

DEMOGRAPHIC SURVEILLANCE SYSTEM - MATLAB

Volume One

METHODS AND PROCEDURES



CHOLERA RESEARCH LABORATORY

Dacca, Bangladesh

March, 1978

Scientific Report No. 9

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Methods and Procedures

CHOLERA RESEARCH LABORATORY
G.P.O. Box 128, Dacca - 2
Bangladesh

PREFACE

The Cholera Research Laboratory (CRL) operates under a bilateral project agreement between the governments of Bangladesh and the United States of America. Research activities of CRL center on the interrelationships between diarrheal disease, nutrition, fertility and their environmental determinants. CRL issues two types of papers: scientific reports and working papers which demonstrate the type of research activity currently in progress at CRL. The views expressed in these papers are those of authors and do not necessarily represent views of Cholera Research Laboratory. They should not be quoted without the permission of the authors.

Abstract

The present volume describes the continuing Demographic Surveillance System (DSS) in the villages of the Matlab field station. It briefly reviews the history of surveillance in that area and describes the main features of the country and characteristics of the people.

Detailed information on the DSS as it operated since 1974 is presented. The procedures followed in the field and the definitions of events as they are used in the DSS are described. Lists of codes and registration forms are appended for the information of the users of the data generated by the DSS.

Introduction

Since 1963 the Cholera Research Laboratory (CRL) has been conducting health research and providing health services in Matlab thana, Comilla District, a rural area of Bangladesh. One component of this field program has a longitudinal demographic surveillance system. The system consists of periodic censuses with intervening registration of births, deaths, migrations, and marital unions and dissolutions in the study population. The long-range goal of this program is to obtain reliable information on demographic and selected other characteristics of the study population and to monitor changes of these characteristics over time. This information provides a unique foundation for demographic research and for other investigations in infectious disease, nutrition, and health care.

The Matlab demographic surveillance system began in 1963, when 23 villages with a population of about 28,000 were enumerated as part of a field trial of cholera vaccine. In 1966 a census assigning each individual with an identification number was conducted in 132 villages containing 112,000 people. Shortly after the census the registration of births, deaths, and migrations was instituted in these villages, called the "old trial area (OTA)"^{1/}. The surveillance area was doubled in 1968 with the census of an additional population of 109,000 in 101 villages, called the "new trial area (NTA)". Since 1968 the continuous demographic surveillance area in Matlab has consisted of 228 villages^{2/}. At the last census in 1974 the total population of the surveillance area was 263,507.

Over the past decade the surveillance system has generated an enormous volume of unusually reliable demographic data. Censuses of the population are available in 1966 (OTA), 1968 (NTA), 1970 (OTA), and 1974 (entire area). The populations enumerated in these censuses are shown in Table 1. Depending

TABLE 1

Enumerated Census Populations by Sex in the Old Trial Area (OTA),
New Trial Area (NTA), and total area

| Census Year | Area | Population | | |
|-------------|------|------------|---------|---------|
| | | Total | Males | Females |
| 1966 | OTA | 111,722 | 57,122 | 54,600 |
| 1968 | NTA | 109,402 | 55,833 | 53,569 |
| 1970 | OTA | 120,694 | 61,036 | 59,658 |
| 1974 | All | 263,507 | 134,427 | 129,080 |

^{1/} Former terms for the Matlab Surveillance Area are old trial area (OTA) and new trial area (NTA), identifying two groups of villages where registration was instituted at different times.

^{2/} Although the population in 233 villages was enumerated in 1968 and 1974, the registration system has been maintained continually in 228 villages.

upon the census, which became increasingly more sophisticated, selected socioeconomic information is available on all individuals and households. Vital events (births, deaths, and migrations) have been registered since 1966 in the OTA and since 1968 in the NTA. Beginning in January 1975 the registration of marital unions and dissolutions was instituted in the entire area.

The Study Area and People

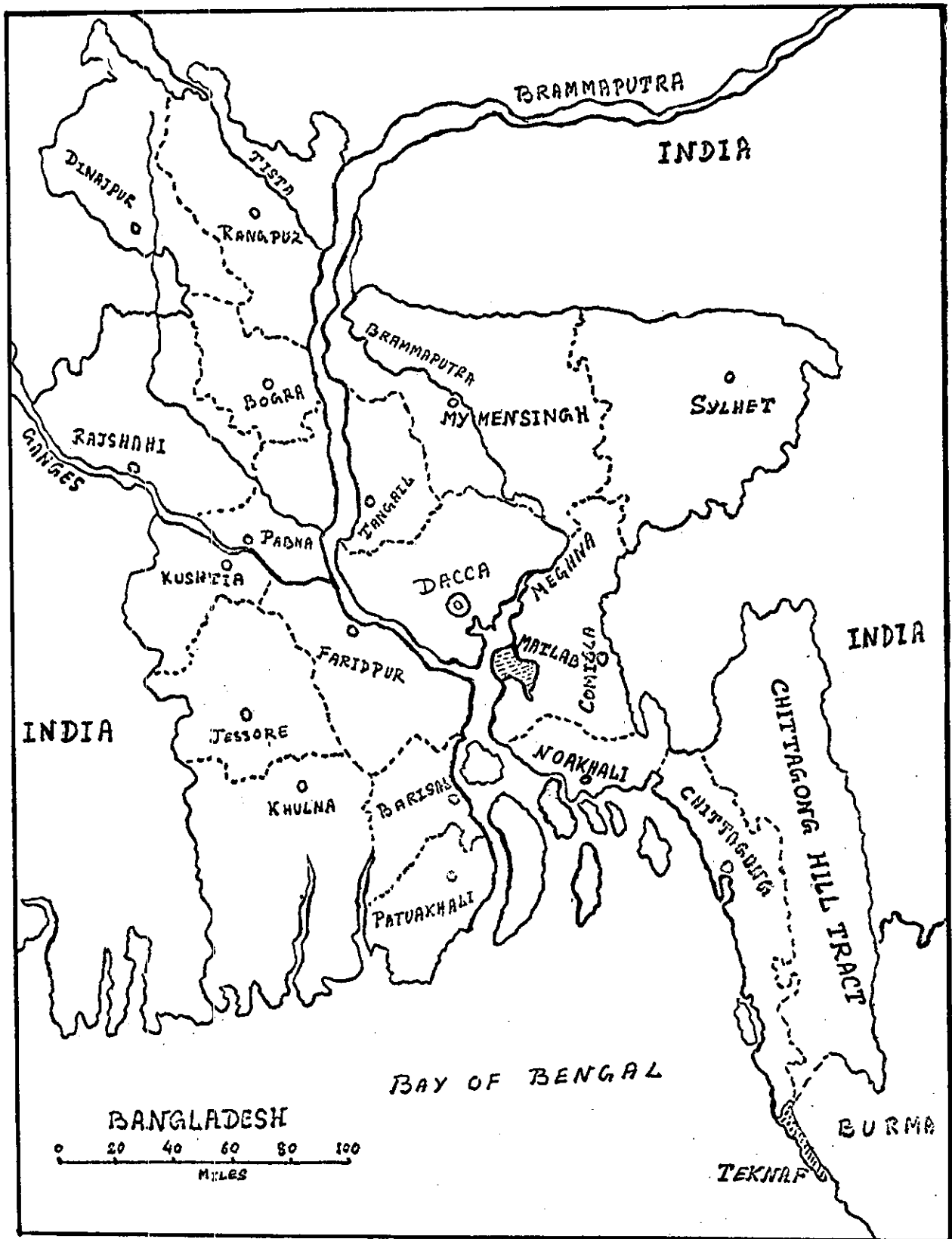
Matlab thana, Comilla District is situated 45 km southeast of Dacca, the capital of Bangladesh (map 1). Topographically, the area is low-lying deltaic plain intersected by numerous tidal rivers and canals, fed primarily by the Meghna River, one of the three large rivers draining Bangladesh. A recently constructed motorable road links the thana center with the district headquarters, but communication within the thana is only possible by foot or country boat. The Tropic of Cancer passes through the area. The climate is sub-tropical with three seasons: monsoon, cool-dry, and hot-dry. The average annual rainfall of 85 inches is concentrated in the monsoon season extending from June through September. During the monsoon it rains almost daily and essentially all of the land is flooded, except for clusters of homes built on earthen mounds. During the subsequent cool-dry season, lasting until February, the weather is mild - mild during the day and cold at night. In March the hot-dry season begins and extends to the next monsoon.

