

ETHICAL REVIEW COMMITTEE, ICDDR,B.

Principal Investigator F. J. HENRY
Application No. 84-015
Title of Study Socio-environmental determinants of diarrhoea and malnutrition in a slum and a village.

ICDDR,B Library
Trainee Investigator (if any) 20
Supporting Agency (if Non-ICDDR,B)
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).

- Source of Population:
- (a) Ill subjects Yes No
 - (b) Non-ill subjects Yes No
 - (c) Minors or persons under guardianship Yes No
- 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
- 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
- Are subjects clearly informed about:
- (a) Nature and purposes of study Yes No
 - (b) Procedures to be followed including alternatives used Yes No
 - (c) Physical risks Yes No NA
 - (d) Sensitive questions Yes No 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

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 Cteec. for review.

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

F. J. Henry
Principal Investigator

29 MAR 1984

Trainee

B. SECTION - I : RESEARCH PROTOCOL

- (1) **Title:** Socio-environmental determinants of diarrhoea and malnutrition in a slum and a village
- (2) **Principal Investigator:** F.J. Henry
Co-Investigators: A. Khanam
S. Haque
- (3) **Starting date:** May 1, 1984
- (4) **Completion date:** May 1, 1985
- (5) **Total Direct Cost:** US\$ 26445
- (6) **Scientific Programme Head:**

This protocol has been approved by the Nutrition Working Group.


Signature of the Scientific Programme Head

(7) **Abstract Summary:**

Recent studies in rural Bangladesh have shown several relationships between seasonal factors, food intake, illness and growth. These studies, however, have not attempted a clear demonstration of the relative importance of the various factors. More important, little is known if these relationships hold in the over-crowded urban setting of Dhaka city, from which most of the severely malnourished and dehydrated children at ICDDR,B originate. This longitudinal study proposes to compare and prioritize specific characteristics which determine the high rates of morbidity during different economic and climatic periods. Household, socio-economic and environmental data will be collected from a slum in Zinzira and a village, Mandipara. A cohort of 150 households from each of the two areas will be followed intensively for one year and their health status will be monitored fortnightly. This approach will examine the dynamic of some key socio-medical problems and will be predictive of the likely success of planned intervention activities in the respective communities.

(8) Reviews:

(i) Ethical Review Committee: _____

(ii) Research Review Committee: _____

(iii) Director : _____

c. SECTION-II : RESEARCH PLAN

A. INTRODUCTION

One third of all deaths in Bangladesh results from diarrhoeal diseases often in association with malnutrition. The ICDDR,B's role in this context is both curative and preventive. But prevention is surely the long-term goal of research in this field. Treatment can be based on symptoms but prevention requires a better understanding of causes. Of the three main strategies to prevent diarrhoeal diseases i.e., immunization, improvement of nutritional status and the interruption of transmission; the latter two areas have not been emphasized enough in research activities.

If we accept that the diarrhoea/malnutrition syndrome is not an enigma in itself but rather a reflection of various ecologic and social factors that affect the family, then for effective control of these diseases the relationship between the socio-economics, environmental and health factors warrants investigation.

The study presented here is designed not to merely conclude that poverty is the cause of malnutrition and diarrhoea. That, we already know. Because 'poverty' given as a reason is of little use to public health personnel and development planners with scarce finance, this study intends to identify the principal risk factors and the relative risk of various poverty indicators. Hence, effective and informed decision making can be facilitated with confidence of preventing and controlling these life-threatening diseases. Moreover, we aim to identify the intervention measures which are not likely to reduce morbidity given these severely adverse environmental conditions that exist.

1. Objective

The overall aim of this study is to prioritize the determinants of diarrhoea and growth during different seasons in both a slum and a village. The findings will be used to develop practical intervention strategies designed to reduce diarrhoea and malnutrition in different ecologic settings.

2. Background

A review of recent studies undertaken in this region points to important gaps in our knowledge of intricate socio-medical relationships. Although several useful studies have been done on the slums in Dhaka, they merely describe the economic situation of these settlements and their inhabitants (1,2).

In June 1983, the Centre for urban studies at the University of Dhaka completed a detailed socio-economic survey of the Dhaka slums(3). Again, the objective was to describe the demographic,

social, educational, economic, housing, health and cultural characteristics of the slum dwellers. The analysis did not associate the different socio-economic variables to the health state. Without this, it is difficult to understand and appreciate the entangled relationship between specific aspects of poverty and disease.

