Government of the People's Republic of Bangladesh
Ministry of Local Government, Rural Development & Cooperatives
Local Government Division
Urban Primary Health Care Services Delivery Project

Operations Research for Establishing

Urban Health and Demographic Surveillance System

Third Quarter Progress Report

Submitted by:

International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b)

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1.   Introduction

This report is prepared in fulfilment of the requirements mentioned in the contract agreement of the project "Primary Health Care Services Delivery Project (Urban Health and Demographic Surveillance System); Service Package No. S-4.1 (Operations Research)". According to the Terms of Reference, "Quarterly Progress Report should be submitted within 21 days after the end of each quarter".

For understanding the population, health and socioeconomic problems prevailing in the slums; currently, available data are necessary but not sufficient to deal with these problems. So, there is a need to establish a data collection system (Health and Demographic Surveillance System) for capturing data from the slum population of Bangladesh, which will enable monitoring the health, demographic and socioeconomic indicators, and facilitating the evaluation of intervention programs.

icddr,b has been the pioneer institute to develop and maintain Health and Demographic Surveillance Systems (HDSS). Currently, icddr,b has three rural HDSSs and two urban disease surveillances in place. Dedicated to saving lives through research and treatment, icddr,b addresses some of the most critical health concerns facing the world today, ranging from neonatal survival to HIV/AIDS.

2.   Goal of the Assignment

The goal of the project is to set up a Health and Demographic Surveillance System in the selected slums of Dhaka and Gazipur City Corporations (Figure 1: Location of Slums). More specifically, the project is aimed to establish a data collection system to assess the levels of fertility, mortality, migration, marriage and divorce, family planning, violence against women, morbidity, sickness care, health expenditure, migration and mobility determinants of health, and knowledge and practice of non-communicable diseases.

The outcomes are: population profile with measures of fertility, mortality, migration, marriage and divorce along with four publishable manuscripts based on the survey data (health expenditure, migration and mobility determinants of health, health seeking behaviour (MNCH), family planning, violence against women, and knowledge and practice of non-communicable diseases).

The milestones achieved in the third quarter (January 8, 2016 to April 7, 2016) were: a) Data collection - population/socioeconomic census (continued up to January 15, 2016), b) Data file cleaning/field verification - population/ socioeconomic census (continued up to February 15, 2016), c) Data collection - HDSS first round (from January 15, 2016), d) Repeated visits to absentee households - HDSS first round, e) Data cleaning/field verification - HDSS first round, f) Data analysis - population/ socioeconomic census, and g) Report writing - population/socioeconomic census.

3.   Project Activities

The following activities were carried out by icddr,b during the third quarter (January 8, 2015 to April 7, 2016) of the project (see, Figure 2: Time Line of Activities/Events).

The activities were:

1.   Data collection - population/socioeconomic census
2.   Data cleaning/field verification - population/socioeconomic census
3.   Data collection - HDSS first round
4.   Repeated visits to absentee households - HDSS first round
5.   Data cleaning/field verification - HDSS first round
6.   Data quality and security
7.   Report generation - HDSS events
8.   Review meeting - performance and progress
9.   Data analyses- population/socioeconomic census
10.   Report writing - population/socioeconomic census

3.1 Data Collection - Population/Socioeconomic Census

Data collection for the population/socioeconomic census began on September 15, 2015 and continued up to January 15, 2016. During this period, the Field Workers visited about 30,000 households for collecting basic demographic and socioeconomic data. As mentioned in the second quarter report that the demographic data includes age, sex, marital status, relation to household, and migration of household head, while the socioeconomic data includes possession of household items, occupation, education, dwelling structure, latrine and water use, source of light, fuel for cooking, NGO/*samity* membership and loan, violence, theft etc., and under-five care, if mothers work outside the home.

3.2 Data Cleaning/Field Verification -Population/Socioeconomic Status (SES)

Although some logics were incorporated into the data collection program for detecting errors, some errors were also detected when report generated and frequency tables were prepared. So, the data cleaning continued even when the data collection was complete (until February 15 2016). The detected errors were sent back to the Field Workers for correction/field verification.