The Matlab continuous surveillance area (MSA) consists of 228 villages. Map 2 shows these villages in relation to the major canals and Matlab center, where the CRL research station and treatment facility are situated. Appendix A provides a listing of these villages by code number. Nearly all of these villages are in Matlab thana but several are in adjacent thanas and not all Matlab thana villages are included in the MSA.

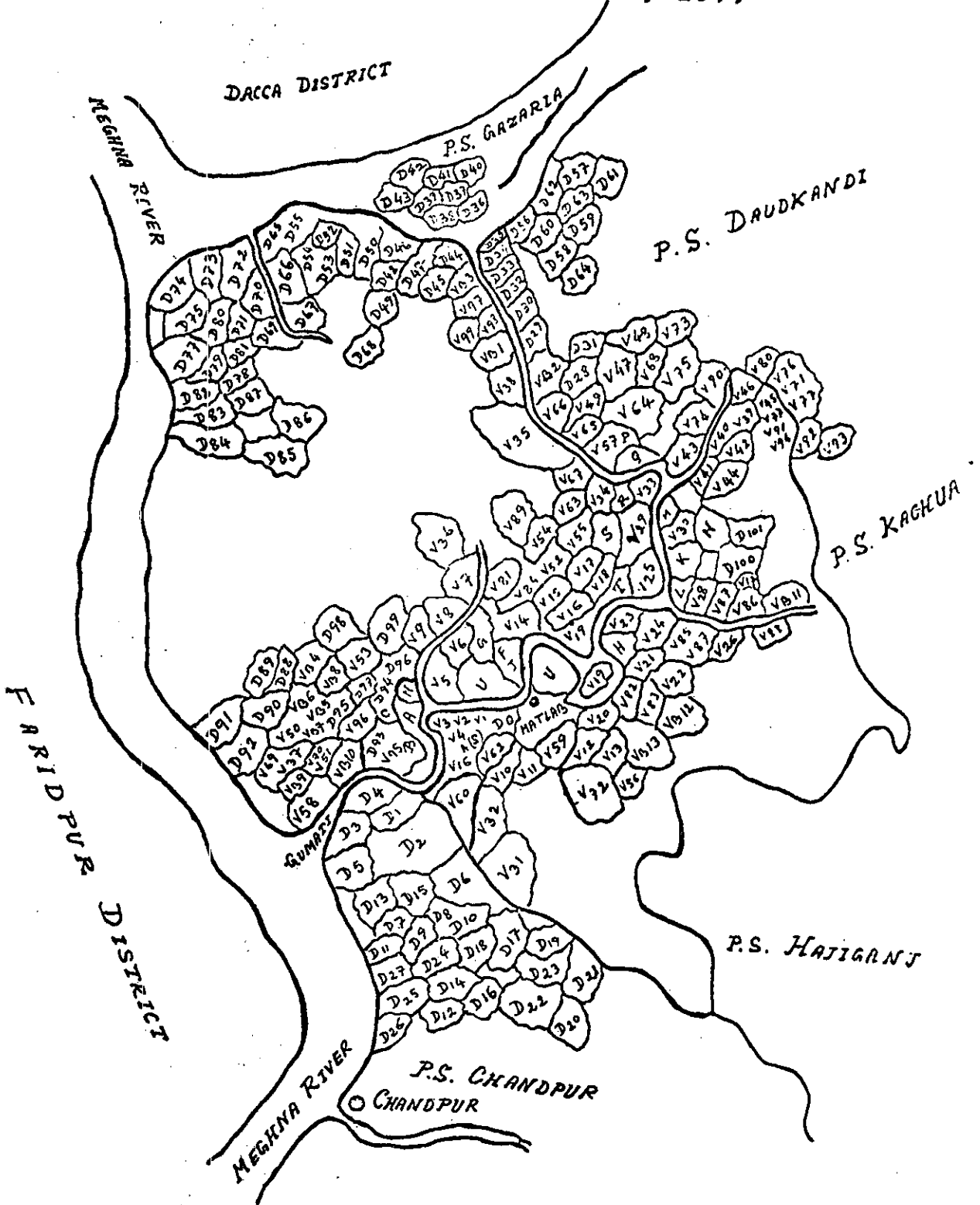
The population of the MSA is relatively homogenous consisting of indigenous Bangladeshis. Almost 88 percent are Muslim and the great majority of the remainder are Hindu. The education level, while low, is higher than the national average. According to the 1974 census, 30 percent of the population over age 5 were literate; 41 percent of males over age 15 had completed four years of school, as compared to 16 percent among females. The principal economic activities are agriculture and fishing, the latter being primarily a Hindu occupation. The staple food is rice, grown during the monsoon aman season. A second rice crop or vegetable crop is often possible during the winter boro season. Jute, the cash crop, is usually grown during the spring-summer aus season.

The average household consists of 6 persons residing in homes built of earthen floors, jute-stick walls, and thatched roof. Wealthy families may use wooden or corrugated-iron sheet walls and corrugated-iron roofing. Several households are usually grouped around a common courtyard. These proximal households are called baris, consisting of patrilineally-related

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MAP - I



MATLAB SURVEILLANCE AREA, 1977



households. An average household owns about 0.7 acres of land. Landholding is however skewed, about 18% of the households own 47 percent of the land, while about 18 percent are absolutely landless. If landlessness is defined as less than 0.5 acres, 43 percent of the households may be classified as landless.

In 1974 the average population density was 780 per square km; this figure is several times higher during the monsoon when most of the land is submerged. Villages have an average population of 1,155 persons but range in size from under 100 to over 6,000 inhabitants (TABLE 2). Just under one-third of the population live in the villages of less than 1,000 inhabitants; another third inhabit villages with a population between 1,000 and 2,000; and the remaining third reside in large villages with more than 2,000 inhabitants.

