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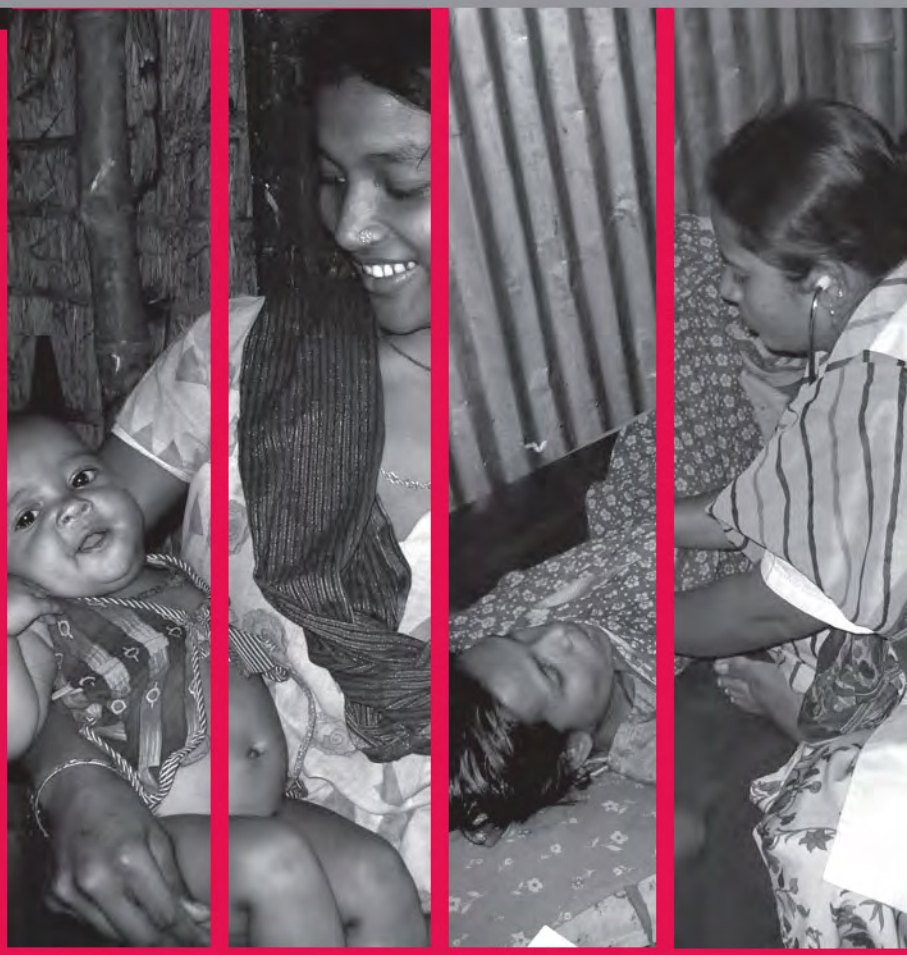
A Programme for Improving Maternal, Neonatal and Child Health in the Urban Slums of Bangladesh



BRAC Research & Evaluation Division

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KNOWLEDGE FOR GLOBAL LIFESAVING SOLUTIONS

MANOSHI

A Programme for Improving Maternal, Neonatal and Child Health in the Urban Slums of Bangladesh

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The Manoshi project is developed by BRAC to establish a community-based health programme targeted at reducing maternal, neonatal, and child, deaths and diseases in urban slums of Bangladesh. It is supported by the Bill and Melinda Gates Foundation's Community Health Solutions (CHS) initiative that aims at strengthening and leveraging community organizations and individuals to be proactive in community based interventions. This five-year project is led and implemented by BRAC. ICDDR,B, in collaboration with the Research and Evaluation Division (RED) of BRAC provide technical assistance to the project through research support. This project is guided by a Technical Advisory Committee and a Technical Management Committee.

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EXECUTIVE SUMMARY

This proposal has been developed to establish a community based health programme targeted to reducing maternal and child mortality in urban slums of Bangladesh. The proposal will address the Bill and Melinda Gates Foundation's Community Health Solutions (CHS) initiative. The CHS aims at strengthening and leveraging community participants and organizations to scale up proven interventions in community settings.

In 2000, 47% (2.9 billion) of the world's populations lived in urban centres. By 2015, this percentage will rise to 60%. In 2001, the global slum population was estimated at 924 million or 32% of the world's urban population. These slums have a disproportionate share of the world's poor. They also have the worst health status and will be a major factor for Bangladesh in achieving the Millennium Development Goals (MDGs). The Foundation has emphasized the need for an urban slum based community health programme, which aims at reduction of maternal, neonatal and child mortality in Bangladesh. This proposal is thus in accord with BRAC and the national government's commitment towards achieving the MDGs for reduction of maternal deaths by three-fourths and child deaths by two-thirds between 1990 and 2015 in Bangladesh.[i]

The aim of this study is to develop and sustain a community based health package to tackle the illnesses and deaths of mothers, newborns, and children in the urban slum populations. Specifically, this study will define and test five components of BRAC's essential health services package catering to the women and children in the urban slums of Bangladesh. The study will also look at financing strategies to sustain the programme outside of the grant funding. BRAC has set the goal and objectives of the programme in the context of maternal, neonatal and child health status in urban slums of Bangladesh. The goal of the study is to*:* ***Decrease illnesses and death in mothers, newborns, and children in urban slums in Bangladesh through the development and delivery of an integrated, community-based package of "essential health services."***

As it is observed that urban slums are very much neglected in many areas of basic social services, and the lack of adequate health services for the populations, the programme will focus primarily on enhancing the empowerment of communities, e.g. women, to develop a system for the continuum of care for mothers and babies with an essential service package of interventions.

Scientific evidence is available about interventions for reducing maternal, neonatal and child health complications. Although maternal, neonatal and child health is very much associated with distal determinants, such as poverty, education and physical environment, here, we are considering the proximal determinants that can be delivered mainly by the community and through health sector. The evidences of successful interventions are observed in many studies. It is estimated that 74 percent of maternal deaths could be averted if all women had access to the health interventions for addressing pregnancy and child birth complications, especially to comprehensive emergency obstetric care.[ii] The evidence on maternal interventions underscores the importance of availability of comprehensive emergency obstetric care at facility level, referral linkage and community based interventions with efficient birthing care. The interventions which are considered to have impact on perinatal and neonatal mortality demonstrate reductions in all cause-specific neonatal mortality and morbidity. These interventions are effective for home births and neonatal care where access to health care is poor. It is estimated that universal coverage (99%) of these interventions could avert 41%-72% of global neonatal deaths.[viii, ix] Child deaths could be prevented if the full set of interventions for each cause were delivered at universal coverage levels.[iii] For this to be effective, universal coverage, that is, 100 percent for all interventions needs to be achieved all over the country through community based and facility based health care. It means that two-thirds of current child mortality could be reduced in a relatively short period if universal coverage of all interventions is maintained.

