Attachment 1. Date 6/6

ETHICAL REVIEW COMMITTEE, ICDDR,B.

Principal Investigator A.S.M. MIZANUR RAHMAN Trainee Investigator (if any) Nil

Application No. 82-040 Supporting Agency (if Non-ICDDR,B) Aga Khan Founda

Title of Study Feasibility of rice based ORS in field condition including the taking to the mothers and family members in its preparation and use.

Project status:
(✓) New Study
( ) Continuation with change
( ) No change (do not fill out rest of form)

Circle the appropriate answer to each of the following (If Not Applicable write NA).

1. Source of Population:
   (a) Ill subjects — Yes No
   (b) Non-ill subjects — (Yes) No
   (c) Minors or persons under guardianship — Yes No
2. Does the study involve:
   (a) Physical risks to the subjects — Yes (No)
   (b) Social Risks — Yes (No)
   (c) Psychological risks to subjects — Yes (No)
   (d) Discomfort to subjects — Yes (No)
   (e) Invasion of privacy — Yes (No)
   (f) Disclosure of information damaging to subject or others — Yes (No)
3. Does the study involve:
   (a) Use of records, (hospital, medical, death, birth or other) — Yes (No)
   (b) Use of fetal tissue or abortus — Yes (No)
   (c) Use of organs or body fluids — Yes (No)
4. Are subjects clearly informed about:
   (a) Nature and purposes of study — (Yes) No
   (b) Procedures to be followed including alternatives used — Yes No NA
   (c) Physical risks — Yes NA
   (d) Sensitive questions — Yes NA
   (e) Benefits to be derived — (Yes) No
   (f) Right to refuse to participate or to withdraw from study — (Yes) No
   (g) Confidential handling of data — (Yes) No
   (h) Compensation &/or treatment where there are risks or privacy is involved in any particular procedure — Yes No NA
5. Will signed consent form be required:
   (a) From subjects — Yes (No)
   (b) From parent or guardian (if subjects are minors) — Yes (No)
6. Will precautions be taken to protect anonymity of subjects — (Yes) No
7. Check documents being submitted herewith to Committee:
   ✓ Umbrella proposal - Initially submit an overview (all other requirements will be submitted with individual studies).
   ___ Protocol (Required)
   ✓ Abstract Summary (Required)
   ✓ Statement given or read to subjects on nature of study, risks, types of questions to be asked, and right to refuse to participate or withdraw. (Required)
   ___ Informed consent form for subjects
   ___ Informed consent form for parent or guardian
   ✓ Procedure for maintaining confidentiality
   ✓ Questionnaire or interview schedule *

* If the final instrument is not completed prior to review, the following information should be included in the abstract summary:
1. A description of the areas to be covered in the questionnaire or interview which could be considered either sensitive or which would constitute an invasion of privacy.
2. Examples of the type of specific questions to be asked in the sensitive areas.
3. An indication as to when the questionnaire will be presented to the Cttee. for review.

We agree to obtain approval of the Ethical Review Committee for any changes involving the rights and welfare of subjects before making such change.

A.S.M. Mizanur Rahman
Principal Investigator

Trainee

Attachment 1a.

INFORMATION TO INCLUDE IN ABSTRACT SUMMARY

The Cttee will not consider any application which does not include an abstract summary. The abstract should summarize the purpose of the study, the methods and procedures to be used, by addressing each of the following items. If an item is not applicable, please note accordingly:

1. Describe the requirements for a subject population and explain the rationale for using in this population special groups such as children, or groups whose ability to give voluntary informed consent may be in question.

2. Describe and assess any potential risks - physical, psychological, social, legal or other - and assess the likelihood and seriousness of such risks. If methods of research create potential risks, describe other methods, if any, that were considered and why they will not be used.

3. Describe procedures for protecting against or minimizing potential risks and an assessment of their likely effectiveness.

4. Include a description of the methods for safeguarding confidentiality or protecting anonymity.

5. When there are potential risks to the subject, or the privacy of the individual may be involved, the investigator is required to obtain a signed informed consent statement from the subject. For minors, informed consent must be obtained from the authorized legal guardian or parent of the subject. Describe consent procedures to be followed including how and where informed consent will be obtained.