TABLE 2
Distribution of the Population of the Demographic
Surveillance Area by Village Size (Census 1974)

| Village Size No. of inhabitants | Number of Villages | Total Population | Percentage of | |
|------------------------------------|-----------------------|---------------------|---------------|------------|
| | | | villages | population |
| under 200 | 9 | 1,356 | 3.95 | 0.51 |
| 201 - 500 | 41 | 14,712 | 17.98 | 5.58 |
| 501 - 750 | 56 | 35,127 | 24.56 | 13.33 |
| 751 - 1000 | 28 | 24,789 | 12.28 | 9.41 |
| 1001- 1500 | 43 | 50,488 | 18.86 | 19.16 |
| 1501- 2000 | 16 | 27,486 | 7.02 | 10.43 |
| 2001- 2500 | 13 | 28,453 | 5.70 | 10.80 |
| 2501- 3000 | 10 | 27,946 | 4.39 | 10.61 |
| 3001- 4000 | 6 | 20,578 | 2.63 | 7.81 |
| 4001- 5000 | 3 | 13,220 | 1.32 | 5.02 |
| 5001 and more | 3 | 19,345 | 1.31 | 7.34 |
| All | 228 | 263,500 | 100.00 | 100.00 |

Methods and Procedures

Census: Enumerations of the "regular" residents of the study villages were undertaken in 1966, 1968, 1970, and 1974. The field procedures described here refer to the latest census^{3/}. Teams of trained CRL field workers in each team visited every household in the surveillance area during 22 April to 4 July, 1974. In most cases the head of the household responded to enquiries about selected demographic and socioeconomic characteristics of all of the members of the household. Each individual was assigned a unique identification number consisting of three parts: village of permanent residence, family, and individual. The census information was recorded in triplicate onto standard forms. These forms were subsequently arranged by village, bari, and household and bound into Census Books. One copy of the Census Book was returned to the field worker for subsequent registration work; another was stored in the Matlab research station; and the third was transferred to Dacca. During the census each household was given a Family Census Card (Appendix D), listing the regular residents of the household. Space was provided in the Family Census Card to record subsequent births, deaths, migrations and marriages and to enable field workers to record the timing of their future surveillance visits.

Demographic Surveillance: The Demographic surveillance system has a four-tier structure involving over 300 fulltime workers (TABLE 3). A list of all staff involved in the demographic surveillance program is in Appendix B.

TABLE 3

Field Structure of the Matlab Demographic Surveillance System

| Worker | Number | Population/Worker |
|------------------------------------|--------|-------------------|
| Female Field Worker (FW) | 290 | 900 |
| Male Field Assistant (FA) | 16 | 16,500 |
| Senior Field Assistant (SFA) | 4 | 66,000 |
| Field Surveillance Assistant (FSA) | 3 | 88,000 |
| Supervisor | 1 | 264,000 |
| All | 314 | - |

Detection of vital events at the village level is the primary responsibility of 290 Female Workers (FW's). These village level workers are responsible for an average of 200 households each. They visit each household daily

^{3/} Further details about the 1974 census are presented in Volume Two of this series along with the descriptive analysis and main tabulations of the census returns.

except during the monsoon season when visits may be reduced to every two or three days. During each visit, FW's, most of whom are illiterate, inquire about births, deaths, migrations, and marital unions and dissolutions and record these events in register books - often with the help of literate relatives or friends. They also supply kaolin mixture to villagers with mild diarrhea but refer severe cases to the CRL Matlab treatment unit.

The work of FW's is supervised by 16 male Field Assistants (FA's) who have matriculate education and short-term field training. The area covered by a FA is called a field unit and contains about 16,500 people or 3,000 households. FA's accompanied by the FW's, visit each household monthly to check on the completeness of the registration and to record vital events on standard registration forms. During their household visits, the FA's also record their visit, including any recent vital events, on the Family Census Card.

The work of FA's is again checked by 4 male Senior Field Assistants (SFA's) who visit each household at least three times annually. During their visits, SFA's review the record of FA visits noted on the Family Census Card and inquire about all past vital events, recording any missing events onto standard forms.

All of these workers in turn are supervised by a fulltime demographic surveillance Supervisor and his 3 Field Surveillance Assistants (FSA's) who through random field visits check on the completeness and quality of the field work.

Data Check and Transfer: Every two weeks the FA's deliver accumulated registration forms to the Matlab field research station. During these one-day visits, FA's review all forms for completeness, correctness, and match the events to the appropriate census form. Errors detected by the FA's may be corrected directly by referring to previous records or the census schedule. FA's then update their own copies of the Census Book. The work of FA's in turn are reviewed by 2 coding clerks, who transfer the registration data onto the Census Book of the Field Station. Forms that cannot be corrected directly are returned to the FA's for field verification. Every month the completed forms are transferred to the Statistics Branch, Dacca for coding, punching and preliminary processing.

To minimize loss or double-counting of the registered events, a computer print-out of the punched cards is returned to the Matlab field station semi-annually. A system of consecutive numbering of the registration forms ensures that lost, misplaced or double-counted forms are detected and corrected. After this re-verification, preliminary demographic data are generated by counter-sorter. The census and vital registration records for the period 1966-73 have been transferred to computer tape for linking the registered events to the census record to facilitate more comprehensive analysis of the data.

Definition and Coding Systems

Census: The 1974 census included only "regular" residents of the villages in the demographic surveillance area. Temporary residents and visitors who were present at the time of the census were excluded from the enumeration. A person who had a regular job outside the village but returned to his village home at least once a month was considered a resident. Migratory workers, such as fishermen, who were gone for as long as six months of a year but returned for the remaining six months were also considered residents. Those persons who were absent for more than six months per year or who regularly lived outside the village and returned to visit less than once a month were not enumerated. This same interpretation was given to the registration of vital events since only events concerning regular residents are included in the demographic surveillance system.

Registration of births: All births occurring to individuals included in the census (regular residents) and to new in-migrants into the surveillance area who satisfied the definition of 'resident' are registered regardless of the place of occurrence. Births occurring within the surveillance area to temporary visitors are registered but excluded from data processing and the computation of rates. The recording and registration of births is essentially a registration of pregnancies. To make sure that all live births are detected the DSS requires recording of a result of a pregnancy: whether miscarriage, stillbirth or live birth. This distinction between miscarriage and stillbirth is based on the duration of the pregnancy - if the pregnancy, according to the woman's assessment, lasted for less than seven months the outcome of the pregnancy - a foetus which did not show any signs of life - will be recorded as miscarriage. If, on the other hand, the woman indicates a pregnancy duration longer than seven months the event will be recorded as stillbirth. Sex is recorded in the case of a stillbirth and live birth, but not for miscarriages. In 1977-8 registration period (starting on 1 May 1977 till 30 April 1978) an attempt was made to discern between spontaneous miscarriages and induced ones (abortions). Multiple confinements are recorded according to the outcome of the pregnancy: if at least one of the issue is live born the confinement is recorded as resulting in a live birth. With respect to each issue sex and viability (live birth, stillbirth) is then noted.

The birth registration form (Birth Report) is in Appendix D. The coding list used in each registration year since 1973-4 is presented in Appendix C to provide interested researchers with the information on the characteristics collected for each pregnancy termination.

Registration of Deaths: Deaths of residents in the surveillance area are recorded on the Death Report Form. The death form contains information on individual identification number, date of death, age at death, sex, mother's identification number, village of residence, place of death, and type of doctor consulted. The report also contains a crude diagnosis of the cause of death. The quality of this information is not high, depending both on the reliability of the deceased person's relatives and on the diagnostic

capability of untrained field staff. The coding list of death reports is in Appendix C and a copy of the Death Report is in Appendix D.

