VALIDATION STUDY OF PREGNANCY HISTORIES AND INDIRECT TECHNIQUES OF FERTILITY AND MORTALITY ESTIMATION IN MATLAB, BANGLADESH

Volume One

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C O N T E N T S

PREFACE

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) is an autonomous, international philanthropic and non-profit centre for research, education and training as well as clinical service. The Centre is derived from the Cholera Research Laboratory (CRL). The activities of the institution are to undertake and promote study, research and dissemination of knowledge in diarrhoeal diseases and directly related subjects of nutrition and fertility with a view to develop improved methods of health care and for the prevention and control of diarrhoeal diseases and improvement of public health programmes with special relevance to developing countries. ICDDR,B issues two types of papers: scientific reports and working papers which demonstrate the type of research activity currently in progress at ICDDR,B. The views expressed in these papers are those of authors and do not necessarily represent views of International Centre for Diarrhoeal Disease Research, Bangladesh. They should not be quoted without the permission of the authors.

ABSTRACT

The present volume describes the methods and procedures employed in the validation study and some analysis of possible "contamination" of retrospective reporting in the DSS area in Matlab.

Detailed tables are provided on the general background of the respondents in the two study areas. The lists of codes and interview forms are appended as well. The actual validation of the pregnancy history and other indirect estimation techniques will follow in later volumes.

INTRODUCTION

In most developing countries of the world, vital registration data are non-existent, of poor quality and coverage, or are available only for local regions so confident direct estimation of fertility and mortality levels is often impossible. Thus to estimate vital rates, demographers have turned to retrospective surveys of fertility and mortality and indirect methods of demographic estimation. For example, the World Fertility Survey (WFS) has conducted retrospective surveys of fertility in 34 developing countries (1). From pregnancy history data for women in these surveys, the WFS has been able to estimate the levels and differentials of fertility.

Techniques of indirect estimation are usually based on stable population theory which assumes either that fertility and mortality have remained fairly constant for some period of time or that fertility has remained constant and mortality has declined during the recent past. In these techniques, data from censuses, surveys and /or incomplete vital registration are combined using known theoretical relationship between rates of fertility and mortality and between these rates and the age composition of the population.

However, estimates of vital rates derived from these methodologies are subject to errors of two kinds: (1) non-sampling errors in the survey or census data used, and (2) departures from the assumptions of the estimation method. One error of the first kind which has been studies is the omission of birth events. The probability of an omission usually increases with the number of years that the event occurred before the survey. Another non-sampling error is the misplacement of birth events in time in pregnancy histories. The patterns of these errors are thought to vary according to whether the questionnaire is designed to proceed forward from the first birth or backward from the last birth. Potter (2) has suggested a model for misplacement errors and has found indirect evidence of their existence in Colombia and Bangladesh. Another common error is age misstatement. Age-reporting errors have been studied in many populations (e.g. 3,4).

Even if perfect data could be used to indirectly estimate vital rates, the estimates would be inexact to the extent that the assumptions of the method are not met. The number and type of assumptions vary according to the technique utilized. Also the same reporting error may result in different degrees of errors in estimates according to the technique used. Thus it is of crucial importance to determine:

1. The magnitude of the non-sampling errors in the survey/census data used
2. The extent to which these errors affect the indirect estimates, and

3. The effect of departures from the assumptions of the methods on the estimates.

The DSS system of Matlab provides a unique setting for evaluating and validating these techniques. However, it has been argued that the DSS cannot provide this validation since, with 13 years of continuous surveillance in the vital registration system, the population has become very aware of the number and the timing of vital events. According to this argument, their retrospective reports, in comparison to those of persons in other areas of Bangladesh, are likely to be more accurate. This has been termed the contamination effect. But validation of these methods can only be done under such circumstances. So to argue that contamination nullifies the research is to argue that the techniques should go forever without validation.

With an awareness of this criticism an attempt was made to study the contamination effect as part of the research by comparing survey data from a non-DSS area with survey data from the DSS area. This comparative work, of value in itself, has never been done methodically for the DSS.

To summarize, the objectives of this study were as follows:

1. To determine as best possible the extent to which the presence of the Cholera Research Laboratory (CRL) vital registration system has affected the accuracy of reporting of births and deaths by village women in Matlab, Bangladesh.
2. To determine the kinds, sources, patterns and magnitudes of errors in retrospective survey data on several indirect techniques of estimating fertility and mortality.
3. For each indirect technique to quantify (a) the effects of various types of errors in survey data on the estimates of fertility and mortality and (b) the effects of violations of the assumptions underlying the indirect technique on these estimates.

METHODS

Selection of Estimation Techniques

Since the list of indirect techniques is very long and the data requirements for each varies, a selection was necessary. Methods of estimation of fertility and mortality which utilize cross sectional survey data and which are known to be quite accurate and/or have been used extensively by

demographers were selected. The techniques are:

1. Fertility estimation from pregnancy histories
2. The Brass method for estimating fertility from reports on children ever born (CEB) and births in the last year (BLY)
3. The Brass method for estimating mortality from children dead (CD) of children ever born
4. The Sullivan and Trussel modifications of the Brass method of estimating mortality
5. The Palloni method for estimating mortality from ages of surviving children and children ever born

Development of Forms

The methods of Brass, Sullivan, Trussel and Palloni demand less data than full pregnancy histories. Therefore, two interview instruments were needed.

For the pregnancy history, the interview forms of the Bangladesh Fertility Survey (BFS) of 1975-76 were used (Appendix A1). Use of this form allows comparison of the results of this validation work with results from the BFS national survey. However, two important changes were made in the BFS form. First, to examine the differences in error patterns between "backward" and "forward" pregnancy histories, a backward form was designed using the same format as the forward BFS form (Appendix A2 and A3). Second, provision was made for reporting of years and months ago that pregnancy termination occurred. This was not included in the BFS and its omission led to quite inaccurate data in the following way. In the BFS, if the respondent could not give the month and year of the child's birth, then the number of years ago that the birth occurred was asked. But since fully 85 percent of the pregnancy terminations did not have the year and month reported, and many women did not report children under age one as "zero" years old, numerous errors arose. The inclusion of years and months ago eliminates most of this problem. (Compare question 315 of the forms in Appendix A1 and A3). Since nearly all Bangladeshi women know the Bengali month of all their birth events, simple arithmetic using this and the month of interview, gives months ago.

To obtain the requisite data for the Brass, Sullivan, Trussel and Palloni techniques, an abbreviated form was developed (Appendix A4). (This is denoted "short form" in the remainder of this report.) The form included questions on age, marital status, number of children ever born, number of surviving children, and for each surviving child, the name, age, sex and place of residence. The basic design for these questions was drawn from the 1974 Bangladesh Retrospective Survey of Fertility and Mortality (5) so the results would be comparable to surveys of that type.

Study Design

Study population

The sampling universe for the study was women in the Matlab DSS area and in villages adjacent to the DSS area. In the DSS area, in order to minimize the possible contamination effect, villages in which longitudinal studies of fertility are being done were excluded from this study (83 villages of the Contraceptive Distribution Project and Maternal and Child Health programme fell in this category as did 14 villages of the Determinants of Natural Fertility Study). In addition, to maximize the amount of data available from the vital registration system, only villages which have had registration since 1966 were considered. The 37 DSS villages which met these conditions were clustered in two areas, one near Matlab and the second in the vicinity of the town of Nayergaon (Figure 1).

For the non-DSS sample several villages adjacent to the DSS study villages were selected with the help of the Matlab staff. Villages which had comparable size, religion and social setting were chosen. Thus the design called for two questionnaires in two areas. The pregnancy history, in addition, had two variants (backward and forward).

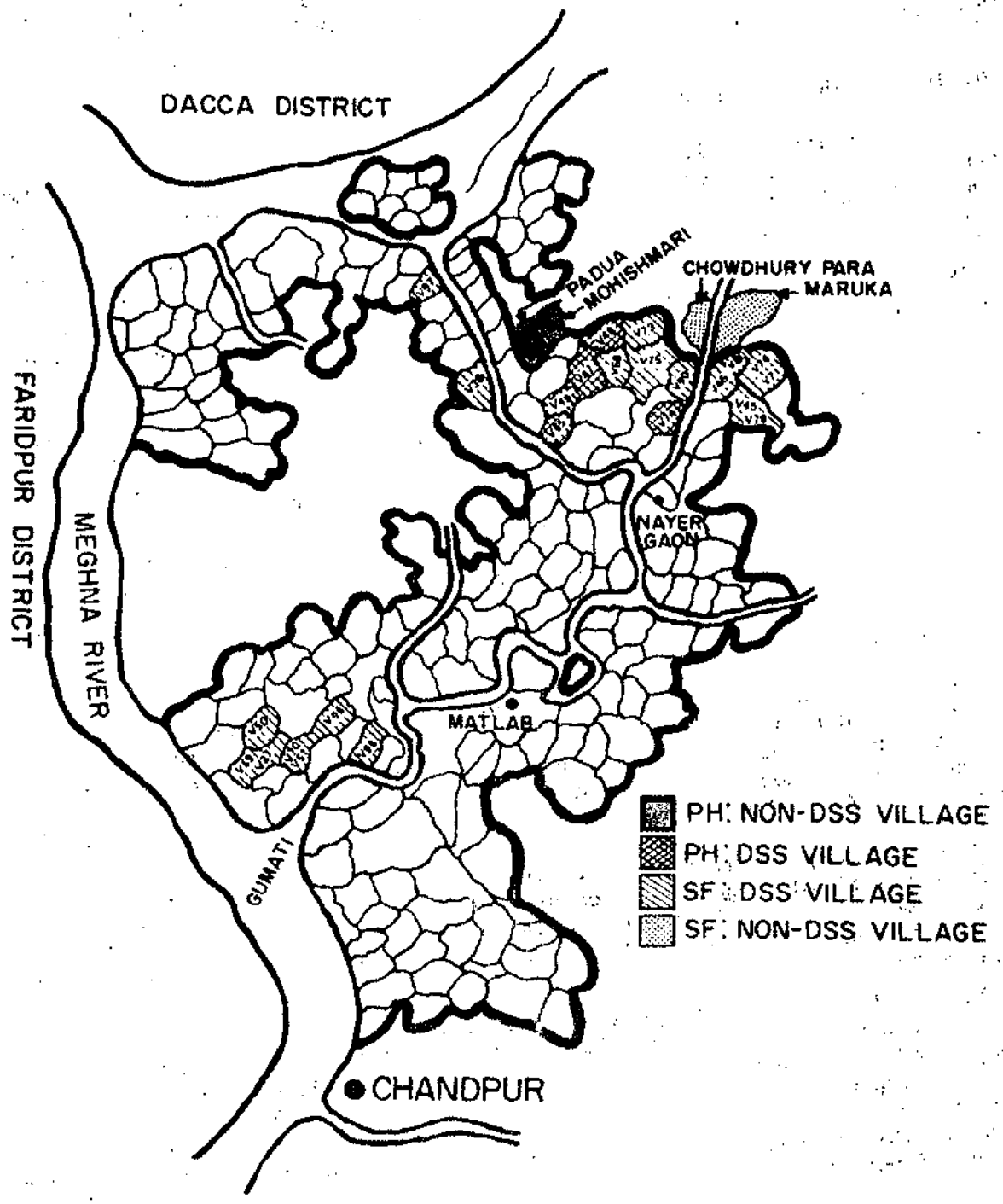
Eligible women

The criteria for women to be included in the sample were different for the two questionnaires. For the pregnancy histories, the criteria from the BFS were used. These were: (1) ever-married, (2) between the ages of 15 and 50, (3) slept in the household the previous evening. For the short form, criteria (1) was dropped.

