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AN OVERVIEW OF THE ICDDR,B SAMPLE REGISTRATION SYSTEM

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INTRODUCTION

The growth of interest in the determinants of childhood mortality and morbidity in developing countries, and in interventions aimed at their reduction, has generated a concomitant need for new and innovative approaches to demographic surveillance and data collection. Two requirements have emerged as of paramount importance in the design of such systems:

1) rapid, cost-effective monitoring systems to evaluate the demographic impact of project interventions

2) highly accurate, longitudinal data systems which permit more detailed understanding of the determinants of, and interrelationships between, morbidity and mortality--areas of investigation into which the analysis of data from cross-sectional surveys have provided only limited insight.

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) has been at the forefront of development of longitudinal systems for demographic surveillance. In the present paper, emphasis is given to describing the Sample Registration System (SRS) in operation in the Extension areas. This system is subsequently compared with the Matlab Demographic Surveillance System, the other main demographic system in operation at the ICDDR,B. The relative strengths and limitations of the SRS are then assessed. The paper concludes with a discussion of issues in the application of the SRS to other areas of demographic and epidemiological research.

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THE SAMPLE REGISTRATION SYSTEM (SRS)

The field operations and set-up of the SRS have been described in extensive detail elsewhere (Phillips, et al. 1984; Mozumder, et al. 1986). Similarly, technical aspects of the database structure and computer design have also been outlined (Leon, 1987). Our objective in the present paper is to complement these more technical descriptions by providing a more general description of the SRS.

The Sample Registration System (SRS) was developed by the MCH-FP Extension Project at the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), with technical assistance by the Population Council. The Extension Project is an action-research project with the primary objective of improving the health and family planning service delivery system in rural Bangladesh. The Extension Project operates in field sites in two upazilas (administrative units consisting of approximately 200,000 population) in rural Bangladesh-- in Jessore in the southwestern part of Bangladesh and in Sirajgonj in the north central part of the country (see Figure 1 and Appendix A). Comparison areas have also been set up in upazilas contiguous to each treatment area. In 1986, the SRS was expanded to four additional unions located in two other upazilas of Jessore, as part of a special intervention to test the impact of improved fieldworker staffing ratios upon service delivery.

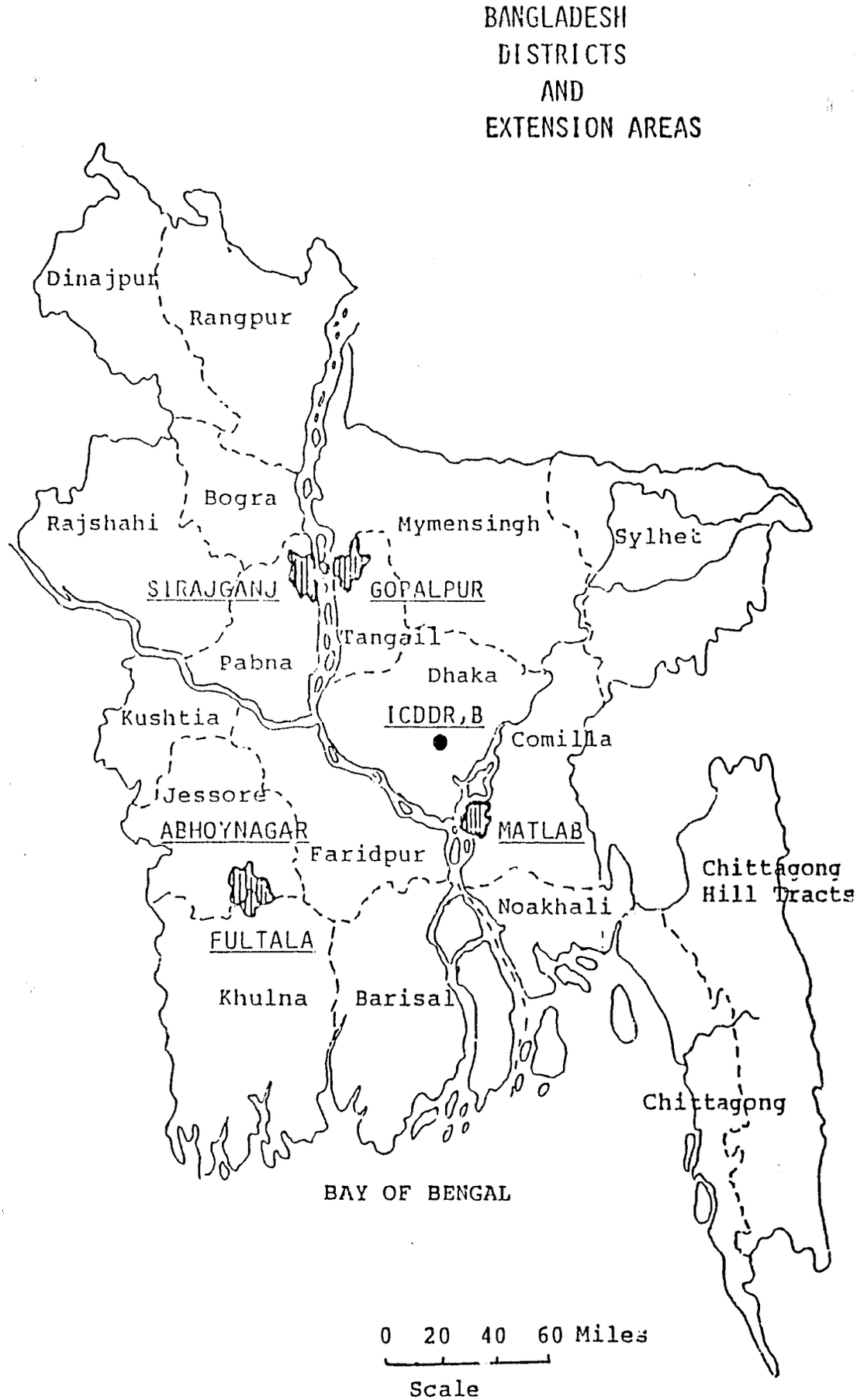
The SRS was established to monitor and evaluate the impact of the Extension Project upon demographic processes and service operations in two rural areas of Bangladesh. In setting up the SRS, its designers had the considerable advantage of both drawing upon the strengths of the Matlab system as well as avoiding many of its limitations. The following are key criteria incorporated into the design of this system:

1) Given the need for rapid feedback on the impact of the project, the system must be characterized by efficient data collection and management procedures, avoiding lengthy delays in data processing and availability.

2) The system must be comparatively inexpensive, given funding constraints. In view of the total size of the project field sites (approximately 350,000 population), this necessitated monitoring a representative sample rather than complete population coverage.

3) The system must be longitudinal in design, in order both to monitor project impact over time at the aggregate level as well as to permit detailed individual-level analyses of the programmatic and non-programmatic determinants of demographic behavior.

FIGURE 1: MAP OF EXTENSION PROJECT AREAS



Following these baseline surveys in 1982, a team of one male and one female interviewer began visiting each sample household regularly every 90 days to enquire about events since their last visit. All detected events are first recorded in the interviewer's household recordbook as well as on standard event forms. A key component of the SRS is the household recordbook, carried by each interviewing team (see Figure 2). The book was printed from the household enumeration, continually updated at each round, and then reprinted following the completion of six rounds. This book provides a longitudinal summary of events for each household under surveillance. Fieldworkers are extensively trained to utilize this registration book for logical consistency checks at the time of data collection. The record book assists workers to evaluate the validity of new data through the linkage of reported events. Individuals entering the SRS must do so by birth or in-migration; marriages cannot occur to individuals who have not yet in-migrated to the household; events cannot occur to individuals who have exited' from the study through death or out-migration; pregnancies must be followed by pregnancy outcomes; in-migration cannot occur to individuals already in the households, etc. In this manner, primary responsibility for logical editing is borne by the field staff, rather than the computer and data management staff, eliminating a high proportion of all errors in the field, where they are often readily correctable.

The collection of accurate data is facilitated by a well-developed system of supervision and independent field checks (see Figure 3). Supervisors frequently accompany field interviewers on parts of their household visitation rounds to observe data collection procedures and assess performance. Supervised interviews and spot-checks of interviewers are also each carried out on 5 percent of all households. Supervisory staff also carry out independent reinterviews with a random subsample of 5 percent of all households, to check on the accuracy and validity of data collected. Monthly staff meetings are also used to review erroneous data identified by computer edits, discuss field problems, and to standardize data collection prodecures.