3.3 Data Collection - HDSS first round

As mentioned in the second quarter report, several activities had been done during the second quarter (development of computer program for HDSS data collection, pre-testing/finalizing HDSS questionnaires, training manual for HDSS data collection) to start the HDSS data collection (first round) from January 15, 2016.

Field Research Assistant, in consultation with the Field Research Coordinator, prepared monthly work plans for household visits for HDSS data collection. Each Field Worker was assigned to visit 35-40 households every day to complete her assigned area (households) in three months (first cycle).

For HDSS data collection, the Field Workers also carried printouts of household listing in addition to data in the Tab to find the *bari*s. Once a *bari* is identified, the Field Workers entered the slum name, area name and *bari* number into the Tab to verify the record with the printouts.

Every day the Field Worker visits her assigned households and performed roll call with the help of database earlier loaded in the portable devices. This was to detect event, if any event had occurred for any household member since her last visit. If any event had occurred in the household, the interviewers entered the identification number into the portable devices and selected basic information from the database.

For a birth event, the mother's information came from the database, and a new identification number was assigned to the new-born (no identification number for non-live-birth). For an in-migrant, a new identification number was also assigned, and additional data were collected accordingly. If death or out-migration had occurred, the data were also updated as per the identification numbers. For the cases of marriage or divorce, one of the partners should be a resident of the surveillance area and relevant data were updated accordingly.

In case of family split, a new household head was identified for the split part along with assigning a new household identification number, while for death or out-migration of household head, a new household head was determined and the data were updated accordingly.

3.4 Repeated Visits to Absentee Households - HDSS first round

During first round HDSS data collection, some households did not have eligible respondents to provide the information. These households were visited again in the next day (morning or lunch time) and interviewed, if eligible respondent was found. The remaining absentee households were visited again after the completion of first round HDSS data collection.

3.5 Data Cleaning/Field Verification - HDSS first round

Although some logics were incorporated into the data collection program, some errors were detected in the data when frequency tables were prepared. As mentioned earlier that every type of logic was not introduced in the data collection program as it would slow the data collection process. So, there were some errors in the data file, and data cleaning continued longer than originally expected.

3.6 Data Quality and Security

3.6.1 Data Quality

As mentioned in the earlier reports, the Field Research Coordinator and three Field Research Assistants were responsible for assessing day-to-day data quality. In fact, Field Research Assistants were responsible to observe the female Field Workers' data collection as well as to enter the data independently into the Tab in some cases, if such events had happened. The Field Research Assistants were also responsible to re-interview 2% households per day (mainly for HDSS event). Once in a week, Field Research Assistants received data from the female Field Workers; and after

preliminary checks, sent the data to the Field Research Coordinator as an email attachment file.

3.6.2 Data Security

As mentioned in the earlier reports, to maintain security and confidentiality of the data file; the data server is restricted by a security password, and access is given only to a selected person. For further security, a backup of the data set is kept in different locations; these data files are being updated periodically.

3.7 Report Generation- HDSS Events

As soon as the data file was received from the field, the report was generated (every week) to assess the data quality (Appendix A: HDSS events- first round). The data showed expected pattern for most of the variables; however, inconsistent data were sent back to the Field Workers for verification (corrected by consulting available records or through field visit).

3.8 Review Meeting - Performance and Progress

The population and socioeconomic census results were presented at the conference room of UPHCSDP on March 1, 2016 where Mr. Abu Bakr Siddique (Project Director, UPHCSDP), Mr. Dhiraj Kumar Nath (Staff Consultant, ADB, Dhaka), Dr. Zahirul Islam (Program Officer, SIDA, Dhaka), and PMU representatives of UPHCSDP were present. From icddr,b, PI and Co-PIs as well as Field Coordinator and Computer Programmer were present. The presentation titled 'Urban Health and Demographic Surveillance System; Service Package No. S-4.1 (Operations Research)' covered the following topics:

- Progress of work
- Data collection
- Results: Baseline Census and Socio-Economic Status (SES)
  Living condition
  Socio-economic condition
  Demographic characteristics
- Challenges to establish HDSS in slums
- Future work plan

3.9 Data Analyses- Baseline Census and Socio-Economic Status (SES)

After cleaning the data file, analyses were performed using the statistical package (Stata/spss).