Studies in India demonstrate a general relationship between socio-economic status and childhood illnesses. For example, in a prospective study Gupta and Srivastava showed the prevalence of throat and skin infections of children was positively related to the size of the family (4). In a cross-sectional study Khan et.al. reported that gastroenteritis, skin, worm and respiratory infections and malaria were all higher for children in families with four or more children than in families with 3 or less (5). But little work has focused on the social and economic determinants of morbidity and growth in the slum areas. Because the slum dwellers are under a different set of stresses from rural populations, it is important to determine, for example, whether higher income families in a crowded area have lower disease rates, or better intake or faster growth. Does high income affect nutrition but not infection? Should intervention measures emphasise environmental or income generating activities or health education, etc. or all equally?

In one of the few studies which relate health status to different ecological groups, Agarwal et.al. in Varanasi India (6) showed overall child morbidity to be lower in urban as distinguished from rural or urban slum households. Unfortunately, mother's education was the only socio-economic variable considered. One question that needs to be answered is whether the polarization in economic status in the slums is wide enough to reflect different health states or should these communities be treated as one homogeneous group.

Much more work has been done on the relationship between nutrition and socio-economic status. Studies in Madras state (7), Uttar Pradesh, India (8), the Philippines (9), rural and urban areas of Korea (10) indicate that low income groups spent a large proportion of their total income on food. As incomes rose a smaller percentage was spent on food but the total quantity was larger. As incomes continued to rise expenditure on cereals was less while more money was allocated to animal products such as meat, milk and eggs. Levinson (10) points out that in Punjab, India, even children under 2 years consumed better food with increased family income.

In rural Bangladesh, Becker et.al. (11) showed a clear relationship between education and the variety of foods consumed while income was more associated with the quantity of specific foods eaten. While these studies indicate a significant positive effect of maternal education and per caput income on nutrition in rural communities, the extent of this relationship is not known for slums, where economic survival is at a premium.

A study in Noakhali, Bangladesh (12) showed that above a certain level of income an improvement in mother's education was important to improve nutritional status. Other studies of the effect of socio-economic level on growth have revealed differing results. Some show no difference in anthropometric measurements in pre-school children (13,14). On the other hand, increased family income was shown to be associated with better growth in Guatemala (15), Nigeria (16), India (17) and Sri Lanka (18). These studies, however, have not examined the effect of other environmental factors which might be affecting morbidity in these children at the same time so that the relative effect of income can be determined.

In rural Bangladesh, the seasonal pattern of various diseases was reported by Black and others (19). They also showed a striking correlation of E.Coli diarrhoea with environmental temperature throughout a one-year period (20). Brown and coworkers showed that nutritional status changed significantly by month of year (21). Respiratory illnesses were more common during the cool dry months while diarrhoea was more frequent in the hot rainy period. Skin infections occurred most frequently in the hot dry months. In 1973, Rosenberg (22) pointed out that the prevalence of deficiencies of both Vitamin A and protein follows a closely associated seasonal pattern and the prevalence of diarrhoeal diseases in children follows the same seasonal pattern. A recent study in urban Bangladesh (23) demonstrated the seasonal pattern of Xerophthalmia, with highest rates being in the months preceeding and during the monsoon.

Clearly, seasonal factors have considerable influence on morbidity and average nutritional status. In this study the relationships between socio-economic status, morbidity and growth will be examined over a 12-month period so that the seasonal effect on these relationships can be revealed.

3. Rationale

Most of the diarrhoeal patients presenting for treatment at the ICDDR,B's hospital and similarly, 90% of the severely malnourished children seen at the Children's Nutrition Unit Rehabilitation Centre come from the slum areas of Dhaka city. Because the ideal all-encompassing interventions involving massive financial inputs will not be soon forthcoming to these areas, it seems imperative that the causative factors for these high morbidity rates be identified in the field so that existing technologies can be utilized and targeted to specific interventions.

B. SPECIFIC AIMS

1. To identify the principal socio economic and environmental factors that determine the acquisition of diarrhoea and malnutrition in the different communities.

2. To establish the effect of differential use of the handpumps and sanitary facilities on morbidity rates.

3. To investigate the effect of seasonal factors such as food availability (harvest/non-harvest) climate (monsoon, hot-dry, cool-dry periods) and illness (high and low diarrhoea season) on child growth in the two communities.