BRAC will provide services to eight million poor populations living in urban slums during the five years. With the designed interventions, it will help improve health service utilization of mothers, neonates and under-five children given the fact that behaviour changes take place at household and community levels with effective community action and solution initiatives. If universal health coverage is maintained, BRAC will be able to attain 40% to 50% reduction in neonatal mortality, 50% reduction in under-five mortality and fairly reasonable reduction in maternal mortality in urban slums across six city corporations of Bangladesh. Although, the targets seem ambitious, BRAC possesses great potentials to implement the interventions in the suggested places within the given period. The strategies, tools and lessons learnt from Gates Foundation's Community Health Solutions initiative implemented by BRAC in Bangladesh will bring about the best impact in urban slum dwellers' lives ensuring that the investment and commitment from both partners are effectively utilized. As anticipated, BRAC will be able to develop a health model in urban setting that can be scaled up on national scale and replicated in settings of other developing countries.

INTRODUCTION

Bangladesh is a country of 140 million people; nearly a quarter live in urban settlements and a third of the urban population lives in slums.[iv] The urban population is growing very fast, mainly due to the influx of rural poor families worsening urban poverty.[v] Urban household income of the very poor is higher than that of rural household, yet, the inequity in income is much higher between urban rich and poor.[vi,vii] Although, Bangladesh has witnessed a remarkable progress in health status over the last few decades, the maternal mortality ratio (MMR) is now 320 per 100,000 live births, under-five child mortality 85 per 1000 live births and neonatal mortality rate 42 per 1000 live births.[viii] The situation of maternal and child health is still unacceptably poor and the condition in urban slums is dismal and is often worse than non-slum urban areas. Despite being in close proximity to skilled care, nearly 80 percent of the deliveries in slums are conducted by neighbours/relatives at home.[ix] Antenatal coverage of 55% in urban slums is much lower than that of urban non-slum areas, which is 74%. Given this scenario of maternal care utilization, it is not surprising that the newborn care utilization is virtually absent. Immunization coverage is 63% in urban slums much lower than national and non-slum averages of 73%. Less than five percent of slum dwellers use water-sealed latrines. In short, urban areas particularly the urban slums present a much greater challenge for improvement of health condition than in other parts of the country.

Over the past decade, pilot projects and research studies have demonstrated significant development in maternal, neonatal and child health in the course of a few short years.[x, xi,xii] The literature cites many demonstrations that support the concept of a strong community and household mobilization process delivering real and cost-effective improvements in newborn and maternal health. An ideal approach combines several inter-linked strategies characterized by community health actions, community empowerment and participation and strengthening of health system including provision of comprehensive emergency obstetric care.

BRAC's proposed approach to improving maternal, neonatal and child health is unique, because, along with the community based health interventions, BRAC designs programmes to strengthen health systems. Many neonatal and child deaths could be averted by scaling up known, and cost-effective interventions. However, maternal deaths may not be reduced until health care facilities are

equipped to offer comprehensive emergency obstetric care readily accessible to disadvantaged women. BRAC's community based health interventions, aims to strengthen community health actions to secure efficient health services through intersectoral collaboration with the private and public sector health system, eventually enhancing maternal, neonatal and child health status among urban poor populations.

BRAC is one of the largest non-governmental organizations in the world and employs over a 100,000 staff. Founded in 1972 with the twin objectives of poverty alleviation and empowerment of the poor, BRAC has emerged as a leading organization promoting sustainable human development in Bangladesh. Using a systems approach and a focus on results, BRAC provides and protects livelihoods of around 100 million people in Bangladesh through economic development, health and education programmes.

BRAC addresses rural health issues through its Essential Health Care (EHC) programme, which offers a basic package of health services delivered through community health workers. The EHC methodology includes mobilizing women and disseminating information through village organization meetings, meeting with community members and household visits, and collaborating with the government of Bangladesh to help implement national programmes such as the tuberculosis, malaria, immunization, and sanitation programmes. It provides critical services in reproductive health, nutrition, immunization, pregnancy-related care, basic curative services, and TB control in rural areas. Community health workers (CHWs) have been trained to diagnose and treat the approximately 60% to 70% of common diseases, such as anaemia, diarrhoea, and dysentery at the community level through basic curative services. CHWs also increase the participation of the community in government-provided immunization services including mobilization of community members to attend EPI sessions and organization of the sessions with government health workers.

Through its predominantly rural programmes, BRAC offers preventive and curative health services to 31 million people through EHC programme, but reaches 82 million people through TB Control Programme. The EHC programme has achieved remarkable success. For example, in antenatal coverage, the BRAC EHC rural areas cover 62% of women compared to 37% for the national rural average, and for immunization, BRAC areas reached 87%

compared to 70%. Micro Health Insurance (MHI) schemes in rural areas include subsidized essential services at BRAC clinics and a pre-paid pregnancy care packages. At present, BRAC has piloted the MHI programme in two sub-districts that include more than 10,000 subscribers in a population of 500,000, including an MHI scheme for the very poor in which many components are free and co-payment is required only for 20% of the cost of medicines.

BRAC's proposed community based intervention called *Manoshi*, is a five-year project. It will be implemented in the urban slums of six city corporations, namely, Dhaka, Chittagong, Sylhet, Rajshahi, Barisal, and Khulna, and 15 statistical metropolitan areas of Dhaka to provide services to 8 million populations throughout the project period. It will adapt the Essential Care Programme model that has been so successful in rural Bangladesh to the urban setting. The components of the project include: capacity development of the community health workers and birth attendants; health service provision for pregnant and lactating women, neonates and under-five children; timely referral to quality health facilities; community empowerment through development of women's groups; and linkage with government, local government, community people and NGOs. The community health workers and Urban Birth Attendants will be trained to offer antenatal, safe delivery and postnatal care, neonatal care and child health care.

