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Demographic Surveillance System); Service Package No. S-4.1
(Operations Research)

First Quarter Progress Report

Submitted by:

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(icddr,b)

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1. Introduction

This report is prepared in fulfilment of the requirement 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 end of each quarter”.

For understanding 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 slum population of Bangladesh which will enable monitoring health, demographic and socioeconomic indicators and facilitating evaluation of intervention programs.

icddr,b has been the pioneer institute to develop and maintain health and demographic surveillance systems. 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 slums of Dhaka and Gazipur City Corporations. More specifically, to establish a data collection system to assess the level of fertility, mortality, migration, marriage and divorce, family planning, violence against women, morbidity, sickness care, health expenditure, 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 (surveys are: health seeking behaviour (MNCH), family planning, violence against women, health expenditure, and knowledge and practice of non-communicable diseases).

The milestones achieved (till October 7, 2015) are: a) Research proposal developed and RRC/ERC approval received, b) Inception workshop held and report submitted, c) Data collection and management program developed and are functioning, d) Study slums identified, e) Staff recruitment and procurement of equipments completed, f) Pre-testing and finalization of questionnaires complete, g) Data collection- household listing and baseline/socioeconomic census continuing, h) Data quality/security procedure is functioning, and i) Reports are being generated regularly.

3. Project activities

After signing the contract (July 8, 2015), the following activities were carried out by icddr,b during the first three months of the project (see, Figure 1: Timing of activities/events, July 8 to October 7, 2015). The activities are:

1. RRC/ERC approval of icddr,b

2. Designing and constructing database
3. Inception workshop/report
4. Selection of slums
5. Staff recruitment
6. Procurement of equipments
7. Pre-testing/finalizing questionnaires
8. Training-Listing/baseline/socioeconomic data collection
9. Data collection manual
10. Renting field offices
11. Meeting-Ward commissioner/community leader
12. Data collection-Household listing
13. Data collection-Baseline/socioeconomic census
14. Data quality and security
15. Report generation

3.1. Approval- RRC/ERC of icddr,b

icddr,b maintains two types of committee to oversee Research and Ethical standard. The protocol was first submitted to the Research Review Committee for approval. Subsequently, the RRC approved protocol was submitted to the Ethical Review Committee. The field operation began after receiving approval from both the committees.

3.2. Designing and constructing database

We are collecting the data by portable devices and data collection programs were developed accordingly (initially for household listing and baseline/socioeconomic census). The master database is a relational one and going to be managed in MySQL server. In the portable device Sqlite database is installed in back-end and Android Java in front-end. Some of the consistency checks are being incorporated in the data collection program, however some logical checks will be done at the office after loading/merging all the datafiles.

3.3. Inception workshop/report

An inception workshop was organised by icddr,b (August 5, 2015) where about 40 participants were present (see, Figure 2: Inception workshop at icddr,b). Out of these participants, 20 participants were from the Urban Primary Health Care Services Delivery Project, there were some representatives from development partner organisations (Swedish Sida and Asian Development Bank) and the rest were from icddr,b. The chief guest (Ms. Zuena Aziz), special guests (Dr. Zahirul Islam and Mr. Dhiraj Kumar Nath), and chair person (Mr. Abu Bakr Siddique) spoke on the occasion (see, Appendix A: Some suggestions from the inception workshop). Subsequently, the final inception report was submitted by the consultant to the client (August 27, 2015). In the inception report, the consultant has requested the client to form a Technical Review Committee in order to review research reports and manuscripts to be submitted by the consultant (see, Appendix B: Criteria for selecting Technical Review Committee Member).

3.4. Selection of slums

After extensive field visits by the icddr,b team, some slums were identified. The Project Director of UPHCSDP was consulted before finalizing the slums (see, Figure 3: Location of slums); relatively big slums have been selected. In fact, most of the slums in Dhaka South City Corporation are small in size and located in between non-slum houses (for detail, Slum census document- 2015, Bangladesh Bureau of Statistics).