FIGURE 2: SAMPLE HOUSEHOLD IN SRS RECORDKEEPING BOOK

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MCH-FP EXTENSION PROJECT: SAMPLE REGISTRATION SYSTEM

HOUSEHOLD RECORD BOOK

THANA : 1: SIRAJGANJ — VILLAGE : DEUDI

UNION : 03: BOHULI — HEAD OF HOUSEHOLD : SARAT — LAST VST : 86/ 5/10

MOUZA : 053: DEUDI — FATHER/HUSBAND : LT. BAHER SK. — EDCN : 00 — INDP SUR : 83/04/28

HOUSEHOLD : 064990 — RELIGION : ISLAM — OCCU : DAY LABOUR — ENUM SUR : 82/08/25

ID NO.	SP NO.	MO NO.	NAME	SEX	REL TO HD	MAR STA	DATE OF BIRTH	SUMMARY OF RD 8 TO 15 MAY 84-MAY 86 EVT	DATE	DATE OF ROUND 16 86/08/06 INT: Rokeya EVT	DATE	DATE OF ROUND 17 86/11/10 INT: Rokeya EVT	DATE	DATE OF ROUND 18 87/02/06 INT: Rokeya EVT	DATE	DATE OF ROUND 19 87/05/06 INT: Rokeya EVT	DATE	DATE OF ROUND 20 87/08/12 INT: Rokeya EVT	DATE	DATE OF ROUND 21 / / INT: EVT	DATE	NOTES
01	02	00	SARAT	M	SLF	MAR	52/01/99			A		P		A		P		A				
02	01	06	JONA	F	WIF	MAR	61/02/99	LB	84/11/07	P		A		P LB	(1B) 86/11/16	P		P				(1A) 86.03.01
03	00	02	ALAM	M	SON	UMR	81/03/99			DH	86/05/11 (2)	-		-		-		-				
04	00	06	SIDA	F	SNL	UMR	70/09/99			A		A MT	86/07/10 (3)	-		-		-				
05	00	06	ALI	M	SNL	UMR	74/08/99			P		A		P		P		A				
06	00	00	SAKINA	F	MNL	WID	35/03/99			P		A		A		P		P				
07	00	02	TEMA	F	DAU	UMR	84/11/07			P		P		P		P		A				
08	00	02	AZAD ~~NEW BORN~~	M	SON	UMR	86/11/16 (1C)							P		P MT 87/05/06		P (4)				

(1A) DETECTION OF NEW PREGNANCY TO WIFE JONA. LAST MENSTRUAL PERIOD ON 86.03.01.

(1B) LIVE BIRTH TO WIFE JONA ON 86.11.16

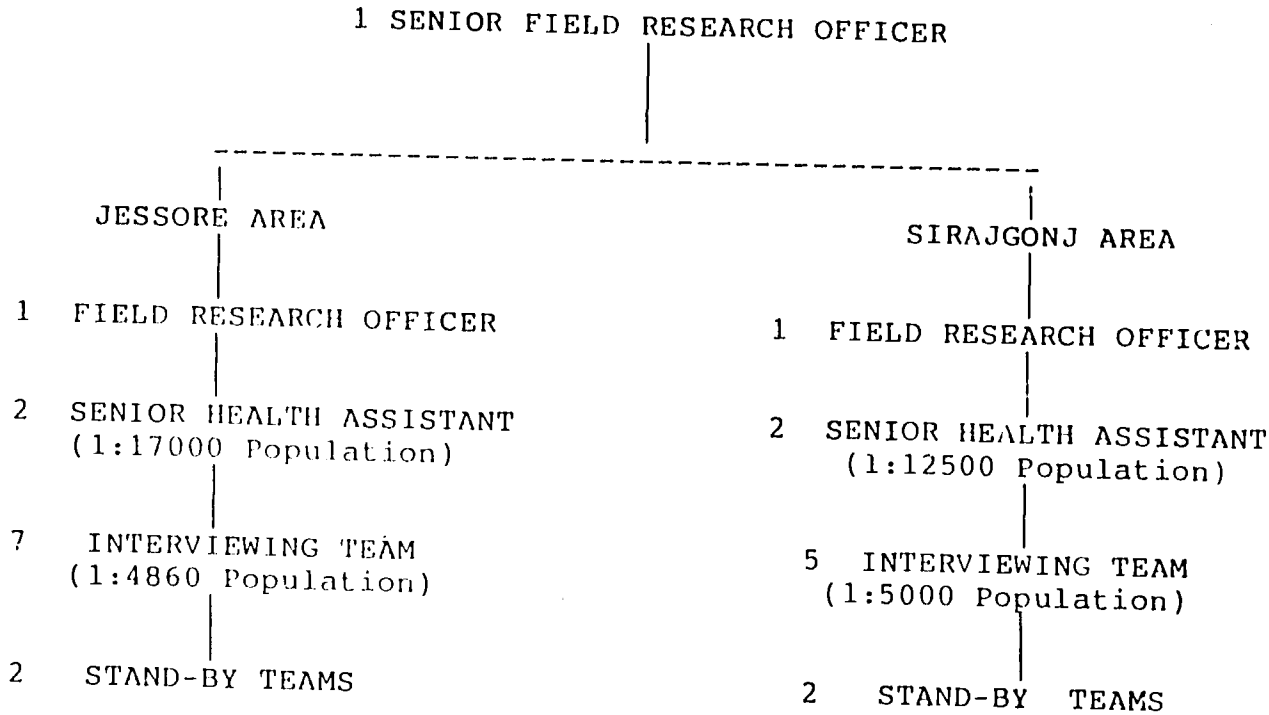
(1C) ADDITION OF INFANT TO HOUSEHOLD

(2) DEATH TO SON ALAM ON 86.05.11.

(3) MIGRATION OUT BY SIDA ON 86.07.10.

(4) AMENDMENT FORM ON 87.05.06 WHEN NAME OF NEW BIRTH ASCERTAINED (AZAD)

FIGURE 3: FIELD STRUCTURE OF THE SAMPLE REGISTRATION SYSTEM



Computerization/Data Management in the SRS

Events forms are sent to Dhaka on a weekly basis for processing and entry (Figure 4). Computer and data management operations are currently based on the ICDDR,B's IBM 4361 mainframe computer. Upon entry onto the computer, new events data are run sequentially in batch mode through a comprehensive series of internal and external record consistency and logical editing checks. These editing procedures, summarized in Table 1, include logical editing of new events as well as linkage and editing against previous recorded events for an individual. Logical checks occur both for the individual to whom the event takes place as well as for the entire household.

Event data which successfully pass these rigorous editing procedures are subsequently archived. Cases with inconsistencies are sent back to supervisors in each field site within 2 weeks after the completion of initial editing. The supervisors review each case, discuss with the interviewers responsible for the error in question, and if necessary request reinterviewing in the field. Editing programs are then rerun on cases with corrected information, and archived only when they have successfully cleared these logical checks. This process of data editing, correction, and archiving is typically completed within 3-4 weeks of the end of a 90-day round.

The importance of these field and computer editing systems is illustrated by the initial experience of the SRS. During the initial round of data collection, 7 percent of vital events reported from the field were flagged as inconsistent by these editing procedures. During the second round, this percentage was reduced to 3 percent, and by the third round had declined to below 1 percent. During the most recent round, only 21 errors were identified out of a total of 2485 recorded vital events. What has clearly occurred with the presence of this system of computer editing is that interviewers have fully incorporated logical editing into their routine collection of demographic data in the field, effectively eliminating most errors before they reach the computer for detailed editing. This system discourages sloppy data collection, since workers are fully aware that such errors will be detected by computer editing routines, that these errors will be quickly brought to the attention of supervisors in the field, and that they provide a means for evaluating the performance of each worker. By generating accountability and placing responsibility for accurate data collection in the hands of field staff in addition to computer and data management staff, the SRS greatly enhances the investigator's ability to minimize errors in demographic data collection.

Table 1

SUMMARY OF SRS COMPUTER EDITING AND LINKAGE PROCEDURES

PHASE I. INTERNAL CONSISTENCY OF NEW EVENT RECORDS

A. Validity and consistency checks run for all new events processed during a round: amendments, in-migration, marital status change, pregnancy terminations, out-migration, death, household change.

Checks include:

-- range codes
-- internal consistency within event records

PHASE II: LINKAGE AND CONSISTENCY CHECKS OF RECORDS AT THE INDIVIDUAL LEVEL

B. Extraction of households with new events from the household history master file and extraction of separate subfile.

C. New events for each individual linked with records from extracted household history master subfile

Consistency checks run on vital event updates include:

-- duplicate records
-- sex
-- age/date of birth
-- identification number
-- proper sequence of event records

D. For households with changes or new household heads, updating of information in household header card

PHASE III: LINKAGE AND CONSISTENCY CHECKS OF RECORDS AT THE HOUSEHOLD LEVEL

E. Consistency of household level records:

-- relationships to head of household
-- relationships between head of household and mother's/ spouse's identification numbers, etc.

