| | ETHICAL REVIEW | COMMITT | FF TOND D |
|---|--|-------------|---|
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| Princ | ipal Investigator K.M.A. Am | Tra- | mee Investigator (if any) and K.M. S. Azy |
| Appli | cation No. 82-053 | | |
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| • | Non-ill subjects (Yes) N | 0 | (b) From parent or guardian |
| () | Minors or persons | | |
| 2. Do | under guardianship (Yes) N | 0 6. | (if subjects are minors) Yes (No) |
| | pes the study involve: | | Will precautions be taken to protect anonymity of subjects Yes No |
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| (L | subjects Yes (No | \sim | Check documents being submitted herewith to |
| _ | O SUCIAL RISKS Yes N | ~~~ | |
| (c | | | N.A. Umbrella proposal - Initially submit |
| <i>ć</i> 1 | to subjects Yes (No | 5) | OVERVION (BLI OTHER TEAMONES |
| (d | Ulscomfort to subjects var ar | | / De Submitted with individual studios |
| 9) | Invasion of privacy yes | 8 | Protocol (Required) |
| (f) | Disclosure of informa- | | Abstract Summary (Required) |
| | tion damaging to sub- | | Statement given or read to subjects or |
| 7 5 | ject or others | > | HOULD OF STUDY, TISKS tunes of |
| 3. Dog | co the study involve. | 9 | rations to be asked, and right to rational |
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| | birth or other) | | informed consent form for parent or |
| (b) | use of tetal tissue or | , | guardian |
| | aportus |) | Procedure for maintaining confidential |
| (c) | ose or organs or body | <i>)</i> . | 7 109 |
| | fluids | ` | Questionnaire or interview schedule * |
| 4. Are | subjects clearly informed above. | | ** UNC Linds instrument is see committee to |
| (a) | nature and purposes of | | Pract to leview. The following inc |
| | Study Yes No. | | mitted be lifetuded in the abstract comment |
| (b) | Procedures to be | | " " " " " " " " " " " " " " " " " " " |
| | tollowed including | | covered in the questionnaire or |
| | alternatives used Yes No | | interview which could be considered |
| (c) | Physical risks Vec (No. | | erther sensitive or which would |
| (d) | Sensitive questions Yes No | <i>/</i> | constitute an invasion of privacy |
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Manages were of subjects before making such change.

Principal Investigator

82-0,53

SECTION I: RESEARCH PROTOCOL

| | | (// 0/ |
|----|--|---|
| 1 | <u>Title</u> : | Health Education Phase II: Sanitation Addendum to Water and Sanitation Inter- vention - Teknaf. |
| 2. | Principal Investigator: | K.M.A. Aziz |
| 3. | Co-Investigators: | K.Z. Hasan, M. Mujibur Rahaman and K.M.S. Aziz |
| 4. | Starting Date: | November 15, 1982 |
| 5. | Completion Date: | November 15, 1983 |
| 6. | Total Direct Cost: | US\$ 11,560 |
| 7. | Scientific Program Head: | |
| | This protocol has been appropriately Working Group. | roved by the Community Services Research |
| | * Signature of S | Scientific Programme Head: |
| , | | Date: 17/10:12 |
| | This signature implies that responsibility for the plar particular protocol. | the Scientific Programme Head takes nning, execution and budget for this |
| 8. | Abstract Summary: | |
| | in the study community of w The health education messag been developed keeping in v to defaecation habits. The the inter-personal and grou impact of the health educat group of interviewers and o | mine the level of acceptance and effective use of ng health education in approximately 400 households ater and sanitation intervention area of Teknaf. es on water seal latrine promotion and use have iew the prevailing beliefs and practices related se messages have been designed to be delivered at p levels targetting all males and females. The ion messages will be evaluated by an independent bservers by using a set of pre-determined indicators ed on 20% of the randomly selected study and interval of six months. |
| _ | Review: | |
| | (a) Ethical Review Committe | e: |
| | (b) Research Review Commit | tee: |
| | (c) Director: | |
| | (d) BMRC. | |

9

SECTION II: RESEARCH PLAN

A. INTRODUCTION

1. Objective:

Through health education this study attempts to infuse behavioural change amongst the household members leading to the acceptance of water-seal latrine, its effective use and maintenance, and improvement of cleanliness in human hands following touch of faeces.