The uniqueness of the programme will be to identify all pregnancies and follow them up regardless of where women seek care. Pregnant women will be encouraged to give birth at "birthing huts" or appropriate delivery centres for maintaining privacy and hygienic delivery. In case of complications, women will be ensured comprehensive emergency obstetric care in pre-selected referral facilities, preferably Urban Primary Health Care Project (UPHCP) run health facilities operated by the Ministry of Local Government, Rural Development and Co-operatives (MoLGRDC). The community health workers will keep track of all birth records, offer essential newborn care and manage neonatal complications. In collaboration with UPHCP, the community health workers will arrange immunization and vitamin A capsule intake. Besides, the community health workers will perform quarterly growth monitoring of under-five children, educate and motivate for exclusive breastfeeding and complementary feeding and refer severely underweight children to hospitals for treatment. They will also detect, treat and refer acute respiratory infections and diarrheal illnesses to

referral facilities. Communities will be empowered with the knowledge of maternal, neonatal and child health, especially danger signs. BRAC staff and community health workers will form committees with local stakeholders to strengthen community health actions. These committees will be given some responsibilities, such as monitoring of activities, supervision, safety net operations, referral mechanism, death auditing and so on.

Monitoring and evaluation will be crucial for the project. ICDDR,B an internationally reputed research organization based in Bangladesh along with BRAC Research and Evaluation division will conduct research in this project. At the very start, formative research will be done that will give direction to the development of the final strategies of service delivery. Evaluation and operational research will be conducted at different stages of the project period to measure progress and failures and provide ongoing feedback to improve the project. The findings of the monitoring and evaluation will be rapidly disseminated within BRAC to learn successes and failures and strategize the programme direction. Lessons and tools of the project will primarily be transferred for use of Foundation's Community Health Solutions Initiative. For policy influence and replication of model at national level, successes of the project will be shared with government, local government, NGO stakeholders, media and research and advocacy organizations. BRAC will also share experiences and lessons world-wide through its extensive global, national and county specific efforts.

OBJECTIVES

The objectives essentially address the major causes of maternal, neonatal and under-five deaths in slum populations through sustained community activities. BRAC has long experience of doing community-based activities for economic, education and health development addressing its core objectives of poverty alleviation and empowerment of people either with individual effort or in partnership with public-private sectors. The objectives of the proposed programme will contribute to achieving the MDGs 4 and 5 in the context of national reforming policies – poverty reduction strategies and Health, Nutrition and Population Sector Programme and BRAC's own policies on health. The twin objectives to achieve the goal are to:

1. Define, test, implement and scale in X slums (population = X) five interrelated components of BRAC's essential health services package for women and children.

2. Develop financing strategy for sustaining the programme post grant funding.

The situation of maternal, neonatal and child health will be addressed by incorporating effective evidence-based interventions to improve maternal, neonatal and child health status. Most of BRAC's Essential Health Care programme has been tried in rural areas, but, how the model is transferred to urban slums will be evaluated and tested as part of this project. In the proposed project, a wide range of strategies to address the target population will be experimented and subsequently, scaled up throughout the country. At this point, we have tried to deconstruct each objective and indicate effective approaches to address it.

Objective 1: Define, test, implement and scale in X slums (population = X) five interrelated components of BRAC's essential health services package for women and children.

To improve maternal, neonatal and child death situation the programme seeks to:

1. Increase knowledge of individuals, households and community;
2. Increase skills and motivation of human resources to offer services at household and community levels;
3. Enhance and strengthen referral linkages;
4. Increase demand of services; and
5. Facilitate scaling up of successful approaches.

The first objective aims to develop and test strategies and bring about changes in knowledge, behaviour and practices at individual, household and community levels. Preventive measures, such as, identification of all pregnancies, antenatal care, clean delivery, postnatal care, essential newborn care and immunization and micro-nutrients for under-five children will be provided ensuring their universal coverage. On the other hand, to reduce deaths and morbidities, curative management for complications related to birth, neonatal and child health are essential, which will be done at facility and community levels. At community

level, birthing huts will be established for safe delivery by following two types of strategies, one being supported by community midwives and the other by urban birth attendants (UBAs). Involvement of community in patient referral may contribute to life savings of target population. In addition, social mobilization and interpersonal communications are also important for improving knowledge and behaviour.

The essential health services package will be composed of the following components.

- Trained community health workers to provide key preventive and curative services at the household level. The community health worker system will provide basic, community-based reproductive health, nutrition, prenatal, and child nutrition and health care services and commodities.
- Timely referral systems to triage obstetric emergencies and other severe acute illnesses in women, newborns, and children to care at qualified health facilities.
- Women's education and empowerment groups to organize urban slum communities around key health and nutrition issues affecting mothers, newborns, and children. BRAC's experience has shown that women's groups are able to address both short- and long-term health related problems such as negotiating low cost commodities, advocating for reproductive health rights or gaining access to safe drinking water. This component will likely to include, as a financing mechanism, the development or enhancement of existing micro-credit programmes.
- Linkage to existing municipal, NGO, and other local health services including hospitals and clinics operating in the community.

Objective 2: Develop financing strategy for sustaining the programme post grant funding

To sustain community based approaches the programme aims to:

1. Strengthen and sustain referral linkage with local government and government health facilities;

2. Involve all stakeholders and strengthen their capacities to effectively participate in all stages of the programme; and
3. Develop a supportive network to support communities and individual households to sustain the services.

The second objective will emphasize on sustainability of the community-based approaches. It is anticipated that as strong referral linkages will be developed between community and UPHCP-run maternity facilities and government hospitals within this period, this will motivate patients to seek their care at an affordable cost during emergency situations. Besides, the Shasthya Shebikas and various networks, such as, local MNCH committees and Supportive Network will work as a supporting force to sustain referral of patients. More importantly, during the course of the study, findings will help to develop mechanisms to sustain the programme beyond its donor funding. This knowledge will eventually be incorporated to strengthen BRAC's low cost health interventions for maternal, neonatal and child health. On the other hand, it is also expected that donor support will continue to play an important role in urban health care and BRAC will strive to establish linkage with them to carry out programme activities at the departure of the Gates Foundation. All these forces will likely bring about sustainability of the interventions.

PROJECT DESIGN & IMPLEMENTATION

Project Design

This community-based intervention is designed to be implemented in urban slums of Bangladesh. The involvement of the community in this intervention will be developed on the *village organization* (VO). The VO is the nucleus of BRAC empowerment activities for women, poor and other disadvantaged groups. It has an average of 40 members. The VO activities start with consciousness raising training including legal and human rights and compulsory saving. When a group becomes 'cohesive' small loans are provided for productive income generating activities. The community health workers (CHWs), particularly, SSs are selected from VO members. The VO serves as a forum to connect women and builds a social capital based on their collective strength.

BRAC will implement the programme in urban slums of all six city corporations and municipalities located in 15 statistical metropolitan areas[1] of Dhaka. This intervention will begin with Dhaka slums where BRAC's VOs are already in existence. If BRAC VOs do not exist in slums, they will be formed to harmonize with the activities of the project. The project will gradually be scaled up to other cities and municipalities.