3.10 Report Writing - Baseline Census and Socio-Economic Status (SES)

The population/socioeconomic census report is divided into eight chapters including the introduction. The second chapter discusses the methods and procedures, while the main reporting starts from chapter three and continues to eight. The chapter nine deals with challenges to establish HDSS in the slum areas.
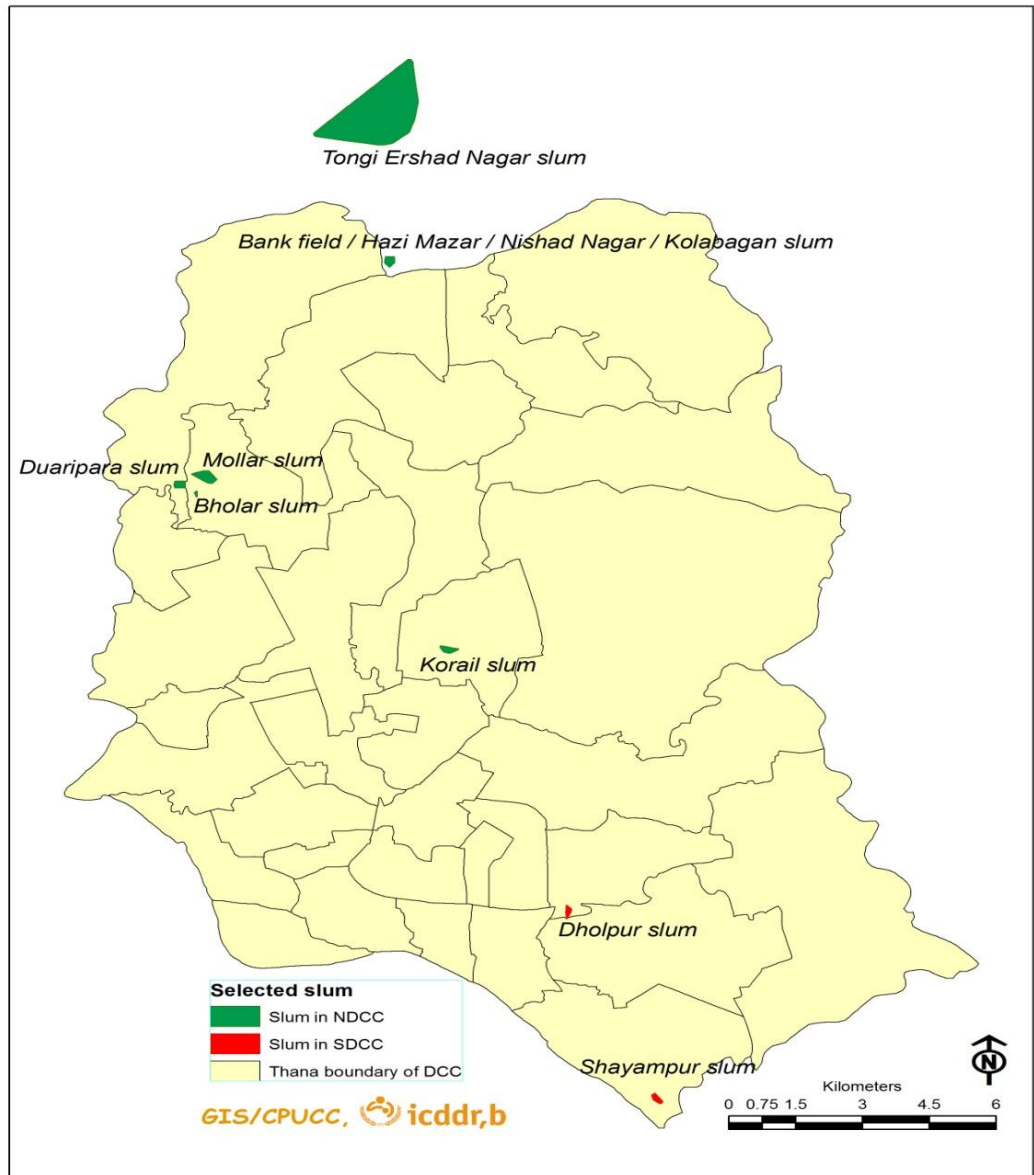
4. Comparative Statement on Activities Planned and Accomplished