4. To study the relationship between duration of breast feeding and introduction of solid foods vs acquisition of diarrhoea and malnutrition.

5. To relate the reportedly high incidence of nutritional blindness to the seasonal pattern of diarrhoeal incidence, nutritional status, dietary habits and socio-economic status.

6. To compare the rate of diarrhoea and malnutrition in landlord vs tenant households.

C. METHODS OF PROCEDURES

This study is based on an intensive investigation of two distinct communities.

The study areas

The slum is located in Zinzira and has a special characteristic. Unlike many slums it did not originate as an illegal settlement. This community was created through a development housing project by a foreign donor agency but retrogressed into one of the heavily crowded areas

of Bangladesh. Within a decade, landless peasants, through this generous intervention, have manipulated and transformed themselves into peri-urban landlords. The inevitable result was the polarization of economic status between landlords and tenants in this densely crowded setting. Despite its origin, this slum remains identical to other Dhaka slums as described in a recent study (3).

The slum population is nearly 2,300 in an area 80 metres by 80 metres. Each landlord owns a closed pit latrine which has a concrete superstructure. This latrine is available to all his tenants at an extra cost. There are 4 handpumps in the area. A total of 9 handpumps will be available and functioning by the time the study begins.

Zinzira is a muslim community. Most of them work in the nearby Metropolitan city area mainly a labourers and rickshawpullers.

The village, Nandipara, lies about 6.5 km. from the centre of Dhaka Metropolitan city. As such, it is not a village in the rural sense but is representative of hundreds of settlements around the city which are not as crowded as the slums. It consists of a series of small islands of tightly clustered huts surrounded by paddy fields, which are flooded during the monsoon. The majority are Muslims (70%) and the rest are Hindus. The labour force comprise share croppers, farmers, casual labourers, rickshaw pullers etc. There are also businessmen such as artisans, retailers, money lenders and employees of Government, private and public corporations. The overall economic status is much higher than that of the slum. Unlike the slum dwellers, many of the village residents have legal rights to the land they occupy.

The slum is adjacent to a health clinic where health care services are provided to the entire Zinzira and surrounding communities. The slum population avail themselves of the treatment facilities. The health care provided to the slum population is not substantial enough to make it unrepresentitive of the other slums in and around Dhaka. In contrast, apart from a small treatment centre, the village has no extensive health delivery system. The nearest hospital is about 6 miles away. The treatment centre provides some primary health care services every day.

Surveys and analysis

Two questionnaire schedules will be used for data collection. The first schedule (1) will be for general household information dealing mainly with physical and socio-economic environment. The second schedule (2) will be done fortnightly and concerns the variables which differ with family members and which may change from time to time (eg. health indicators).

All households in the slum (350) and two paras in the village (300) will be surveyed (schedules 1 and 2) at the start of the study. This total survey of all households will be done at three times during the year corresponding with three seasons - monsoon, cold dry and hot dry. A smaller cohort of households from the slum and the

village will be selected and studied intensively (fortnightly) throughout the year. Hence, information will be available on every cohort member for 26 fortnights. In this way, patterns of feeding, infection, growth and socio-economic condition can be charted and related to each other during the different seasons. The slum cohort will comprise the 50 landlords plus two age matched tenant households of each landlord, totalling 150. For the village cohort 50 high income and 100 low income households will be selected after being similarly matched. Mothers and children below 5 years will be weighed and measured monthly. Data will be collected from responsible household members and will be collected by trained health assistants who were working in the areas and already know most of the households. Supervision and confirmation of information will be done by the investigators.

Data collected in the field will be checked and validated before being transferred to the ICDDR,B computer each month. Statistical packages are available to perform the correlation and stepwise regression analyses which are required to select the most important variables affecting the disease states.

D. SIGNIFICANCE

Rural to urban migration in Bangladesh has resulted in densely crowded communities, social disruption and increasing health hazards in Dhaka. At present this rapid urban growth, evidenced by 771 slums (3), seems a more urgent problem than growth due to natural increase.

Several intervention health plans have been and are currently formulated for these communities in Bangladesh and elsewhere. Unfortunately, these programmes are based on a mix of weak theory and hypothetical propositions. Because of false assumptions, many of these projects have failed to produce the expected health benefits, hence, large sums of scarce resources are spent on ill-conceived projects.