However, within the 37 DSS villages many women who met these criteria would not have been in the DSS area continuously since 1966. For the purposes of our study there were 4 distinguishable groups of women within the universe of eligible women in the DSS area.

1. Women who had resided in the vital registration area continuously since 1966
2. Women who had in-migrated at the time of marriage (and not out-migrated)
3. Women who had in-migrated for other reasons or who had previously out-migrated
4. Guests and other recent arrivals not yet classified as in-migrants (a stay of six months duration is required to be classified as an in-migrant).

FIGURE 1


MATLAB SURVEILLANCE AREA, 1977
DACCA DISTRICT
PADUA MOHISHMARI
CHOWDHURY PARA
MARUKA
FARIDPUR DISTRICT
MEGHNA RIVER
NAYER GAON
MATLAB
GUMATI
CHANDPUR
PH: NON-DSS VILLAGE
PH: DSS VILLAGE
SF: DSS VILLAGE
SF: NON-DSS VILLAGE

Prior to the field work all women in the DSS updated census books in Matlab were identified as belonging to one of these groups of women. Only interviews from the women in group 1 can be used in the validation study for 13 years. All births and child deaths for women in group 2 can be validated with registration data because these women migrated into the DSS at the time of marriage*. The full interviews of women in group 3 cannot be validated with the registration data as births/deaths may have occurred outside the area, although reporting of events can be validated from the date of migration onward. The survey data of women in group 4 cannot be validated at all.

Sample size determination

To determine sample sizes standard procedures were followed (6). For the contamination testing of the short form it was desired to have sufficient numbers to allow detection of a true difference in mean children ever born (a crucial variable in several of the techniques) of .5 with 90 percent confidence. This specification yielded a sample size of 300. For the pregnancy history questionnaires to detect a difference of .10 in the proportions of women (in the two areas) who could report the date of birth of any of their children, a similar sample size was required.

For the validation part of the study, sample sizes in the DSS itself also had to be determined. For the pregnancy histories the precision available with a sample size of 300 was deemed sufficient for the variables of interest. Half of these were to be backward questionnaires and half forward. For the short form the 3 variables of major interest were children ever born (CEB), children dead (CD) and births last year (BLY). To estimate reporting errors in these variables with specified precision, sample sizes of 204, 234 and 167 respectively were derived. Since these variables are of interest for each five year age group, a total sample size of 1680 women was determined (7 age groups with 240 women per age-group).

Using the census books of 1966, 1970 and 1974 the proportion of women currently residing in a village who were in group 1 was estimated as 0.57. Using this datum, the 1974 population figures for the 37 villages, and the required sample sizes (300 and 1680) it was determined that interviews would be needed in 25-30 of the DSS villages to meet the sample size requirements.

The necessary sample sizes pertained to women in group 1 only. However, in the actual field stage two procedures of interviewing were combined. First a fixed number of all eligible women were interviewed and then women in group 1 were selected until the requisite sample size was reached. The reasons for this scheme were:

1. For the analysis of possible contamination the sampling criteria had to be identical in the non-DSS and DSS areas and in the non-DSS area there was no easily identifiable group of women corresponding to group 1 in the DSS area,

* Actually this is only true in the case of first marriages. Remarriages constitute 6 percent of all marriages for brides in the DSS area (1979 data).

2. Interviewing all eligible women in each village made the field instructions and procedures simple.

3. The age distribution of women in group 1 was found to be very skewed to the older ages (most women change residence at the time of marriage) so analyses of these data alone would not be representative.

4. The data for several of the other groups of women can be utilized at least partially. Indeed, a variant of the contamination hypothesis actually calls for data from these other groups. The hypothesis is that the shorter the duration of residence in the DSS the smaller is the effect of contamination in the reporting of the birth and child death histories. To test this hypothesis interviews of women in groups 2 and 3 would be needed.

Selection of interviewers

For the pregnancy history interviews, it was felt that the results would be most comparable with the Bangladesh Fertility Survey if field investigators who worked in that project were hired. The time required for training would also be less for these women. Nawab Ali of the BFS office contacted former BFS interviewers. However, as many of the interviewers had married or obtained permanent employment, only two former BFS employees could be hired. Fortunately, two other women who had had experience in pregnancy history surveys similar to the BFS were located and hired.

For the short form work five additional interviewers were hired after a selection interview in Matlab. All of them had passed HSC/SSC which was the level of education required of the field workers who carried out the BRSFM.

Field Procedure

Training of interviewers

Field workers for the PH questionnaire were given instructions at the NIPORT office in Dacca. Since they had had experience in a similar survey (BFS) only a day's training was thought sufficient, after which they were taken for a field trial in a village just outside Dacca. The BFS intervierwer's Manual was used as a guideline for the collection of the forward pregnancy histories (7).

A change was made, however in the manner of estimating the woman's age. In the BFS if a woman did not know her age, then the interviewer asked the woman if she married before or after menarche. If after, the woman was asked how many years after, then how many years from marriage to her first birth and the years since that birth (or age of the oldest child, if surviving). Thirteen

was taken as the age of menarche in the BFS. Since there is evidence of a recent rise in the age of menarche in Bangladesh, 14 was used as the age of menarche in this survey. Also some new instructions were required for the backward version.

In this survey emphasis was placed on the collection of accurate age data for the children and respondent. Unlike the BFS, since both "months ago and years ago" was needed for those events for which the date was not provided, the Bengali month for each event had to be asked. In addition, prior to the in depth interview a list of all living children of the respondent in birth order was to be made. This list served as a framework to probe for any events (especially foetal losses and still births) in the intervals between two living children.

Training for the short form interviews was given at Matlab. The eight field workers and two supervisors were given a field trial. Instructions were mainly based on the BRSFM Interviewer's Manual (8). Although the short form did not include a full pregnancy history, a list of surviving children in order with their ages was needed. Here it was not essential for the ages to be in "years and months ago" so the instructions were not to probe for age as intensely as in the pregnancy history as only ages of surviving children were to be asked. However, the workers were instructed to probe for the date of the most recent live birth. If this child was over five years old, then only the year of birth (often calculated by the interviewer from the stated number of years ago that the birth occurred) was needed. For children under five, both the month and year of birth were recorded. Also, for each of the surviving children whether the child was living at home or away was ascertained. The age of the respondent was obtained in three steps. First, the respondent's age at marriage was asked. Then the interval between marriage and birth of oldest child was asked and finally the age of the oldest child was asked. The three components were added to give age. Interviewers were instructed to note all three numbers on the margin of the form. If the woman had no children, age at marriage and number of years since marriage were asked.

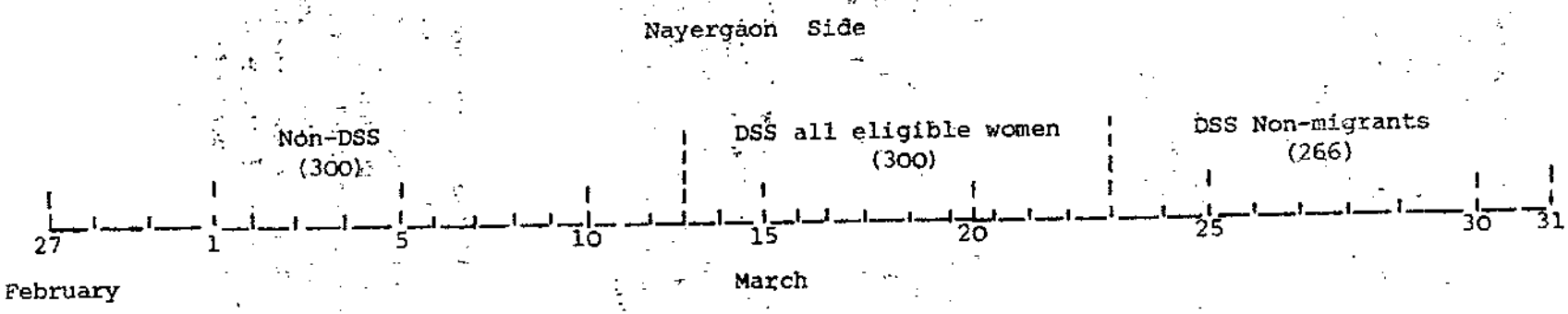
Pregnancy history interviews

The field work began on February 27, 1980 with the pregnancy history interviews in a non-DSS village, Padua. The interview team was composed of the four female interviewers with a male supervisor. They were based at Nayergaon. The work was completed in two weeks (Figure 2 Panel A). The procedure was to do 75 forward interviews and then 75 backward interviews within a village and then move to the next village. In the two non-DSS villages 300 pregnancy histories were collected from all eligible women in this way. Each worker did approximately 8 interviews per day. Much time was spent in walking the long distance between baris. In the five DSS villages 300 interviews were first collected following the same procedure as in the non-DSS villages. Then 266 more were done with women in groups 1 and 2 in order to complete the required sample size for the validation study (see section 4.3). All the PH field work was completed in the Nayergaon area.