Table 1: Expansion of population and possible sites

	Year 1		Year 2	Year 3	Year 4	Year 5
	6 month	6 month				
Population	500,000	500,000	3 million	4 million	8 million	8 million
Possible sites	Dhaka city corporations (500,000)	Dhaka city corporations (500,000)	Dhaka CC (2.5 m) 8 Dhaka SMA (0.5 m)	5 city corporations (2 m) 7 Dhaka SMA (2 m)	All city corporations (5.5 m) 15 Dhaka SMA (2.5 m)	All city corporations (5.5 m) Dhaka SMA (2.5 m)

The primary target populations of the programme are pregnant and lactating women, neonates and children. This programme will reach about 8 million populations by year three and continue to work with the same population till the end of year five. It will reach 500,000 populations (6.25%) at the first six months and will be scaled up to one million (12.5%) by one year. This population will be increased to cover 50% in the second year and 100% by the third year of the project period.

At the very outset, the deployed or newly recruited staff will be trained for technical support and supervision at field level. The Managers and Programme Organizers (PO) will receive training in maternal, neonatal and child health and staff development training.

BRAC will also start organizing consultation workshop for stakeholders at national level to further the integrative efforts. The government and local government officials, development partners, MNCH experts and researchers will partake in the workshop, which will formally orient them about the project in urban slums and look for their feedback through participatory methods. The technical input expected from this workshop will be on the following issues:

[1] Statistical metropolitan areas are defined to include City Corporations and adjacent areas having urban characteristics.

(1) Proposed service delivery strategy;
(2) Core intervention package;
(3) Ensuring quality services for referred cases; and
(4) Timeline of the project.

Selection and Capacity Development of Community Health Workers

The project aims to provide proven medical and community interventions in alternative settings, for example, birthing huts in order to reduce maternal and child mortality. The mechanism for accomplishing this goal is the use of three different types of community health workers. Community health workers have been tried in many settings but this model will develop baseline information and track women and children during the project to assess the effectiveness of the use of CHWs.

The community health workers will be selected from the community and local vicinity with the assistance of the BRAC VO members, community and BRAC field staff BRAC follows some criteria to select community health workers. The Shasthya Shebikas (SSs) are the frontline workers each covering 200 households (population of 1000). Two Urban Birth Attendants (UBAs) will work in a birthing hut with 2000 households (population of 10,000). The Shasthya Kormis (SKs) are the second frontline workers each supervising five SSs and one UBA in the catchment of 2,000 households. In some areas, another cadre known as community midwife will work at birthing huts providing skilled care during delivery. Their activities will be supervised by the Programme Organizer and coordinated by the SK.

Table 2. Selection criteria for community health workers

Shasthya Shebika	Shasthya Kormi	Urban birth attendant	Community midwife
1. Selected from urban slums by VO members 2. Age 25-40 years 3. Married and children not less than 2 years 4. Reading and writing skills 5. Willingness to work 6. Acceptability to community	1. Selected from urban slums 2. Age 20-35 years 3. Married 4. Minimum SSC (10 years schooling) 5. Willingness to work 6. Acceptability to community	1. Selected from the urban sections by VO members 2. Age 25-40 years 3. Married 4. Previous knowledge and skills 5. Willingness to work 6. Acceptability to community	1. Selected from the urban sections 2. Age 25-40 years 3. Married 4. Nurse-midwife or Family Welfare visitor or equivalent 5. Willingness to work 6. Acceptability to community

BRAC will develop the capacity of community health workers with the intent of reaching quality services at grassroots. The basic training of SSs and SKs on maternal, neonatal and child health will be arranged for one month in local training centres run by Training Cell of BRAC Health Programme. The SKs will also receive training on health communications and supervisions. The UBAs drawn from local TBAs will be given training in birthing care and basic management and referral of complications for two weeks. Community midwives will be selected from the existing midwives who have received training in Family Welfare Visitor (FWV) or Nursing-midwifery. Their skills will be strengthened by giving short course training on midwifery. Moreover, all the SS will be given refresher's training every month and SKs and UBAs every alternate months on MNCH issues.

Selection and Capacity Development of Alternative Healthcare Providers

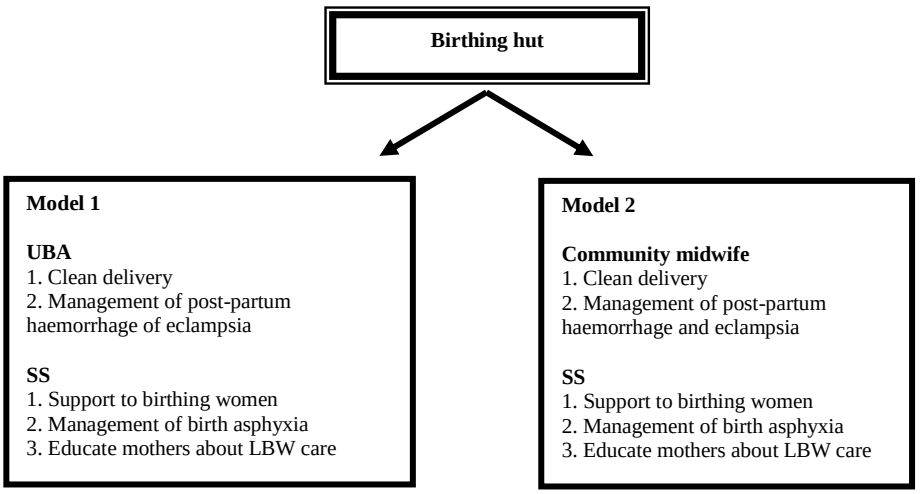
BRAC Programme Organizers along with SKs and local MNCH committees will list out all alternative health providers. The number will depend upon the size of the slums, but, usually, four alternative providers will be selected to participate in MNCH activities for 10,000 populations. The trainers of BRAC Health Programme will train the selected ones to detect and refer neonatal and birth complications immediately to pre-selected referral centres in slums and squatters. They will also be trained on rational use of drugs.

Establishment of "Birthing Huts"

Simple clean birthing huts or delivery centres will be established, for each 2,000 households (a population of 10,000), adhering to set standards of hygiene and run by UBAs/community midwives. The proximity, standards of cleanliness, maintenance of privacy and assistance with normal deliveries are likely to make huts both popular and viable. In model 1, two trained UBAs and in model 2, two community midwives will be designated to work in a birthing hut. In model 1, the UBA will primarily assist in clean delivery with the support of a SS. This SS will accompany a birthing woman from her catchment area and participate in the birth event. In model 2, community midwife will be responsible for child delivery with the assistance of one SS. In both models, the UBA and community midwife will be responsible for the managing of haemorrhage and eclampsia, and immediately refer complicated cases to referral facilities. Neonatal

complications, such as, birth asphyxia will be treated by SS and if serious, referred to referral facilities. For low birth weight babies, mothers will be taught how to provide kangaroo mother care, or care to maintain body temperature and feeding.