In Dhaka North City Corporation, slums have been selected from Bannani (10,000 households from one location- Korail slum) and from Mirpur (6,000 households from three locations- Bhola, Molla and Duaripara slum). In Dhaka South City Corporation, slums have been selected from Dhalpur (2,000 households from six locations- Pura, Driver, Nubur, City Palli, Power House, and Mannan slum) and from Shayampur (2,000 households from two locations- Dhaka Mach Colony and Dhaka Mach Rail Colony slum). In Gazipur City Corporation, slums have been selected from Tongi (2,000 households from three locations- Bank Field, Hazi Mazar and Nishad Nagar slums and 8,000 households from one location- Ershad Nagar slum).

3.5. Recruitment of staff

First, Field Research Coordinator (FRC) and Computer Programmer (CP) and then Field Research Assistants (FRAs) were recruited. Subsequently, Female Field Workers (FFW) were recruited before field work began. One of the criteria for selecting FFW for a particular area is the proximity of the FFW's residence to the field site. This will help the FFW to visit the household beyond office hour, if respondents are not available during the day.

3.6. Procurement

Following icddr,b's procurement policy, project has purchased few items including tab, laptop, bag, and umbrella.

3.7. Pre-testing/finalizing questionnaires

All the questionnaires (baseline/socioeconomic census, HDSS and four surveys) are being prepared, however only the baseline/socioeconomic census questionnaires are being pre-tested and finalized. Pre-testing was initially done by the Field Research Assistants and subsequently by the Female Field Workers. Feed-backs received from the field test were reviewed by the PI and Co-PIs and useful suggestions were incorporated in finalizing the questionnaires.

3.8. Training on data collection

First, FRC and FRAs are trained on questionnaires by the PI/Co-PIs. Subsequently, FFWs were trained by the FRC and FRAs. During training, field workers were trained on data collection instrument, data collection device, and on interviewing skills and administering the consent form. The training on data collection devices (Tab use) was organized by the Computer Programmer. Duration of training was for five days: three days in office (training on questionnaires, mock interview and Tab use) and two days for field practice in the slum.

3.9. Data collection manual

The data collection manual has two sections: data collection tools and use of Tab. The manual for data collection tools includes responsibilities of field workers, general and operational guidelines for data collection. The manual for Tab use includes instruction to operate it during data collection process.

3.10. Renting field offices

All project activities are being coordinated from icddr's central office in Mohakhali. In addition, we are in the process of renting three field offices (Korail, Mirpur and Ershad Nagar). Field workers are using these offices to meet their supervisor to discuss issues related to the data collection; there will be no office for Dhalpur and Shayampur.

3.11. Meetings-Ward commissioner/community leader

To get support of ward commissioners of both the City Corporations, we have submitted application to the respective Mayor's office. We also met some ward commissioners to explain our project activity and are also talking to the community leaders from time to time to get their support.

We are in the process of organizing community meetings where community people, community leaders and NGO representatives will be invited. In these meetings, objectives of the protocol will be shared and we will seek support from them in running the project activities smoothly.

3.12. Data collection-Listing household

Initially, we collected existing maps from various sources for our study areas. After reviewing these maps, the slum (i.e, Korail) is divided into areas (for example, Bowbazar). The areas are identified primarily based on communities, demarcated by physical landmarks. During household listing, the field worker assigned *bari* number (cluster of houses of a particular owner) and also assigned household number within the *bari* (wrote *bari* number at the door with permanent ink). During the listing, the field workers also recorded household head's name, household size as well as name of the house-owner (*bariwala*). Moreover, we are also collecting GIS coordinates to define the study area.

Initially, household listing was done manually due to delay in purchasing the Tabs, however after 3-4 days work, ten Tabs were borrowed from another project of icddr,b and were returned after four weeks, as the project-purchased Tabs were received. Subsequently, paper based household listing data were entered to the computer and then transferred to Tabs. This caused a little delay in the data collection process.