2. Background:

Faecal pollution of the environment on a massive scale has made excreta-derived disease a normal part of life in Bangladesh (Howard and Lloyd, 1978). Inadequate facilities for excreta disposal reduce the potential benefits of health by transmitting pathogens from the infected to healthy persons. Many enteric infections can be transferred from a diseased person to a healthy one by various direct or indirect routes involving excreta. For safe disposal of human excreta the water-seal latrine is among those commonly in use in different parts of the world. The ICDDR, B has decided to promote the use of water-seal latrine in a selected community at Teknaf.

In the developing countries of the world, 92% of the rural population is denied adequate excreta disposal facilities (Feachem et al., 1977). On the problem of excreta disposal a good number of studies has been done by international organizations and countries, including Bangladesn, which have perceived improved excreta disposal to be a key to improved health. That this work has been unsuccessful in significantly altering traditional defaecation habits in rural Bangladesh and India is clear in the reports of various investigators (Skoda et al., 1977; Skoda et al., 1978; Islam et al., 1979; Pillai, 1941; Dutt, 1962; Rao, 1969; Johns Hopkins CMRT, 1970). Traditionally in India, women who do not have a household latrine usually go out into fields to defaecate when they cannot be seen: before dawn, before the men get up, or after dark (Agarwal et al., 1981). In Teknaf it was observed that most of the women had similar defaecation habits (Aziz et al., 1981). It should be recognized that in the rural communities of the developing world, even where basic sanitation facilities exist and adults use them, young children are often allowed to defaecate indiscriminately. Because diarrhoea attack rates are highest among children, it is the defaecation habits among children that have to be regulated in the prescribed way.

Black et al. (1982) and Isely (n.d.) stated that environmental surveillance documents positive cultures for faecal coliforms on utensils, vessels, dishes, fingers, and other household sources. It is apparent that hand washing with adequate water can play an important role to either reduce the overall level of household faecal contamination or prevent the oral ingestion of faecally contaminated fluids and foods. Kochar (1978) in his study in rural West Bengal noted that rural Bengalisscrupulously avoid the use of the left hand for eating or handling any food materials especially cooked food since it is defiled. Khan (1982) in his study on interruption of shigellosis by hand washing observed that hand washing has a positive interrupting effect, even in insanitary environments. Improvements in personal cleanliness even more than faecal disposal are the keys to reduce the faecally excreted infections (Bradley, 1978).

In its many years of experience with sanitation since 1972 the National Service of Environmental Sanitation of Paraguay (Cardenas, 1979) has found that it is more effective to work with community rather than for the community and it is fundamental to know people's habits and beliefs before initiating a programme.

It is a difficult and complex task to initiate change in defaecation habits. Effective use of water-seal latrines cannot be expected without understanding the people's beliefs and socio-cultural values. In the study area the germ theory is absent; thus, norms affecting sanitation tend to have a functional, aesthetic, or ritual basis unrelated to disease control. Specific target groups need to be identified within the community for continued sanitation education programme (Wijk-Sijbesma, 1979). In Tonga two village sanitation projects with a health education and community participation approach failed because the women had not been involved (Fanamanu and Vaipulu, 1966).

In Bangladesh, Government and UNICEF are jointly working extensively for the promotion of water-seal latrines. They are providing health education messages to promote the use of water-seal latrines (Public Health Engineering Department and Health Education Bureau, 1982). Simple distribution of water-seal latrines without compliance of lessons provided through health education is not likely to produce the desired health impact.

3. Rationale:

Health education will assist the community members to bring forward a realization about the importance of the utilization of water-seal latrines. Efforts will be made through health education for the creation of community awareness and ultimately a will to utilize the water-seal latrine without any exception amongst the eligible persons leading to reduction of transmission of diarrhoeal diseases.

B. SPECIFIC AIMS

The specific aims of this study will be:

- (1) to ensure the acceptance, use, cleanliness and maintenance of water-seal latrines;
- (2) to ensure that the small children who are unable to use the latrine will defaecate in a fixed place and the faeces of children will be removed to the latrine, and
- (3) to ensure improvement in cleanliness following touch of faeces in human hands.