F. Update old household history master file with updated subfile

G. Insert visitation dates into household history master file

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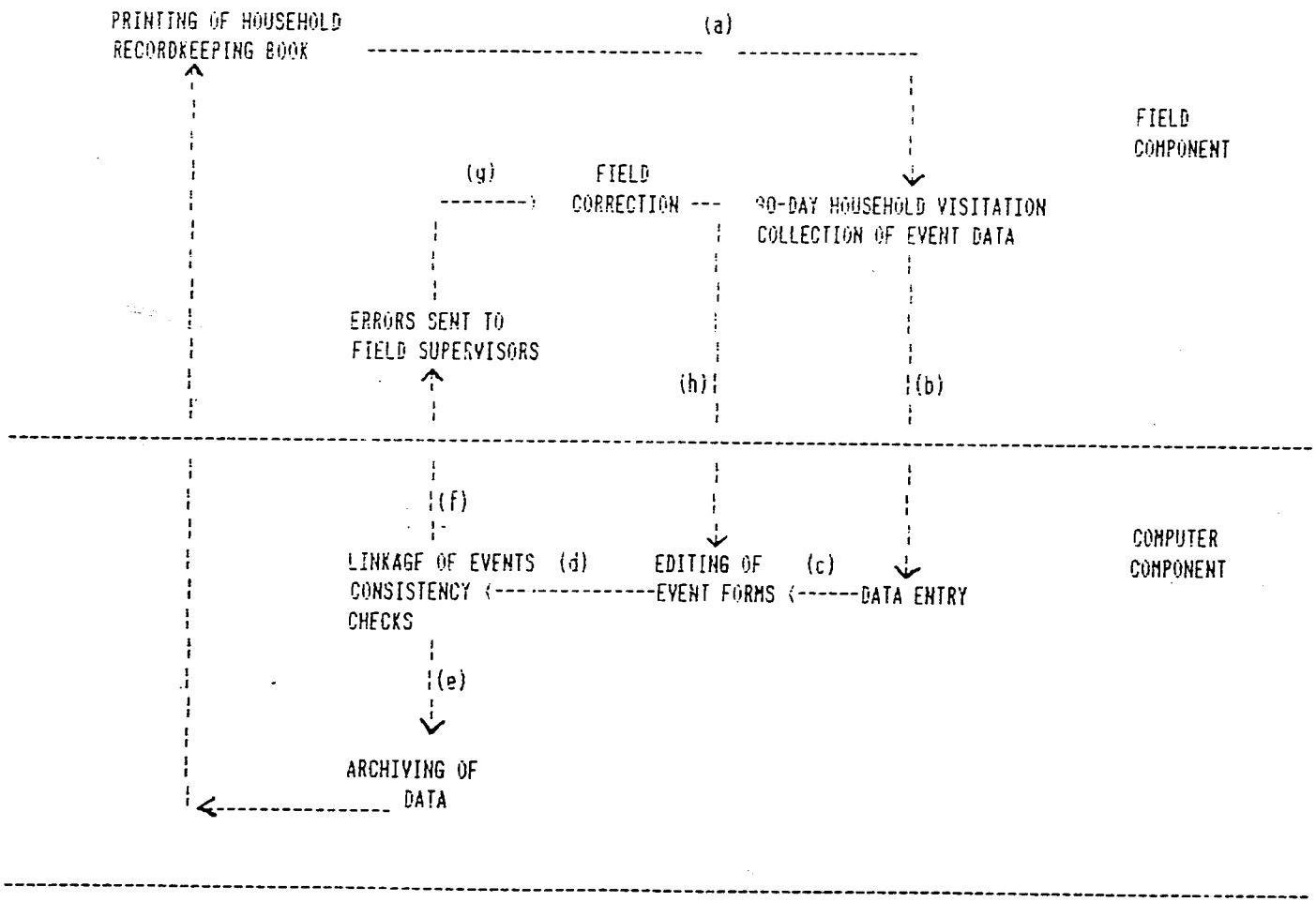
Source: Islam, et al., 1983.

FIGURE 4: FIELD AND COMPUTER OPERATIONS OF THE SAMPLE REGISTRATION SYSTEM



ADAPTED FROM PHILLIPS, ET AL., 1984 AND NICHOLSON AND BARUA, 1987

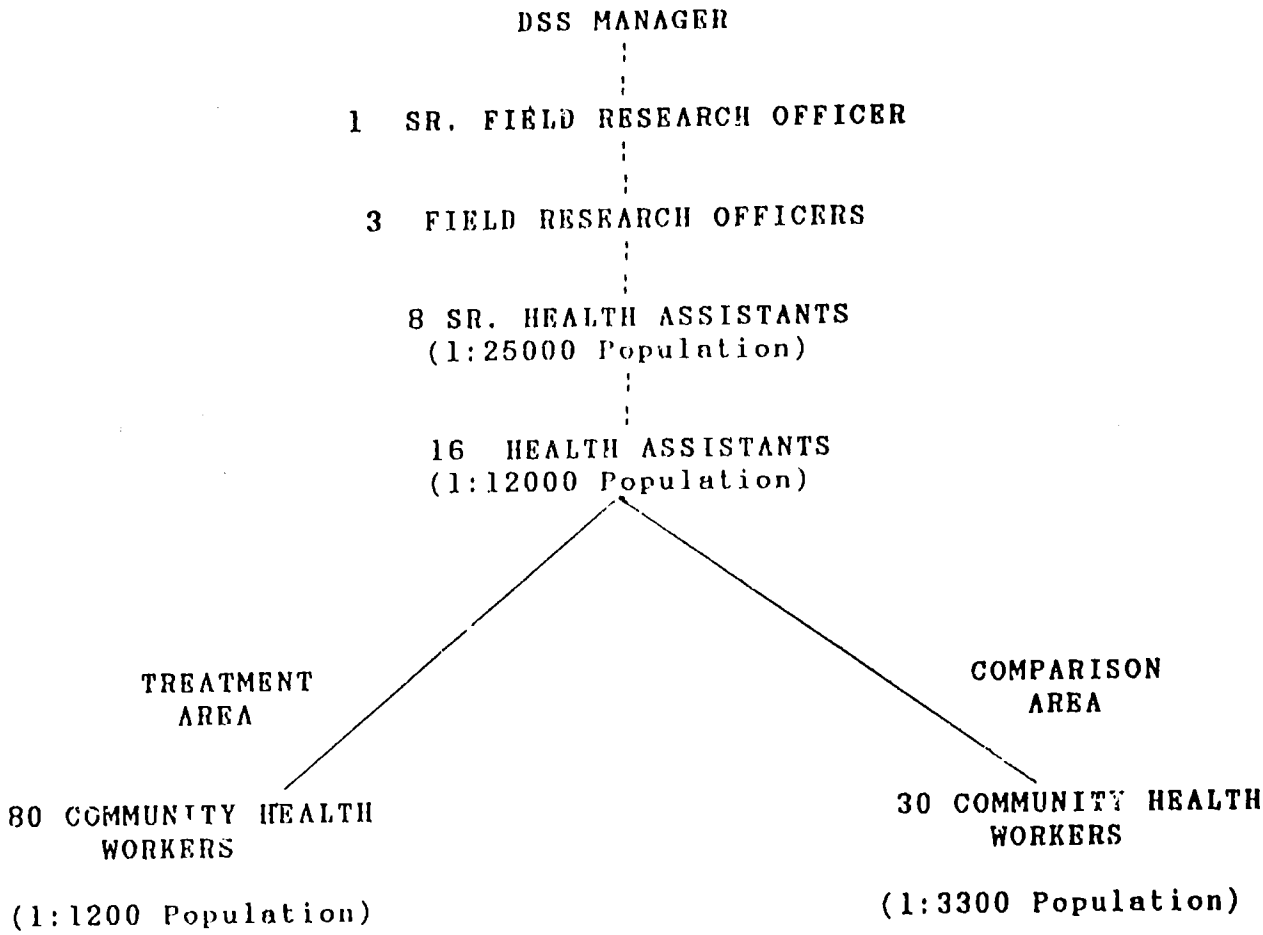
Upon completion of data editing for a round, data are archived in the master household history file. Simple software programs can then be written to routinely summarize vital rates as well as other measures of project impact (see Appendix B) or to extract subfiles for more detailed analyses.

A COMPARISON OF THE SRS WITH THE MATLAB DEMOGRAPHIC SURVEILLANCE SYSTEM

Prior to the development of the Sample Registration System, the ICDDR,B had maintained continuous demographic surveillance of the population in i's rural field site in Matlab since 1966. While the size of the study area has been modified on several occasions, the DSS currently monitors a population of approximately 191,000 residing in 149 villages. This surveillance system is recognized to be highly accurate and complete in its recording of demographic information, and is unique in the developing world in terms of its size and scope.

The multi-tiered field structure of the DSS is outlined in Figure 5. Basic demographic surveillance since 1978 has been the responsibility of 110 female community health workers (CHWs), all of whom have at least eight years of education and are between 20 and 40 years of age. These CHWs visit each household in their work area fortnightly to enquire about demographic events -- births, deaths, in- and out-migration, marriages, and divorces -- during the preceding two week period. The responsibilities of the CHWs vary substantially according to whether they work in the treatment or comparison areas. In the treatment area, CHWs are responsible for both demographic surveillance as well as the provision of outreach MCH and family planning services (75 percent service delivery and 25 percent demographic surveillance). In this area, a total of 80 CHWs visit on average 20-25 families per day, and have overall responsibility for a work area of roughly 1200 population. Since domiciliary MCH and family planning services are not offered to the population in the comparison area, a total of 30 CHWs visit an average of 100-140 households per day, and cover an overall work area of approximately 3300 population.