   (a) If signed consent will not be obtained, explain why this requirement should be waived and provide an alternative procedure.

   (b) If information is to be withheld from a subject, justify this course of action.

   (c) If there is a potential risk to the subject or privacy of the individual is involved in any particular procedure include a statement in the consent form stating whether or not compensation and/or treatment will be available.

6. If study involves an interview, describe where and in what context the interview will take place. State approximate length of time required for the interview.

7. Assess the potential benefits to be gained by the individual subject as well as the benefits which may accrue to society in general as a result of the planned work. Indicate how the benefits outweigh the risks.

8. State if the activity requires the use of records (hospital, medical, birth, death or other), organs, tissues, body fluids, the fetus or the abortus.

The statement to the subject should include information specified in items 2, 3, 4, 5(c) and 7, as well as indicating the approximate time required for participation in the activity.

82-040
25/8/82

ABSTRACT SUMMARY
(FOR ETHICAL REVIEW)

The purpose of the study is to assess the availability of rice-powder in households as well as the feasibility of training the mothers on the preparation of rice-based ORS.

1. The subject population would be the mothers of under five years children in the study village. Since children under five years of age have the highest attack rate for diarrhoeal episodes and because the mothers are mostly involved in the care of sick children in households, it is important that any training programme for oral rehydration should involve mothers of under five years children.

2. The study method includes interviews with mother, training her on preparation and use of home-made ORS with rice-powder and salt and surveillance to observe the extent of utilization of the training during diarrhoeal episodes in households. There is no potential risk involved.

3. Not applicable.

4. The confidentiality of data collected will be maintained and information will not be passed out to any one. Anonymity of the mothers and households will be assured through use of code numbers for households and mothers.

5. Since there is no potential risk involved and no invasion of privacy is contemplated, a signed conscent will not be obtained. However, the mothers would be explained the purpose of the proposed interview and training and only those who will be willing to participate in the interview and training will be included in the study.

6. The interview and training will take place in an informal setting in households of the subject population. Approximately 30 minutes time will be needed to complete interview and training.

7. Results of the study will help introduction of a cheaper, more beneficial and more readily available ORS for household use for treatment of diarrhoea.

8. The study will not require any hospital records, organs or tissues.

Visits by field workers to the households may not be considered as invasion to privacy since the households in the study village are routinely being visited by field workers twice a month for diarrhoea surveillance for another programme. However, the interviews will be informal and care will be taken not to distrub the household routine.

SECTION I – RESEARCH PROTOCOL

1. **Title** : "Feasibility of rice based ORS in Field condition including the training to mothers and family members in its preparation and use".

2. **Principal Investigator** : Dr.A.S.M.Nizanur Rahman

   Co-Investigators : Dr.A.M.Molla
   Dr.W.B.Greenough

3. **Starting Date** : 1 October 1982

4. **Completion Date** : 31 March 1983

5. **Total Direct Cost** : US $ 12,725.00

6. This protocol has been approved by the Programme Development Committee.

   Signature of the Chairman, Programme Development Committee : W.B.G.

   Date : 26/8/82

7. Abstract Summary:

Rice powder have been shown to be an effective alternative to glucose for use in ORS. Moreover, by using rice instead of glucose additional nutrients can be supplied to a diarrhoea patient through ORS.

A feasibility study for rice based ORS is proposed to be undertaken in one of the villages under Chandpur Thana where family members, particularly mothers, were trained in preparation and use of salt-sugar ORS through a community training programme.

The study will consist of a questionnaire survey, followed by training programme in preparation and use of rice based ORS for all the mothers of under five year children in that village. Finally an evaluation of the impact of the training will be undertaken through diarrhoea surveillance and case followup procedures.

The proposed study is expected to provide information on the feasibility of using rice powder or any other form of rice product to prepare ORS for home treatment of diarrhoea. The study will also point out if there would be any practical problem for large scale use of rice-salt ORS and is expected to suggest possible solutions thereof.