C. METHODS OF PROCEDURE

This study will be conducted in the study area of Water and Sanitation Intervention - Teknaf (Rahaman, 1980) which has a population of about 2,000.

Three female health educators have been recruited from a geo-cultural setting similar to the study area. They will be trained in the techniques of motivation and communication of pre-determined health education messages.

The health education messages (Appendix A) have been developed and pre-tested in a non-study area of Teknaf having similar dultural conditions as are prevailing in the study community. The messages have been developed taking into consideration the existing beliefs and practices on defaccation and spread of diseases. Data on such beliefs and practices were gathered through informal discussion and indirect observation on defaccation related activities.

The health education messages will be delivered to both females and males with a special emphasis to the mothers of under 5 children. Initially the messages will be communicated to both males and females at the interpersonal level for several rounds until the messages are received with adequate interest. The inter-personal communication of messages will be followed by group discussions and demonstrations.

The compliance of health education messages will be evaluated by using certain pre-determined indicators (Appendix B). The evaluation of health education will be made periodically by an independent team of field investigators on a 20% randomly selected study and comparison households at an interval of 6 months. These periodic evaluations will be done by collecting KAP (Knowledge of Attitude towards, and Practice of defactation related activities) based data. The KAP form (Appendix B) was developed after pretesting in a place outside the study area in Teknaf having a similar cultural condition. By using KAP form data will be obtained through intensive interview and observation covering a minimum time period of 4 hours in every selected household. In the study area two KAP surveys related to water use have been completed.

The collected data will be analysed both qualitatively and quantitatively keeping in view the pre-selected indicators. Data obtained through interview will be analysed qualitatively. This analysis will reflect people's feelings and perceptions related to defaecation habits and excreta disposal. Quantitarianalysis will be based on observational data. The compliance of the health education will be evaluated by using certain pre-determined indicators (Appendix C). The data obtained through the first KAP survey have been tabulated in relation to hand washing following defaecation (Appendix D), hand washing before touching cooked food, and hand washing following cleaning the anus of the sick child. The base line information obtained through the first KAP survey will be compared with the data of subsequent KAP surveys.

D. SIGNIFICANCE

Sanitation programme without health education is not likely to succeed especially in the developing countries. The results obtained through this study is likely to provide information about the changing behaviour related to defaecation habits and excreta disposal following health education.

E. FACILITIES REQUIRED:

Existing facilities at Dacca and Teknaf would be utilized. No additional facilities are required.

F. COLLABORATIVE ARRANGEMENT:

None

APPENDIX A

Health Education Messages: Use of Water-Seal Latrine

A. The need for stopping indiscriminate defaecation:

- (1) We know
 - a) faeces is impure (na-pak);
 - b) in the faeces there are 'eggs of worms and diseases'; and
 - c) it smells if faeces remains spread in the surroundings
- (2) We also know that faeces is transferred to the courtyard, house, untensils and food items, etc., following indiscriminate defaecation through flies, feet of ducks, feet and beaks of chickens, feet and mouths of dogs, feet of cats, and feet of men, etc. By these means, the 'eggs of worms and disease' may pass into the stomach. The faeces of diarrhoea and dysentery patients contain the 'worms' (poka), of these diseases. If faeces with 'worms' somehow enters a person's stomach through the mouth then he/she also will have the same disease.
- (3) Faeces available as a result of indiscriminate defaecation may get mixed with the open surface water sources washed by rain water. Such contaminated water may cause diarrhoea when used for personal and domestic purposes.

B. Considerations for the procurement of water-seal latrine:

- (1) the water-seal latrine can be installed within the homestead compound;
- (2) if a latrine is available within the homestead the 'prestige and honour' of its members will be protected.

C. The need for regular use of water-seal latrine:

- (1) the surroundings of the house remain clean if all the members of the household regularly use it;
- (2) through the regular use of water seal latrine it is possible to prevent the transfer of worms and the attack of diarrhoea and dysentery.

D. Toilet training procedures for the young children:

- (1) the young children need to be trained to defaecate in a fixed place;
- (2) if the fixed place of defaecation for children is situated near the latrine then faeces can be conveniently removed to the latrine and this will prevent the transfer and spread of faeces in the surroundings;
- (3) a child has to be trained to use the latrine once he/she becomes fit for such training.