FIGURE 5: FIELD STRUCTURE OF THE MATLAB DEMOGRAPHIC SURVEILLANCE SYSTEM



The CHWs are supervised by a cadre of 16 Health Assistants (HAs), who are males with at least a high school diploma, and who bear the primary responsibility for the actual recording of demographic events. The HAs visit between 100-140 households per day, and have overall responsibility for a population of roughly 12,000. The HAs visit each household in their area monthly in the company of the CHW to check on the completeness of the detection of vital events and to record new events on standardized forms, family records, and field census volumes. HAs are in turn supervised by a staff of 8 Senior Health Assistants (SHAs), who are each responsible for the supervision of two HAs, comprising a work area of approximately 25,000 population, and who visit each household in their area at least four times yearly. The SHAs are in turn supervised by a staff of three Field Research Officers and one Senior Field Research Officer, who prepare the work schedule for the entire field system and conduct random spot-checks on the quality and the completeness of registration. Overall field operation of the system is supervised by the Field Manager. The completed vital registration forms are subsequently checked in the Matlab field office, recorded in the census volumes maintained in Matlab, and then fortnightly sent to Dhaka for coding and additional checking prior to entry into the computer.

It is instructive to briefly compare key similarities and differences between the current Matlab DSS and the SRS systems. As shown in Table 2, the sampling frame in the Extension Areas is almost twice as large as that of the Matlab study area (350,000 vs. 191,000 population). This difference is attributable to the fact that while the DSS maintains surveillance on all individuals within the study area, the SRS monitors households on a sample basis. The population actually monitored as well as the annual number of vital events are, in contrast, substantially higher in the Matlab DSS area.

A second key difference between the two systems lies in the frequency of household visits by interviewers for data collection. Whereas CHWs visit each household in their work area bi-weekly, SRS interviewers visit each household every 90 days. These two factors taken together-- surveillance of households on a sample basis and less frequent visitation rounds-- lead to significantly lower staffing ratios required for basic surveillance in the SRS system. As Table 2 shows, the number of interviewers required to monitor a given population are almost four times higher, and the number of supervisors almost three times higher, in the Matlab DSS area. (However, there is nothing inherent in the DSS structure which prevents shifting to a less intensive household visitation frequency, particularly when the new DSS editing procedures are introduced).

In the SRS areas and in the Matlab DSS comparison area, interviewers' sole responsibilities lie in data collection. In the Matlab treatment area, however, the primary responsibility of CHWs (but not HAs) lies in service provision, with demographic surveillance occupying only part of their time (25 percent). In terms of the specific data collected, SRS workers collect quarterly data not only on demographic events, use of contraception, and contact with the government program, but also have conducted a number of brief special surveys during their regular rounds. In the Matlab treatment area, workers collect extensive information on the MCH and family planning service program in addition to maintaining demographic surveillance, and have no unutilized capacity at present for further data collection. Workers in the comparison area presently carry out only demographic surveillance.

The DSS and SRS systems also differ significantly in terms of data editing procedures. As previously described, SRS field interviewers conduct extensive logical editing through use of the household register at the time of data collection. HAs in the DSS system, who also carry longitudinal census volumes, also check for data consistency at the time of collection, although most probably not quite as exhaustively. In contrast to the SRS, where new vital events data are continually edited and corrected before archiving, resulting in edited data within 3-4 weeks following the conclusion of a round, DSS data are edited only after an entire calendar year of data have been recorded. This system, which leads to delays in data availability of up to 18 months, as well as increased chances for errors, will be modified with the conversion to the DSS database incorporating continual editing procedures. Finally, any errors detected by computer consistency checks in the SRS are routinely cycled back to field supervisors and responsible interviewers for correction, instilling a strong degree of accountability in workers for data collection. In the DSS, data collection and error correction to date remain largely in separate spheres, reducing the possibility for using this system as a supervisory tool.

It is possible during routine demographic data collection to insert 15 minute special surveys of interest to sample households at little or no additional cost. To date, a number of special modules have been carried out for both husbands and wives in SRS households, with no disruption to normal data collection procedures. Additional capacity for data collection exists during routine rounds by CHWs in the Matlab comparison area, and has on occasion been used, most recently for a study of nutritional status. Data collection in the Matlab treatment area is presently at capacity, with workers collecting extensive data on the service program in addition to routine demographic surveillance.

Table 2

A Comparison of the Matlab DSS and Extension Project SRS Demographic Surveillance Systems

Component	Current Matlab DSS	Extension Project SRS
1) Population Sampling Frame	191,000	350,000 (approx.)
2) Population Coverage	100%	17%/20% sample
3) Population under Surveillance (1985)		
Total	191,006	43,048*
<5 Children	30,626	7,049
Annual Births	7,389	1,709
Annual Infant Deaths	473	243
Annual 1-4 Yr. Deaths	771	97
4) Frequency of Household Visitation	CHW: 2 weeks HA: 4-5 weeks	90 days
5) Number of Households Monitored Per Worker	Treatment Area CHWs: 200 Comparison Area CHWs: 530	SRS Team: 800-900
6) Field Staff Required Per 20,000 Population		
a) Interviewers	7.7	2.0 (team of 1 male, 1 female)
b) Supervisors	1.3	0.4
7) Worker Responsibilities	Treatment Area: Service Provision: 75% Data Collection: 25% Comparison Area: Data Collection: 100%	Data Collection: 100%

Component	Matlab DSS	Extension Project SRS
8) Editing of Data		
a) Field	Some Logical Editing by HAs	Extensive Editing by Field Staff
b) Computer	Events First Accepted Then Edited Annually**	Continual Basis Editing
c) Worker Accountability	Data Errors Not as Systematically Fed Back to Worker Responsible	Data Errors Routinely Fed Back to Worker Responsible
	Considerable Delays	Rapid Feedback
9) Delay in Availability of Data	12-18 Months***	3-4 Weeks Following the Conclusion of a Round
10) Collection of Additional Sociodemographic Data	Periodic Censuses (1974, 1982)	Detailed Baseline Survey Plus Special Surveys
11) Flexibility for Additional Data Collection	Treatment Area: Not Possible****	15 Minute Modules Possible During Routine Rounds
	Comparison Areas: 15 Minute Modules Possible	
12) Quality of Demographic Data Collected	Highly Accurate and Complete	Highly Accurate and Complete

* Refers to only original surveillance area of 13 unions

** Data will be continually edited with introduction of the DSS database

*** Turnaround time will be substantially reduced with introduction of the DSS database.

****CHWs in the treatment area currently collect substantial data in addition to vital events as part of their service delivery activities

KEY FEATURES OF THE SRS SYSTEM

In the preceding discussion, a number of features of the SRS have been outlined which make it especially suited for the surveillance of demographic data. Key features include:

Longitudinal recordkeeping: The existence of a household recordkeeping book by interviewers, printed from the computer, provides workers with a longitudinal history of demographic events for each household and each individual family member, enabling workers to routinely edit new information for logical consistency prior to recording and entry, thereby greatly reducing error rates.

Worker accountability: An efficient system of independent field supervision, backed by exhaustive computer checks capable of identifying most data collection errors, instills a sense of accountability in data collectors. The SRS involves field staff in data management as well as data collection, greatly reducing the number of data errors in the field prior to data processing and editing.

Prospective editing design: The collection of longitudinal data makes possible editing new events against an existing database-- i.e., what is already known about an individual-- greatly expanding the possibilities for logical consistency checks. Moreover, data in the SRS are only archived upon successfully passing through the entire computer editing sequence; inconsistent data are stored separately until resolved and re-edited. Thus, inconsistent data are not permitted into the system, where such errors are likely to be compounded over time.

Rapid turnaround time: With the continuous processing of data collected from the field, the data on the computer are never more than 2-3 weeks behind the field interviewers. Errors are rapidly sent back to the field, where they can be quickly corrected while events are still current. This rapid and continuous interchange between the field and the computer is essential to the collection of accurate data. The result is fully edited data within 3-4 weeks after the completion of a round, greatly enhancing the utility of the data collected for the purpose of evaluation as well as basic research.

Cost-effectiveness: Given its highly efficient use of interviewer and supervisory staff, the SRS can monitor large populations at comparatively little cost. The estimated annual costs of data collection and management for the 10,785 households under current surveillance in the SRS amount to $122,600 U.S. (see Appendix C). If only female interviewers are included, these costs reduce to $92,300. These costs translate to $11.37 and $8.56, respectively, annually for surveillance on a per

household basis. It should be emphasized that even these figures substantially overestimate the costs of the demographic surveillance system alone, since in the current system, roughly 60 percent of effort is related to service operations data collection, and only 40 percent to demographic data collection.

Flexibility in data collection: Given the design of the SRS, and the extra capacity that has been built into daily household visitation schedules, special survey modules can be readily added to regular data collection activities. Although the initial focus of the SRS was exclusively upon the collection of demographic data, in 1984 an additional module on health and family planning service operations was incorporated as part of routine data collection. In addition to information on current contraceptive status, eligible women (married women of reproductive age) are asked during every round whether they have received any visits from health or family planning outreach workers during the past three month period, whether any topics had been discussed with them, and whether they had received any services. These data provide a means not only to assess the impact of the Project interventions upon process variables related to service delivery, but have provided considerable insight into the health and family planning service delivery system in rural Bangladesh.

The experience of the Extension Project, in fact, suggests that workers generally welcome the break from routine data collection resulting from the addition of new questionaires. To date, a number of special surveys have also been conducted on family size preferences of wives, breast-feeding practices, and husband's knowledge, attitudes, and practice of family planning. In all surveys, response rates of over 90 percent were achieved, owing largely to the skills of interviewers as well as the familiarity of repondents with interviewers from prior visits. Additional modules are planned for the future.