Figure 1. Model for child delivery strategy in birthing hut



Provision of Health Services

The *Manoshi* programme will employ various strategies to deliver health services in urban slums. During household visit in each month, the SS will follow-up the target population, assess their needs and accordingly, mark their needs or achievement in family cards.

Identification and registration of pregnant women: Each SS will visit 10 households everyday covering 200 households in a month. During household visit, they will follow up couples of reproductive age for investigating menstrual history and contraceptive use. The SSs will also identify and keep notes of all suspected pregnancies and immediately communicate with SKs and UBAs. As soon as women are suspected, their names will be noted down in family card and registers and they will be followed up till four months and confirmed as pregnancy by a SK.

Antenatal care services: There is presence of UPHCP-run projects in Dhaka and Chittagong cities implemented through NGOs to offer preventive maternal and child health care at community level, however, their mechanism is not adequate to reach all pockets of urban slums and also the extreme poor populations. Although, three antenatal visits (at least) are recommended, it is observed that 65% of women paid only one antenatal visit in metropolitan urban slums (Progotir Pathey, 2004). To improve antenatal coverage in urban slums, the SK will organize one antenatal care session each month for 200 households and thus, ten antenatal care sessions in catchment of 10,000 populations. As BRAC has been working with the Government-run Satellite Clinics (SCs) in rural areas of Bangladesh for years without overlapping, in slum areas where UPHCP organizes mini SCs (four SCs for 50,000 populations in each month) for reproductive health and child care services, BRAC will apply their experience from rural setting in urban slums. Here, BRAC SKs will assist health providers of UPHCP in SC sessions and keep records of pregnant women's information.

The antenatal care sessions of BRAC will be held in a house of a slum community member, usually BRAC VO member who will willingly offer their room for antenatal check-up of pregnant women. Proximity of the room for antenatal check-up to birthing hut will be considered in order to familiarize pregnant women with its environment and service facilities beforehand. Four antenatal care sessions will be arranged in a house very close to birthing hut and the rest of six sessions preferably in a place not far from it. The SS will motivate and accompany pregnant women from their catchment areas to antenatal care sessions. All the suspected pregnancies (identified by SS during household visit) will be confirmed by SKs through history-taking and clinical examination. The confirmed pregnant women will be registered and encouraged to get involved in BRAC's pregnancy care package with registration fees. During antenatal care sessions, the SK will perform clinical examination, ensure Tetanus Toxoid (TT) injections, provide iron-folic acid, educate on danger signs and health, nutrition and hygiene and motivate for birth preparedness. In model 1, the UBAs will assist the SKs in sessions and will be introduced to pregnant women in catchment areas. In both models, the SSs will remain present in antenatal care sessions. The SK will also pay visits to pregnant women during the last trimester along with UBAs at home level to check on for birth preparedness specifically place of birth. In both models, if any pregnant women seek care from other health facilities,

their information will be noted down in registers. The SKs will ensure at least three antenatal visits for each pregnant woman.

Intra-natal services: When women with labour pain arrive at the birthing hut, the UBA and community midwife will ensure services and assist in delivery. The SS will accompany the birthing women from the catchment areas and provide support during delivery. As soon as the baby is born, the UBA and community midwife will look after mothers and the SS will take care of neonates. The birthing women will usually be allowed to stay for 12 hours after the baby is born. In case of haemorrhage and eclampsia, the UBA and community midwife will provide basic management and refer them to referral health facilities. They will ensure intake of post-partum Vitamin A. If babies develop birth asphyxia, the SS will provide basic treatment and refer to health facilities. The SS will also educate mothers of low birth weight babies about Kangaroo Mother Care.

Table 3: Responsibilities of community health workers and birth attendants

Shasthya Shebika	Shasthya Kormi	Urban Birth attendant	Community midwife
1. Couple follow up 2. Pregnancy identification 3. Essential newborn care 4. Birth weight 5. Detect and treat neonatal sepsis and birth asphyxia and refer 6. Detect LBW and provide kangaroo mother care and refer for complications 7. Immunization 8. Vitamin A 9. ARI and diarrhea	1. Antenatal care 2. Postnatal care 3. Treatment of neonatal sepsis 4. Health education	1. Assist in antenatal care 2. Delivery care 3. Immediate postnatal care 4. Provide misoprostol for PPH and refer 5. Provide rectal barbiturate for Eclampsia and refer	1. Delivery care 2. Immediate postnatal care 3. Provide misoprostol for PPH and refer 4. Provide magsulph for Eclampsia and refer

Some women may choose home delivery. BRAC will ensure that UBAs and SSs attend the delivery at home in model 1. In model 2, only the SS will attend homebirth along with the TBAs chosen by the family. In some cases women may choose private or government facilities and some may go to village home for deliveries. Information of those deliveries, which may be missed out will be specifically followed up and maintained by SSs and SKs. As they will keep constant, frequent contact with pregnant women and families, there will be less chances of missing out information.

Postnatal care for mothers and neonates: Immediate postnatal care will be provided in the birthing huts. One of the significant features of the programme is to make frequent visits to mothers and newborns during postnatal period. To maintain better maternal and neonatal health status, postnatal care of mothers and newborn babies, especially to *low birthweight* (LBW), and asphyxiated babies will be provided through additional home visits by SSs in every alternate day from 0-28 days. The data shows that in Bangladesh 30%-33% babies are born with low birthweight, thus, one-third of births need frequent home visit by CHWs. In this project, the LBW babies will be followed up by SS every alternate day for the first four weeks and then, twice a week till their weight increases to 5 kg. When neonatal infections are identified, the SS will provide treatment and follow them up in alternate days till recovery. The SKs will offer visits for mother and newborn four times during postpartum period within 3 days and on 7th, 21st and 28th days. The SS and SK will also ensure intake of iron-folic acid by distributing tablets during the first visit and checking on status on each visit. The SK will provide treatment for puerperal infections with antibiotics and if failed, refer to health facilities with backup referral. During visits, they will provide health education on essential newborn care and exclusive breastfeeding for neonates and nutrition, hygiene and family planning for mothers. The SS will do community based treatment of neonatal sepsis and birth asphyxia and refer to hospitals if needed.