Bairagi's study (12) in Bangladesh, for example, is particularly instructive. Although the study was carried out during a famine he showed that for children in the lowest income group an increase in income is essential for marked improvement in nutritional status, but not so where the mother is illiterate. Shuval's model (24) which relates environmental investments to health improvement in various socio-economic settings is also important in this context. The inference is that certain levels of investments are unlikely to reap benefits if directed to poor communities. This model has strong implications for planning purposes. The differential use of sanitary facilities in relation to the health state of the poor in the present study can contribute much to the understanding of these relationships.

E. FACILITIES REQUIRED:

No new infrastructural arrangements will be needed. Personnel required are listed in the budget.

F. COLLABORATIVE ARRANGEMENTS

This work will be carried out with the cooperation of Terre Des Hommes (Netherlands). Much information exchange will flow between ICDDR,B and this organization, which has been doing a variety of intervention activities in the slum areas. ICDDR,B will undertake this study in collaboration with the Nutrition Department, London School of Hygiene and Tropical Medicine. It is hoped that this association can forge a permanent link for other joint projects between the Nutrition Working Group of ICDDR,B and the Nutrition Department of the School. The head of the Nutrition Department has written welcoming both this study and the arrangement.

d. REFERENCES

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e.

ABSTRACT SUMMARY

1. This study will be conducted on 700 households cross-sectionally and on 300 households longitudinally for 1 year. In the slum, 50 landlord households will be matched for age with 100 tenant households. Similarly, 50 high income households in the village will be matched with 100 low income ones. Socioeconomic and environmental conditions will be assessed through the different seasons while the history of illnesses suffered will be recorded. Every month weight and height measurements will be done on mothers, and children below 5 years. Unlike most interventions, the purpose here is to put the last first, that is, to study the communities involved in some detail so that a practical intervention strategy can be formulated whereby benefits can be maximized not only for the communities studied but for other crowded settings in Dhaka.

Because children less than five years are at the greatest risk of disease and death in Bangladesh, focus will be centred on them. However, the household unit will be studied because the circumstances of the family are often reflected in the health state of the child.

2. Apart from the anthropometric measurements, the entire study will be done by interview and observation. Questions relate to social, economic, feeding and hygiene status. No samples of blood, stool or urine will be obtained. There are no overt or covert risks involved in these procedures.
 3. Not applicable.
 4. Although no risks are involved, all information collected will be secured in locked filing cabinets.
 5. Verbal consent will be sought in this study as no invasive procedure is involved.
- b + c Not applicable.

6. The interviews will be conducted within the premises of the household. During the test of the questionnaire the interview on general and socio-economic conditions lasted an average of 45 minutes. The fortnightly interview on health lasted 10-15 minutes. (These interviews took the normal conversational form)
7. Individuals will have fortnightly health surveillance. Children found ill will be referred to the nearby clinic in the slum or the treatment centre in the village. A doctor will visit the families periodically. If necessary (parents willing) seriously ill children will be taken to hospital. Again, no risks are involved in this study.
8. If medical records are available they will be used to supplement the health data from interviews. Due respect will be given for safeguarding confidentiality.

SECTION III - BUDGET

A. Detailed Budget

1. Personnel Services

<u>N a m e</u>	<u>Position</u>	<u>Time</u>	<u>US\$</u>
F. Henry	Principal Investigator	30	9280
A. Khanum	Co-investigator	25	2818
	Senior Health Asstt (1)	100	1782
	Health Asstt (3)	100	4919
	Computer Programmer	20	708
	Boatman		364
	Helper		218
			<hr/>
		Sub Total	20089

2. Supplies and Materials

Medicines	200
Stationery	50

3. Equipment

Weighing Machine (2)	200
Length, boards (2)	60

4. Patient Hospitalization Nil

5. Out patient care Nil

6. ICDDR,B Transport
1560 mile at Tk. 14.50/mile 915

7. Travel and Transport of Persons 582
4 Assts. at Tk. 12/day

8. Transportation of Things Nil

9. Rent Communications and Utilities Nil

10. Information services Nil

11.	<u>Printing and Reproduction</u>	<u>US\$</u>
	Stencils, Mimeo, Xeroxing	500
	Publication cost + reprints	
12.	<u>Other Contractual Services</u>	
	Computer tape, Computer time at	
	800 Tk./hr etc.	400
13.	Construction, Renovation, Alterations	Nil