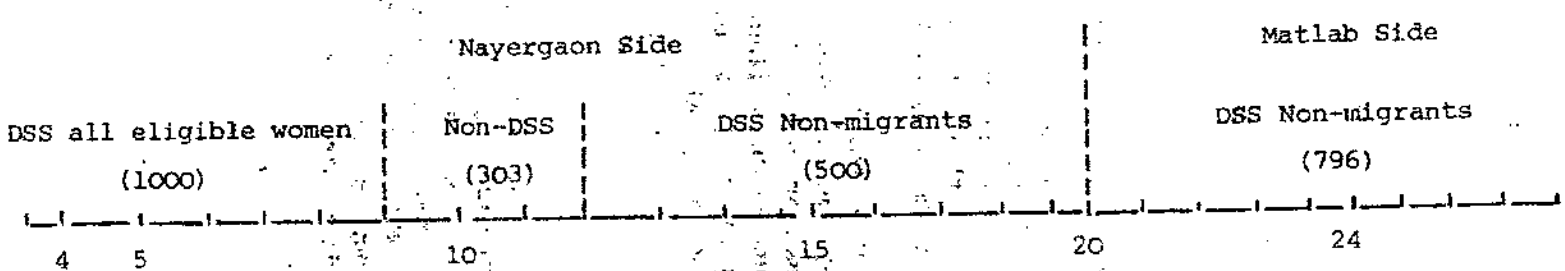
FIGURE 2

TIME LINE OF FIELD WORK SHOWING NUMBER OF INTERVIEWS DONE BY FORM TYPE, GEOGRAPHICAL AREA AND SURVEILLANCE STATUS

PREGNANCY HISTORY INTERVIEWS (Panel A)



SHORT FORM INTERVIEWS (Panel B)



While checking in the field during the third week of PH interviews we discovered the interviewers were sometimes erasing and correcting the dates/ years and months ago of some of the pregnancy terminations. We felt that this could bias the backward/forward comparison for the following reason. In the forward histories, the interviewers could note the effects of misplacement of events forward in time if the date or months and years ago of the birth of the youngest child was to close to the survey date in comparison with the size of the child. The same short of "visual" check was not available with the backward questionnaires.

We therefore discouraged erasing and instructed the interviewers instead to cross out the first response and write the second response next to it. Unfortunately, despite this instruction, erasing continued to occur.

Short form interviews

The interview team for the short form consisted of eight interviewers with two male supervisors (5 new field workers and 3 PH field workers). For convenience of fieldwork and supervision, the interviewers were divided into two groups of four with one supervisor assigned to each group. Work began in villages near Nayergaon. The two groups started on opposite sides of the same village and worked towards each other. This procedure was thought to be the most efficient and least likely to miss eligible women.

The work flow of the short form interviews is shown in panel B of Figure 2. In the non-DSS area 303 interviews were obtained from all eligible women. Following this same procedure in the DSS area, 1000 interviews were obtained from all eligible women in the villages in the Nayergaon area. In the Matlab vicinity, initially 500 interviews were collected from all eligible women and then 796 more were obtained from women belonging to groups 1 and 2. With this procedure the sample size requirements for the short form were met.

Supervision

Prior to the actual interviewing in the DSS area, the household census card was collected from each household by the supervisor so that it would not be consulted to obtain the respondent's age and birth dates. The male supervisor also checked the schedules for completeness, and recorded the VTS number of the respondent in the DSS area. At the day's end he checked each schedule for internal consistency and gave it an identification number. Interviewer number, age of the respondent, VTS number, type of DSS case, and other information were then entered in a note-book. At least once a week an investigator visited the field to check on the progress of the field work and deal with problems.

Coding and Editing

General procedure

For the validation portion of the study it was essential that the data of the survey and vital registration sources be processed independently. To guarantee this, the two sources were coded separately. For the vital registration coding, only the census number and name of the women were supplied to the coding personnel.

Field data

Pregnancy histories. Even before the fieldwork was completed coding of PH questionnaires began with two experienced coders in Matlab. For the non-DSS villages coding of the PH interviews was straightforward. For the DSS villages some additional information from the 1974 census books and the supervisors' notebook was included. The respondent was located in the census book and her census age, and date of inmigration (if any) were coded. Type of DSS case was also coded from the field notebook. The coding plan is shown in Appendix B1.

Also after discovery of the fact that the interviewers were erasing and correcting the dates of some of the pregnancy terminations it was decided that some information about the number and location of erasures on each form was needed.

After punching, range checks were done for all variables. Consistency checks were also done.

Short form. As with the pregnancy history interviews, the coding of the non-DSS forms was straightforward. For the DSS interviews, several additional items were coded from the Matlab 1974 census books. These items were: 1974 census number, age and other VTS number in the case of migrants. Type of DSS case was also coded. The coding plan for these data is shown in Appendix B2.

Demographic surveillance system data

Matlab census sources. For each woman who was in the survey and in the 1974 census book (including women who migrated in after 1974), information was coded for her and her children from the census book. In addition information of the women's identification number, age and marital status was coded from the Censuses of 1966 and 1970 if available. The code plan for these data is given in Appendix B3.

Birth records.

Birth records for the villages in the sample were sorted by year and VTS number of the mother. The records were then listed by village and year. With these lists, coding assistants compared the VTS numbers of the mother on the

list with the VTS numbers of the women interviewed in the survey. Each woman could have up to three VTS numbers given in 1966, 1970 and 1974 so the year of the birth was important. If the birth was to a woman in the survey, the original birth report was located and the names of the mother and child along with the woman's survey number were coded on the birth record. These records were punched, sorted and listed by women's survey number.

Death records.

Death reports were coded in two ways depending on the year of the death. For deaths since 1974, the mother's census number was available so the procedure was essentially the same as that for births. Death reports before 1974 usually did not give the VTS number of the mother. For these deaths the procedure was as follows. From the age at death (13 years or less) which appeared on the list of deaths sorted by year and VTS number of the person dead, the coding assistant calculated the year of birth and searched the printed list of births for that and adjacent years. If the birth belonged to a survey woman the mother's and child's names were coded from the birth list, if not available in the birth list, from the original death report. If the birth was not found in the printed lists, the death report was located and the birth date on the form was used to search for the original birth report. The 1966 and 1970 census books were sometimes consulted as well to locate the family in which the death occurred.

Johns Hopkins' matched file records.

With the help of a large computer birth, death, census, and migration records for the period 1966-1978 have been edited and arranged by family and individual members, at Johns Hopkins University. The source data for this work were the punched records in Dacca. The procedures of these computer operations are described elsewhere (9). From this matched file, Johns Hopkins University provided a computer file of women in the survey village with their matched birth events. The list of this file was used as a check of the birth-events coded by the above procedures.

Creation of single file for each woman.

With the 1974 census records, the birth records and death records punched and listed sequentially by mother's survey number, a vital registration pregnancy history was constructed for each woman. If both a census and birth record existed, the data were checked and the census record was retained. In the case of a birth record for which a census record did not exist or a death record for which neither a census nor birth record existed a new card was coded (in the census format) for later processing steps. (Sometimes information from a death report was coded on to the corresponding census or birth record). A similar procedure was followed if an event was only located in the Johns Hopkins' file. In this manner a unique set of birth and matched death events

for each survey woman was constructed. It should be noted that death events which occurred after 1966 to children born before 1966 were not included in this set because it was usually impossible to identify the mother.

Matching Methods

Pregnancy history

A computer list of the pregnancies reported by each woman in the survey was prepared. This list and the file created from the census, birth and death records were compared manually. Women in the survey who were guests or otherwise did not appear in the census books (e.g. persons in the six-month observation period associated with in-migration) were excluded. A combined pregnancy history for the woman was constructed. Each single event or event pair in the combined file was given one of the following match codes:

1. Matched pair
   - A Names the same, sex the same, pregnancy order the same
   - B Name the same, sex the same, pregnancy order not the same
   - C Name different, sex and order the same
   - D Only one name available, sex and order the same. (Often birth reports did not give the name)
   - E No names available, two live births, sex and order the same
   - F Two pregnancy losses sex and order the same
   - G Two pregnancy losses, sex not given or only given once, order the same
   - H Live birth in vital registration but still birth reported in survey, order the same
   - I Two pregnancy losses, sexes different
2. Record in DSS only, still birth or miscarriage.
3. Record in DSS only, livebirth.
4. Report in survey only, event occurred more than fourteen years earlier.

5. Report in survey only of still birth or miscarriage less than fourteen years earlier.

6. Report in survey only of a livebirth less than fourteen years earlier with no subsequent death.

7. Report in survey of a livebirth less than fourteen years earlier with a subsequent death.

In this matching the order of the events in the two files was quite crucial if the match was not of type 1A or 1B. However, comparison of the actual dates of the events was prohibited since using this information as a criterion for matching would bias the later analysis. After the matching was complete the match type was coded for each pregnancy and the pregnancies were numbered sequentially for construction of the matched pregnancy history computer file.

Short form

The methods of creation of the vital registration pregnancy history file were the same for the short form as for the pregnancy history data. However, since only living children were listed in the short form and pregnancy losses are not of interest, the match types were reduced to the following:

1. Matched pair

   A Names the same, sex the same, birth order the same.

   B Names the same, sex the same, birth order not the same.

   C Names not the same, sex and birth order the same.

   D One name only, sex and birth order the same.

2. Report in DSS only, live born child who died.

3. Report in DSS only, live born child surviving.

4. Report in short form only, born more than 14 years before the survey.

5. Report in short form only, born less than 14 years before the survey.

As with the pregnancy history data, a match type was coded for each birth and these were entered on each woman's record. The birth records were then numbered sequentially for computer processing.

For the women in the short form sample children ever born (CEB), children dead (CD) and birth last year (BLY) from the DSS records also needed to be coded. Like the pregnancy history data, only women belonging to DSS categories 1-5 were included. It was decided that the birth records would be the best source from which to code CEB, CD and BLY. If on the first birth record for each woman (if she has any) the number of living children plus the number of children who have died was one or less, CEB was calculated by counting the number of livebirth records for the woman. CD was obtained by counting the number of livebirths which died. BLY was obtained from the most recent livebirth record by checking to see if it occurred within one calendar year of the survey date. For women who had two or more births before 1966, CEB could not be reliably ascertained from the birth records as both births and child deaths which occurred before registration began in 1966 could have been omitted in the birth reports. Births and child deaths to women who reported only one such event before 1966 were taken as reliable and CEB was coded for these women.

ANALYSIS OF POSSIBLE CONTAMINATION IN DSS VILLAGES

To assert that a validation study in the DSS area is contaminated is to say that women in the DSS area remember the birth and death events of their offspring better than women outside the DSS area. This is because women in the DSS area have been asked about demographic events by the surveillance workers at least once each month since 1966 or the time of their movement into the DSS. The present study was designed to test for contamination. In the pregnancy history interviews three types of data are compared for the DSS and non-DSS areas. For the short form two tests of contamination are available. In each case, two groups of women in the DSS area can be compared with women of the non-DSS sample. The first DSS group is the sample of all eligible women selected by the same criteria as used in the non-DSS villages. Direct comparisons between these two groups can be made to test for the presence of contamination. The second DSS group is the purposive sample of women who had resided continuously in the area since 1966 or since marriage without migration.