3.13. Data collection- Baseline/socioeconomic census

After completion of household listing of a particular area, field workers are visiting each household again to collect the baseline/socioeconomic census data in a systematic manner (see, Figure 4: Data collection by field worker in Korail slum). For finding the *bari*, the field worker is also carrying printout of the household listing. Once *bari* is

identified, the field worker enters slum name, area name and bari number in Tab and verify the record with the printout.

The baseline data includes age, sex, marital status, date of birth, education etc while socioeconomic data includes ownership of land, ownership of house and household assets. Moreover, additional socioeconomic data (structure of dwelling, drinking water, toilet use etc) is also being collected from selected households (every 10th household).

3.14. Data quality and security

3.14.1. Quality control

For assessing day to day data quality, Field Research Assistants and Field Research Coordinator are responsible. In fact, Field Research Assistant is responsible to observe field worker's data collection as well as entering data independently in some cases by him/her in the Tabs. The FRAs are also responsible to re-interview 2% households per day (yet to start the process).

3.14.2. Data security

To maintain security and confidentiality of the data set, 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 will be kept in different location; these data will be updated periodically.

3.15. Report generation

As soon as data received from the field, report is generated (every week) to assess the data quality (Appendices C and D, status of data collection). The data shows expected patten for most of the variables except those related to household expenditure (Table not attached), however, we have taken measure to improve the data quality.

4. Comparative statement on activities planned and accomplished

In this phase (July 8, 2015 to October 7, 2015), we have listed 15 activities. Out of these fifteen activities, we have completed thirteen as planned and two of them are continuing (household listing and baseline/socioeconomic census). In fact, for household listing and baseline/socioeconomic census we are slightly behind the schedule. The main reason for falling behind schedule is the delay in purchasing the Tabs for data collection. Status of the work (listing and baseline/socioeconomic census) is given below:

Household listing has been completed for 20,000 households as of October 7, 2015 instead of 30,000 households which should have been completed by this time. However, we have employed three more field workers to comple the listing by the end of October.

For baseline/socioeconomic census, 2,200 households have been interviewed as of October 7, 2015 instead of 8,000 households which should have been completed by this time. However, we are in the process of recruiting 6 more field workers to complete the work by December 7, 2015.

5. Conclusion

During the first phase of the project (July 8, 2015 to October 7, 2015), we planned to complete fourteen activities out of fifteen listed (baseline/socioeconomic census will continue until December 7, 2015). We are slightly behind the schedule for household listing (20,000 households completed as of October 7, 2015 instead of 30,000 households) and baseline/ socioeconomic census (2,200 households completed as of October 7, 2015 instead of 8,000 households). However, we have taken measure by employing extra field workers to complete household listing by end of October and to complete the baseline/socioeconomic census by December 7, 2015. The work is expected to complete as per the original plan.

Figure 1: Timing of activities/events (July 8 to October 7, 2015)

Activities/events	Jul			Aug					Sep					Oct
	8-15	16-23	24-30	1-7	8-14	15-21	22-28	29-31	1-7	8-14	15-21	22-28	29-31	1-7
1. Approval-RRC/ERC														
2. Inception workshop/report														
3. Database design/construction														
4. Selection of slum														
5. Staff recruitment														
Field Research Coordinator(1)														
Computer programmer(1)														
Field Research Assistant(3)														
Female Field Worker(8)														
Female Field Worker(7)														
Male Field Worker(3)														
6. Procurement of equipments														
7. Pre-testing/finalizing questionnaires														
Question-draft														
Question-pretest														
Question-finalize														
8. Training- Listing/baseline/ socioeconomic data collection														
FRC/FRAs														
FFWs														
9. Data collection manual														
10. Renting field office														
11. Meeting-Ward commissioner/community leader														
12. Data collection-Listing household														
13. Data collection-Baseline/socioeconomic census														
14. Data quality/security														
15. Report generation														