Procedures for holding the water container and for using the tubewell following defaecation:

- (1) always use the right hand only to held the water container used for cleaning following defaecation and this will prevent transfer of faeces from the left hand to the water container;
- (2) do not operate the tubewell with the left hand following defaecation until the left hand is cleaned.

F. Need for hand washing following defaecation:

(1) following defaecation after cleaning the anus wash hand with ash and sufficient water.

G. Maintenance of water-seal latrine:

- (1) following defaecation flush the latrine with water;
- (2) if any time the passage of the latrine gets clogged due to hard stool then clear the passage with mild touches of the soft branches of miunda tree, and if unsuccessful never try to clear it by pushing any hard object which may break the goose neck. In this situation do not hesitate to contact the staff of the dysentery project;
- (3) below the slab of the water-seal latrine pack-up sticky earth around the elavated part of the bamboo fencing around the hole. This will prevent bad smell from coming out and rain water from getting in.

TEKNAF STATION

KAP ON DIARRHOEAL DISEASES, DEFAECATION HABITS, WASHING HABITS FOLLOWING DEFAECATION AND PRIOR TO PUTTING HAND ON WET FOOD

| Cen | sus 1 | | Name | | _ Age | Sex |
|-----|--|-----------------------------|---------------|---|-------|--|
| | | e do you defaecate? | | | | |
| i | Stat | e reason: | | | | |
| | <u>. </u> | | | | | The state of the s |
| | | e reasons for not following | | | | |
| | | | | • | | |
| | | | | | | |
| 2. | Do y | ou have any suggestion for | improving you | ur defaecation facili | ty? | |
| (a |)If | es, give details: | | *************************************** | | |
| | | | | | | · · · · · · · · · · · · · · · · · · · |
| | | | | | | |
| | | | | | | |
| (t |)Wha | will occur by making these | _ | | | |
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| _ | | | | | | |
| 3. | (a) | Following defaecation how d | | | | |
| | (b) | What happens through such w | | | | |
| - | _ | | | | | |
| | (c) | Following defaecation ideal | | | | |
| | (4) | What will occur by each was | | | | |
| | (u) | What will occur by such was | RETIFE: | | | |

| 4. | (a) | How the soiled cloth of a sick child is cleaned? |
|----|-----|---|
| | (b) | What happens through such cleaning? |
| | (c) | Where do you clean the soiled cloth? |
| | (d) | What is the ideal method of cleaning the soiled cloth of a sick child? |
| | (e) | What will occur by such cleaning? |
| 5. | (a) | Following the washing of the bottom of a sick child how the hands are washed? |
| | (b) | What happens through such washing? |
| | (c) | Following the washing of the bottom of a sick child ideally how the hands should be washed? |
| | (d) | What will occur through such wash? |
| 6. | (a) | Before putting hand on wet food what do you do regarding your hand? |
| | (b) | When happens when it is done? |
| , | | What happens who |

| (c) E | sefore putting hand on wet food ideally what should be done? |
|-----------------|--|
| - (d) V - | That will occur when it is done? |
| . Can | flies do anything to human beings? If yes, how? |
| | here any difference between tubewell and ditch water? If yes, state the erences. |
|). What | are the signs and symptoms of the following diseases? Diarrhoea: |
| (b) | Dysentery: |
| (c) | Cholera: |
| | the following diseases are spread? Diarrhoea: |
| (b) | Dysentery: |
| - | |
| | |