Registration of migration: Data on migration are collected with respect to change of the place of residence within the area of the Demographic Surveillance as well as on migration into and migration out of the Surveillance area. The form of inquiry has not changed during the 1973/4 to 1977/8 period; from 1976/7, however, an additional question was asked as to the place of destination of the out-migrant or, alternatively, previous place of residence of the in-migrant.

An out-migrant is defined as a person originally listed on the census record as a resident, or a person who became a resident after the census by birth or in-migration, who has subsequently permanently moved out of the surveillance area. An in-migrant is, likewise, an individual not recorded on the census schedule who has permanently moved into the surveillance area.

Whether a movement constitutes a permanent change of residence is decided upon by the duration of stay; residence of at least six months of duration is considered permanent. Consequently, the act of movement is noted first in a preliminary form and the Migration Report is filled out only after the six months waiting period has elapsed. The date of migration is considered as the beginning of the 6 month period. Moves of less than 6 months duration are considered transient and transient movements are not registered.

These migration statistics represent only a fraction of the total volume of movement of individuals. Migration within the surveillance area, although recorded on the family census records, is not registered on the migration forms and thus is not reflected in the total volume of movements. Migration statistics thus represent only movement across the border of the surveillance area. Migration rates therefore are highly dependent upon the definition and size of the surveillance area.

Information included on Migration Reports includes: individual identification number, date of movement, in-or out-migration, sex, age, cause of movement, religion, and place (from or destination). The coding list is in Appendix C and a copy of the In-Migration and Out-Migration Reports are in Appendix D.

Registration of marital status: The 1974 census recorded in a simple form marriage history of each ever married person, stating whether the person (male) had one or two wives, whether he/she was separated from the spouse, divorced or widowed, and how many times he/she was divorced or widowed. From 1 January 1975 registration of marriages (first marriages, re-marriages) and divorces was introduced. The amount of information collected during the first year was quite extensive, including also birth history of the partner's previous marriage(s) if any, marriage arrangement, and desired family size. The registration form was, however, reduced to essentials in the subsequent

year and from 1 January 1976 only information on the current marriage and duration of previous event (divorce, widowhood) prior to the present marriage was collected.

The information collected in the Marriage Reports included type of event and date of event. For both partners information was obtained on individual identification number, age, sex, marital status prior to the event, duration of previous marital status, number of previous marriages, education, and birth history of previous marriages. For male partners, information was obtained about occupation. For female partners, information was obtained about father's education, father's occupation, distance between partners' residence, person who arranged marriage, and religion. The coding list of marital unions and dissolutions is in Appendix C and the Marriage Report form is in Appendix D.

Acknowledgement

The continuing registration of vital events and migration, subsequently expanded to cover marriages and divorces, was initiated by Dr. Wiley H. Mosley in 1966. In the subsequent years many researchers contributed to the improvement and expansion of the DSS, in particular K.M.A. Aziz, Makhlisur Rahman, A.K.M. Alauddin Chowdhury, Dr. George Curlin, Dr. Douglas Huber and Dr. Lincoln Chen. The organizational skills and devotion of A.M. Sarder helped to maintain the high quality and completeness of the registration even under such difficult conditions as were encountered during the Liberation War of 1971 and during the recurrent floods in the area.

The efforts of the surveillance staff whose names are listed in Appendix B, the logistic support provided by the maintenance staff in Dacca and Matlab, the services of the speed-boat drivers and vehicle drivers and the assistance of others, too numerous to be listed by names, were indispensable to the smooth functioning of the DSS.

The staff of the Statistics Branch of the Dacca office provided valuable assistance for the compilation of the Appendixes. Mr. Cyril Gomes expertly typed the manuscript and prepared it for publication.

APPENDIX A.

List of the Villages under continuous
Demographic Surveillance 1974-1976

| <u>Code of Villages</u> | <u>Name of Villages</u> | <u>Code of Villages</u> | <u>Name of Villages</u> |
|-------------------------|-------------------------|-------------------------|-------------------------|
| A | Uddamdi | V23 | Baluchar |
| B | Charmasua | V24 | Machuakhal |
| C | Sarderkandi | V25 | Char Pathalia |
| D | Charmukundi | V26 | Narayanpur |
| F | Sepoykandi | V27 | Panchghoria |
| G | Thatalia | V28 | Khidirpur |
| H | Lamchari | V29 | Shibpur (south) |
| J | Char Harigope | V30 | Harion |
| K | Shahpur | V31 | Digholdi |
| L | Tatkhana | V32 | Mbarakdi |
| M | Char Nayergaon | V33 | Shibpur (north) |
| N | Aswinpur | V34 | Satparia |
| O | Nayergaon | V35 | Durgapur |
| P | Titerkandi | V36* | Ludhua |
| Q | Char Shibpur | V37 | Char Putia |
| R | Nandalalpur | V38 | Galimkha |
| S | Tatua | V39 | Gobindapur |
| T | Amuakanda | V40 | Masundia |
| U | Baishpur | V41 | Paton |
| W | Kaladi | V42 | Adhara |
| V1 | Kadamtali | V43 | Kanarchak |
| V2 | Nilokhi | V44 | Panchdona |
| V3 | Char Nilokhi | V45 | Backchar |
| V4 | Char Pathalia | V46 | Silinda |
| V5 | Gazipur | V47 | Tulatoly |
| V6 | Fatepur | V48 | Gangkanda |
| V7 | Nayakandi | V49 | Harina Bhabanipur |
| V8 | Goalbhar | V50 | Bakharpur |
| V9 | Naburkandi | V51 | Induriakandi |
| V10 | Dhakirgaon | V52 | Nayakandi |
| V11 | Nabakalash | V53 | Choto Haldia |
| V12 | Bhangerpar | V54 | Balairkandi |
| V13 | Baburpara | V55 | Induria (Islamabad) |
| V14 | Enayetnagar | V56 | Pailpara |
| V15 | Bhati Rasulpur | V57 | Baluchar |
| V16 | Binandapur | V58 | Mohishmari |
| V17 | Hatighata | V59 | Doshpara |
| V18 | Torkey | V60 | Suvonkordi |
| V19 | Lakshmipur | V61 | Munsobdi |
| V20* | Dagarpur | V62 | Shilmondi |
| V21 | Khadergaon | V63 | Islamabad East |
| V22 | Beloti | V64 | Kawadi |

APPENDIX A. (Contd.)