Under-five child health: The SKs will record the name of all births in their registers and maintain a follow-up system for all children till they reach five years of age. They will inform the mothers of neonates about immunization dates on their visit at 28 days. The SS will follow-up with under-five children during household visit and keep records of their immunization and Vitamin A intake status in family card. They will mobilize mothers and fathers one day before immunization sessions of UPHCP-run SCs or any hospitals or clinics for taking vaccines. If needed, the SS will also accompany mothers and fathers to attend the session to ensure immunization of their children. In immunization sessions, a card will be issued to each child where dates for each shot including Vitamin A intake are noted down. The SK will always remind the family of the dates of immunization of their children beforehand and the SS will ensure it from household mobilization and motivation to accompanying the family to clinics before 6 weeks to 9 months of age. At nine months of age along with measles vaccine, Vitamin A capsule is given every six months to children till five years of

age and specially given on National Immunization Day or Vitamin A plus Day. The SK and SS will observe the same follow-up system for Vitamin A capsule intake. The SKs will assess nutritional status of children under-five through special growth monitoring sessions organized quarterly. They will provide health and nutrition education and send severe malnourished children to health facilities for further treatment. In addition, mothers will be taught how to recognize severe malnutrition and report to SKs for treatment support.

Mothers of under-five children will be educated on how to detect diarrhoea and acute respiratory infections (ARI). As soon as children will be identified as having diarrhoea, the SSs will be immediately informed and concurrently, with the mothers will be educated to continue breastfeeding for children under 6 months and immediately start oral saline for children from 7 months to 5 years of age and continue complementary feeding. The SS will take historical background information and clinically examine a child and if found severe, refer to the pre-selected referral centres. In the case of ARI, the mother will also be given knowledge on how to detect it and will be instructed to immediately call the SS. The SS will give home-based treatment to children suffering from ARI following the National protocol and urgently refer severe pneumonia to designated referral centres. The Programme Organizers will have constant supervision when children will be admitted into referral centres with severe form of diarrhoea or pneumonia or malnutrition. All the under-five children will be followed up at home by SS and SK after their recovery.

Referral of Complications

BRAC will facilitate developing referral linkages between community and health facilities. BRAC staff with the assistance of community health workers and other stakeholders will select referral facilities depending on accessibility from slums and availability of required services in a special meeting. In this meeting, a specific committee will be formed consisting of four members, namely, BRAC Manager and three members from different community network. They will be responsible for selection of and communication with the referral facilities. Two to three referral centres, preferably UPHCP-run maternity clinic, NGO clinic, Government health facilities (Medical College Hospital, District Hospital, Upgraded Thana Health Complex and Mother and Child Welfare Centers), or private hospital will be selected. A close partnership will be built up with health providers to assure quality of care for emergency obstetric cases and neonatal and

child health complications. At the very outset, the committee under the leadership of BRAC manager will meet with the Manager of the referral facilities to discuss about referral of emergency cases from urban slums. A memorandum of understanding will be developed with the referral centres where commitment to provide emergency quality services to referred cases at fixed low prices will be made (Box 1).

The community health workers, namely, UBAs, community midwives, SSs and SKs will be responsible for detecting and referring maternal, neonatal and child health complications. Criteria for referral of complicated cases and the persons responsible for referral in the community are described in Box 1. As soon as the person is diagnosed as a complicated case, the community health worker (responsibilities described in Table 3) attending the event will issue a referral slip with a brief description of diagnosis and early treatment. At the same time, the community health workers will help organize transport for transferring patients, but usually local transport drivers pre-selected by MNCH committee will help transfer patients. The SS/UBA will accompany them only to referral facilities. Moreover, BRAC Health staff and SKs will follow up referred cases at health facilities and SSs will follow them up at households after their return.

Box 1: Criteria for selection of referral facilities

A.	Accessibility: I km from slums/squatters
B.	Service availability (24 hours)
B.1.	Comprehensive emergency obstetric care
	Caesarean sections
	Blood transfusion
	Management of eclampsia
B.2.	Neonatal complications
	Birth asphyxia
	Neonatal sepsis
	Complications of low birth weight babies
B.3.	Child health complications
	Diarrheal complications
	Severe pneumonia
C.	Low cost

This public-private partnership will ensure appropriate care to target population. If needed, these referral facilities will be given financial assistance (loan) to

improve their service quality for managing maternal, neonatal and under-five complications.

Quality assurance will be developed with a team of skilled personnel to improve programme performance. BRAC with the assistance of members of the advisory committee and local experts will prepare standard tools and guidelines to measure quality assurance on maternal, neonatal and child health problems occurring at facility levels. The quality assurance team will be formed with two BRAC medical doctors, one BRAC Manager, one member from the research team (a medical doctor from BRAC) one member of Supportive Network and one medical doctor from referral facilities. This team will monitor services through a record-keeping system, and test new activities through frequent, small-scale research. They will identify problems and provide immediate feedback to the field so they can adjust programme activities. The success of quality assurance will depend on the absolute participation of health workers and health professionals.

Healthcare Financing and Safety Nets

BRAC will apply different strategies for healthcare financing. In *Manoshi*, pregnancy registration fees and safety nets will be introduced to cover healthcare expenses. Pregnancy registration fees will be charged only to BRAC VO members and non-VO poor women to offer a package of services. Extremely poor women will receive free services. The services include antenatal, intranatal and postnatal care, and neonatal care at community level and partial treatment costs of caesarean sections and neonatal complications in the hospitals. The amount of registration fees will vary for BRAC VO members and non-VO non-poor women. The BRAC VO members will be charged Tk. 200 and non-VO non-poor women Tk. 400 for enrolling in pregnancy service package. The reasons for introducing registrations fees are: a) the client will feel obligated to comply with the services if they make payment; b) the people will develop a habit for paying money (as in this country, people anticipate free services from Government and NGOs as well); and c) it will cover costs for maternal and neonatal care to some extent. The amount of money raised from the community as pregnancy registration fees will not be adequate to cover the costs of services that are offered in the project. Thus, the rest of the costs will be borne by the project for families living in urban slums for intra-natal care at birthing hut, caesarean sections and neonatal complications.

For enrolling women in pregnancy scheme, the SK will first identify pregnancy and then, communicate with BRAC Programme Organizers. Both of them will explain to women and families about the benefits of this scheme. When women show interest and make payments, BRAC Programme Organizers will register and include them in pregnancy scheme. These women along with their neonates will continue to receive package of services. If some women fail to make payment immediately, the BRAC Programme Organizers will offer some flexibility in payment schedule, for example, arranging payment in instalment. Apart from this, some pregnant women may seek care elsewhere, under these circumstances these women will also be followed up.