Pregnancy History

Three types of data were examined. The first was the proportion of women with at least one pregnancy who could report the Bengali or English date of that event. The second was the mean number of pregnancy terminations (livebirths and non-livebirths) per woman by age group. The third was the length of closed birth intervals. Each of these is examined in detail.

Proportions of parous women reporting date of birth for at least one birth

If contamination exists in the DSS area a higher proportion of women in this area would be able to report the date (month and year) of one or more of their pregnancy terminations. If the woman could not report a date, years and months ago that the event occurred was asked. The ability to report a calendar date of an event in Bangladesh is also generally accepted to be dependent on the educational level of the respondent. Since education was not a characteristic used in the sampling design and there were more educated women in the non-DSS sample (Appendix Table 3) educational level is controlled in this analysis.

An unexpected result appears (Table I). The proportion of women who could report the date of at least one pregnancy termination is significantly lower in the DSS area than in the non-DSS area ($P<.05$). Even among women with no education the proportion reporting at least one date is significantly lower in the DSS area ($P<.05$). In fact, after removing the effect of differing educational distributions in the two-areas by direct standardization (using the educational distribution of the non-DSS area and the proportions of the DSS area) the overall DSS proportion is even lower. Thus the observed difference between the areas is not due to differences in educational level of the women in the two areas.

These results force consideration of possible "reverse contamination" effects. Before considering such possible effects however, we attempt to pinpoint the sources of the differences.

Younger women in both areas were better able to report dates of pregnancy terminations than older women. In the DSS area a higher proportion of women under the age of twenty reported at least one date, than in the non-DSS area, though the result did not attain statistical significance. However, in the older age groups a greater proportion of women in the non-DSS reported at least one date, than in the DSS area.

Since the study design specified the completion of all interviews in the non-DSS villages before the beginning of work in the DSS villages, a possible explanation of the observed difference is that the interviewers began their work with enthusiasm and used careful probes to ascertain dates of events, but later (in the DSS area) they became tired and less careful in their work. The proportions by week of work do show a slight trend downward (Table I). The test for linear trend in proportions revealed a significant coefficient at the .10 level. Though the pattern is irregular, the last week had the lowest proportion, lending support to the idea that the work may have been done less carefully in the final days of interviewing. However since all the DSS interviews were done at the end of the study, the possible effects of reverse contamination as opposed to the slackness of interviewers, are confounded in these data.

One may also look at similar proportions for the most recent birth (Table II). The most recent birth to women in the DSS area has the advantage of being a "DSS" birth in most cases i.e. occurring to DSS women within the

TABLE I--PERCENT OF PAROUS WOMEN REPORTING MONTH AND YEAR FOR AT LEAST ONE BIRTH BY AREA FOR AGE GROUPS, EDUCATION GROUPS AND WEEK OF INTERVIEW IN PREGNANCY HISTORY INTERVIEWS

	Non-DSS Area		DSS Area					
			All Women		All Eligible Women		Non-migrant Women Sample	
	Number of Women	Percent Reporting	Number of Women	Percent Reporting	Number of Women	Percent Reporting	Number of Women	Percent Reporting
Total Sample	271	34	501	27*	255	28	246	27
Age group								
< 20	33	52	43	67	21	67	22	68
20 - 29	101	43	181	34	97	37	84	31
30 - 39	78	33	134	28	75	23	59	34
40 - 49	59	8	143	6	62	6	81	6
Education of Respondent								
0	224	34	385	26	209	25	176	27
1 - 5	43	37	99	31	39	36	60	28
6 +	4	0	17	35	7	57	10	20
Week of Interview								
1	89	33	-	-	-	-	-	-
2	158	34	-	-	-	-	-	-
3	24	38	161	27	161	27	-	-
4	-	-	176	30	94	29	71	32
5	-	-	175	25	-	-	175	25

* Significantly different from the non-DSS percent (P<.05).

TABLE II--PERCENT OF PAROUS WOMEN REPORTING DATE FOR THE MOST RECENT BIRTH BY AREA AND AGE-GROUP IN PREGNANCY HISTORY INTERVIEWS

Age Group	Non-DSS Area		DSS Area (All eligible women)	
	Number of Women	Percent Reporting	Number of Women	Percent Reporting
All Ages	271	31	255	27
< 30	155	35	122	40
30+	126	23	133	15

operation of the vital registration system. The reporting of the date of this birth is the most probable one to be affected by contamination. At the same time the most recent birth is the one for which women are likely to remember the date best. The reporting pattern of Table I is repeated, although the differences by age-group are somewhat reduced. Such a classification however renders the overall difference between the two areas insignificant. The significant difference between the two areas arises out of the fact that more women (3%) in the non-DSS villages report the dates for births other than the last than women in the DSS area (1%).

Mean number of pregnancy termination events

Assuming that fertility is the same in the non-DSS and DSS villages the mean numbers of pregnancy termination events can be compared to measure possible contamination. If contamination exists, women in the DSS area would be more likely to remember events than women in the non-DSS area.

The mean numbers of reported pregnancy terminations, livebirths and non-livebirths by age group (Table III) are similar for the non-DSS and DSS (all eligible women) sample. The overall mean number of pregnancy terminations of 4.76 in the DSS non-migrant sample is higher than the mean for the other areas however the difference is largely due to the high proportion of older women in the purposive sample.

Interval between births

During the interviews, there was often a natural tendency on the part of the respondents to say that the next child came "three years later" or "two and one half years later" etc. The interviewers were of course instructed to probe for the month of birth to determine the exact timing of the pregnancy termination event. However, the respondent after saying "three years later" may simply have reported the same month of pregnancy termination as well, without thinking. Thus

TABLE III--MEAN NUMBER OF PREGNANCY TERMINATIONS, LIVEBIRTHS AND NON-LIVEBIRTHS BY AGE GROUP AND AREA IN PREGNANCY HISTORY INTERVIEWS

Age Group	Non-DSS Area				DSS Area											
					All Women				All Eligible Women Sample				Non-migrant Women Sample			
	Number of women	Type of Termination			Number of women	Type of Termination			Number of women	Type of Termination			Number of women	Type of Termination		
		All births events	Live births	Non-live births		All births events	Live births	Non-live births		All births events	Live births	Non-live births		All births events	Live births	Non-live births
All Ages	300	4.27	3.86	.41	566	4.48	4.13	.35	300	4.23	3.91	.32	266	4.76	4.38	.38
<20	60	.62	.57	.05	94	.55	.49	.06	56	.43	.38	.02	38	.79	.66	.13
20-29	93	2.98	2.70	.28	192	2.92	2.74	.18	105	2.75	2.64	.12	87	3.13	2.88	.25
30-39	78	6.14	5.62	.53	137	6.18	5.55	.55	77	5.97	5.43	.54	60	6.42	5.87	.55
40-49	59	8.02	7.34	.68	143	7.53	6.97	.56	62	7.94	7.39	.65	81	7.14	6.64	.50

inter-pregnancy intervals of 12, 18, 24, 30, 36, 42, 48 etc. months may appear more often in the data than expected. Interval length can therefore be used as a test for contamination. In Table IV the number of women reporting intervals of a given order in the forward questionnaire is given[1]. In addition the women whose intervals (calculated from either the date of birth or years and months ago for each termination) were of length 12, 18, 24, 30, 36, 42 or 48 months is expressed as a proportion of all women who reported intervals between 12 and 48 months. Assuming a uniform distribution of births between 12 and 48 months, a proportion of 7/36 = .194 is expected.

Again the results point to less accurate data in the DSS area the reverse of the contamination hypothesis. The proportion (.232) for the whole DSS area is significantly different from .194 at the .01 level. Indeed, the least accurate data appears in the purposive sample of DSS non-migrant women. The proportions in this group are above .194 for every birth interval order and the overall proportion (.252) is significantly different from .194 at the .001 level. On the other hand the proportions for the sample of all eligible women in the DSS (.206) are not significantly different from .194.

From these three tests for contamination, the general pattern seems to be that reporting was significantly worse in the DSS sample than in the non-DSS sample. Reporting of the number of pregnancy termination events was not different between the areas but reporting of dates and the timing of the events was poorer in the DSS area.

Two possible explanations can be given. First, it may be that after having monthly visits by vital registration people for 13 years, the women in the DSS area have learned how to give quick answers to get rid of the interviewer. However, a second explanation is also possible as noted above. Since the interviews in the DSS area were done during the last three of the five weeks of work, the interviewers may have been tired and in a hurry to finish the work so they were less careful about probing. Because such possibilities were not anticipated in the study design, the two possible effects cannot be distinguished with the available pregnancy history data.

It is obvious, however, that the survey data from the DSS areas cannot be said to be more accurate than similar survey data collected elsewhere in the country; in fact the above results indicate that the DSS survey data are somewhat less accurate than data obtained with similar methods elsewhere.

Short Form

From the short form two types of data were examined to test the contamination hypothesis. The first was the number of children even born and the number of children dead. The second was the proportion of women who reported exact years and months ago of any of their living children.

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1 No patterns or significant differences were found in the analysis of intervals from the backward questionnaires.

TABLE IV--WOMEN WITH FORWARD QUESTIONNAIRE REPORTING CLOSED BIRTH INTERVAL LENGTHS IN MULTIPLES OF SIX MONTHS AS PROPORTION OF ALL REPORTED INTERVALS, BY AREA AND INTERVAL ORDER

Birth Interval Order	Non-DSS Area		DSS Area					
			All Women		All Eligible Women		Non-migrant Women Sample	
	All women reporting intervals[1]	Proportion reporting multiples of six months	All women reporting intervals	Proportion reporting multiples of six months	All women reporting intervals	Proportion reporting multiples of six months	All women reporting intervals	Proportion reporting multiples of six months
All Intervals	431	.190	930	.232*	394	.206	536	.252*
1-2	92	.185	180	.233	87	.207	93	.258
2-3	86	.209	174	.247	76	.197	98	.265
3-4	68	.176	152	.257	61	.180	91	.308
4-5	59	.220	128	.250	58	.224	70	.271
5-6	50	.140	111	.198	41	.195	70	.200
6-7	33	.212	88	.227	29	.276	59	.203
7-8	23	.217	62	.177	24	.125	38	.211
8-9	20	.150	35	.257	18	.278	17	.235
Expected proportion reporting intervals in multiples of six months (7/36 see footnote)	.194							

[1]All intervals of length 12-48.

*Significantly different from the Non-DSS proportion ($p<.05$)

The data for children ever born by age do not show differences between the non-DSS area and the sample of all eligible women (Table V). The DSS sample of non-migrant women has a significantly higher mean CEB. However, this may reflect a real difference in fertility, i.e. non-migrants may have higher fertility than other women. The number of children dead also does not vary significantly according to area.