| <u>Code of Villages</u> | <u>Name of Villages</u> | <u>Code of Villages</u> | <u>Name of Villages</u> |
|-------------------------|-------------------------|-------------------------|-------------------------|
| V65 | Nayachar | VB10 | Rampur South |
| V66 | Thatalia | VB11* | Meharan |
| V67 | Mojlishpur | VB12* | Nagda |
| V68 | Sobahan | VB13* | Naogaon |
| V69 | Naobhanga | D1 | Damodardi |
| V70 | South Joypur | D2 | Bishnupur |
| V71 | Khamarpara | D3 | Manoharkhadi |
| V72 | Upadi | D4 | Madhyamchari |
| V73 | Sadardia | D5 | Kanudi (Kanudasdi) |
| V74 | Ketundi | D6 | Dhanpardi |
| V75 | Mikundi | D7 | Sarongdi |
| V76 | Chosoi | D8 | Hasadi |
| V77 | Digalgaon | D9 | Sugandhi |
| V78 | Solodana | D10 | Nurullapur |
| V79 | Pitambordi | D11 | Prajapordi |
| V80 | Dairbond | D12 | Rangergaon |
| V81 | Sonaterkandi | D13 | Lalpur |
| V82 | Dhonarpar | D14 | Pathalia |
| V83 | Padmapal | D15 | Kherudia |
| V84 | Shahbazkandi | D16 | Dasdi |
| V85 | Bhanurpar | D17 | Raldia (Laldia) |
| V86 | Adhara | D18 | Amanullapur |
| V87 | Hurmahisha | D19 | Paikasta |
| V88 | Datikara | D20 | Hapania |
| V89 | Islamabad Middle | D21 | Sengaon |
| V90 | Narinda | D22 | Ashitathi |
| V91 | Kachiara | D23 | Hussainpur |
| V92 | Ujjalpur | D24 | Kallyandi |
| V93 | Bordail | D25 | Dasadi |
| V94 | Khidirpur Noth | D26 | Purandapur |
| V95 | Baluchar | D27 | Safarmali |
| V96 | North Rampur | D28 | Bazarkhola |
| V97 | Dhonagoda | D29 | Kirtankhola |
| V98 | Santoshpur | D30 | Bonuakandi |
| V99 | Baluakandi | D31 | Horina Bazarkhola |
| VB1 | Taltoly | D32 | Khalisha |
| VB2 | Sree Rayerchar | D33 | Nayanagar |
| VB3 | Rayerkandi | D34 | Saidkhar Kandi |
| VB4 | Ramdaspur | D35 | Mollakandi |
| VB5 | Thakurpara | D36 | Chota Basurchar |
| VB6 | Sarkerpara | D37 | Basarchar |
| VB7 | Mirpur | D38 | Bara Basurchar |
| VB8 | Farazikandi | D39 | Datterchar |
| VB9 | Ramanathganj | D40 | Kadamtali |

APPENDIX A. (Contd.)

| <u>Code of Village</u> | <u>Name of Village</u> | <u>Code of Village</u> | <u>Name of Village</u> |
|------------------------|----------------------------|------------------------|----------------------------|
| D41 | Simulia | D71 | Imampur |
| D42 | Gogachia | D72 | Lalpur East |
| D43 | Jamalpur | D73 | Lalpur West |
| D44 | Nabipur | D74 | Char Charani |
| D45 | Khagoria | D75 | Shaitnal Bara & Choto |
| D46 | Hapania | D76 | Shaitnal Malopara |
| D47 | Bara Kinarchawk | D77 | Sotaki |
| D48 | Chota Kinarchawk | D78 | Millukmazirkandi |
| D49 | Sadullapur | D79 | Mollakandi (near Saitnal) |
| D50 | Badarpur | D80 | Manikerkandi |
| D51 | Mollakandi (near Badarpur) | D81 | Chand Sardarkandi |
| D52 | Nayakandi " | D82 | Sugandhi |
| D53 | Gopalkandi | D83 | Sikirchar East |
| D54 | Maktirkandi | D84 | Sikirchar West |
| D55 | Jamalpur | D85 | Jorkhali |
| D56 | Ramayetkandi | D86 | Baluchar (near Sikirchar) |
| D57 | Goalmari | D87 | Bara Ani |
| D58 | Jamalkandi | D88 | Shankibhanga (north-south) |
| D59 | Manthan | D89 | Shankibhanga Namapara |
| D60 | Lamchari | D90 | Zahirabaz |
| D61 | Kalairkandi | D91 | Joypur North |
| D62 | South Nasoruddin | D92 | Joypur (West) |
| D63 | Jhautala | D93 | Maizkandi |
| D64 | Sonakanda | D94 | Hazipur |
| D65 | Chandrakandi | D95 | Tapadarkandi |
| D66 | Putiarpar | D96 | Shakharipara |
| D67 | Subairkandi | D97 | Nayakandi (near Amirabaj) |
| D68 | Shyamnagar | D98 | Bara Haldia |
| D69 | Bari Bhanga | D99 | Mandartali |
| D70 | Kalipur | D100 | Barogaon |
| | | D101 | Naujan |

* Census taken in 1974 and demographic surveillance continuously proceeded with but data not included in the 1974 - 1976 analysis.

DEMOGRAPHIC SURVEILLANCE SYSTEM - MATLAB

Field Staff 1974 - 1976

Supervisors

1. Mr. M.R. Khan
2. Mr. J. Chakraborty
3. Mr. A.M. Sarder

Field Surveillance Assistants (F.S.A.)

1. Mr. A.G. Sarker
2. Mr. Azizul Hoque
3. Khalilur Rahman I
4. Mr. Abdus Satter
5. Mr. Mokbul Hossain
6. Mr. A.K.M. Nurul Islam

Senior Field Assistants (S.F.A.)

1. Mr. Abdul Momen
2. Mr. Abdul Majid
3. Mr. Kazi Matiur Rahman
4. Mr. Rajab Ali
5. Mr. Kafiluddin Akanda
6. Mr. Liaquat Ali
7. Mr. Abdul Khaleque
8. Mr. Md. Ismail
9. Mr. Mukhlisur Rahman
10. Mr. Chitta Ranjan Das
11. Mr. Shahidullah
12. Mr. Mahfuzul Islam
13. Mr. Sekander Hayet
14. Mr. Kashem Ali

Clerical Staff

1. Mr. A.K.M. Mozibul Hoque
2. Mr. Shahid Ullah Khan
3. Mrs. Rowshan Ara
(Statistical Assistant)

Field Assistants (F.A.)

1. Mr. Abdus Shahid
2. Mr. Dinesh Chandra Saha
3. Mr. Ashequr Rahman
4. Mr. S.R. Paul
5. Mr. Siddiqur Rahman
6. Mr. Serajul Islam
7. Mr. Idris Ali II
8. Mr. Abu Taher
9. Mr. A.H. Bhuiyan
10. Mr. Delwar Hossain
11. Mr. S.R. Patwary
12. Mr. Abul Kashem
13. Mr. Idris Ali I
14. Mr. Abdus Samad
15. Mr. Abdul Malek
16. Mr. K.J.M. Mannan Pathan
17. Mr. K. Mokbul Hossain
18. Mr. Joynal Abedin I
19. Mr. Khalilur Rahman II
20. Mr. Abdur Rashid Miah
21. Mr. Zahirul Hoque
22. Mr. S.M.A. Aziz
23. Mr. Nurul Hoque
24. Mr. Fazlur Rahman
25. Mr. Nazrul Islam
26. Mr. Nasiruddin
27. Mr. A.L. Patwary
28. Mr. Abdul Baten
29. Mr. Mazedul Hoque
30. Mr. Shamsul Hoque
31. Mr. Golam Hossain
32. Mr. Abdul Latif
33. Mr. Firoz Miah
34. Mr. Ruhul Amin
35. Mr. O.G. Bhuiyan
36. Mr. Serajul Hoque
37. Mr. A.F.M. Aminul Islam Khan
38. Mr. A. Mannan Bakaul
39. Mr. Arfanullah Sarker
40. Mr. Monoranjan Das
41. Mr. P.C. Chakraborty
42. Mr. Zainal Abedin II