As a safety net an emergency fund will be created at the community level to secure healthcare in case of life-threatening crises, especially for extremely poor people. It is estimated that to run a safety net for 10,000 populations, approximately Tk. 50,000 will be required to offer free treatment to extremely poor in urban slums per year. This fund will begin by depositing seed money either from BRAC or donation from a philanthropist working for the community. BRAC Programme Organizers subsequently will discuss about the safety net mechanism including formation and disbursement with stakeholders of local MNCH Committees and Supportive Committees. With their assistance they will raise funds from rich/middle class families living within or at the outskirts of the slums. BRAC Programme Organizers and SKs will request community people to contribute a small amount of money depending upon families' ability and willingness. The entire money raised from various sources will be deposited in a local bank. A committee will be formed with BRAC Programme Organizer, SK, SS, and member of MNCH Committee. They will be responsible for depositing or withdrawing money from the bank. This fund will be used for birth, neonatal and child health complications among extremely poor and vulnerable families living in urban slums and squatters. The committee will prioritize families who are identified as extremely and vulnerable (at the beginning of project implementation) for providing financial support from the safety net on consultations with BRAC Manager and Supportive Network. If not all extremely poor families are covered by safety net, their treatment costs in hospitals for caesarean sections and neonatal complications will be borne by the project. The experiences we will gain during inception phase and afterward will be used in developing and proper functioning of safety net. The safety net contribution is a good measure that can provide a good number of extreme poor and vulnerable

populations with the support they require to help them from financial crisis and debt in emergency situations.

Community Empowerment

The community will be empowered through social mobilization, advocacy and communications. BRAC Programme Organizers with the assistance of SKs and SSs will organize community mobilization. They will discuss current best practices of maternal, neonatal and child health by carefully contextualizing it for different groups. These groups include pregnant and lactating women, mothers of under-five children, adolescent girls and boys and newlywed women and men, traditional birth attendants, community health workers, alternative health care providers, drug-sellers and local community people. Additionally, people will be made aware of the ill effects of bad practices, such as, mismanagement of birth complications, delay in referral of complicated cases, and irrational drug use, among other related issues.

BRAC will facilitate social mobilization for MNCH through building community and stakeholder capacity as active partners in health improvement. BRAC Programme Organizers will sensitize Government and local government officials, political leaders, NGOs, health professionals, teachers, religious leaders and other stakeholders through series of workshops. In addition, BRAC's MNCH Committee's will be formed with VO members and will monitor and track issues and outcomes of the project. These groups will help to advocate for change within the community but also with local NGO's and governments. As part of preparatory activities, workshops on maternal, neonatal and child health and other social issues will be organized at city corporations/municipalities, public/private health sectors, and at slum levels.

Health education and promotion activities will be undertaken in several ways for different groups including pregnant and lactating women and mothers of under-five children, and community people. Community awareness on early signs of pregnancy and labour, preparedness for pregnancy, labour and parenting, plan for birthing place, essential newborn care, neonatal and child health problems, early childhood development, drowning, ORT, pneumonia, hygienic behaviour, water and sanitation will be raised through different media and forums. BRAC SKs will arrange small group discussions with target populations twice a month and also employ individual contact to raise their awareness. Interactive

communication strategies, such as, popular theatre, folk-music and so on will also be used. BRAC will perform popular theatre and folk-music at different public spots of slums once a month for 2000 households on different topics of maternal, neonatal and child health. Radio and television will be used for mass campaign. Additionally, leaflets, stickers and posters will also be used for message dissemination.

Intersectoral Collaboration

BRAC health staff will communicate with BRAC Economic Development Programme to ensure microfinance and link with other sectoral programmes for income generations of poor women living in urban slums. To improve primary school enrolment and completion, the health staff will also communicate with BRAC Education Programme and Government and NGO run Primary Schools for education of poor slum children. An intersectoral collaboration will be developed with BRAC Adolescent Peer Organized Network (APON) Programme for adolescent girls to receive reproductive health education. This will develop knowledge of future mothers about reproductive health.

Linkage Development

BRAC occupies a unique position in being able to link with communities. This position has developed over a very long period of time as relations of trust have been built through multiple channels. At the grass roots level, they have been built through BRAC's Economic and Social Development Programmes and provision of good quality services. In the urban setting, BRAC's village organization (VO) is the nucleus of community activities with the involvement of CHWs. Given that, two local MNCH committees will be formed with VO members, CHWs and local people within the catchment of 2000 households. This committee consisting of ten members will be responsible for monitoring and facilitating provision of relevant health services at community level, community financing, ensuring referral linkages with health facilities/clinics, arranging transport for referral and auditing deaths. The MNCH committee will meet bimonthly and discuss problems and solutions. The partnership with community will significantly improve health service utilization by endorsing community participation and empowerment.

Community support network will be developed with the members from local government, government, NGOs, private sectors, philanthropists and local

community leaders. They will be responsible for the effective implementation and continuation of MNCH activities in urban slums. They will play proactive roles by organizing regular meeting, empowering community, carrying out social mobilization, linking community to facilities, ensuring quality services at facility levels and mobilizing funds for poor people. The number of people in the community support network will depend upon the size of slums. On average the network will comprise of about 15 to 20 members and will meet quarterly to follow-up with their own activities and contribution to improve health of women and children.

Women support groups will be developed from 2,000 households. Two members of this group will be selected from each 200 households. They will act as watchdogs for pregnancy and neonatal complications in the community. They will also be responsible for giving support during delivery in birthing hut and accompany birth and neonatal complications to referral facilities. The members will meet every month with SKs to discuss their lessons and problems. Their involvement in health interventions will enhance and sustain Programme activities in communities.

Innovative Interventions

BRAC will try out innovative interventions during the project period, however, issues and strategies have yet to be decided. Nutrition interventions may be explored for target populations in this project. Community feeding programme for extreme poor pregnant women and under-five children will be introduced, but, design and methodology need to be explored. Adolescent girls and boys will be addressed on reproductive health and nutrition education. More importantly, male involvement interventions will also be introduced through this project. If further issues are evolved during this project period, these will also be tried out.

Major Activities and Milestones

Both of the objectives of this study are interrelated and interdependent. And as such, related sub-activities and major milestones are described below.

Milestone one: Finalization of Sites

BRAC will implement programme activities first among 500,000 populations in urban slums of Dhaka city corporations in the first six months. The intervention

sites will be finalized within 15 days of award approval. To begin with activities of the project, within seven days of award approval BRAC will meet with the Mayor of Dhaka City Corporations. The purpose of the meeting will be to introduce and explain the concept of Community Solution Strategies for improving maternal, neonatal and child. The expected outcome of the meeting is to obtain their support and cooperation to launch the interventions.