THE NEW VERSION OF THE SRS

During the past two years, work has been undertaken by the Population Council in Bangkok in collaboration with the ICDDR,B to modify and improve upon the original SRS design. This modified system, which is presently being tested in four unions of the Extension Project, differs from the original system in several important ways:

Microcomputer-based: The current version of the SRS has been functioning well on the ICDDR,B's mainframe computer. Given the absence of comparable computer facilities in most developing settings, and the recent advances in microcomputer technology and capabilities, it was recognized that adaptation of the SRS to

micro-computers would greatly enlarge its potential applications. Thus, software for the new version of the SRS system runs on an IBM PC-AT, with data stored on a Winchester portable hard disk system

Interactive Editing: In the original SRS system, new data are entered and then edited through a sequence of 25 batch programs. These batch editing procedures are inefficient and also highly intensive in terms of use of both computer and data management staff's time. Moreover, sequential batch mode increases the possibilities for errors, since correction of one component could introduce other errors. In the new SRS version, more efficient interactive editing procedures have been developed, whereby each new data entry is checked against all consistency checks at the time of entry, providing instant feedback on all inconsistencies.

Elimination of Forms: In the original SRS version (and the current DSS system) new events are first recorded on event forms for processing in Dhaka (see Appendix D). A drawback of this system is that it introduces considerable paperwork for interviewers, adds much data collection which is redundant (identification numbers, names, etc.), and adds an additional source of possible error resulting from the loss of forms or errors in transcription. In the new SRS system, information is recorded directly into the household registration book, resulting in considerable savings of time. These books are routinely sent to Dhaka, where a coder enters them directly onto the microcomputer and runs the detailed consistency check programs, thereby eliminating additional paperwork as well as a potential major source of error. There are, however, limits as to how much additional information related to the event can be directly recorded in the household recordbook for information such as descriptions of cause of death.

LIMITATIONS OF THE SRS

Sample Size: One drawback of the current SRS is the size of the sample, particularly if young children are the central study focus. The number of events in any given year is comparatively small-- a total of 1700 births, 243 infant deaths, and 97 early child deaths occurred to SRS households during 1985 (Table 2). More detailed breakdowns by sex, age groups, or intervention treatment are largely precluded by numbers too small for meaningful analysis; aggregation from several years of observation is usually required. This is not a serious problem with the DSS given its much larger population under direct surveillance This limitation of the SRS, however, can be easily remedied by increasing the sampling fraction to obtain a minimum

estimated number of events required for analysis. In fact, the SRS need not operate on a sample basis, but could instead be based upon complete population coverage.

Migration and Sample Representativeness: Individuals under surveillance must have entered' the system through in-migration, birth, household split, or presence in the original enumeration; individuals exiting' the system must do so by out-migrating or death. While these rules are straightforward when an entire population is under surveillance, the situation becomes considerably more complex when households are monitored on a sample basis, as in the case of the SRS. In the current SRS, it is much more difficult to enter into the sample than it is to exit. Under current rules, any individual in an SRS household who moves outside of the unions under surveillance (for at least two out of the three preceding months) is classified as an out-migrant. The only exceptions are individuals in SRS households who move to another spot within one of the SRS unions, who continue to be monitored at their new location.

Migration into the SRS study population is in contrast much more difficult, since only individuals moving into existing SRS households-- for example, for the purpose of marriage-- can qualify as in-migrants. Thus, no new entrants into the SRS are permitted who are unaffiliated with existing sample households (thus while an entire household can exit from the study they cannot enter by creating a new and separate household). This problem is not specific to the SRS-- any longitudinal surveillance system carried out on a sample basis is likely to confront similar problems with regard to differential in- and out-migration.

A related issue concerns the representativeness of the original sample with the increasing passage of time. Although initially set up with a three year time frame in mind, the current SRS has been in operation for more than five years. Original SRS respondents comprise only 83 percent of the current population under surveillance; this percentage is reduced to 77 percent if all entrants to the SRS during this period are considered. Thus, with a longer period of observation the question of whether the sample estimates obtained provide reasonable estimates for the entire population becomes increasingly prominent. Thus, for surveillance systems such as the SRS which continue over an extended period of time, consideration must be given to periodic replenishment of the original sample. It should be emphasized that selective sample attrition is primarily of concern in terms of population estimates; analysis of SRS data in cohort studies remains largely unaffected by this issue.

Completeness and Accuracy of Vital Events: The completeness and accuracy of vital events obtained based upon a 90-day visitation cycle is an issue of additional concern. Undoubtedly, the length of this visitation cycle leads to some oversight of early pregnancy loss; this remains true, however, even with a two-week visitation cycle. Although it is possible that some late pregnancy terminations and early infant mortality cases are also misreported, there is reason to believe that their extent is not significant. First, earlier research demonstrated that vital events could be recalled within a three month period without significant omissions or loss of accuracy (Mozumder, et al., 1983). Second, the data collection procedures followed in the SRS-- whereby all detected pregnancies as well as estimated date of conception are noted in the volume -- provide a signal for interviewers to follow up on outcomes during subsequent visits, decreasing the possibility of significant event loss. Finally, levels of fertility and mortality recorded in several Project areas significantly exceed rates reported from other studies in Bangladesh, suggesting that the extent of such event omission may not be substantial (Table 3). Questions remain, however, about the ability of a three month visitation cycle to record precise dates of events such as birth and death.

Cause of Death Reporting: Currently in the SRS, cause of death is obtained through narrative reports of symptoms leading up to death by family members. It is recognized that the current system is unstandardized and may be highly imprecise in terms of death classification. Future efforts will be directed toward strengthening this system, drawing heavily on recent improvements in cause of death algorithms developed in Matlab.

ISSUES IN THE ADAPTATION OF THE SRS

Although designed specifically for the purposes of evaluating MCH and family planning service interventions, the SRS has potentially broad applications to other areas of health and epidemiological research as well.

Table 3

Vital Rates Obtained from the Sample Registration System: 1983-86

Fertility Rates

	Sirajgonj-All				Abhoynagar-All			
	1983	1984	1985	1986	1983	1984	1985	1986
CBR (Crude Birth Rate)	44.3	46.6	44.5	39.6	34.8	29.5	33.2	26.7
GFR (General Fertility Rate)	196.4	206.0	194.6	172.1	150.7	125.3	139.1	110.8
TFR (Total Fertility Rate)	6075.7	6426.7	6070.6	5401.0	4270.7	3657.2	3910.5	3106.4

Mortality Rates

	Sirajgonj-All				Abhoynagar-All			
	1983	1984	1985	1986	1983	1984	1985	1986
CDR (Crude Death Rate)	18.4	19.2	14.4	13.8	11.8	11.2	11.2	10.0
Neonatal Deaths	93.0	105.3	97.2	95.3	66.8	75.6	54.0	91.5
Post Neonatal Deaths	68.5	69.9	69.4	54.2	57.2	70.1	67.1	46.7
Infant Deaths	161.5	175.3	166.7	149.4	124.0	145.8	121.1	138.2
Child Death (1-4)	35.1	36.1	22.9	23.0	13.7	10.5	9.5	9.2
5-14 years	4.1	3.9	2.4	1.8	2.9	2.5	1.3	1.3
15-44 years	2.9	2.7	1.2	2.7	2.5	2.4	3.3	2.0
45 + years	31.7	30.4	23.1	23.0	28.8	28.5	31.08	30.1

+ Per 1000 Births.

Source: Mozumder, et al. 1988

The demographic surveillance system of the SRS can be viewed as a basic skeleton for a surveillance system around which other data collection activities can be built. Many additional covariates of interest can be collected through detailed baseline KAP surveys such as that carried out in the Extension Project. Still other information can be obtained through the fielding of one-time or periodic special modules introduced during specific rounds of the SRS. Some information, however, is most appropriately collected through continued longitudinal surveillance of a study population. In the case of the service operations data collected by the Extension Project, the period of observation was adapted to conform to the 90-day visitation cycle set up for demographic surveillance. For many epidemiological questions of interest, however, such as in morbidity surveillance, a 90-day visitation cycle may not be appropriate.

In such cases, several options exist to the researcher interested in employing the SRS. The investigators can maintain a three month visitation cycle but collect morbidity information only for a more limited period preceding the interview (for example, during the prior two weeks). Alternatively, the frequency of SRS round visitation could be adjusted to the needs dictated by morbidity surveillance (for example, to a shorter visitation cycle). In both of these approaches, demographic and morbidity surveillance continue to reside with the same interviewers. An alternative approach could be to separate these two data collection activities, maintaining demographic surveillance on a 90-day cycle, but with responsibility for morbidity surveillance resting with a separate set of interviewers on a more frequent visitation cycle. Trade-offs exist in terms of cost, additional staff requirements, supervisory demands, and overall complexity of the surveillance system.

Another issue concerns the degree of separation between service provision and data collection efforts. In the case of the SRS, a decision was made to separate data collection activities from the intervention and service delivery component, in order to obtain an independent and unbiased assessment of Project impact. In many situations, where the central focus is not only research but the evaluation of specific interventions, separate cadres of data collectors and service providers may not be practical or even desirable. Once again, trade-offs exist between cost considerations, the relative compatibility between service provision and data collection activities (such as required frequency of household visitation), and the extent of bias resulting from mixing these two activities.