c-1 Birth Report Code List

| Item | Columns on punch cards for the registration period | | | | |
|--|---|--------|--------|---------|--------|
| | 1973/4 | 1974/5 | 1975/6 | 1976/77 | 1977/8 |
| 1. Date of birth: day | 9-10 | 9-10 | 9-10 | 7-8 | 7-8 |
| month | 11-12 | 11-12 | 11-12 | 9-10 | 9-10 |
| year | 13-14 | 13-14 | 13-14 | 11-12 | 11-12 |
| 2. Litter size | 15 | 15 | 15 | 13 | 13 |
| 3. Result: miscarriage (1); stillbirth (2); live birth (3); from 1977/8 miscarriage induced (1); spontaneous (2); stillbirth (3); live birth (4) | 16 | 16 | 16 | 14 | 14 |
| 4. Sex: M (1); F (2) | 17 | 17 | 17 | 15 | 15 |
| 5. Number ^{a/} of child (in single confinement) or of the first born child (multiple confinement) | 18-26 | 18-26 | 18-26 | 16-24 | 16-24 |
| 6. Result (twin) - as above under (3) | 27 | 27 | 27 | 25 | 25 |
| 7. Sex - as above under (4) | 28 | 28 | 28 | 26 | 26 |
| 8. Number ^{a/} of second child in multiple confinement (if live born) | 29-37 | 29-37 | 29-37 | 27-35 | 27-35 |
| 9. Result (triplet) | 38 | | | | |
| 10. Sex | 39 | | | | |
| 11. Age of mother | 44-45 | 38-39 | 38-39 | 36-37 | 36-37 |
| 12. Type of age: census (1); birth (2); in-migrant (3) | n/a | 40 | 40 | 38 | 38 |
| 13. VTS No. ^{b/} of mother | 46-54 | 41-49 | 41-49 | 39-47 | 39-47 |
| 14. Census No. ^{c/} of mother | n/a | 50-58 | 50-58 | 48-56 | 48-56 |
| 15. Age of father | 55-56 | 59-60 | 59-60 | 57-58 | 57-58 |
| 16. Type of age (as under 12) | n/a | 61 | 61 | 59 | 59 |
| 17. Census No. of father | n/a | 62-70 | 62-70 | 60-68 | 60-68 |
| 18. VTS No. of father | 57-65 | n/a | n/a | n/a | n/a |
| 19. No. of previous pregnancies | 66-67 | 71-72 | 71-72 | 69-70 | 69-70 |
| 20. No. of living children | 68-69 | 73-74 | 73-74 | 71-72 | 71-72 |
| 21. No. of children born alive, now dead | 70 | 75 | 75 | 73 | 73 |
| 22. No. of children stillborn | 71 | 76 | 76 | 74 | 74 |
| 23. Place of birth ^{d/} . | 72 | 77 | 77 | 75 | 75 |
| 24. Usual residence of mother ^{d/} | 73 | 78 | 78 | 76-78 | 76-78 |
| 25. Vaccine given ^{e/} | n/a | 79 | n/a | n/a | n/a |
| 26. No. of living sons (excluding this birth) | n/a | n/a | 79 | 79 | 79 |
| 27. No. of live born sons now dead | n/a | n/a | 80 | 80 | 80 |

a/ Number (identification) is assigned to each live born child consisting of the village identification, family identification and individual number within the family.

b/ VTS number is an identification number assigned at the 1968 or 1970 census.

c/ Census No. is the number assigned at the 1974 census.

d/ Within DSS or outside DSS.

e/ Type of vaccine given.

C-2 Death Report Code List

| Item | Columns on punch cards for the registration period | | | | |
|---|--|--------|--------|--------|--------|
| | 1973/4 | 1974/5 | 1975/6 | 1976/7 | 1977/8 |
| 1. Date of death: day | 9-10 | 8-9 | 8-9 | 8-9 | 8-9 |
| month | 11-12 | 10-11 | 10-11 | 10-11 | 10-11 |
| year | 13-14 | 12-13 | 12-13 | 12-13 | 12-13 |
| 2. Age at death: years | 15-16 | 14-15 | 14-15 | 14-15 | 14-15 |
| months | 17-18 | 16-17 | 16-17 | 16-17 | 16-17 |
| days | 19-20 | 18-19 | 18-19 | 18-19 | 18-19 |
| 3. Sex M (1); F (2) | 21 | 20 | 20 | 20 | 20 |
| 4. VTS No. (census 1968 or 1970) | 22-30 | 21-29 | 21-29 | 21-29 | 21-29 |
| 5. Census No. (1974 Census) | n/a | 30-38 | 30-38 | 30-38 | 30-38 |
| 6. Vaccination ^{a/} | 31-32 | n/a | n/a | n/a | n/a |
| 7. Whether diarrhea present Yes (1); No (2) | 33 | n/a | n/a | n/a | n/a |
| 8. Culture: not done (1); negative (2); positive (3) | 34 | n/a | n/a | n/a | n/a |
| 9. Mother VTS No. | n/a | 39-47 | 39-47 | 39-47 | 39-47 |
| 10. Mother Census (1974) No. | n/a | 48-56 | 48-56 | 48-56 | 48-56 |
| 11. Cause of death (see separate Code List) | 35-36 | 57-58 | 57-58 | 57-58 | 57-58 |
| 12. Usual residence ^{b/} | 37 | 59 | 59-61 | 59-61 | 60-62 |
| 13. Type of doctor consulted ^{c/} | n/a | n/a | n/a | n/a | 59 |
| 14. Place of death ^{d/} | 38 | 60 | 62 | 62 | 63 |
| 15. Whether age calculated from birth: Yes (1); No (2) | n/a | 61 | 63 | 63 | 64 |

a/ type of vaccine given.

b/ within DSS (1); outside DSS (2); in 1973/4 and 1974/5. Since 1975/6 the code no. of the village of usual residence is given.

c/ licensed allopath (1); allopath quack (2); homeopath (3); kaviraj (4); other (5); doctor not consulted (6).

d/ 1973/4: within DSS (1); outside DSS (2). 1974/5: within DSS (1); outside DSS (2); 1975/6: within DSS (1); outside DSS (2). 1976/7: same as usual residence (1); different but within DSS (2); outside DSS (3); 1977/8 as in 1976/7.

C-2 Death Report Code List (Contd.)

Cause of Death Coding List

1973/4 registration period:

| | |
|---|----|
| Fever (all forms) | 01 |
| Acute diarrhea | 02 |
| Other gastro-dysentery | 03 |
| Respiratory dis., cold, cough, fever, TB | 04 |
| Smallpox, Measles | 05 |
| Accident | 06 |
| Unknown, takuria | 07 |
| Others, Dropsy, Asthma, Rheumatism | 08 |
| Child Birth | 09 |

1974/5 through 1977/8 period:

| | |
|--|----|
| Smallpox | 01 |
| Measles | 02 |
| Tetanus (takuria; evil spirit) | 03 |
| Drowning | 04 |
| Murder | 05 |
| Suicide | 06 |
| Diarrhea (acute) | 07 |
| - (chronic) | 08 |
| Dysentery (acute) | 09 |
| - (chronic) | 10 |
| Child birth | 11 |
| Jaundice | 12 |
| Other | 13 |
| Dis. of gastro-intest. (other than cholera) | 14 |
| Respiratory dis. (cold, fever, cough, TB, asthma) | 15 |
| Heart disease | 16 |
| Liver disease | 17 |
| Veneral disease | 18 |
| Skin disease | 19 |
| E.N.T. disease | 20 |
| Cholera (proved) | 21 |
| Dropsy | 22 |
| Rheumatism | 23 |
| Accident | 24 |
| Old age (complicating) | 25 |
| Fever (all forms) | 26 |
| Unknown | 27 |