Aga Khan Foundation has generously agreed to provide necessary funds for the proposed study.

8. Reviews: (Leave Blank)

a) Research Involving Human Subjects: _____

b) Research Committee: _____

c) Director : _____

d) BHRC : _____

e) Controller/Administrator: _____

SECTION II - RESEARCH PLAN

Feasibility of rice based ORS in field condition including the training to mothers and family members in its preparation and use

A. INTRODUCTION

1. Objective:

To find out if rice based ORS is practical for home use and to develop and test a method for training mothers and family members in the preparation and use of rice-salt ORS at home for management of diarrhoea.

2. Background:

Oral rehydration for replacement of fluid and electrolyte losses due to acute diarrhoea became a practical possibility with the discovery that glucose enhances the absorption of sodium and water from small intestine (1,2,3). Phillips (1964) reported that net stool output of cholera patients could be reduced with oral administration of glucose containing solutions (4). This was confirmed by Hirschhorn et al (1968) in a perfusion study (5). Since then several regimens of glucose-electrolyte solutions were developed and tried for treating acute diarrhoeas in adults and children (6-10). Later, sucrose was found to be a successful, cheaper and more readily available alternative to glucose for use in ORS (11-14). Other alternatives to glucose have also been tried (15-16).

However, developing ORS into an even more simplified, inexpensive solution which provides nutrition during diarrhoea seems an attainable goal. Some studies have shown direct or indirect nutritional benefits of oral rehydration therapy in diarrhoea (17, 18); but these benefits are still controversial.

Rice is the most commonly used staple diet in Asia and South-East Asia. Rice strach contains two different poly-glucose, amylose

and amylopectin. Acid hydrolysis converts 80-86% of rice strach into glucose (19). Rice also contains 7-10% protein. Hence rice strach has the potential to be used as a cereal substitute of glucose in preparing ORS since intestinal amylase converts it to a readily available source of glucose and energy. The advantages of rice starch as glucose substitute in ORS are summarized below:

(1) Rice is comparatively cheap and easily available.
(2) Being a staple food it is acceptable and measured to eat daily.
(3) Amounts sufficient to provide full caloric need are feasible.
(4) Cost and storage problems of glucose or sucrose for ORS are eliminated.
(5) Being food, osmolar problems of glucose or sucrose are overcome.

A controlled study conducted at ICDDR,B by Molla et al (20) has demonstrated that rice based ORS is equally effective as the WHO recommended ORS packets in the management of diarrhoea.

Inter-relationships between diarrhoea and malnutrition are well established (21-26). Molla et al (27) have demonstrated that absorption of starch is least impaired during the acute active phase of diarrhoea and therefore, provision of nutrients through cereal based ORS appears to be a logical and practical intervention to break the diarrhoea-malnutrition cycle.

Avoidance or restriction of food during diarrhoeal episodes has been introduced from the Western practice of paediatrics, but use of rice-gruel during diarrhoeal bouts as diet has continued as a practice in rural Bangladesh. Thus rice based ORS may be more acceptable by both parents and patients than other forms of ORS and it may be possible to use rice-ORS to correct dehydration as well as to provide necessary nutritional requirements during the active purging phase of diarrhoea. However, before any large scale use of rice based ORS can be recommended, field studies are needed, particularly on how to make and dispense an

adequate calorie-dense rice-ORS, and how to train targeted users on the preparation and use of the same.

Salt-sugar ORS was found clinically effective in managing diarrhoea with mild to moderate dehydration (16). It was observed that mothers could be trained to prepare and use successfully home-made ORS with salt and sugar for treatment of diarrhoea and thereby reduce diarrhoea mortality (28). Unpublished data from two of the field projects of ICDDR,B at Matlab and Chandpur confirm the above observation and in addition the experience from Chandpur project shows that the mothers and family members can be trained best through direct contact by the field workers during diarrhoeal episodes in the families without supplying any of the ingredients of ORS. After one year of a training programme it was found that 80% of the families of 22 project villages had one or more members trained in home-made ORS and 39% of the families had at least one member who actually treated one or more diarrhoeal episodes during the period.