Figure 2: Inception workshop at icddr, b



Figure 3: Location of slums

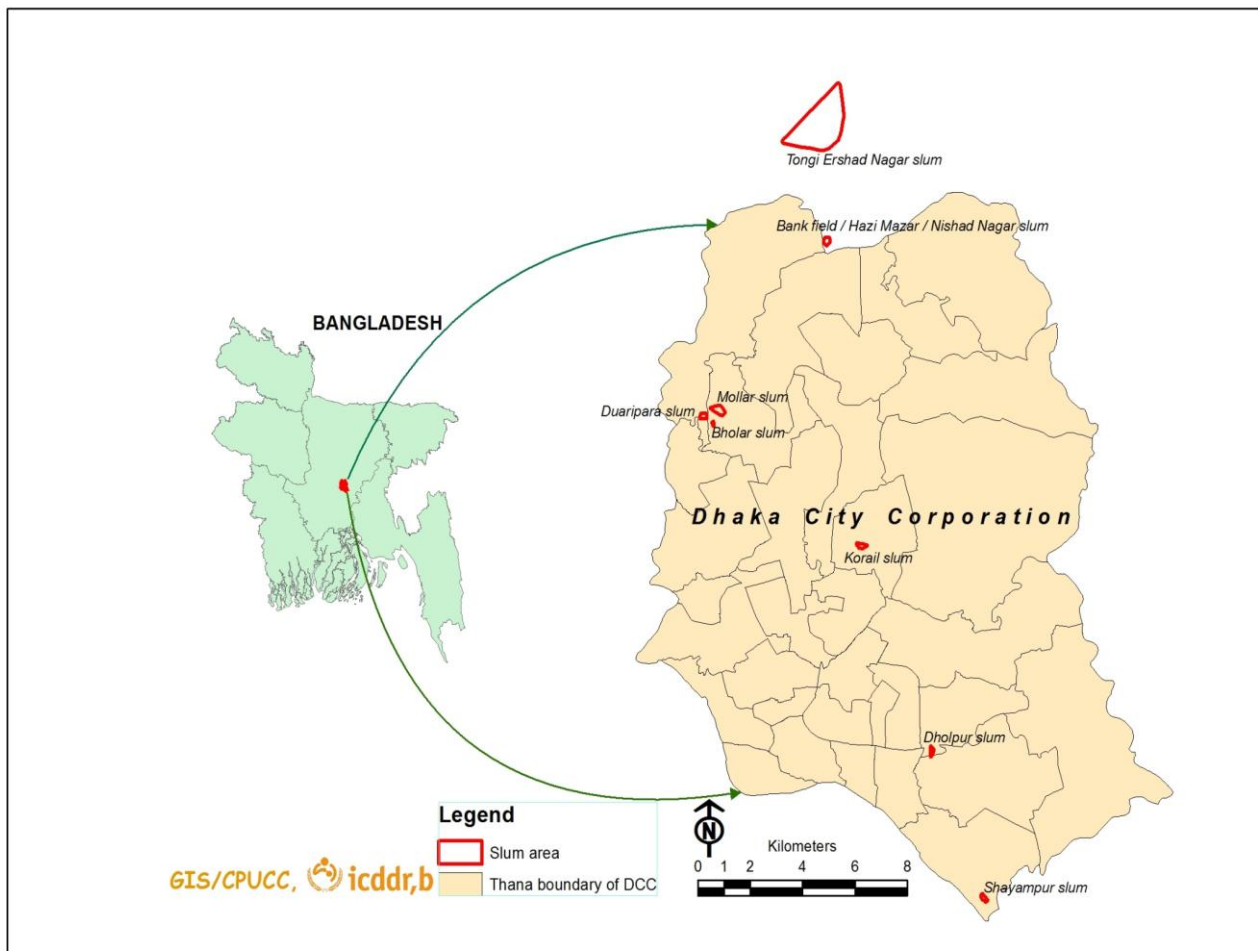


Figure 4: Data collection by field worker in Korail slum



Appendix- A: Some suggestions from the inception workshop (August 5, 2015)