The proportions of parous women who could report the years and months ago of at least one living child are shown in Table VI. First, comparing the non-DSS area with the DSS sample of all eligible women, the proportions in the 40 and above age group are significantly different ($P<.01$) with the DSS sample having the lower proportion. Comparing non-DSS women with non-migrant women in the DSS area, two differences in proportions are significant. The proportion reporting years and months ago for at least one living child is significantly higher in the DSS area than in the non-DSS area for women 20-29 years of age and significantly lower in the 40 and above age group, a pattern similar to the reporting in the pregnancy history interviews.

Age Reporting of Woman

Contamination of women's age reports could also exist. Thus it is important to see if there are differences in reporting of women's ages between the DSS and non-DSS areas. In addition differences in age reporting could vary with the type of questionnaire in the pregnancy history survey.

The top panel of Table VII gives a comparison of the non-DSS and DSS age distributions for the pregnancy history and short form surveys. No significant differences are apparent between areas for either survey.

Focusing on the pregnancy history survey, however, (lower panel of Table VII) marked differences were observed in the reported ages of women between the forward and backward questionnaires. The women in the backward questionnaire had much younger reported ages than women with the forward questionnaire. This was first observed in preliminary tables done while the field work was in progress. In Padua, the first non-DSS village, 33 percent of the women with the backward form had reported ages of less than 20 while the corresponding percent with the forward form was only 13. Since age of the woman was supposed to be determined before commencing the pregnancy history questions for both forms, these differences were shocking. When questioned the field workers answered that on the days that the forward questionnaires were done, most of the young women were out in the fields helping with the wheat harvest. (It should be recalled that the procedure was to do 75 forward questionnaires and then 75 backward questionnaires in each village. The forms were not randomized or alternated because it was felt that this would create too much confusion for the interviewers.) It can be seen from Table VII, bottom panel that the difference in age distributions continued to appear for the later interviews in the DSS area.

Fortunately, in the DSS area, since another source of age data was available, it was possible to pinpoint the source of the differences. Age for the non-migrant sample of women in the DSS area was available from the 1974 census or

TABLE V--MEAN NUMBER OF CHILDREN EVER BORN AND CHILDREN WHO HAVE DIED BY AGE GROUP AND AREA IN SHORT FORM INTERVIEWS

	Non-DSS Area	DSS Area		
		All Women	All Eligible Women	Non-migrant Women Sample
		Children ever born		
Age				
All women	3.62	4.02	3.83	4.18*
< 20	.37	.33	.41	.27
20 - 29	2.85	3.02	2.98	3.07
30 - 39	6.39	6.42	6.21	6.59
40 - 49	7.69	7.81	7.47	8.00
		Children who have died		
All women	.83	1.02	.92	1.11
< 20	.05	.06	.08	.04
20 - 29	.59	.56	.57	.55
30 - 39	1.25	1.52	1.55	1.50
40 - 49	2.12	2.47	2.09	2.68

* Significantly different from the Non-DSS Mean Number ($P<.05$).

TABLE VI--NUMBERS AND PROPORTIONS OF PAROUS WOMEN WHO CAN REPORT THE YEARS AND MONTHS AGO OF AT LEAST ONE LIVEBIRTH EVENT, BY AGE GROUP AND AREA IN SHORT FORM INTERVIEWS

Age Group	Non-DSS Area		DSS-Area					
			All Women		All Eligible Women		Non-Migrant Women Sample	
	Number of Parous Women	Proportion Reporting Years And Months Ago	Number of Parous Women	Proportion Reporting Years and Months Ago	Number of Parous Women	Proportion Reporting Years and Months Ago	Number of Parous Women	Proportion Reporting Years and Months Ago
All Ages	222	.27	1717	.24	767	.28	950	.21
<20	26	.54	143	.50	73	.56	70	.43
20 - 29	84	.24	574	.35	298	.38	276	.33
30 - 39	61	.28	525	.26	234	.24	301	.21
40 - 49	51	.16	465	.04	162	.02	303	.04

TABLE VII—DISTRIBUTIONS OF WOMEN BY REPORTED AGE GROUP BY QUESTIONNAIRE TYPE AND AREA

A: Distributions for Pregnancy History and Short Form Interviews

Age Group	Pregnancy History Interviews		Short Form Interviews	
	Non-DSS Area	DSS Area (All Eligible Women)	Non-DSS Area	DSS Area (All Eligible Women)
Number of Women	300	300	303	999
All Ages	100	100	100	100
<20	20	19	31	27
20-29	34	35	32	32
30-39	26	26	20	24
40-49	20	21	18	17

B: Distributions for Forward and Backward Pregnancy History Questionnaire

	Forward Questionnaire		Backward Questionnaire		
	Non-DSS Area	DSS ARea (All Eligible Women	Non-DSS Area		DSS Area (All Eligible Women)
			Padua	Mohismari	
Number of Women	150	150	75	75	150
All Ages	100	100	100	1100	100
<20	13	17	33	20	21
20-29	41	31	31	25	38
30-39	25	30	23	31	21
40-49	21	22	13	24	19

from inmigration records. Table VIII compares the survey age with the census age for the forward and backward forms for these women. Overall, the percent of women reporting younger age in the survey relative to the census is not very different between form types. Nevertheless, relative to the census age, there was a greater tendency for young women to report younger ages with the backward form than with the forward form (two-tailed Z test gives $p \approx .11$). But the more important cause of the difference in age distributions is apparent from a simple comparison of the distributions of the survey women by census age for the two forms (last column of the table). While 39 percent of women with the forward form were below 30 years of age according to the census, the corresponding percent for the backward form was 46 (two-tailed Z test gives $p = .11$). Since census age was unknown to the field staff, it is obvious that the interviewers selected younger women for the backward questionnaire. Indeed they had expressed the fact that the forward forms were easier to complete, i.e., for older women with many births, it was easier to do a forward questionnaire. Since the questionnaire type was not randomized it was possible for this bias to surreptitiously enter.

SUMMARY

Reviewing the results of the contamination analyses in the pregnancy history and short form interviews, the following pattern emerges. Young women in the DSS area are better able to report the dates of their birth events than women of the same age outside the DSS area. This is a sign of contamination. On the other hand, older women in the DSS area actually exhibit a consistent "reverse" contamination. They report dates of events less often than their non-DSS counterparts and they are more likely to report intervals between births in rounded years or half years.

A possible explanation for this latter phenomenon is that women who have been visited by DSS workers during every month for the past decade or more, have learned how to give quick and acceptable but inaccurate answers to interviewers in order to minimize the interview time. The need to remember the timing of events would also be less perceived by these women since all dates of events have already been recorded in the household card which could easily be consulted when the need arose.

From analysis of the distributions of the reported ages of women in the pregnancy history and short form interviews, it was told that age reports were not contaminated. However, in the pregnancy history interviews, a comparison of reported ages with DSS age showed that the interviewers purposely had selected younger women for the backward interviews.

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Age Group	Pregnancy History Interviews		Short Form Interviews	
	Non-DSS Area	DSS Area (All Eligible Women)	Non-DSS Area	DSS Area (All Eligible Women)
Number of Women	300	300	303	999
All Ages	100	100	100	100
<20	20	19	31	27
20-29	34	35	32	32
30-39	26	26	20	24
40-49	20	21	18	17

B: Distributions for Forward and Backward Pregnancy History Questionnaire

	Forward Questionnaire		Backward Questionnaire		
	Non-DSS Area	DSS ARea (All Eligible Women	Non-DSS Area		DSS Area (All Eligible Women)
			Padua	Mohismari	
Number of Women	150	150	75	75	150
All Ages	100	100	100	1100	100
<20	13	17	33	20	21
20-29	41	31	31	25	38
30-39	25	30	23	31	21
40-49	21	22	13	24	19

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From analysis of the distributions of the reported ages of women in the pregnancy history and short form interviews, it was told that age reports were not contaminated. However, in the pregnancy history interviews, a comparison of reported ages with DSS age showed that the interviewers purposely had selected younger women for the backward interviews.

TABLE VIII--COMPARISON OF REPORTED AGES OF WOMEN IN PREGNANCY HISTORY INTERVIEWS WITH AGES FROM THE DSS CENSUS RECORDS, BY CENSUS AGE AND TYPE OF QUESTIONNAIRE

Census Age	Number of Women	Survey Age Relative to Census Age				Percent of Women by Census Age
		All	Younger relative to census	Same age as census	Older relative to census	
		FORWARD QUESTIONNAIRE				
All Ages	251	100	49	17	33	100
<30	99	100	49	25	25	39
>30	152	100	49	12	39	61
		BACKWARD QUESTIONNAIRE				
All Ages	246	100	51	17	31	100
<30	114	100	57	17	26	46
>30	132	100	46	18	36	54

Appendix A1

PREGNANCY HISTORY TABLE

308. INTERVIEWER: USE ONE ROW OF THE PREGNANCY HISTORY TABLE FOR EACH PREGNANCY, STARTING WITH THE FIRST AND PROCEEDING CHRONOLOGICALLY, (THAT IS, THE FIRST PREGNANCY IN THE FIRST LINE, THE SECOND PREGNANCY IN THE SECOND LINE..... UP TO THE LAST PREGNANCY). IF TWINS, USE ONE LINE FOR EACH AND CONNECT WITH A BRACKET AT THE LEFT.

THE FOLLOWING QUESTION SEQUENCES ARE TO BE ASKED TO RECORD PREGNANCY HISTORIES FOR THE FIRST SEGMENT, THAT IS, THE INTERVAL BETWEEN MARRIAGE AND THE FIRST LIVE BIRTH.

IF RESPONDENT HAS HAD ANY LIVE BIRTH:

309. Now I want to ask you some questions about each of your pregnancies, that is each live birth, each stillbirth, each miscarriage and each abortion. If you have had any of these or any children who have died or who live away from home I would like to know about them.

What is the name of your first baby born alive_____
(name)

310. After you (first) were married and before.....(name) was born, did you have any other pregnancies?

YES /1/

NOW ASK 319-323 AND RECORD FOR THE FIRST PREGNANCY, REPEAT 319-323 FOR EACH PREGNANCY UNTIL THE FIRST LIVE BIRTH IN THIS INTERVAL. THEN REPEAT NAME OF FIRST BABY BORN ALIVE UNDER 313 IN THE NEXT ROW, ASK 315-318 AND RECORD.

NOW ASK 313 AND 314 AND ACCORDINGLY PROCEED TO EITHER 315-318 OR 319-323. REPEAT SEQUENCE FOR ALL REMAINING PREGNANCIES.