Villages under Chandpur Project provides a site where training to mothers and other family members is continuing for preparation and use of home-made ORS through experienced field workers. Hence it provides a good opportunity to test the feasibility of introducing an alternative to salt-sugar ORS in a community by similar training approaches by the field workers where salt-sugar ORS is already in use.

3. Rationale:

a) Rice starch can replace relatively more costly glucose or sucrose for use in ORS and was shown to be equally effective as carrier molecules for the trasnport of sodium during diarrhoea through gut mucosa.

b) Being a staple food it is almost always available in every household in Bangladesh and most of other developing countries.

c) Cost-benefit of rice in terms of availability of nutrients is almost double that of either sucrose or glucose.

d) Due to slow release of glucose molecules through digestion by intraluminal enzymes and thus elimination of osmotic problems like inducement of vomiting, the rice starch would provide more carrier molecules and more calories in acute phase of diarrhoea. Thus a single solution will be able to correct both FEM and PEM due to diarrhoea.

e) A successful introduction of rice-ORS in a community will thus have major implications in home-based treatment of diarrhoea and nutritional rehabilitation during and following diarrhoea.

B. SPECIFIC AIMS

a) To determine the availability of prepared rice powder in households.

b) To learn the attitude of mothers/family members towards the use of rice/rice powder as medicine for diarrhoea.

c) To find out the attitude of mothers/family members on practical aspects of preparation of rice powder-salt ORS, e.g. time and energy to be spent for such preparation.

d) To train mothers on the preparation and use of rice powder-salt ORS at home, through direct contact method by trained field staff.

e) To find out the extent of acceptance, and use of training in rice powder-salt ORS through direct contact by field workers.

f) To monitor the appropriatness and outcome of use or rice-powder-salt ORS by mothers in the home-treatment of diarrhoea.

g) To measure the safety of rice powder-salt ORS prepared by the mothers.

h) To find out the related problems that may be encountered for introduction of rice powder-salt ORS in the community and to explore the means to solve those problems.

5. METHODOLOGY

The study will be conducted in one of the villages of the Chandpur community training project area, where baseline data on socio-demographic and diarrhoea morbidity characteristics is already available and where training to mothers and family members on preparation and use of salt-sugar ORS is continuing.

All mothers of the study village having at least one child between 0-5 years of age will be interviewed by health workers through a pre-tested questionnaire (appendix-1) to assess feasibility of rice based ORS. About 300 mothers would be thus available for interview.

After this preliminary survey, all the mothers of children between 0-5 years of age in that village will be trained on the preparation and use of rice-salt ORS.

The training will be carried out by two trained field workers, who will visit each family having an eligible mother for training, irrespective of occurrence of diarrhoeal episodes in the family. The trainers will directly approach the mothers and will discuss with them the relative merits of rice to motivate them to use rice powder for preparation of home-made ORS instead of sugar of Gur. Afterward they will show them how to measure required quantity of rice powder to make a litre of rice-salt ORS and will explain and demonstrate how to prepare rice-ORS.

For the purpose of demonstration each trainer will use a measured packet of rice-powder which will be supplied to them since rice powder may not be available in the household. During demonstration the trainer will:

1) Show the mother the quantity of rice-powder needed and ask the mother to use a suitable household measure by which she would be able to measure equivalent amount of rice-powder in future.
2) Show the mother how to use a tea-spoon to measure one level-tea-spoonful of salt for the same purpose.
3) Show them how long to boil the rice-powder with adequate volume of water to achieve desired consistency.
4) Give instructions on its use during diarrhoea along with additional standard instructions regarding breast-feeding, diet etc. during management of diarrhoea at home.

At the same time diarrhoea surveillance and follow up of detected diarrhoeal episodes will be carried out. In households where diarrhoeal episodes are detected, the mother will receive further reinforcement of training on the first day of case detection.