1. Some slums should be included from south of Dhaka City Corporation. It could be even 5000 HH. (Hazaribagh, Dhalpur suggested)
2. icddr,b can finalize the questionnaire
3. Inception report should include:
 - Team composition
 - Location of slum and why selected. Add a map showing the slums.
 - Composition and ToR of Technical Review Committee
 - Four modules should be in the same sequence (report and slide presentation)
 - Mention the 11 project activities in a list before describing them
 - Whether we can collect data on child nutrition, diseases of children
 - Who will be the authorized person at icddr,b- ED?
 - Donor: Government of Bangladesh through Swedish sida
 - Spelling mistake in page 3 (Tongi)
 - Challenges mentioned in the report need to be changed- time constraint shouldn't be included as we have started the work knowing the timeframe.
 - Similarly, gaining community support should be treated as asset not as challenge.
4. Results of the project should be compared with the National Accounts Survey, Urban Surveys 2006, 2013
5. icddr,b should ensure data quality- in urban area it is difficult to maintain quality
6. How to maintain data security
7. Policy maker need information- everybody is talking about urban health, social development goal etc.
8. It is a small step for a long journey
9. Surveillance system is a good platform to measure impact of intervention (2008+ 2nd phase UPHCSDP)
10. Surveillance should provide data to the policy maker

Additional points:

1. Can we map safe motherhood facilities around the slums
2. Mention the specific cancer types on which data will be collected
3. Concerns were raised regarding visiting 35-40 households a day as to whether this is realistic.
4. The central quality control body should include the PD of UPHCSDP.

Appendix- B: Criteria for selecting Technical Review Committee member

icddr,b has requested Project Director of UPHCSDP to form a Technical Review Committee in order to review reports and manuscripts. The Technical Review Committee members will be selected based on the following criteria and terms of references:

Expertise: The Technical Review Committee members should be selected from those who have strong interest in research/program. These committee members (4-6 members) could be selected from donor community, NGOs, and research/academic institutions.

Terms of reference: The Technical Review Committee members would be responsible to review various reports and manuscripts to be submitted by the consultant to the client. These reports are:

- a) Baseline/socioeconomic census
- b) Health and demographic surveillance system
- c) Migration and mobility determinant of health
- d) Health seeking behaviour (maternal, neonatal, child health), family planning, adolescent reproductive health, violence against women
- e) Health expenditure and financial coping mechanisms
- f) Knowledge and practices in relation to non-communicable disease

Based on the survey reports, four manuscripts will be prepared for journal publication. To review the manuscripts, the review committee members should address the following issues:

- a) Whether cited adequate literature (up to date), and whether knowledge gaps have been identified
- b) Appropriate methodology and statistical technique
- c) Proper interpretation of the findings
- d) Discussion based on findings and policy recommendation.

Appendix C: Household census- All households (as of October 7, 2015)

Table 1: Distribution of household by slum location

	Frequency	Percent	Valid Percent	Cumulative Percent
Korail	739	33.4	33.4	33.4
Mirpur	560	25.3	25.3	58.8
Tongi	911	41.2	41.2	100.0
Total	2210	100.0	100.0	

Table 2: Distribution of population by slum location

Location	Frequency	Percent	Valid Percent	Cumulative Percent
Korail	2767	32.1	32.1	32.1
Mirpur	2184	25.3	25.3	57.4
Tongi	3681	42.6	42.6	100.0
Total	8632	100.0	100.0	

Appendix D: Socioeconomic census- Sample households (as of October 7, 2015)

Table 1: Distribution of household by slum location

Location	Frequency	Percent	Valid Percent	Cumulative Percent
Korail	67	33.7	33.7	33.7
Mirpur	53	26.6	26.6	60.3
Tongi	79	39.7	39.7	100.0
Total	199	100.0	100.0	