NO /2/

ENTER THE NAME OF FIRST LIVE BIRTH UNDER 313, ASK 315-318 AND RECORD.

NOW ASK 313 AND 314 AND ACCORDINGLY PROCEED IN THE NEXT ROW TO EITHER 315-318 OR 319-323. REPEAT SEQUENCE FOR ALL REMAINING PREGNANCIES.

IF PREGNANCY OCCURRED TO THE RESPONDENT IN THE PAST BUT NOT RESULTED IN LIVE BIRTH:

311. Think back to your first (second,.....etc.) pregnancy and tell me about it.

INTERVIEWER: NOW ASK 319-323, REPEAT SEQUENCE FOR EACH PREGNANCY

IF NO PAST PREGNANCY OCCURRED TO THE RESPONDENT:

(Skip to 333)

(Appendix A1 contd.)

PREGNANCY HISTORY TABLE

312	313	314	IF A LIVE BIRTH			
Pregnancy Order	What was the name of your first/next baby born alive?	After _____ (name) and before _____ (name) was born did you have any other pregnancies?	315 In what month and year was _____ (name) born?	316 Was the baby a boy or a girl?	317 Is the child still living?	318 (If not alive) How long did this boy/girl live?
01		YES / 1 / SKIP TO 319 NO / 2 / ASK 315-318	Beng/Eng MONTH_____ YEAR_____ YEARS AGO____	BOY /1/ GIRL /2/	YES / 1 / (PROCEED WITH NEXT PREGNANCY NO / 2 / (ASK 318)	MONTHS_____ YEARS_____ ASK THE NEXT PREGNANCY
02		YES / 1 / SKIP TO 319 NO / 2 / ASK 315-318	Beng/Eng MONTH_____ YEAR_____ YEARS AGO____	BOY /1/ GIRL /2/	YES / 1 / (PROCEED WITH NEXT PREGNANCY) NO / 2 / (ASK 318)	MONTHS_____ YEARS_____ ASK THE NEXT PREGNANCY
03		YES / 1 / SKIP TO 319 NO / 2 / ASK 315-318)	Beng/Eng MONTH_____ YEAR_____ YEARS AGO____	BOY /1/ GIRL /2/	YES / 1 / (PROCEED WITH NEXT PREGNANCY) NO / 2 / (ASK 318)	MONTHS_____ YEARS_____ ASK THE NEXT PREGNANCY

(Appendix A1 contd.)

PREGNANCY HISTORY TABLE

IF NOT A LIVE BIRTH				
319. In what Mth. and Yr. was that preg terminated? If 'D.K.' ask how many Yrs. ago?	320. How many months did that pregnancy last?	321. Did the baby show any sign of life (cried etc.) after its birth?	322. Was the baby a boy or a girl?	323. Did you or a doctor or someone else do anything to end the pregnancy?
Beng/Eng MONTHS.... YEARS..... YEARS AGO...	LESS THAN 7 /1/ (SKIP TO 323) 7 OR MORE /2/ (ASK 321)	YES /1/ (ASK 322) NO /2/ (PROCEED WITH NEXT PREG)	BOY /1/ GIRL /2/ PROCEED WITH NEXT PREG.	YES /1/ NO /2/ PROCEED WITH NEXT PREG.
Beng/Eng MONTHS..... YEARS...... YEARS AGO..	LESS THAN 7 /1/ (SKIP TO 323) 7 OR MORE /2/ (ASK 321)	YES /1/ (ASK 322) NO /2/ (PROCEED WITH NEXT PREG)	BOY /1/ GIRL /2/ PROCEED WITH NEXT PREG.	YES /1/ NO /2/ PROCEED WITH NEXT PREG.
Beng/Eng MONTHS..... YEARS...... YEARS AGO..	LESS THAN 7 /1/ (SKIP TO 323) 7 OR MORE /2/ (ASK 321)	YES /1/ (ASK 322) NO /2/ (PROCEED WITH NEXT PREG)	BOY /1/ GIRL /2/ PROCEED WITH NEXT PREG.	YES /1/ NO /2/ PROCEED WITH NEXT PREG.
Beng/Eng MONTHS..... YEARS...... YEARS AGO..	LESS THAN 7 /1/ (SKIP TO 323) 7 OR MORE /2/ (ASK 321)	YES /1/ (ASK 322) NO /2/ (PROCEED WITH NEXT PREG)	BOY /1/ GIRL /2/ PROCEED WITH NEXT PREG.	YES /1/ NO /2/ PROCEED WITH NEXT PREG.

Appendix A2

Pregnancy History (PH) - Backward

308. Interviewer: For each pregnancy use one line. The last pregnancy goes on the first line, the second to last goes on the second line ..... and so on. List all pregnancies back to the first. For twins use a separate line of the PH list for each child, indicating twins with a second bracket on the left margin. For all pregnancies since her most recent birth ask the respondent the following questions in order.

Respondents having a live birth:

309. What is the name of your youngest child? _____ (name)

310. Have you been pregnant since the birth of _____ (name)?

Yes / 1 / No / 2 /

If the answer is yes, for the last such pregnancy ask questions 319-323 of the PH list and continue these questions for each of these pregnancies in order going back to her youngest child. Now, write the name of the youngest child in 313 and ask questions 315-318.

Now, ask questions 313 and 314 and then depending on the pregnancy outcome ask either 315-318 or 319-323 proceeding backwards in time until the first pregnancy.

If the answer is no, write the name of the youngest child in column 313 of the PH list and ask questions 315-318. Now, ask questions 313 and 314 and then depending on the pregnancy outcome ask either 315-318 or 319-323 proceeding backwards in time until the first pregnancy.

Respondents with pregnancies but no live births:

311. Interviewer: For each pregnancy starting with the most recent and going back to the first fill in questions 319-323.

Respondents with no pregnancies:

Interviewer: Interview to be terminated.

(Appendix A2 contd.) PREGNANCY HISTORY TABLE

312	313	314	IF A LIVE BIRTH			
Pregnancy Order	What was the name of your last/previous baby born alive?	Before _____ (name) and after _____ (name) was born did you have any other pregnancies?	315 In what month and year was _____ (name) born?	316 Was the baby a boy or a girl?	317 Is the child still living?	318 (If not alive) How long did this boy/girl live?
01		YES / 1 / SKIP TO 319 NO / 2 / ASK 315-318	Beng/Eng MONTH _____ YEAR _____ YEARS AGO ___ MONTH AGO ___	BOY /1/ GIRL /2/	YES / 1 / (PROCEED WITH NEXT PREGNANCY) NO / 2 / (ASK 318)	MONTHS _____ YEARS _____ ASK THE NEXT PREGNANCY
02		YES / 1 / SKIP TO 319 NO / 2 / ASK 315-318	Beng/Eng MONTH _____ YEAR _____ YEARS AGO ___ MONTH AGO ___	BOY /1/ GIRL /2/	YES / 1 / (PROCEED WITH NEXT PREGNANCY) NO / 2 / (ASK 318)	MONTHS _____ YEARS _____ ASK THE NEXT PREGNANCY
03		YES / 1 / SKIP TO 319 NO / 2 / ASK 315-318	Beng/Eng MONTH _____ YEAR _____ YEARS AGO ___ MONTH AGO ___	BOY /1/ GIRL /1/	YES / 1 / (PROCEED WITH NEXT PREGNANCY) NO / 2 / (ASK 318)	MONTHS _____ YEARS _____ ASK THE NEXT PREGNANCY

(Appendix A2 contd.)

PREGNANCY HISTORY TABLE

319. In what Mth. and Yr. was that preg. terminated? If 'D.K.' ask how many Yrs. ago?	320. How many months did that pregnancy last?	321. Did the baby show any sign of life (cried etc.) after its birth?	322. Was the baby a boy or a girl?
Beng/Eng MONTHS.......... YEARS........... YEARS AGO....... MONTH...........	LESS THAN 7 / 1 / (SKIP TO 323) 7 OR MORE / 2 / (ASK 321)	YES / 1 / (ASK 322) NO / 2 / (PROCEED WITH NEXT PREG)	BOY / 1 / GIRL / 2 / PROCEED WITH NEXT PREG.
Beng/Eng MONTHS.......... YEARS........... YEARS AGO....... MONTH...........	LESS THAN 7 / 1 / (SKIP TO 323) 7 OR MORE / 2 / (ASK 321)	YES / 1 / (ASK 322) NO / 2 / (PROCEED WITH NEXT PREG)	BOY / 1 / GIRL / 2 / PROCEED WITH NEXT PREG.
Beng/Eng MONTHS.......... YEARS........... YEARS AGO....... MONTH...........	LESS THAN 7 / 1 / (SKIP TO 323) 7 OR MORE / 2 / (ASK 321)	YES / 1 / (ASK 322) NO / 2 / (PROCEED WITH NEXT PREG)	BOY / 1 / GIRL / 2 / PROCEED WITH NEXT PREG.

Appendix A3

PREGNANCY HISTORY TABLE (Forward)

308. INTERVIEWER: USE ONE ROW OF THE PREGNANCY HISTORY TABLE FOR EACH PREGNANCY, STARTING WITH THE FIRST AND PROCEEDING CHRONOLOGICALLY, (THAT IS, THE FIRST PREGNANCY IN THE FIRST LINE, THE SECOND PREGNANCY IN THE SECOND LINE..... UP TO THE LAST PREGNANCY). IF TWINS, USE ONE LINE FOR EACH AND CONNECT WITH A BRACKET AT THE LEFT.

THE FOLLOWING QUESTION SEQUENCES ARE TO BE ASKED TO RECORD PREGNANCY HISTORIES FOR THE FIRST SEGMENT, THAT IS, THE INTERVAL BETWEEN MARRIAGE AND THE FIRST LIVE BIRTH.

IF RESPONDENT HAS HAD ANY LIVE BIRTH:

309. Now I want to ask you some questions about each of your pregnancies, that is each live birth, each stillbirth, each miscarriage and each abortion. If you have had any of these or any children who have died or who live away from home I would like to know about them.

What is the name of your first baby born alive_____
(name)

310. After you (first) were married and before.....(name) was born, did you have any other pregnancies?

YES / 1 /

NOW ASK 319-323 AND RECORD FOR THE FIRST PREGNANCY, REPEAT 319-323 FOR EACH PREGNANCY UNTIL THE FIRST LIVE BIRTH IN THIS INTERVAL. THEN REPEAT NAME OF FIRST BABY BORN ALIVE UNDER 313 IN THE NEXT ROW, ASK 315-318 AND RECORD.