Diarrhoea surveillance for case detection would be carried out through once weekly visit to each household. All detected diarrhoeal episodes will be followed up daily and the following information collected in appropriate surveillance forms:

a) Date of onset of diarrhoea.

b) Date of starting of treatment, if any.

c) Identification of provider of treatment.

d) Identification of preparation used for treatment.

e) In case any ORS is used, type and estimated volume of ORS used daily.

f) Outcome of the episodes.

g) In case no treatment given, possible reason for it.

Daily follow-up of detected cases will be continued for a maximum of 7 days including day of detection if recovery or hospitalization or death does not occur within this period. Episodes continuing at home during 7th visit will be advised for hospitalization and dropped from daily follow-up However, these episodes will be followed during weekly surveillance visits to note the end result of the episode.

The diarrhoea surveillance will continue for four months after all eligible mothers have been trained on rice-salt ORS at least once.

ORS samples will be collected through random sampling method from two categories of mothers:

a) Those who were trained but had not the chance to use it due to absence of diarrhoeal episodes in the family and thereby did not receive reinforcement of training given during occurrence of diarrhoeal episodes.

b) Those who were trained and treated diarrhoea with rice-salt ORS. Additional comments by mothers on rice-salt ORS will also be noted.

The whole study will cover six months as scheduled below:

1) Questionnaire Survey: one month

2) Training of eligible mothers: two weeks

3) Surveillance and reinforcement of training: four months

4) ORS sample collection and chemical analysis along with analysis of data from questionnaire survey and surveillance: two weeks.

Data obtained from questionnaire survey will be coded and will be analysed through computer. Analysed data will be used to assess the following aspects of the study:

1) Families knowledgeable on Sugar-Salt ORS
2) Availability of Sugar/Gur in households
3) Availability of rice powder in households
4) Extent of use of rice products during diarrhoea
5) Attitude of mothers on use of rice gruel during diarrhoea
6) Attitude of mothers on use of rice powder for preparing ORS
7) Probable method of measuring required amount of rice powder for preparation of ORS in households.

Surveillance data and results of chemical analysis of ORS samples will be hand-sorted, tabulated and analysed by the project staff. Following assessments will be made out of these data set:

1) Diarrhoeal incidence in the study village during the study period.
2) Overall ORS use rate in the study village during the same period.
3) Comparative use of Sugar-Salt ORS and Rice-Salt ORS for diarrhoeal episodes treated by mothers
4) CFR and Hospitalisation rate of episodes treated by mothers/ family members with Sugar-Salt ORS, Rice-Salt ORS and other regimen.
5) Effectiveness and safety of ORS prepared by mothers.

D. SIGNIFICANCE

The assessments made through this study will provide information on the feasibility using rice powder or any other from of rice product as alternate to glucose in preparing ORS for home treatment of diarrhoea.

The study will also point out some practical problems and its possible solutions which will deserve consideration before any attempt to large scale use of Rice-Salt ORS is made.

E. FACILITIES REQUIRED

i) No new office space except the present Chandpur facility will be required.

ii) Laboratory facilities of biochemistry will be required to analyse ORS samples.

iii) Computer facilities will be necessary to analyze the questionnaire survey data.

F. COLLABORATIVE ARRANGEMENTS

Aga Khan Foundation has agreed to provide funds necessary for this project.

References:

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QUESTIONNAIRE FOR RICE POWDER SURVEY

Village:_____ Bari:_____ Family No:_____

Name of mother:_____ Individual No:_____ Age:_____

Q.1. Do you know how to prepare ORS ? Yes /__/ No /__/
If answer is "No" skip Q.2.

Q.2. Would you please tell us the name of the ingredients and the quantity of each of the ingredients needed to prepare ORS ?

Ingredients' name: Salt /__/ Gur/Sugar /__/ Water /__/

Ingredients's quantity: Correct for Salt /__/ Correct for Gur/Sugar /__/

Q.3. How often do you use Gur and Sugar for your family needs ?