OBSERVATION ON WATER USE BY INDIVIDUAL

| Source | I. Water Collection and Source | | | | | | The state of the s | | | | | | |
|---|--|--|--|--|---|--|--|------|--|--------------------------------------|-----------------------|--|--|
| | - Control of Section 1994 | Paradamente de vida e de segui de diferentado. | | Tul | rewell | | Ring | well | 1 | Di | tch | | |
| Type of Contains | | | | | | | عوسهم متبشقة يهيمت كالمتح متها يمثران | 14 | | | | | |
| Washing Status c | of Con | tainer | | and the second s | والمراوية | | * | | | | | | |
| | II | - धिक्षक ह | ind Sta | orage | Statu | s of | Water | | | | | | |
| Storage Characteristics | Yes | 140 | Yes | No. | | 1 | | | »· p—· " " " | | T | | |
| Clean (Inside) | | | 1 | 1.~ | Yes | No | Yes | No. | Yes | No | Y | | |
| Clean (Outside) | | | | | | | | | | - | - | | |
| Covered | | | | | | | | | - | | +- | | |
| Inside House | | | | | | - | | | | | + | | |
| Platform | · | | | ļ | | | | | | - | - | | |
| | | | 1 | <u></u> | <u> </u> | 1 | | | | | 1 | | |
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| Defaecation (Self |) | 1 | | | | official physical states of the states of | - | | | | | | |
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| Serving/Taking o | | | | | | Ontorrophycos | | | | | | | |
| Serving/Taking of Dry Food Feeding of Child | | | | | | - Add thought to the latest the l | | | | | | | |
| Ablution/Hand and Face Wash | . | | | | allegengal elegeve sada sugala s | olg T Sar- of Tricking assembling as | wir errer unt just Absensengenderspele | | | | | | |
| Other | Photograph and the second seco | | | | | | سيوينس بو در معدد در دو در | | | | | | |
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APPENDIX C

The following indicators will be used for measuring the impact of health education related to water-seal latrine use:

- (1) Percent of households installed the water-seal latrine.
- (2) Percentage of household members regularly utilizing the latrines.
- (3) Visibility of faecal matters in the surroundings of the household.
- (4) Level of cleanliness of the latrines.
- (5) Use of large size water pot for cleaning anus and left hand following defaecation.
- (6) Percentage of non-breakage of goose neck.

APPENDI X-D

Reported Current and Ideal Practices, and Observation of Handwashing Following Defaecation in 20 Percent Households of the Study Area

| Practices | Current | ldeal | Observation |
|--------------|---------|------------|-------------|
| Water | 16 | 1 | 3 |
| | (29.1)* | (1.8) | (37.5) |
| Soap | 6 | 49 | 0 |
| | (10.9) | (90.7) | (0.0) |
| Ash | 0 (0,0) | 1 (1.8) | 1 (12.5) |
| Sand | 32 | 3 | 4 |
| | (58.2) | (5.6) | (50.0) |
| Rubbing with | | | |
| Grass | 1 | 0 | 0 |
| | (1.8) | (0.0) | (0.0) |
| Total | 55 | 54 | 8 |
| | (100.0) | (100.0) | (100.0) |

^{*}Figures within brackets indicate percentage value.

REFERENCES

- 1. Agarwal A, Kimondo J, Morendo G, and Tinker J. Water, sanitation, health for all? London: International Institute for Environment and Development, 1981.
- 2. Aziz KMA, Hasan KZ, Hussain A, et al. Parda and some health practices in two conservative rural communities of Bangladesh. In: Proceedings of the 1st Asian Conference on Diarrhoeal Disease, Ed. Rahaman MM, Aziz KMS, and Rahman S. Dacca: International Centre for Diarrhoeal Disease Research, Bangladesh, 1981.
- 3. Black R, Chen L, Harkavy O, et al. The prevention and control of diarrhoeal diseases, Food and Nutrition Bulletin, 4:1, 1982, pp.17-19.
- 4. Bradley DJ. Factors affecting the impact of sanitation on health. In: Sanitation in developing countries, Ed. Pacey A. New York: John Wiley & Sons, 1978.
- 5. Cardenas M. Rural water supply and sanitation education in Paraguay, Assignment Children, 45/46, Spring 1979, pp.109-120.
- 6. Dutt PR. Rural health services in India, New Delhi: Ministry of Health, Government of India, 1962.
- 7. Fanamanu J, and Vaipulu T. Working through the community leaders: an experience in Tonga, <u>International Journal of Health Education</u>, 9:3, 1966, pp. 130-137.
- 8. Feachem R, McGarry MG, and Mara D. Water, wastes and health in hot climates, New York: John Wiley & Sons, 1977.