<u>B. Budget Summary</u>	<u>US Dollar</u>
1. Personnel Services	20089
2. Supplies and Materials	250
3. Equipment	260
4. Patient Hospitalization	-
5. Outpatient care	-
6. ICDDR,B Transport	915
7. Travel and Transportation of Persons	582
8. Transportation of Things	-
9. Rent Communications and Utilities	-
10. Information Services	-
11. Printing and Reproduction	500
12. Other Contractual Services	400
13. Construction, Renovation, Alterations	-
	<hr/>
Total	22996
15% Incremental cost	3449
Grand Total	26445

VERBAL CONSENT FORM

The ICDDR,B is attempting to find the specific reasons why children in this area are so frequently attacked by diseases such as diarrhoea and other illnesses. We will be using this information to determine what practical measures can be implemented in this area to reduce the diseases now present. To do this we are planning to carry out observations on general household conditions and collect information on occupation, education, income, water use, latrine use, habits of hand washing, feeding practices etc. Every two weeks we will be enquiring about any illnesses suffered since the last visit and your family will be visited by a doctor periodically. Weights and heights of children and mothers will be done monthly. We will not be collecting blood, stool or urine samples. All information obtained will be treated confidentially. You are at liberty to withdraw from the study at any time.

জ্যোতিষিক সাম্প্রতিময়

আন্তর্জাতিক উদযাপন অবেশনা

ভূমধ্য অঞ্চিক কার্য নির্বাহনের উন্নয় প্রচেষ্টা
নির্মাণে যাচ্ছে কেন এবং কীভাবে নিশ্চয়তা মার মার
চিকিৎসা চোগে আক্রান্ত হইছে * যেমন জাহাজিকা ৩
কর্মসূচী চোগ। এবং কীভাবে বর্তমান চোগ সমূহে
প্রাচীন কল্পনায় উন্নয় চাকুর চাকুরী প্রচেষ্টা
কিছুই এই তথ্যাবলী প্রাচীন কল্প হই। এই
বিবরণীতে সাক্ষর চাকুরী অচলতার উপর
উল্লেখ করা হই এবং; সেলা, নিয়ম,
যা, মানিক প্রাচীন, পাথর, প্রাচীন, হই
যা অচল ৩ পাথর - দ্বিতীয় উপর উন্নয়
প্রচেষ্টা হই। এই সমূহ অচল অচল চোগ
প্রাচীন চোগে যের আচল হই। এবং চোগ
একজন উক্তা অচল পরিচাল পরিচাল
হই। নিশ্চয় ৩ চোগ উক্ত ৩ উক্ত চোগ
হই। আচল পাথর, প্রচল ম হই
কী অচল করণ। অচল অচল উন্নয় চোগ
করা হই। যে চোগ সমূহ নিজে
বেশনা চোগ প্রচল কল্প সাক্ষর অচল
হই।

Name of Head of Household _____

Household no. House code

Registration date Visit no.

Visit date Interviewer _____

1. Where were you living before? District _____

Thana _____

Distance away (km)

2. How long have you been living here? Months
26 27 28

3. How much rent do you pay per month
29 30

4. Household living space Length
Metre 31 32

Width
33 34

Height
35 36

Number of rooms
37 38

Roof material
39

tin = 1, thatch = 2 Both = 3

5. Where do you obtain your water for:

handpump = 1 rain-water = 4 Drinking
river = 2 open well = 5 Cooking
pond/tank = 3 other = 6 Washing

Source	Distance away (Metre)
<input type="text"/> 40	<input type="text"/> <input type="text"/> 41 42
<input type="text"/> 43	<input type="text"/> <input type="text"/> 44 45
<input type="text"/> 46	<input type="text"/> <input type="text"/> 47 48
<input type="text"/> 49	<input type="text"/> <input type="text"/> 50 51

6. How much water do you (family/household) use per day?
(Exclude bathing or washing clothes in river, pond etc.)

_____ x _____ = _____ gals 52 53 54
Container times litres

7. Do household members wash their hands before eating?
55

Always	1	8. Method of waste water disposal	<u> </u>
Frequently	2	On the ground	1
Sometimes	3	Pond/pool	2
Never	4	Soakage pit	3
		River	4
		Other	5