DISCUSSION

Although the Matlab DSS was not originally undertaken with the objective of conducting longitudinal studies, it was subsequently recognized that since each individual in the study area was assigned a unique identification number, records could be linked and individuals followed over time. The Centre's capabilities to prepare and fully utilize these longitudinal history files for research were constrained by the absence of suitable computer facilities at the ICDDR,B. With the introduction of a small computer in 1981, and the subsequent acquisition of a more powerful IBM 4361 mainframe computer in 1985, DSS computer and data management procedures have evolved in sophistication and quality control over time. Current efforts are nearly complete to modify the DSS data processing and storage into a relational dynamic database, characterized by extensive linkage and consistency checks of new data on a continuous basis, and with a user-friendly system of retrieval of information accumulated over years.

The development of the SRS was greatly facilitated by the experience-- in terms of both strengths as well as weaknesses-- of the Matlab DSS. In turn, the development of the DSS database system has benefited from the experience of, and innovations developed, by the SRS. While continuing to differ in some aspects, the systems also share a number of important features. Both systems provide unique tools to undertake research on issues of fundamental concern in the areas of health and population policy and research.

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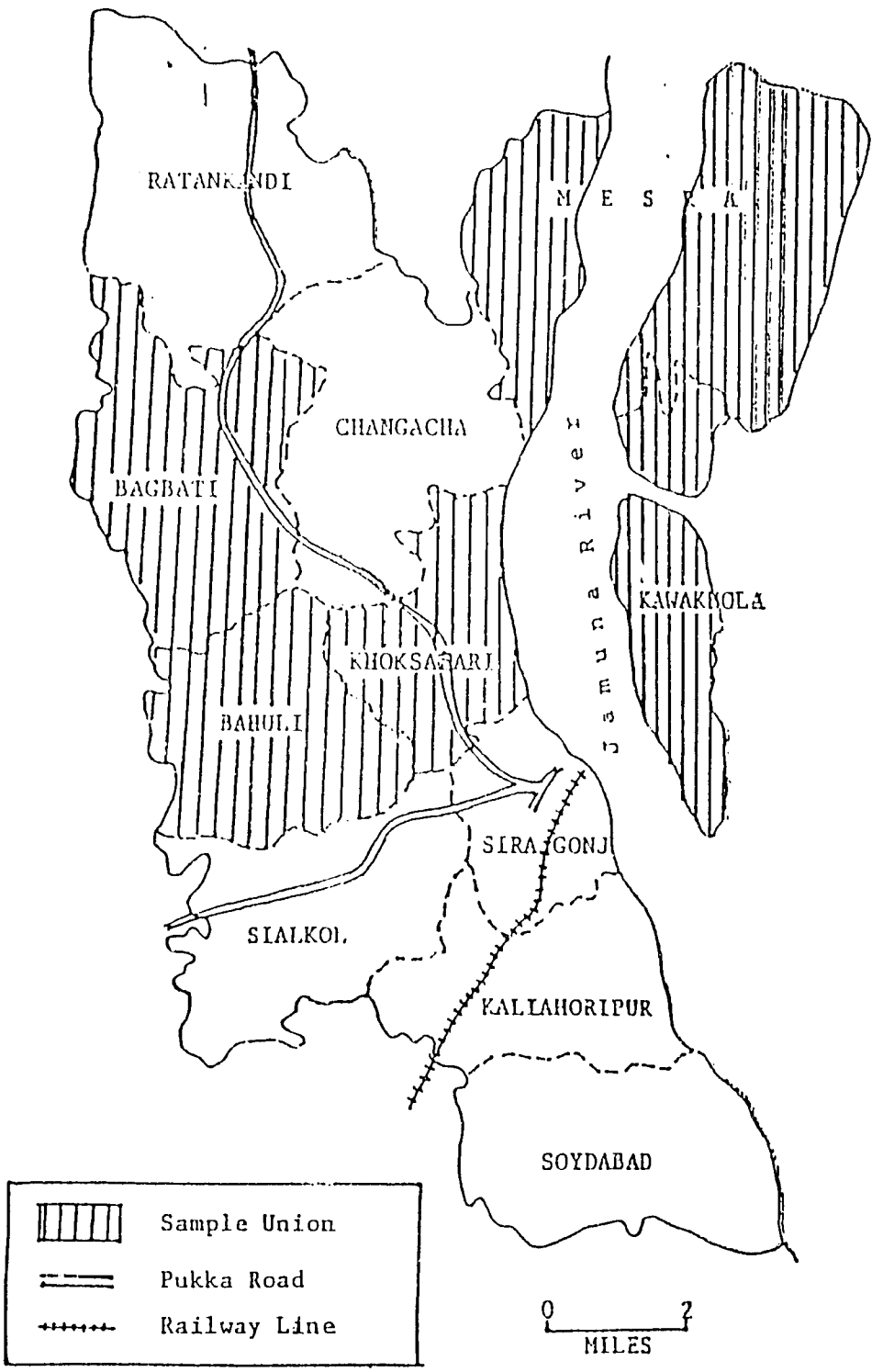
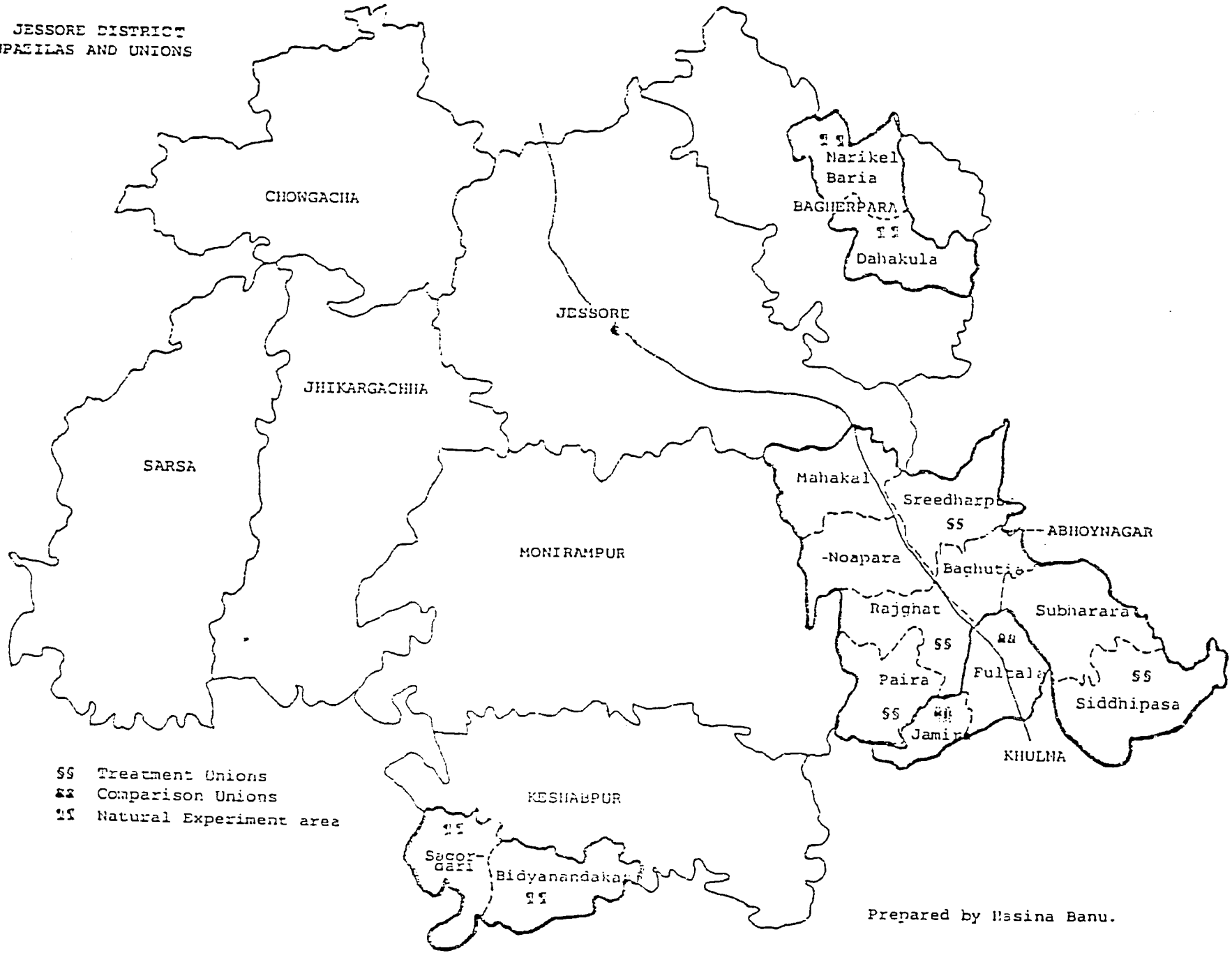
APPENDIX A: DETAILED MAPS OF EXTENSION AREAS

SIRAJGONJ UPAZILA



JESSORE DISTRICT
UPAZILAS AND UNIONS



Prepared by Hasina Banu.