- 9. Howard J, and Lloyd B. Sanitation and disease in Bangladesh urban slums and refugee camps, Progress in Water Technology, 11:1-2, 1978, pp.191-200.
- 10. Isely RB. Targeting sanitation programmes where it counts: Mothers of small children, North Carolina; Research Triangle Institute, n.d.
- 11. Islam N, Huq A, Murshid KAS, and Hossain M. Water and sanitation in Bangladesh, Assignment Children, 45/46, Spring 1979, pp.131-143.
- 12. Johns Hopkins Center for Medical Research and Training. Annual Report 1969-1970, Baltimore: Maryland, 1970.
- 13. Khan MU. Interruption of shigellosis by hand washing, <u>Transactions of the</u>
 Royal Society of Tropical Medicine and Hygiene, 76:2, 1982, pp.164-168.
- 14. Kochar V. Culture and hygiene in rural West Bengal. In: Sanitation in Developing Countries, Ed. Pacey A. New York: John Wiley & Sons. 1978.
- 15. Pillai RA. Guide to soil sanitation, Madras: Huxley Press, 1941.
- 16. Public Health Engineering Department and Health Education Bureau. Brochure on Sanitary Latrine, Dacca: Government of Bangladesh.
- 17. Rahaman MM. Water and sanitation intervention Teknaf (On-going protocol of ICDDR), Dacca: International Centre for Diarrhoeal Disease Research, Bangladesh, 1980.
- 18. Rao MN, and Sen PC. Singur health care centre: Its achievements and lessons, Calcutta: All India Institute of Hygiene and Public Health, 1969.
- 19. Skoda JD, Mendis JB, and Chia M. A survey in rural Bangladesh on diarrhoeal morbidity, water usage and related factors, Geneva: UNCEF/WHO, 1977.
- 20. Skoda JD, Mendis JB, and Chia M. The impact of sanitation in Bangladesh. In: Sanitation in developing countries, Ed. Pacey A. New York: John Wiley & Sons, 1978.

21. Wijk-Sijbesma CV. Participation and education in community water supply and sanitation programmes: A literature review, Leidschendam (The Netherlands): WHO International Reference Centre for Community Water Supply, 1979.

SECTION III - BUDGET

A. DETAILED BUDGET

PERSONNEL SERVICES:

| | Name | Position | % of Effort | Annual Salary | Project Re | quirement US\$ |
|------|-----------------------|--------------------------------|----------------|---------------|------------|--|
| 1. | Dr. K.M.A. Aziz | Associate Scientist | 15 | 181,200 | 27,180 | |
| 2. | Dr. K.Z. Hasan | Asstt. Scientist | 15 | 109,400 | 16,410 | g and a |
| 3. | Vacant | Health Education Supervisor | 50 | 28,000 | 14,000 | 40 |
| 4. | Mrs. Monwara Begum | Health Educator | 50 | 25,000 | 12,500 | •• |
| 5. | Mrs. Fatema Begum | Health Educator | 50 | 25,000 | 12,500 | <u></u> |
| 6. | Ms. Shirin Akhter | Health Educator | 50 | 25,000 | 12,500 | . • |
| 7. | Vacant (New position) | Research Officer | 100 | 33,600 | 33,600 | |
| * 8. | Dr. K.M.S. Aziz | Associate Director, | T&E | ~ | _ | |
| * 9. | Dr. M.M. Rahaman | Program Head, NWG | | - | - | - |
| | | | | Sub total: | 128,690 | Planet State |
| SUP | PLIES AND MATERIALS: | | | | | |

| Stationery, Education material | 40,000 | 500 |
|--|--------|-----|
| William to the control of the contro | | |

Aluminimum water pot for ablution and potty for the children

EQUIPMENT:

None

PATIENT HOSPITALISATION:

None _ _

OUT PATIENT CARE:

None

^{*}Time and budget shown under the on-going ICDDR,B protocol(No. 80-022); Rahaman MM. Water and Sanitation Intervention Teknaf, Dacca: ICDDR,B. The proposed protocol is an addendum of this protocol.