9. Washing after defecation is done with

Water only	1	<u> </u> 57
Mud/ash	2	
Soap	3	
Other	4	
Not done	5	

10. How do you dispose of your faeces?
58

No fixed place	= 1
Open pit	= 2
Closed pit	= 3
Water-seal latrine	= 4
Other	= 5

11. How much extra (per month) do you pay for use of water
and/or latrine:

59 60 61

12. Method of refuse disposal
62

- Burn 1
- Bury 2
- Open dumping near house 3
- Open dumping away from house 4
- Other 5

13. Presence of flies in house
63

- Disturbing number 1
- Present but no problem 2
- Few 3
- None 4

14. What do you burn for cooking
64

- Wood = 1 Kerosine = 2 Other = 3

15. What is the fuel cost per month / / /
65 66 67

16. What is the food cost per / / /
68 69 70

17. What types of food were purchased during the last seven days (in frequency order) / / / / / /
71 72 73 74 75 76

18. Do you owe money to anyone
77

- No = 0 Landlord = 1 Employer = 2 Relative = 3
- Friend = 4 Other = 5

19. How much (Total) / / /
78 79 80

Sl. no.	Days with other illness last 2 weeks	Did you refuse food last two weeks?	Went to clinic last two weeks?	State Illness	Total cost for clinic, medicine etc.	Hospitalization last two weeks (state illness)	Vaccination status	Wt. (kg)	Ht. (cm)	No. of meals per day	Foods ate yesterday (in order of quantity)	Feeding	% Wt for age	% Ht for age
1.														
2.														
3.														
4.														
5.														
6.														
7.														
8.														
9.														
10.														
11.														
12.														
13.														
14.														

Food Stores

Type	Quantity
------	----------

Food code

Rice	= 1	Fruit	= 7
Dal	= 2	Tea	= 8
Green veg.	= 3	Millet	= 9
Milk	= 4	Wheat	=10
Meat	= 5	Oil for cooking	=11
Fish	= 6	Others (state)	=12

Feeding

Breast only
Milk powder
Breast + Milk powder
Solid food
Family diet

Interviewer: _____

Household number / / House code / / / / Visit date / / / / / Visit number / /

Sl. no.	Name of Family Members	Relation to Head of Household	Date of birth	Age	Sex	Marital status	Family type	Religion	Type of school	Years of schooling	Occupation Main and other
1.											
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
0.											
1.											
2.											
3.											
4.											

Deaths in Household:

Sex Age

Married = 1
 Divorced = 2
 Single = 3
 Widowed = 4
 Separated = 5

Nuclear = 1
 Extended = 2
 Other = 3

Muslim = 1
 Hindu = 2
 Other = 3

No school = 1
 Primary = 2
 Secondary = 3
 University = 4
 Religious school = 5
 Other = 6

Rickshaw puller = 1
 Artisian = 2
 Baby taxi driver = 3
 Trader = 4
 Office = 5
 Labourer = 6
 Unemployed = 7
 Servant = 8
 Other = 9

Sl. no.	How long in job/ (months)	How far work (km)	Fare cost PER Mo.	No. of days worked last month	Total salary (Mo) from regular jobs	Income source (apart) from regular jobs	How much (mo)	Total earnings (mo)	Previous job	Previous salary (mo)
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
1.										
2.										
3.										
4.										

Land = 1
 House = 2
 Boat = 3
 Remittance = 4
 Other special job = 5

Remarks:

Observations:

2a

Interviewer: _____

Household number / / /

House code / / / / /

Visit number / /

Visit date / / / / /

Sl. no.	Name of Family members	Relation to Head of Household	Diarrhoea Yesterday (state type)	Days with diarrhoea last two weeks	Resp. inf. (cough, cold, fever) Yesterday	Days with resp. inf. last two weeks.	Skin inf. (scabies, conj. etc.) now?	Days with skin inf. last two weeks	Night blindness now	N.B. ever	Other illness now
1.											
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											
11.											
12.											
13.											
14.											

Illness code

<u>Diarrhoea</u>		<u>Scabies</u>	8
Watery	1	Impetigo	9
Loose	2	Eczema	10
Mucoid	3	Other skin infection	11
Bloody	4	Measles	12
Mucoid+Bloody	5	Otitis	13
Upper respiratory	6	Conjunctivitis	14
Fever	7	Stomatitis	15
		Other (state)	16

Remarks

Observations