APPENDIX B: SRS/OR-SRS RATES

SRS DEMOGRAPHIC EVENTS OF ABHAYNAGAR
BY AREA, TREATMENT AND SEX
FOR THE PERIOD 1- 4-87 TO 30- 6-87

AREA	EVENTS	SEX		
		MALE	FEMALE	BOTH
COUNTERPART SUPPORT + TRAINING	LIVE BIRTHS	25	9	34
	NEO-NATAL DEATHS	1	2	3
	POST-NATAL DEATHS	1	1	2
	INFANT DEATHS	2	3	5
	DEATH AGED 1-4	0	1	1
	DEATH (ALL)	4	4	8
	MARRIAGES	17	20	37
	DIVORCES	0	2	2
	WIDOWED	0	2	2
	PERSON YEARS AT RISK	735.21	709.84	1445.06
TRAINING	LIVE BIRTHS	14	11	25
	NEO-NATAL DEATHS	0	0	0
	POST-NATAL DEATHS	0	2	2
	INFANT DEATHS	0	2	2
	DEATH AGED 1-4	1	1	2
	DEATH (ALL)	6	6	12
	MARRIAGES	22	27	49
	DIVORCES	2	6	8
	WIDOWED	1	4	5
	PERSON YEARS AT RISK	1000.59	933.37	1933.96
ABHAYNAGAR-ALL	LIVE BIRTHS	39	20	59
	NEO-NATAL DEATHS	1	2	3
	POST-NATAL DEATHS	1	3	4
	INFANT DEATHS	2	5	7
	DEATH AGED 1-4	1	2	3
	DEATH (ALL)	10	10	20
	MARRIAGES	39	47	86
	DIVORCES	2	8	10
	WIDOWED	1	6	7
	PERSON YEARS AT RISK	1735.80	1648.22	3334.02

SRS DEMOGRAPHIC RATES OF ABHAYNAGAR
BY AREA, TREATMENT AND SEX
FOR THE PERIOD 1- 4-87 TO 30- 6-87

AREA	RATES	SEX MALE	FEMALE	BOTH
COUNTERPART SUPPORT + TRAINING	CRUDE BIRTH RATE	34.00	12.68	23.53
	GENERAL FERTILITY RAT	70.33	25.32	95.64
	TOTAL FERTILITY RATE			
	NEO-NATAL DEATH	40.00	222.22	88.24
	POST-NATAL DEATH	40.00	111.11	58.82
	INFANT DEATH	80.00	333.33	147.06
	DEATH AGED 1-4	0.00	12.57	6.59
	CRUDE DEATH RATE	5.44	5.64	5.54
	MARRIAGE	32.87	40.77	36.71
	DIVORCE	0.00	100.00	54.05
	WIDOWED	0.00	100.00	54.05
TRAINING	CRUDE BIRTH RATE	13.99	11.72	12.89
	GENERAL FERTILITY RAT	30.29	23.80	54.09
	TOTAL FERTILITY RATE			
	NEO-NATAL DEATH	0.00	0.00	0.00
	POST-NATAL DEATH	0.00	181.82	80.00
	INFANT DEATH	0.00	181.82	80.00
	DEATH AGED 1-4	9.83	10.14	9.98
	CRUDE DEATH RATE	6.00	6.39	6.19
	MARRIAGE	32.13	42.52	37.13
	DIVORCE	90.91	222.22	163.27
	WIDOWED	45.45	148.15	102.04
ABHAYNAGAR-ALL	CRUDE BIRTH RATE	22.47	12.13	17.43
	GENERAL FERTILITY RAT	47.70	24.46	72.16
	TOTAL FERTILITY RATE			
	NEO-NATAL DEATH	25.64	100.00	50.85
	POST-NATAL DEATH	25.64	150.00	67.80
	INFANT DEATH	51.28	250.00	118.64
	DEATH AGED 1-4	5.75	11.23	8.52
	CRUDE DEATH RATE	5.76	6.07	5.91
	MARRIAGE	32.45	41.76	36.95
	DIVORCE	51.28	170.21	116.28
	WIDOWED	25.64	127.66	81.40

AGE SPECIFIC FERTILITY RATES OF ABHAYNAGAR
BY AREA, TREATMENT AND SEX
FOR THE PERIOD 1- 4-87 TO 30- 6-87

AREA	AGE GROUP	NO. OF LIVE BIRTHS MALE	FEMALE	BOTH	PERSON YEARS FOR WOMEN AGED 15 - 49	FERTILITY RATE PER 1000 WOMEN PERSON YEARS
COUNTERPART SUPPORT + TRAINING	15-19	7	6	13	94.21	138.00
	20-24	6	2	8	72.46	110.41
	25-29	8	1	9	54.38	165.49
	30-34	1	0	1	46.41	21.55
	35-39	1	0	1	34.12	29.31
	40-44	2	0	2	27.11	73.77
	45-49	0	0	0	26.80	0.00
	ALL AGES	25	9	34	355.49	95.64 GFR
						2692.63 TFR
TRAINING	15-19	5	1	6	124.72	48.11
	20-24	5	7	12	82.95	144.66
	25-29	2	2	4	76.49	52.29
	30-34	0	1	1	60.72	16.47
	35-39	2	0	2	45.64	43.82
	40-44	0	0	0	39.59	0.00
	45-49	0	0	0	32.06	0.00
	ALL AGES	14	11	25	462.16	54.09 GFR
						1526.77 TFR
ABHAYNAGAR-ALL	15-19	12	7	19	218.93	86.79
	20-24	11	9	20	155.41	128.69
	25-29	10	3	13	130.88	99.33
	30-34	1	1	2	107.13	18.67
	35-39	3	0	3	79.75	37.62
	40-44	2	0	2	66.70	29.99
	45-49	0	0	0	58.86	0.00
	ALL AGES	39	20	59	817.65	72.16 GFR
						2005.40 TFR

APPENDIX C
ESTIMATED ANNUAL COSTS OF EXTENSION PROJECT SRS

	Cost Per Year (In US $)
I. PERSONNEL	108,612
Field Staff:	
1 SFRO	
2 FRO	
4 SHA	
17 MALE INTERVIEWERS	
17 FEMALE INTERVIEWERS	
1 MESSENGER (50%)	
Dhaka Office Staff:	
6 CODING ASSISTANTS	
1 DET	
2 DPA	
1 DMO (50%)	
1 DEMOGRAPHER (40%)	
1 ANALYST PROGRAMMER	
1 SECRETARIAL SUPPORT (50%)	
II. COMPUTER COST	7000
III. SUPPLIES AND EQUIPMENT	2000
IV. TRANSPORT/TRAVEL COST	5000
CURRENT ANNUAL COSTS:	
TOTAL	$122,612
PER HOUSEHOLD	$11.37
ANNUAL COSTS WITHOUT MALE INTERVIEWERS:	
TOTAL	$92,300
PER HOUSEHOLD	$8.56

APPENDIX D:
SRS EVENT FORMS
&
HOUSEHOLD VISITATION FORMS

MCH-FP EXTENSION PROJECT
SAMPLE REGISTRATION SYSTEM
AMENDMENT REPORT FORM

Head of Household : _____ Thana : _____ Union : _____ Mouza : _____

Father's/Husband's Name : _____ Village Name : _____ Household Number : _____

	01	02	03		04		05	06	07	08	09	10					
Ind No.	Sps No.	Mot. No.	Name	P/A	Relation to Head	Age	Date of Birth (Y Y M M D D)	Sex M/F	Marital Status	Year of education	Main occupation	Religion	Amt. type Inc./Exc./Amt./New Enu.	Area. of Corrections			
13-14	15-16	17-18	19-38	39	40-41	42-43	44-49	50	51	52-53	54-55	56	57	58-59	60-61	62-63	64-65

Interviewer _____ Date _____

Supervisor's use : _____ RI (1) Yes (2) No SI (1) Yes (2) No

Coder ID : _____ DET ID : _____

Round # : _____ Form No. 1

1 6 7 12 66-67 68-72 73 74 75-76 77 78 79 80 1

MCH-FP EXTENSION PROJECT
SAMPLE REGISTRATION SYSTEM
IN-MIGRATION REPORT FORM

HRB ID : Head of Household : _____ Thana : _____ Union : _____ Mouza : _____ (1–6)

Father's/Husband's Name : _____ Village Name : _____ Household Number : _____ (7–12)

Individual No.	Spouse No.	Mother No.	Name of In-migrant	P/A	Relation to Head	Age	Date of Birth (Y Y M M D D)	Sex – M/F	Marital Status	Year of education	Main Occupation	Date of In-Migration (Y M M D D)	Reason for In-migration	In-migrated within	Permanent ID of In-Migrant: Thana	Union	Mouza	Bari	Head of the Household	Household No. (if under SRS)	Ind No
13-14	15-16	17-18	19-38	39	40-41	42-43	44-49	50	51	52-53	54-55	56-60	61-62	63	64-65	66-67	68-69			70-75	76-77

Interviewer _____ Date _____ (78-79) (80-84)

Supervisor's use : RI (1) Yes (2) No SI (1) Yes (2) No (85) (86)

Coder ID : _____ DET ID : _____ (87-88) (89)

Round # : _____ Form No. 2 (90 91) (92)

MGH-FP EXTENSION PROJECT
SAMPLE REGISTRATION SYSTEM

MARITAL STATUS CHANGE REPORT FORM

Thana _____ Union _____ Mouza _____ [ ][ ][ ] [ ][ ][ ] (1 2 3 4 5 6)