During the third quarter (January 8, 2016 to April 7, 2016), it was planned to complete the HDSS first round (first cycle), and the cycle was completed in time. However, repeated households visit for absentee cases and finding the identification number of internal migrants could not be completed; these took longer than originally planned. In addition, data file editing/cleaning also took longer than expected. All these factors have delayed the activities in the third quarter for about 2 weeks. Moreover, we had 4-week delay in the previous quarter (second quarter).

5. Conclusion

During the third quarter, it was planned to complete the HDSS first round and the cycle was completed in time, but it was not achievable to complete the repeated household visit for absentee cases and updating the internal migrants identification number; these took longer than originally planned (2 weeks delayed). As we also had 4-week delays in the second quarter; in order to complete the project by March 31, 2017, the plan is to reduce the 5th cycle of HDSS data collection from three months to two months.

Figure 1: Location of Slums: Dhaka and Gazipur City Corporations

Figure 2: Time Line of Activities/Events (January 8, 2016 to April 7, 2016)

Activities/Events	January			February				March					April
	8-15	16-23	24-31	1-7	8-14	15-21	22-29	1-7	8-14	15-21	22-28	29-31	1-7
1. Data collection-population/socioeconomic census	█												
2. Data cleaning/field verification - population/ socioeconomic census	█	█	█	█	█	█	█						
3. Repeated visits to absentee households - population/socioeconomic census	█												
4. Data collection - HDSS first round			█	█	█	█	█	█	█	█	█	█	█
5. Repeated visits for absentee households - HDSS first round			█	█	█	█	█	█	█	█	█	█	█
6. Data cleaning/field verification - HDSS first round				█	█	█	█	█	█	█	█	█	█
7. Data analyses - population and socioeconomic census								█	█	█	█	█	█
8. Data quality and security	█	█	█	█	█	█	█	█	█	█	█	█	█
9. Report generation	█	█	█	█	█	█	█	█	█	█	█	█	█
9. Review meeting- performance and progress								█					
10. Report writing - population and socioeconomic census								█	█	█	█	█	█

Appendix A: HDSS events (first round)

Table 1: Pregnancy out-come

Results	Frequency	Percent
Live birth	498	91.54
Still birth	7	1.29
SMC	23	4.23
IMC	16	2.94
Total	544	100.00

Table 2: Mode of delivery

Mode	Frequency	Percent
Normal Delivery	368	67.65
C/S	161	29.60
Instrumental	15	2.76
Total	544	100

Table 3: Causes of death

Causes	Frequency
Fire	1
Electricity	2
Drowning	1
Road accident	3
Suicide	1
Appendicitis	1
Cause not mentioned	6
Old age	16
Cancer	7
Stroke	16
Diarrhoeal	3
Asthma	2
Pneumonia	7
Kidney	1
Liver	2
Fever	4
Heart/Chest	9
Others	9
Total	91

Table 4: Causes of in-migration

Cause	Frequency	Percent
Looking for work	3,056	69.4
To earn more money	123	2.69
River erosion	35	0.77
For familial	758	16.21
For children's	17	0.26
For own education	86	1.99
Marriage	128	2.76
Others	262	5.72
N/A(since birth)	9	0.2
Total	4,474	100

Table 5: Causes of out-migration

Cause	Frequency	Percent
Looking for work	1,181	26.43
To earn more money	35	0.78
For familial	1,692	37.87
For own education	132	2.95
Marriage	109	2.44
Divorce	9	0.20
Others	1,310	29.32
Total	4,468	100.00

Table 6: Causes of internal migration

Cause	Frequency	Percent
Work/Economic	161	4.78
Marriage/familial	1,276	37.89
Due to split family	88	2.61
Others	1,843	54.72
Total	3,368	100