NOW ASK 313 AND 314 AND ACCORDINGLY PROCEED TO EITHER 315-318 OR 319-323. REPEAT SEQUENCE FOR ALL REMAINING PREGNANCIES.

NO / 2 /

ENTER THE NAME OF FIRST LIVE BIRTH UNDER 313, ASK 315-318 AND RECORD.

NOW ASK 313 AND 314 AND ACCORDINGLY PROCEED IN THE NEXT ROW TO EITHER 315-318 OR 319-323. REPEAT SEQUENCE FOR ALL REMAINING PREGNANCIES.

IF PREGNANCY OCCURRED TO THE RESPONDENT IN THE PAST BUT NOT RESULTED IN LIVE BIRTH:

311. Think back to your first (second.....etc.) pregnancy and tell me about it.

INTERVIEWER: NOW ASK 319-323, REPEAT SEQUENCE FOR EACH PREGNANCY

IF NO PAST PREGNANCY OCCURRED TO THE RESPONDENT:

(Skip to 333)

(Appendix A3 contd.) PREGNANCY HISTORY TABLE

312	313	314	315	IF A LIVE BIRTH 316	317	318
Pregnancy Order	What was the name of your first/next baby born alive?	After _____ (name) and before _____ (name) was born did you have any other pregnancies?	In what month and year was _____ (name) born?	Was the baby a boy or a girl?	Is the child still living?	(If not alive) How long did this boy/girl live?
01		YES /1/ SKIP TO 319 NO /2/ ASK 315-318	Beng/Eng MONTH_____ YEAR_____ YEARS AGO___ MONTH AGO___	BOY /1/ GIRL /2/	YES /1/ (PROCEED WITH NEXT PREGNANCY NO /2/ (ASK 318)	MONTHS_____ YEARS_____ ASK THE NEXT PREGNANCY
02		YES /1/ SKIP TO 319 NO /2/ ASK 315-318	Beng/Eng MONTH_____ YEAR_____ YEARS AGO___ MONTH AGO___	BOY /1/ GIRL /2/	YES /1/ (PROCEED WITH NEXT PREGNANCY) NO /2/ (ASK 318)	MONTHS_____ YEARS_____ ASK THE NEXT PREGNANCY
03		YES /1/ SKIP TO 319 NO /2/ ASK 315-318	Beng/Eng MONTH_____ YEAR_____ YEARS AGO___ MONTH AGO___	BOY /1/ GIRL /2/	YES /1/ (PROCEED WITH NEXT PREGNANCY) NO /2/ (ASK 318)	MONTHS_____ YEARS_____ ASK THE NEXT PREGNANCY

(Appendix A3 contd.)

PREGNANCY HISTORY TABLE

IF NOT A LIVE BIRTH			
319. In what Mth. and Yr. was that preg. terminated? If 'D.K.' ask how many Yrs. ago?	320. How many months did that pregnancy last?	321. Did the baby show any sign of life (cried etc.) after its birth?	322. Was the baby a boy or a girl?
Beng/Eng MONTHS......... YEARS.......... YEARS AGO...... MONTH..........	LESS THAN 7 /_1_/ (SKIP TO 323) 7 OR MORE /_2_/ (ASK 321)	YES /_1_/ (ASK 322) NO /_2_/ (PROCEED WITH NEXT PREG)	BOY /_1_/ GIRL /_2_/ PROCEED WITH NEXT PREG.
Beng/Eng MONTHS......... YEARS.......... YEARS AGO...... MONTH..........	LESS THAN 7 /_1_/ (SKIP TO 323) 7 OR MORE /_2_/ (ASK 321)	YES /_1_/ (ASK 322) NO /_2_/ (PROCEED WITH NEXT PREG)	BOY /_1_/ GIRL /_2_/ PROCEED WITH NEXT PREG.
Beng/Eng MONTHS......... YEARS.......... YEARS AGO...... MONTH..........	LESS THAN 7 /_1_/ (SKIP TO 323) 7 OR MORE /_2_/ (ASK 321)	YES /_1_/ (ASK 322) NO /_2_/ (PROCEED WITH NEXT PREG)	BOY /_1_/ GIRL /_2_/ PROCEED WITH NEXT PREG.

Appendix A4

☐ DSS

☐ Non - DSS

উত্তরদাতার নাম :----------

গ্রামের নাম :----------

DSS গ্রাম হলে : গ্রাম নং---------- বাড়ী নং----------

উত্তরদাতার নং----------

১। আপনার বয়স কত ? ----------

২। আপনার বর্তমান বৈবাহিক অবস্থা কি ? ----------

উপযুক্ত*

অনুপযুক্ত*

৩। আপনি কি কখনও স্কুলে লেখা পড়া করেছেন ? ----------

৪। যদি হাঁ হয় তাহলে কোন ক্লাস পর্যন্ত পড়েছেন ? ----------

৫। আপনার নিজের কতজন সন্তান আপনার সাথে থাকে ?--------- (সংখ্যা)

৬। আপনার নিজের কতজন সন্তান অন্য কোথাও থাকে ?---------- (সংখ্যা)

৭। আপনার সব জীবিত সন্তানদের নাম ও বয়স আমাকে বলুন ।

নাম	বয়স	লিংগ
১।		
২।		
৩।		
৪।		
৫।		
৬।		
৭।		
৮।		
৯।		
১০।		

৮। আপনার কখনও কোন সন্তান হয়েছে যে ঘরে মারা গিয়াছে ? ----------

৯। যদি হাঁ হয়, তাহলে কতজন ? ---------- (সংখ্যা)

১০। তাহলে আপনার মোট----------সন্তান জন্মেছে ?

এটা কি সঠিক ? ----------

১১। কোন মাস ও বছরে আপনার শেষ সন্তান জন্মেছিল ?

---------- মাস ---------- বছর

সে কি ছেলে না মেয়ে ? ----------

সে কি এখনও জীবিত ? ----------

Appendix B1

DEMOGRAPHIC ESTIMATION STUDY
CODE SHEET FOR PREGNANCY HISTORY

Header Card (Card 1)

Column	Information	Codes
1 - 3	Study number	227
4	Area and village	1 DSS area 2 Non-DSS Podua 3 Non-DSS Mohismari
5	Form type	2 Forward PH 3 Backward PH
6 - 9	Women's interview number	
10 - 12	Card type and order	000 = Header
13	Interviewer's number	1 = Aktar 2 = Kaniz 3 = Rowshan 4 = Shireen
14 - 17	Date of interview	
14-15	day	
16-17	month	
18 - 27	Name of woman (first 10 letters)	
28 - 36	Woman's VTS No.	888888888 = Non-DSS
28-30	Village (Hopkins No.)	
31-34	Household number	
35-36	Individual number	
37 - 38	1974 Age from DSS census book	88 = Non-DSS
39 - 40	Stated age in years at time of interview.	
41	Marital status at time of interview.	1 = currently married 2 = separated 3 = divorced 4 = widowed
42 - 43	Education	00 = No formal study 01-10 = As is 11 = SSC 12 = HSC 13 = BA
44 - 45	Number of pregnany cards coded	

Column	Information	Code
46	Number of dates with erasers	0, 1, 2 0 = No pregnancies
47	Which births with erasers	1 at beginning only 2 at end only 3 in middle only or scattered 4 all births 5 at beginning and end only 6 no erasers
48	Type of DSS case	1 = never in or out 2 = in for marriage 3 = in 66-70 4 = from other VTS village 5 = in for other reasons 6 = not in census 7 = out migrated 8 = guest
49	Type of DSS age	1 Census 2 In-migration
50 - 51	Year of DSS age	
52 - 58	VTS of residence if not same as woman's VTS.	
52-54	Village	(Col.48-64 blank if no TVS Information)
55-58	Household	
59-64	Date of in-migration	

(Additional information to be coded only for DSS categories 1-5)

65	Type of pregnancy set for the women	0 = no pregnancies 1 = All pregnancies coded 1 2 = All pregnancies coded 1, 2 or 3 3 = All pregnancies coded 1 or 4 4 = All pregnancies coded 1, 2, 3 or 4 5 = All coded 1, 2, 3, 4 or 5 6 = Other

Column	Information	Code
66 - 67	Whether any census birth date available	00 = No pregnancies 01 = date available 99 = no dates available
68	Match code for first pregnancy	
69	" " " second "	
70	" " " third "	
71	" " " fourth "	
72	" " " fifth "	
73	" " " sixth "	
74	" " " Seventh "	
75	" " " eighth "	
76	" " " ninth "	
77	" " " tenth "	
78	" " " eleventh "	
79	" " " twelfth "	
80	" " " thirteenth "	

Pregnancy Card (Card II)

Column	Information	Codes
1 - 9	Identifying Information	See header code sheet
10 - 12	Card type and order	051 = 1st preg. - survey 052 = 1st preg. - vital reg. 101 = 2nd preg. - survey 102 = 2nd preg. - vital reg. 151 = 3rd preg. - survey 152 = etc.
13 - 14	Pregnancy number	
15	Type of pregnancy	1 = Live birth 2 = Non-live birth
16 - 25	Name (first 10 letters)	8888888888 = Non-live birth
26	Type of date coded	1 = Bengali 2 = English 8 = Years and months ago coded
27 - 30	Date of birth event	-
27-28	month	8888= Years and months ago coded
29-30	Year	
31 - 34	Years and months ago	
31-32	Years ago months ago	8888= Date coded
35 - 36	Bengali month	88= English month coded
37	Sex	1 = Male 2 = Female 3 = Unknown
38	Still living	1 = Yes 2 = No 8 = inapplicable
39 - 42	Age at death	
39-40	Year	8888= Still alive or non live
41-42	month	
43	Which VTS No.	0 = not found 1 = 74 2 = 70 3 = 66 8 = Inappropriate

Column	Information	Codes
44 - 52	VTS No. of child from Matlab books	888888888 = Non-DSS
53	Duration of pregnancy	0 = Inapplicable or not asked 1 = less than 7 months 2 = more than 7 months
54	Signs of life	0 = Inapplicable 1 = Yes 2 = No 9 = not asked

Appendix B2

DEMOGRAPHIC ESTIMATION STUDY
CODE SHEET FOR SHORT FORM

Header Card (Card 1)

Column	Information	Codes
1 - 3	Study number	227
4	Area and village	1 DSS Area 4 Non-DSS
5	Form type	1 = Short form
6 - 9	Women's interview number	
10 - 12	Card type and order	000 = Header
13	Interviewer's number	1 = Akhtar 2 = Kanis 3 = Roushan 4 = Shireen 5 = Kaleda 6 = Dil Korsheda 7 = Nazma 8 = Modhu 9 = Rodha
14 - 17	Date of interview	
14-15	Day	
16-17	month	
18 - 27	Name of woman (first 10 letters)	
28 - 36	Women's VTS number (1974)	
28-30	Village	
31-34	household	
35-36	individual	