Every day: Gur /__/ Sugar /__/

Once or twice a week: Gur /__/ Sugar /__/

Once or twice a month: Gur /__/ Sugar /__/

On special occassions only: Gur /__/ Sugar /__/

Rarely: Gur /__/ Sugar /__/

Q.4. To prepare ORS one needs Gur/Sugar, Salt and Water. But do you know of any alternative to Gur/Sugar for use in ORS ? Yes /__/ No /__/

If yes, specify what_____

Q.5. What diet you would give to a child with diarrhoea ?

_____

(write verbatim the response given)

Q.6. Do you usually prepare and stock rice powder ? Never /__/
Occassionally /__/ Always /__/
If answer is 'Never' skip Q.7 and Q.8

Q.7. Do you have rice powder in your house ? Yes /__/ No /__/
If answer is 'No' skip Q.8

Q.8. For what purposes the rice powder would be used ?

_____

(write verbatim the response given)

Q.9. Have you ever used any one or more of the following rice products as diet or treatment for diarrhoea for a child ?

Luta /__/ Jao /__/ Soaked Chira Water /__/ Rice Water /__/

Any other form /__/ _____ None /__/
(specify)

Q.10. Do you think that above mentioned rice products can help during diarrhoea ?

Yes /__/ No /__/ Do not know /__/

If the answer is either 'Yes' or 'No' _____
(specify how)

_____
(specify how)

Q.11. Do you think preparation of any of the above rice products is troublesome ?

Yes /__/ No /__/. If answer is 'Yes' _____

_____

_____
(specify which one and in what respect)

Q.12. If rice in some form could be used for preparation of ORS instead of Sugar, do you think ORS could be more widely used in homes ?

Yes /__/ No /__/ Do not know /__/. If the answer is either 'Yes' or 'No' _____

_____
(specify your reasons)

Q.13. Do you apprehend any problem if rice powder is used instead of Sugar to prepare ORS ? Yes /__/ No /__/ Do not know /__/. If answer is 'Yes' _____

_____
(specify the problems)

Q.14. How do you measure the required quantity of rice for every cooking ?

_____
(write verbatim answer)

Q.15. Now I am going to explain to you how to prepare ORS using Sugar as well as rice-powder. Please give your opinion on the following:

a) Which one is cheaper ? Rice-Salt ORS /__/ Sugar-Salt ORS /__/
b) Which one is easier to prepare ? Rice-Salt ORS /__/ Sugar-Salt ORS /__/
c) Which one will you try as first choice in case one of your children has diarrhoea ? Rice-Salt ORS /__/ Sugar-Salt ORS /__/
d) Which one is easier to use ? Rice-Salt ORS /__/ Sugar-Salt ORS /__/
e) Which one would be best liked by the children ?
Rice-Salt ORS /__/ Sugar-Salt ORS /__/
Please state your reason _____