| | | Project | Requirement |
|-----|--|-----------------|-------------|
| | | Taka | <u>us\$</u> |
| 6. | ICDDR, B TRANSPORT: | | |
| | At Dacca 500 miles @ Tk. 4.50 per mile and Driver holding 40 hours | 3,000 |) - |
| | At Teknaf 500 miles by boat and car from Teknaf - SPD - TEKNAF = 24 round trips @ Tk. 150 per tr | ip 3,600 |) |
| | Sub tota | 1: 6,600 | · - |
| 7. | TRAVEL AND TRANSPORT OF PERSON: | | |
| | Local travel and per diem (15 trips from Dacca-Teknaf-Dacca by air) | 30,000 |) - |
| 8. | TRANSPORTATION OF THINGS: | 1,000 | o – |
| 9. | RENT COMMUNICATION AND UTILITIES: | 1,000 | o - |
| 10. | PRINTING AND REPRODUCTION: | 4,000 | 0 |
| 11. | OTHER CONTRACTUAL SERVICES: | | |
| | Maintenance and Computer | 10,000 | o - |
| 12. | CONSTRUCTION, RENOVATION, ALTERATION: | | |
| | None | <u>-</u> | _ |
| | Total: | 221,290 | 500 |
| | Equi. US\$: | 11,060 | o * |
| | Grand total US\$: | 11,560 | <u>0</u> |
| | Incremental US\$ | _6 <u>,</u> 810 | <u>o</u> |

^{*(}US\$1.00 = Tk. 20%-)

B. BUDGET SUMMARY

| | Category | Project | Requirement |
|-----|--|---------|-------------|
| | | Taka | US\$ |
| 1. | Personnel | 120 400 | |
| ±• | rersonner | 128,690 | |
| 2. | Supplies and Materials | 40,000 | 500 |
| 3. | Equipment | - | - |
| 4. | Patient Hospitalization | - | - |
| 5. | Out Patient Care | - | - |
| 6. | ICDDR,B Transport | 6,600 | - |
| 7. | Travel and Transport of Person | 30,000 | - |
| 8. | Transportation of Things | 1,000 | - |
| 9. | Rent, Communication and Utilities | 1,000 | - |
| 10. | Printing and Reproduction | 4,000 | ~ |
| 11. | Other Contractual Services | 10,000 | - |
| 12. | Construction, Renovation, Alteration | | ** |
| | Total: Equi. US\$: Grand total US\$: | | 500 |

Incremental US\$: 6,810

আনুর্জাতিক উদরাময় গবেষণা কেন্দ্র, বাংলাদেশ টেকনাক শাখা

সন্তি পর

अत्राक्त चर्ड खन्नावन्त्र भाग्रधाना नावशात कतात खना जाभनात्त्र भाग्रा नावशान निका कर्मित्रसम्ब माधारम छेर भाष अमारम्ब कार्यवन्त्र शास्त्र राष्ट्र । चर्डात भक्त छेनमुख्य भनगात्मत्र खनावन्त्र भाग्रधानात्र मनगात्मत्र खनावन्त्र भाग्रधानात्र मनगात्मत्र खनगात्मत्र अनगात्मत्र भनगात्मत्र अवशात्मत्र खन्नात्र अस्त्र शास्त्र भित्र शास्त्र भित्र शास्त्र भाग्रधान निका व्यवत्र भन्न भाग्रद नाविष्य अम्मार्थ वालाभ नाव्यात्मात्र वालाभ नाव्यात्म भाग्रद शास्त्र अम्मार्थ कार्यात्म भाग्रद शास्त्र भाग्रद अम्मार्थ कार्या स्त्रा स्त्र भाग्रद शास्त्र भाग्रद अम्मार्थ कार्या स्त्र । आमा क्त्रा स्त्र विष्य अम्मार्थ वालाभ नाव्यात्म स्त्र वालाभ नाव्यात्म स्त्र वालाभ स्त्र वाल

এই ব্যাপারে আগনার সন্মৃতি ও সহযোগীতা কামনা করছি।

International Centre for Diarrhoeal Disease Research, Bangladesh
Teknaf Branch

Consent Notepaper

A programme has been undertaken in your community to encourage the use of water-seal latrine in every household through health education. This health education programme would include information on the urgent need of the practice of defaecation by all eligible members of the house-hold in the water-seal latrine and its proper maintenance, and improved method of hand washing following defaecation. The health education will be imparted to all the members of the household through inter-personal communication and group discussion, and as far as possible through practical demonstration. It is hoped that this programme will be of assistance in the improvement of your health. If desired you have the choice of keeping yourself out of this proposed programme.

We are seeking your consent and cooperation in this matter.