C-3 Migration Report Code List

| Item | Columns on punch cards for the registration period | | | | |
|--|--|--------|--------|--------|--------|
| | 1973/4 | 1974/5 | 1975/6 | 1976/7 | 1977/8 |
| 1. Date of movement: day | 9-10 | 9-10 | 9-10 | 9-10 | 9-10 |
| month | 11-12 | 11-12 | 11-12 | 11-12 | 11-12 |
| year | 13-14 | 13-14 | 13-14 | 13-14 | 13-14 |
| 2. Event: in-migration (1); out-migration (2) | 15 | 15 | 15 | 15 | 15 |
| 3. Sex: M(1); F(2) | 16 | 16 | 16 | 16 | 16 |
| 4. Age | 17-18 | 17-18 | 17-18 | 17-18 | 17-18 |
| 5. VTS No. | 19-27 | 19-27 | 19-27 | 19-27 | 19-27 |
| 6. Census No. | n/a | 28-36 | 28-36 | 28-36 | 28-36 |
| 7. Cause of movement (see separate Coding List) | 28-29 | 37-38 | 37-38 | 37-38 | 37-38 |
| 8. Religion: Muslim (1); Hindu (2); Other (3) | 30 | 39 | 39 | 39 | 39 |
| 9. Migrating to - or immigrated from village (1); Thana H.Q. (2); Sub-Div. (3); District Town (4); City (5); unknown (6); out of Bangladesh (7) | n/a | n/a | n/a | 40 | 40 |

Cause of migration: the identical classification applied through the 1973-1978 period.

| | | | |
|----|-------------------------------|----|---------------------|
| 01 | Marriage | 14 | Work |
| 02 | Service | 15 | Change in residence |
| 03 | Divorce | 16 | To join husband |
| 04 | Dependent | 17 | - parents |
| 05 | Study | 18 | - other relatives |
| 06 | Better living (accommodation) | 19 | Unknown |
| | | 20 | Separation |
| 07 | Return home after study | 21 | For treatment |
| 08 | - after service | 22 | Widow |
| 09 | - after work | 23 | Return home |
| 10 | For livelihood | 24 | Regular member |
| 11 | Adoption | 25 | Others |
| 12 | Vagabond | | |
| 13 | Business | | |

C-4 Marriage/Divorce Report Code List

| Item | Column on punch cards for the registration year | | |
|---|--|-------|-------|
| | 1975 | 1976 | 1977 |
| 1. Event: Marriage (1); Divorce (2) | 1 | 1 | 1 |
| 2. Date of event: month | 5-6 | 8-9 | 8-9 |
| year | 7-8 | 10-11 | 10-11 |
| <u>Male partner</u> | | | |
| 3. Age | 9-10 | 12-13 | 12-13 |
| 4. Type of age: census (1); migration (2); stated (3) | n/a | 14 | 14 |
| 5. Census No. | 11-19 | 15-23 | 15-23 |
| 6. Marital status prior to this event: never married (1); married (2); widowed (3); divorced (4); separated (5) | 20 | 24 | 24 |
| 7. Duration of the above event in months (maximum duration 98 m and over) | 21-22 | 25-26 | 25-26 |
| 8. Number of previous marriages | 23 | n/a | n/a |
| 9. Widowed | 24 | n/a | n/a |
| 10. Divorced | 25 | n/a | n/a |
| 11. Education (0, 1, 2, ... 10+); religious only (M); none (00) | 26-27 | 27-28 | 27-28 |
| 12. Occupation (see separate Code List) | 28-29 | 29-30 | 29-30 |
| 13. Total birth history from previous marriages - number of live births | 30 | n/a | n/a |
| number of living children | 31 | n/a | n/a |
| <u>Female partner</u> | | | |
| 14. Age | 32-33 | 31-32 | 31-32 |
| 15. Type of age (see under 4.) | n/a | 33 | 33 |
| 16. Census No. | 34-42 | 34-42 | 34-42 |
| 17. Marital status prior to this event: (see under 6) | 43 | 43 | 43 |
| 18. Duration of the above event in months (see under 7.) | 44-45 | 44-45 | 44-45 |

C-4 Marriage/Divorce Report Code List

| Item | Column on punch cards for the registration year | | |
|--|--|-------|-------|
| | 1975 | 1976 | 1977 |
| <u>Female partner: (Contd.)</u> | | | |
| 19. Number of previous marriages | 46 | n/a | n/a |
| 20. Widowed | 47 | n/a | n/a |
| 21. Divorced | 48 | n/a | n/a |
| 22. Education (see under 11.) | 49-50 | 46-47 | 46-47 |
| 23. Father's education (see under 11.) | 51-52 | n/a | n/a |
| 24. Father's occupation (see separate Code List) | 53-54 | n/a | n/a |
| 25. Total birth history from previous marriages: | | | |
| number of pregnancies | 55 | n/a | n/a |
| number of live births | 56 | n/a | n/a |
| number of living children | 57 | n/a | n/a |
| 26. Distance between the residence of the male and female partner: same bari (1); same village (2) same Union (3); same Thana (4); same District (5) others (6) | 58 | n/a | n/a |
| 27. Marriage arranged: by guardian (1); partners (2) unknown (3) | 59 | n/a | n/a |
| 28. How many children would they like to have? | 60 | n/a | n/a |
| 29. What is the basis of the statement above? conscious (1); unaware (2); no choice (3) unknown (4) | 61 | n/a | n/a |
| 30. Residence: both partners in DSS (1) only male partner in DSS (2); only female partner in DSS (3); other (4) | 62 | 48 | 48 |
| 31. Religion: Islam (1); Hindu (2); Other (3) | 63 | 49 | 49 |

Code List of Occupations

- | | | |
|---|---|--|
| 1 | Farming | |
| 2 | Agricultural or Farm Labourer | |
| 3 | Self employed (potter, carpenter, barber, washerman, goldsmith) | |
| 4 | Fisherman or boatman | |
| 5 | Industrial worker | 10 Professional (Doctor, Lawyer etc.) |
| 6 | Other daily labourer | 11 Service |
| 7 | Not gainfully employed (student etc.) | 12 Others (1975); Business (1976,1977) |
| 8 | Business (1975); Others(1976, 1977) | |
| 9 | Unknown | |

APPENDIX D

FORMS USED IN THE DSS IN 1974 - 1977

BIRTH REPORT

C R L

Unit No. Card Study No.