Col.	Information	Codes
37 - 38	Stated age in years at time of survey	
39	Marital status at time of interview	0 = never married
		1 = currently married
		2 = separated
		3 = divorced
		4 = widowed
	LEAVE REST OF CARD BLANK IF UNMARRIED	
40 - 41	Education	00 = no formal study
		01 = 10 as is
		11 = SSC
		12 = HSC
		13 = BA+
42 - 43	No. of children with respondent	
44 - 45	No. of children living elsewhere	
46	No. of live born children who later died.	
47 - 48	No. of live births	
49	Type of date coded for last livebirth	1 = Bengali
		2 = English
50-51	Bengali month or English month	88 = month not given
52-53	Bengali year or English year	85 = 1385
54	Sex of last live birth	1 = male
		2 = female
55	Last live birth living	1 = yes
		2 = no

Col.	Information	Code
56 - 57	Number of living children coded	
58 - 59	Age of women from DSS census book	88 = non-DSS 99 = guest 77 = not found
60 - 61	Year to which age applies	88 = in appropriate
62 - 63	First number written on sheet	(marriage age)
64 - 65	Second number written on sheet	(interval from marriage to first birth)
66 - 67	Third number written on sheet	(age of oldest child)
68	Type of DSS case	1 = never in or out 2 = in for marriage 3 = in 66-70 4 = in from other VTS 5 = in from other reasons 6 = blank (not in census) 7 = Out migrated 8 = guest
69 - 75	VTS of residence if not same as women's VTS	(Col.68-75 blank if no VTS information)
69-71	Village	
72-75	Household	

(Additional information to be coded only for DSS categories 1-5 for the Short Form Women)

Column	Information	Code
61 -62	CEB	00-16 (as counted from records) Blank = no pregnancy 99 = two or more live births before 1966
63	CD	1 - 8 (or as counted from records)
64	Birth in the last year	No = 0 Yes= 1
65 - 66	Number of children coded	
67	Match type of births	0 = No live births 1 = All live births matched 1 2 = All live births matched 1.2 or 3 3 = Other
68	Match code for first live birth	
69	Match code for second live birth	
70	Match code for third live birth	
.	.	
.	.	
.	.	
.	.	
.	.	
.	.	
.	.	
.	.	
.	.	
80	Match Code for thirteenth live birth	

Surviving Children Card (Card II)

Col.	Information	Codes
1 - 9	Identifying information	Same as first card
10 - 12	Card type and order	001=
		002=
		etc as needed
13 - 28		
13 - 22	Name of oldest living child	
23 - 26	Age of oldest living child	
23 - 24	years	
25 - 26	months	88 = not given
27	Sex	1 = male
		2 = female
28	residing at home	1 = yes
		2 = no
		8 = not asked
29 - 44	Data for second oldest living child	
29 - 38	Name	
39 - 42	Age Years Months	
43	Sex	
44	residing at home	
45 - 60	Data for third oldest living child	
45 - 54	Name	
55 - 58	Age Years Months	
59	Sex	
60	Residing at home	

Col.	Information	Codes
61 - 76	Data for fourth oldest child	
61 - 70	None	
71 - 74	Age	
75	Sex	
76	Residing at home	
	CARD 3	
1 - 12	As above	
13 - 28	Data for fifth oldest child	
29 - 44	Data for sixth oldest child	
45 - 60	Data for seventh oldest child	
61 - 76	Data for eighth oldest child	
	CARD 4	
1 - 12	as above	
13 - 28	ninth child	
29 - 44	tenth "	
45 - 60	eleventh "	

Appendix B3

DEMOGRAPHIC ESTIMATION STUDY CENSUS CODING INSTRUCTIONS

CARD I

Column	Information	Code
1 - 3	Study number	227
4	Area	1 = DSS
5	Form type	4 = DSS censuses 5 = DSS Birth Record 6 = DSS Death Record
6 - 9	Woman's interview number	
10 - 12	Card type	000 = header
13 - 22	Name of woman	
23 - 31	Woman's 1974 VTS number	
23-25	Village	
26-29	Household	
30-31	Individual	
32	1974 marital status	0 = never married 1 = currently married 2 = separated 3 = divorced 4 = widowed
33 - 41	1970 census number	Blank if no information
33-35	Village	
36-39	Household	
40-41	Individual	
42	1970 marital status	Use 1974 code list
43 - 49	1966 census number	Blank if no information
43-45	Village	
46-49	Individual number	
50 - 51	1966 census age	
52 - 57	Date of in-migration into DSS area (if any)	
52-53	Day	
54-55	Month	
56-57	Year	
58 - 64	Present village and H/F if different from woman's 1974 number.	
58-60	Village	
61-64	Household	
65 - 66	No. of children coded	

CARD II

Column	Information	Code
1 - 9	Same as card I	
10 - 12	Card type	001, 002, etc. as needed
13 - 22	Name of child (first 10 letters)	
23 - 31	74 census number	
23-25	Village	
26-29	Household	
30-31	Individual	
32	Sex	1 = male 2 = female 3 = non-live birth
33	74 age or birth date coded	1 = birth date 2 = 74 age
34 - 35	Age in 74	blank if birth date coded
36 - 41	Date of birth	blank if age coded
36-37	Day	
38-39	Month	
40-41	Year	
42 - 50	1970 VTS number	Blank if no information
42-44	Village	
45-48	Household	
49-50	Individual	
51 - 57	1966 VTS number	
51-53	Village	Blank if no information
54-57	Individual	
58 - 63	Date of in-migration (first)	
58-59	Day	
60-61	Month	
62-63	Year	
64 - 69	Date of out-migration (last)	
64-65	Day	
66-67	Month	
68-69	Year	
70 - 75	Date of death (if any)	
70-71	Day	
72-73	Month	
74-75	Year	
76 - 79	Age at death	
76-77	Year	
78-79	Month	
80	Outcome (for births)	1 = feotal loss 2 = still birth 3 = live birth

Appendix C

Personnel involved in Validation Study

FIELD SURVEY

Overall field Supervisor - M.A. Sardar

Pregnancy history interviews

			Number
Supervisor	-	A. I. Khan	
Interviewers	-	Nure Akhter	(1)
		Kaniz Fatema	(2)
		Roushonara	(3)
		Begum Shirin	(4)

Short form interviews

Supervisor	-	A. I. Khan	
		Md. Nazrul Islam	
		Md. Shahid	
		Md. Siddiqur Rahman Patwary	
Interviewers	-	Nure Akhter	(1)
		Roushon Ara	(2)
		Begum Shirin	(3)
		Khaleda Khanam	(4)
		Dil Khorsheda	(5)
		Nazma Akhter	(6)
		Ashrafun Nahar (Madhu)	(7)
		Rathna Das	(8)

DATA PROCESSING

Coding Assistants	Arjumand Sultana
	Begum Shirin
	Nure Akhter
Programmers	David Leon
	Ibrahim Molla

Appendix Table 1: Number of Interviews Completed by Type of Questionnaire Area and DSS Category of Respondent

Area	Questionnaire Type	
	Pregnancy History	Short Form
Both Areas	866	2598
Non-DSS	300	303
DSS:		
All Categories	566	2295
Continuous Resident (Non-migrants)	359	1675
In-migration:- marriage	47	159
In-migration:- other	135	353
Guests	15	108

Appendix Table 2: Study Villages by Area and Questionnaire Type

Questionnaire Type	Area	
	Non-DSS	DSS
Pregnancy history	Padua Mohismari	Tulatali (V 47) Harima Bhabanipur (V 49) Gangkanda (V 48) Nayarchar (V65) Ketundi (V 74)
Short form	Choudhuripara Maruka	Soladana (V 78) Bakchar (45) Khamarpara (V 71) Sadardia (V 73) Muhundi (V 75) Chosoi (V 75) Daribond (V 80) Narinda (V 90) Sobdhan (V 68) S. Joypur (V 70) Pitambordi (V 79) Salimda (V 46) Galimkha (V 38) Dhonagoda (V 97) Baluchar (V 95) Rampur (V 96) Naobanga (V 69) Induriakandi (V 51) Bakharpur (V 50) Charpatia (V 37)

Appendix Table 3: Number and Distribution of Pregnancy History Interviews by Interviewer, By Age of Respondent and by Education of Respondent

	Area					
	Both Areas		Non-DSS		DSS	
	Number	Percent	Number	Percent	Number	Percent
Total Sample	866	100	300	100	566	100
Interviewer						
1	210	24	87	29	123	22
2	204	24	84	28	120	21
3	237	27	77	26	160	28
4	215	25	52	17	163	29
Age of Respondent						
<20	154	18	60	20	94	17
20 - 24	149	17	52	17	97	17
25 - 29	146	17	51	17	95	17
30 - 34	112	13	40	12	72	13
35 - 39	103	12	38	13	65	11
40 - 44	88	10	34	11	54	10
45 - 49	114	13	25	8	89	16
Completed Years of Schooling of Respondent						
0	672	78	249	83	423	75
1 - 5	167	19	46	15	121	21
6+	27	3	5	2	22	4
Marital Status						
Married	796	92	275	92	521	92
Separated, Divorced or Widowed	70	8	25	8	45	8

Appendix Table 4: Number and Percent Distribution of Short Form Interviews by Interviewer, and by Age, Education and Marital Status of of Respondent

	Area					
	Both areas		Non-DSS		DSS	
	Number	Percent	Number	Percent	Number	Percent
Total Sample	2598	100	303	100	2295	100
Interviewer						
1	283	11	36	12	247	11
3	236	9	31	10	205	9
4	340	13	41	14	299	13
5	354	14	41	14	313	14
6	376	14	38	13	338	15
7	388	15	46	15	342	15
8	285	11	33	11	252	11
9	336	13	37	12	299	13
Age of respondent						
< 20	748	29	95	31	653	28
20 - 24	378	15	51	17	327	14
25 - 29	346	13	44	15	302	13
30 - 34	323	12	34	11	289	13
35 - 39	279	11	27	9	252	11
40 - 44	265	10	32	11	233	10
45 - 49	259	10	20	7	239	10
Completed years of schooling of respondent						
0	2036	78	236	78	1800	78
1 - 5	483	19	53	17	430	19
6 +	79	3	14	5	65	3
Marital Status						
Never married	363	14	35	12	328	14
Currently married	2047	79	253	84	1794	78
Separated, divorced or widowed	188	7	15	5	173	8

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