_____

SECTION III - BUDGET

A. DETAILED BUDGET

1. PERSONNEL SERVICES

	NAME	POSITION	10 % OF EFFORT	ANNUAL SALARY	PROJECT REQUIREMENT TAKA	DOLLAR
1.	Dr. A.S.M.Mizanur Rahman	Principal Investigator	20% X 6 m	Tk. 170,000/-	17000/-	-
* 2.	Dr.A.M.Molla	Co-Investigator	5% X 6m	-	-	
* 3.	Dr.W.B.Greenough	Co-Investigator	5% X 6m	-	-	-
4.	Dr.A.Bari	Physician	50% X 6m	Tk. 62,400/-	15,600/-	-
5.	Mr. M.A. Khaleque	Sr.Health Assistant	50% X 6m	Tk. 44,000/-	11,000/-	-
6.	Mr. Ruhul Amin	Health Asstt.	75% X 6m	Tk. 30,000/-	11,250/-	-
7.	Mr. Joynal Abedin	Do	Do	Tk. 28,000/-	10,500/-	-
8.	Mr.A Malek	Do	Do	Tk. 28,000/-	10,500/-	-
9.	Ms. Rehana Begum	Do	100% X 6m	Tk. 25,000/-	12,500/-	
10.	Ms. Umme Kulsum	Do	Do	Tk. 25,000/-	12,500/-	
11.	Ms. Mahtab Begum	Do	Do	Tk. 25,000/-	12,500/-	
12.	Ms. Chand Sultana	Do	Do	Tk. 25,000/-	12,500/-	-
13.	Ms. Anwara Khatun	Do	Do	Tk. 25,000/-	12,500/-	-
14.	Ms. Fatema Begum	Do	Do	Tk. 25,000/-	12,500/-	-
15.	Mr. Fazlur Rahman	Admin. Asstt.	Do	Tk. 30,000/-	15,000/-	-
16.	Mr. Tajul Islam	Vehicle Driver	Do	Tk. 22,000/-	11,000/-	-
17.	Mr. Dhan Mia	Security Guard	Do	Tk. 18,000/-	9,000/-	-
18.	Mr. Wahed	Do	Do	Tk. 18,000/-	9,000/-	-
19.	To be named	Key Punch Operator	15%X1m	Tk. 0,000/-	375/-	-
20.	Do	Statistical Asstt.	15%X1m	Tk. 36,000/-	450/-	-
21.	Do	Computer Programmer	15%X1m	Tk. 66,000/-	825/-	-
				Sub-Total	Tk.1,96,500/-	

* Has been budgeted in another protocol.

		PROJECT REQUIREMENT	
		Taka	Dollar
2.	Supplies and Materials		
	Office stationaries including papers & pencils	Tk. 10,000/-	-
	Rice Powder	Tk. 1,000/-	
		Sub-Total Tk.11,000/-	
3.	Equipment	-	
4.	ICDDR,B Transport		
	Field trips and back: 20 miles/day X 120 days = 2400 miles @ Tk.4.50/mile	Tk. 10,800/-	-
		Sub-Total Tk. 10,800/-	-
5.	Travel and Transportation of persons		
	Local: Dacca-Matlab-Chandpur 4 trips/month X 6 months	Tk. 3,000/-	-
	Chandpur-Matlab-Dacca 4 trips/month X 6 months	Tk. 3,000/-	
	Per diem for 1 person for 48 days @ Tk.100/- per day	Tk. 4,800/-	-
	International:	-	-
		Sub-Total Tk.10,800/-	-
6.	Transportation of things:		
	Local transportation of supplies and materials from Dacca to Chandpur	Tk. 1,000/-	-
		Sub-Total Tk. 1,000/-	
7.	Rent,communication & utilities:		
	Rent for office space: Tk.1500/- per month for 6 months	Tk. 9,000/-	-
	Utilities: Tk.500/- per month for 6 months	Tk. 3,000/-	-
		Sub-Total Tk.12,000/-	

		PROJECT REQUIREMENT	
		TAKA	DOLLAR
8.	Printing & Reproduction	Tk. 10,000/-	-
		Sub-Total Tk.10,000/-	
9.	Laboratory Tests:		
	Electrolyte estimation of 200 ORS samples @ Tk.12.00 per sample	Tk. 2,400/-	-
		Sub-Total Tk. 2,400/-	
10.	Other contractual service	-	-
11.	Construction, renovation, alterations etc.	-	-

Gross Total Tk.2,54,500/-

Total US Dollar 12,725.00

Conversion Rate US $ 1.00 = Tk.20/-

B. BUDGET SUMMARY

CATERGORY	PROJECT REQUIREMENT FOR 6 MONTHS	
	Taka	Dollar
1. Personnel	1,96,500/-	-
2. Supplies	11,000/-	-
3. Equipment	-	-
4. ICDDR,B Transport	10,800/-	-
5. Travel of persons	10,800/-	-
6. Transportation of things	1,000/-	-
7. Rent/Communications	12,000/-	-
8. Printing/Reproduction	10,000/-	-
9. Laboratory Tests	2,400/-	-
10. Contractual Service	-	-
11. Construction	-	-
Total Tk.	2,54,500/-	

Total US Dollar 12,725/00

Conversion Rate US $ 1.00 = Tk.20/-