Sl. No. Name of New Born _____ Identification

Date : Day Month Year

Litter Size : (15) Single Twin Triplet

| Result | Sex | Result | Sex |
|---|--------------------------|---|--------------------------|
| <input type="text"/> Miscarriage induced (< 7 m) | <input type="text"/> M | <input type="text"/> Miscarriage induced (< 7 m) | <input type="text"/> M |
| <input type="text"/> Miscarriage-spontaneous (< 7 m) | | <input type="text"/> Miscarriage-spontaneous (< 7 m) | |
| <input type="text"/> Still birth | <input type="text"/> F | <input type="text"/> Still birth | <input type="text"/> F |
| <input type="text"/> Live birth | <input type="text"/> Unk | <input type="text"/> Live birth | <input type="text"/> Unk |

Census No. '74 _____ Census No. '74 _____

Information on Mother :

Name _____ Age Type of age Census Birth M-In Date M-In

VTS No. '68/'70 _____ Census No. '74 _____

Information on Father :

Name _____ Age Type of age Census Birth M-In Date M-In

VTS No. '68/'70 _____ Census No. '74 _____

No. of previous pregnancy to mother (Exclude this birth)

No. of living children Total Sons

No. of children born alive now dead Total Sons

No. of children born dead Total

Place of birth _____ P. O. _____ Thana _____ Code

Village /

Usual Residence of Mother :

Village _____ P. O. _____ Thana _____ Code

No. of additional children wanted

Remarks : _____

Reported by : _____ Date _____

Date entered : Field Matlab Dacca

DEATH REPORT

C R I

Card (1)
(2-4)

Sl. No.

Study No. (5-8)

Name of deceased : _____ Identification (13-14)

Date of death : Day (9-10) Month (11-12) Year (15-16) (17-18) (19-20)

Age : Years Months Days Sex (21)

Type of age : (22-30) Date of M-In _____ Date of Birth _____

VTS No : '68/'70 _____ Census No. '74 _____

Mother's VTS No. '68/'70 _____ Census No. '74 _____ (If any)

Marital status at the time of death (31)

Never Married Married Widowed Separated Divorced
(32-33) (34-35)

Education at death Occupation at death

Events and symptoms leading up to death (36-37) :

| | | | | | |
|-------------------------|---------------------------------|----------------------|---------------------------------|---------|---------------------------------|
| Smallpox | <input type="text" value="01"/> | Diarrhea : Acute | <input type="text" value="07"/> | Chronic | <input type="text" value="08"/> |
| Measles | <input type="text" value="02"/> | Dysentery : Acute | <input type="text" value="09"/> | Chronic | <input type="text" value="10"/> |
| Tetanus | <input type="text" value="03"/> | Childbirth | <input type="text" value="11"/> | | |
| Drowning | <input type="text" value="04"/> | Jaundice | <input type="text" value="12"/> | | |
| Murder | <input type="text" value="05"/> | Space for future use | | | |
| Suicide | <input type="text" value="06"/> | | | | |
| Other not covered above | <input type="text" value="13"/> | | | | |

Symptoms Leading up to death _____

Usual Residence . _____ Code (38)
Village P. O. Thana

Place of death . _____ Code (39)
Village P. O. Thana

Type of Doctor consulted (40) . Licensed Allopath Allopath Quack

Homoeopath Kaviraj Other Doctor not consulted

Remarks . _____

Reported by . _____ Date . _____

Date entered in field census vol. Date entered in Matlab census vol. Date entered in Dacca census vol.

CHOLERA RESEARCH LABORATORY MIGRATION IN REPORT

Sl. No. Unit No. Card Study No. Identification
Date of movement : Day Month Year Event : Moved In
Whole family Partial family

| Total No. | VTS No. | Census No. | Name | Age | Sex | Marital Status | Remarks (Type of age) |
|-----------|-----------|---------------|------|-----|-----|----------------|-----------------------|
| | 1968/1970 | 1974 or after | | | | | |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |

Reason for movement : _____

Where From : _____
Vill/Thana HQ/Sub-Divn/Dt. Town/City P.O. Thana District

Remarks : _____

Reported by : _____ Date _____

Date entered in census Vol. of Field Matlab Dacca

CHOLERA RESEARCH LABORATORY MIGRATION OUT REPORT

Sl. No. Unit No. Card Study No. Identification

Date of movement : Day Month Year Event : Moved Out

Whole family Partial family

| Total No. | VTS No. | Census No. | Name | Age | Sex | Remarks (Type of age) |
|-----------|-----------|---------------|------|-----|-----|-----------------------|
| | 1968/1970 | 1974 or after | | | | |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | | | | | | |
| 11 | | | | | | |
| 12 | | | | | | |

Reason for movement : _____

Where to : _____
Vill/Thana HQ/Sub-Divn/Dt. Town/City P.O. Thana District

Remarks : _____

Reported by : _____ Date _____

Date entered in census Vol. of Field Matlab Dacca

CHOLERA RESEARCH LABORATORY

Marital Status Registration Form

Sl. No. Unit No. Event Study No.
Date of event : Day Month Year

Information (Male Partner)

Name _____ V. T. S. No. '68/'70 _____ Census No. '74 _____

Age Type of age : Census M-In Date M-In

Marital status prior to this event :

Never married 1 Married 2 Widowed 3 Divorced 4

If the prior status was married, widowed or divorced,
then specify the duration of that status in months

Education Occupation

Usual Residence (Male Partner) :

Village : _____ P. O. _____ Dist. _____ Code H. F. No. of Current Residence

Information (Female Partner) :

Name _____ V. T. S. No. '68/'70 _____ Census No. '74 _____

Age Type of age : Census M-In Date M-In

Marital status prior to this event :

Never married 1 Married 2 Widowed 3 Divorced 4

If the prior status was married, widowed or divorced,
then specify the duration of that status in months Education

H/F. No. of current residence

Residence of female partner prior to this event

Village _____ P. O. _____ Dist. _____ Code _____

Residence status : Both within V. T. S. Only female partner within V. T. S.

Remarks : _____

Reported by _____ Date _____ Only male partner within V. T. S.

CRL publications can be obtained from Publications Unit, Cholera Research Laboratory, G.P.O. Box 128, Dacca - 2, Bangladesh.

List of current publications available:

- A. CRL Annual Report 1976
CRL Annual Report 1977
- B. Working Paper:
- No. 1. The influence of drinking tubewell water on diarrhea rates in Matlab Thana, Bangladesh by George T. Curlin, K.M.A. Aziz and M.R. Khan.
- No. 2. Water and the transmission of El Tor cholera in rural Bangladesh by James M. Hughes, John M. Boyce, Richard J. Levine, Moslemuddin Khan and George T. Curlin.
- No. 3. Recent trends in fertility and mortality in rural Bangladesh 1966-1975 by A.K.M. Alauddin Chowdhury, George T. Curlin.
- C. Scientific Report:
- No. 1. Double round survey on pregnancy and estimate of traditional fertility rates by A.K.M. Alauddin Chowdhury.
- No. 2. Pattern of medical care for diarrheal patients in Dacca urban area by Moslemuddin Khan, George T. Curlin and Md. Shahidullah.
- No. 3. The effects of nutrition on natural fertility by W. Henry Mosléy.
- No. 4. Early childhood survivorship related to the subsequent inter-pregnancy interval and outcome of the subsequent pregnancy by Ingrid Swenson.
- No. 5. Household distribution of contraceptives in Bangladesh-the rural experience by Atiqur R. Khan, Douglas H. Huber and Makhlisur Rahman.
- No. 6. The role of water supply in improving health in poor countries (with special reference to Bangladesh) by John Briscoe.
- No. 7. Urban cholera study, 1974 and 1975, Dacca by Moslemuddin Khan, George T. Curlin.
- No. 8. Immunological aspects of a cholera toxoid field trial in Bangladesh by George T. Curlin, Richard J. Levine, Ansaruddin Ahmed, K.M.A. Aziz, A.S.M. Mizanur Rahman, Willard F. Verwey.
- D. Special Reprint:
- Management of cholera and other acute diarrhoeas in adults and children - World Health Organization.