00,000 Households US $ 3,336,662

Cost of per household US $ 0.834

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ANNUAL BUDGET

Category	First Year	Second Year	Third Year	Total
1. Recruitment & Training	10,08,000	5,79,600	4,79,400	20,67,000
2. ORW Team	1,40,61,040	1,39,09,040	1,19,05,440	3,98,75,520
3. Reinforcement Team	61,68,900	69,98,900	67,24,650	1,98,92,450
4. Area Field Support	19,74,500	19,62,000	14,71,500	54,08,000
5. Organisational Requirement	8,30,000	4,50,000	-	12,80,000
6. Publicity	11,47,650	11,67,650	9,30,300	32,45,600
7. Laboratory	1,17,650	1,17,650	88,710	3,24,010
8. Evaluation	11,71,800	14,46,800	10,52,600	36,71,200
9. Administration	16,60,400	15,10,400	11,45,300	43,16,100
Total in Lakh	2,81,39,940	2,81,42,040	2,37,97,900	8,00,79,880
Total in US $	1,172,498	1,172,585	991,579	3,336,662

Appendix - 32

The Technical Advisory Committee (TAC)

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