Household Number _____ Individual Number _____ [ ][ ][ ][ ][ ][ ] [ ][ ] (7–12 13 14)

Date of Event _____ [ ][ ][ ][ ][ ] (15–19)

Date of Interview _____ Interviewer's Name _____ [ ][ ][ ][ ][ ] [ ][ ] (20–24 25 26)

Name of the person _____

Date of Birth _____ [ ][ ][ ][ ] (27–30)

Sex : (1) Male (2) Female [ ] (31)

Type of Event : (1) Married (5) Separated (3) Divorced (4) Widowed (8) Reunion [ ] (32)

Prior marital Status : (1) Married (5) Separated (2) Unmarried (3) Divorced (4) Widowed (8) Reunion [ ] (33)

Spouse's No. if the type of event is widowed/divorced/separated : _____ [ ][ ] (34 35)

COMPLETE THIS PART ONLY IF EVENT IS MARRIAGE/REUNION

Spouse Identification

Thana _____ Union _____ Mouza _____ [ ] [ ][ ] [ ][ ][ ] (36 37 38 39 41)

SRS Household Number _____ Individual Number _____ [ ][ ][ ][ ][ ][ ] [ ][ ] (42–47 48 49)

Has Spouse moved into Household ? (1) Yes (2) No [ ] (50)

COMPLETE THIS PART ONLY IF ABOVE ANSWER IS YES

Name of Spouse _____

New Household No. _____ New Individual Number _____ [ ][ ] (51 52)

Religion : (1) Islam (2) Hindu (3) Other [ ] (53)

Physically present : (1) Yes (2) No [ ] (54)

Mother's Number _____ [ ][ ] (55 56)

Age (complete years) _____ Date of birth _____ [ ][ ][ ][ ][ ][ ][ ][ ] (57 58 59 – 64)

Years of Education _____ [ ][ ] (65 66)

Occupation _____ [ ][ ] (67 68)

Supervisor's use only RI (1) Yes (2) No Date _____ [ ] (69)

SI (1) Yes (2) No Date _____ [ ] (70)

Coder's Identification _____ [ ][ ] (71 72)

Data Entry Person's Identification _____ [ ] (73)

Round Number [ ][ ] (74 75)

FORM NUMBER 3 [3] (76)

MCH-FP EXTENSION PROJECT
SAMPLE REGISTRATION SYSTEM

PREGNANCY TERMINATION REPORT FORM

Thana _____ Union _____ Mouza _____ [ ] 1 [ ] 2-3 [ ] 4-6

Household Number _____ Individual Number _____ [ ] 7-12 [ ] 13-14

Date of Event _____ [ ] 15-19

Date of Interview _____ Interviewr's Name _____ [ ] 20-24 [ ] 25-26

Name of Woman _____

Result of pregnancy :
(1) Induced Miscarriage
(2) Spontenenous Miscarriage
(3) Still Birth
(4) Live Birth
(5) Multiple Birth
[ ] 27

Attendant :
(1) Untrained birth attendant who is a Mother, Sister, Mother-in-low or other relatives (relative)
(2) Untrained birth attendant (non relative)
(3) Trained TBA
(4) Other paramedic
(5) physician
(6) Other (specify) _____
(7) Unknown
[ ] 28

Location :
(1) Own home
(2) Other's house in bari
(3) Home in another/parent or brother house
(4) FWC/MCH/centre/THC/District Hospital
(5) No information
[ ] 29

COMPLETE REST OF THIS FORM FOR ANY LIVE BIRTH

Litter sequential Number _____ [ ] 30

Was Baby Born Alive : (1) Yes (2) No [ ] 31

Sex : (1) Male (2) Female [ ] 32

Individual Number : _____ [ ] 33-34

Name : _____ [ ] 35 — 64

Supervisor's use only : RI (1) Yes (2) No Date _____ [ ] 55

SI (1) Yes (2) No Date _____

Name : _____ [ ] 56

Coder's Identification : _____ [ ] 57-58

DET Identification : _____ [ ] 59

Round Number : _____ [ ] 60-61

Form Number : 4 [4] 62

Date of L. M. P. _____ Date of L. M. P. recorded _____ [ ] 63 — 73

MCH-FP EXTENSION PROJECT
SAMPLE REGISTRATION SYSTEM
OUT MIGRATION REPORT FORM

Thana _____ [ ] 1
Union _____ [ ][ ] 2 3
Mouza _____ [ ][ ][ ] 4 6

Name of Out Migrant	Household No.	Ind. No.	Date of Migration (YMMDD)	Date of Interview (YMMDD)	Date of birth (YYMM)	Sex—M/F	Migrated to (Place of destination)							
							Thana	Union	Moura	Bari	Head	Household No. (if under SRS)	Place of destination	Reason for Out-mig
	7 12	13–14	15–19	20–24	25–28	29							30	31–32

Interviewer Name : _____

Supervisor's Use : _____ RI (1) Yes (2) No SI (1) Yes (2) No

Coder ID : _____ DET ID : _____ [ ] 33 [ ] 34 [ ][ ] 35 36 [ ] 37

Round # : _____ For No. : 6 [ ][ ] 38 39 [5] 40

MCH-FP EXTENSION PROJECT
SAMPLE REGISTRATION SYSTEM

DEATH REPORT FORM

Thana _____ Union _____ Mouza _____ [ ] 1 [ ][ ] 2-3 [ ][ ][ ][ ] 4 - 6

Household Number _____ Individual Number _____ [ ][ ][ ][ ][ ][ ] 7 - 12 [ ][ ] 13 - 14

Date of Event ____/____/____ [ ][ ][ ][ ][ ] 15 - 19

Date of Interview ____/____/____ Interviewer's Name _____ [ ][ ][ ][ ][ ] 20 - 24 [ ][ ] 25 - 26

Name of Person _____

Date of Birth ____/____/____ [ ][ ][ ][ ] 27—30

Sex : (1) Male (2) Female [ ] 31

Type of Doctor Consulted :
(1) Licensed Allopath
(2) Allopath Quack
(3) Homeopath
(4) Kabiraj
(5) Other
(6) Not consulted

[ ] 32

Place of Death ;
(1) Own home
(2) Other's home in bari
(3) Outside bari
(4) FWC/MCH centre
(5) Outside thana but not in hospital
(6) Hospital outside thana
(7) No information
(8) Other (specify) _____

[ ] 33

Supervisor use only : RI (1) Yes (2) No Date _____ [ ] 34

SI (1) Yes (2) No Date _____ [ ] 35

Coder's Identification : _____ [ ][ ][ ] 36-37

DET Identification : _____ [ ] 38

Round Number : _____ [ ][ ] 39-40

Form Number : 6 [6] 41

(To be reported in respect of affected Household/Individuals only)

MCH-FP EXTENSION PROJECT
SAMPLE REGISTRATION SYSTEM
HOUSEHOLD STATUS CHANGE REPORT FORM

(Figure within the paranthesis indicates area of updating.)

Head of Household : _____

Father's/Husband's Name : _____

Village Name : _____

HRB ID : Thana _____ Union _____ Mouza _____

New ID : Thana _____ Union _____ Mouza _____

(IF Split)

1 6 (1)

7 12

Name	(2) Household Number		Ind No.	(3) Spouse No.		(4) Mother's No.		(5) Relation to Head of HH		Sex M/F	Birth year		Type of HSC Split/ Update	Date of Household status change					Area of updating	Remarks or explain reason for split / Residence Charge
	HRB	NEW		HRB	NEW	HRB	NEW	HRB	NEW											
	13-18	19-24	25-26	27-30		31-34		35-36	37-38	39	40-41		42	43-47					48-52	
											Y	Y		Y	M	M	D	D		

Interviewer _____ Date _____

Supervisor's use : _____

RI (1) Yes (2) No

SI (1) Yes (2) No

Coder ID : _____ DET ID : _____

Round # : _____ Form No. 7

53-54 55 59

60 61

62-63 64

65 66 7 67

MCH-FP EXTENSION PROJECT
SAMPLE REGISTRATION SYSTEM

HOUSEHOLD VISITATION DATE REPORT FORM

THANA _____ [ ] 1

UNION _____ [ ][ ] 2—3

Mouza Name	Mouza Code	E/SRS RD #	Visitation date	Starting Household #	Ending Household #	Total Household	Remarks (If any)
	4 - 6	7 - 8	9 - 13 (Y M M D D)	14 - 19	20 - 25	26 - 27	

Round No. _____ Form No. 8 [ ][ ] 28—29 [8] 30

Interviewer _____ Supervisor _____ Date ___/___/___

FORM 14

MCH-FP EXTENSION PROJECT
SAMPLE REGISTRATION SYSTEM
DELIVERY RECORD FORM

H. R. B Mouza #_____

No. of H. H. Interviewed :_____ Thana :_____

Period : Begining date :_____ Ending date_____ Union :_____

Mouza Name	Mouza Number	Household Number	Number of events recorded								
			Amendment Report Form	In-migration Report Form	Marital Status Change Report Form	Pregnancy Termination Report Form	Out-migration Report Form	Death Report Form	HSC Report Form	SES	Indepth

Signature of Interviewer :_____ Round #_____ Date : / /

Signature of Supervisor :_____ Date : / /