Milestone two: Office Establishment and Logistics Supplies

The office will be established within two weeks of award approval in Dhaka city corporations. BRAC has an existing set-up at central level. As the programme will be started with 500,000 people in different slums of BRAC's defined four areas within the six months of the first year, four area offices will be established in the initial phase. The area office is the lowest unit through which field activities will be implemented for 250,000 populations. The activities of four area offices will be coordinated by one regional office, which also be established within one month.

Logistics supplies, including furniture, stationeries, computers, motor vehicles, equipments and other accessories will be requested and bought within one month of award approval.

Milestone three: Recruitment of BRAC staff, and Selection of Community Health Workers and Alternative Healthcare Providers

Recruitment of BRAC staff

All the staff will be recruited or deployed within two weeks of award approval. The staff will include Project Directors, Program Managers, Sector Specialist Monitoring Officer, Regional Managers, Medical Officers, Area Managers and Programme Organizers.

Recruitment of community health workers, urban birth attendants and community midwives

All the community health workers, namely, Shasthya Shebikas and Shasthya Kormis, Urban Birth Attendants and Community Midwives will be selected in Dhaka city corporations among 500,000 populations within a month of award approval.

Selection of alternative health providers

Alternative health providers including Homeopathy, Ayurvedic and Unani will be linked to the programme to get actively involved in the activities. These health providers will be selected within two months of program initiation.

Milestone four: Linkage to Existing Municipal NGOs, and Other Local Services

BRAC will start developing linkage with NGOs and organizations offering health services in local areas, which will be completed within one month of award approval. The purpose of this linkage development is particularly to improve referral services for poor populations.

Milestone five: Capacity Development of BRAC Staff

The training of staff including Regional Managers, Medical Officers, Area Managers and Programme Organizers on MNCH issues will be organized by training cell in training centres of BRAC. This training will be completed within 45 days of program initiation.

Milestone six: Capacity Development of Community Health Workers, Birth Attendants and Community Midwives

The basic training of CHWs, birth attendants and community midwives will be completed within four months of program initiation. However, one day refresher's training will continue every month for SS and every two months for the rest till end.

Milestone seven: Capacity Development of Alternative Healthcare Providers

Homeopathy, Ayurvedic, Unani health providers and pharmacists will be given training on MNCH related issues including rational use of drugs within four months by the training cell.

Milestone eight: Monitoring and Evaluation Subcontract with ICDDR,B

Within 15 days of award approval, BRAC will sign subcontracts with ICDDR,B to initiate monitoring and evaluation.

Milestone nine: Formative Research

Within 45 days of award approval, BRAC in collaboration with ICDDR,B will undertake formative research. As this intervention will move in line of research

results, its quick dissemination is very essential from the start. Thus, sharing of findings will be completed at six months.

Milestone ten: Baseline research
Within 45 days of award approval, BRAC in collaboration with ICDDR,B will undertake base-line survey, which will be completed in six months.

Milestone eleven: Operational Research
BRAC in collaboration with ICDDR, B will undertake operational research. This research will continue from three months to support the programme and will be completed on 54 months.

Milestone twelve: Midterm Evaluation
Within 32 months, BRAC in collaboration with ICDDR, B will undertake mid-term evaluation and complete within 36 months.

Milestone thirteen: Final Evaluation
The final evaluation will be started at 56 months and completed by 60 months.

Milestone fourteen: Monitoring and Supervision System
Within two months of program initiation, BRAC will complete designing of supervision system and continue activities from three months till the end. The activities will be assessed every month for effectiveness. Supervision will be done by following standard tools, techniques and guidelines. Different methods will be observed for effective supervision, namely, management information system, quality assurance, field visit and spot check.

Milestone fifteen: Finalization of Service Delivery Strategy
Various strategies will be tried out during the first six months. For example, experiences of birthing hut use, especially what work with UBAs and community midwife will be learnt. These strategies will be finalized at 6 months after initial dissemination of findings from formative research.

Milestone sixteen: Development of Systems and Instruments for Pregnancy Registration
Within one month of program initiation, pregnancy registration systems and instruments will be developed.

Milestone seventeen: Pregnant Women Registered and Health Services Provided

Pregnancy registration will be started after second month of award approval. Birthing hut will immediately be established and health services including antenatal, intra-natal and postnatal care will be initiated within 6 months in Dhaka slums populations, in the next 18 months in the rest of Dhaka slums and slums of eight statistical metropolitan areas and within 40 months in slums of 5 city corporations and seven statistical metropolitan areas and the services will be continued till the end in all populations

Milestone eighteen: Development of birth registration system and instruments

Within one month of program initiation, registration system of births and instruments will be developed.

Milestone nineteen: Birth Registration and Health Services to Neonates

All births taken place within the catchment areas will be registered no matters where birth takes place. Birth registration activities and services given to neonates will start from second months of program initiation and move forward along with expansion plan.

Milestone twenty: Identification of under-five children and Health Services Provided

Listing out of under-five children will be done within two months of program initiation and services will be given from second months and move forward in different areas covering various populations along with expansion plan.

Milestone twenty-one: System for Timely Referral of Complications to Quality Health Facilities

BRAC Programme Organizers with the assistance of community health workers and birth attendants will identify referral centres and establish contact with them within two months of program initiation. The UBAs, community midwives and SSs will identify complications, offer some basic services and refer them to referral centres from second months till end following expansion plan of the project. This system will be assessed at 6 months, 18 months, 36 months and 54 months.

Milestone twenty-two: Systems for Pregnancy Registration Fees and Safety Net Measures

Systems for pregnancy registration fees and safety net support to poor families will be initiated two months after program initiation. This will be assessed at the end of 6 months, 18 months, 36 months and at the end.

Milestone twenty-three: Develop Innovative Interventions

Some innovative interventions will be tried throughout the project period starting from three months. The testing out of interventions will continue till 54 months.

Milestone twenty-four: Health Education and Promotion

The community will be made empowered through health education and interactive communication strategies. The curriculum and methods will be developed within two months and tested within six months. This will be rolled out to the rest of the areas in stages and reached all populations by 40 months and continued till end.

Milestone twenty-five: Project Orientation to Local Stakeholders

BRAC will organize an orientation workshop for BRAC policy-makers and programme staff, ICDDR,B team and key technical support group within one month of programme initiation. The objective of this workshop will be to orient about overall activities of project, to review through participatory methods and finalize the log-frame with detailed tasks and targets for the project period.

Milestone twenty-six: Advocacy Workshop

Within one month of award notification, BRAC will start organizing consultation workshop for stakeholders at national level, which will be completed within two months. The government and local government officials, development partners, MNCH experts and researchers will be invited to participate in the workshop. This workshop will formally orient them about the project in urban slums and look for their feedback through participatory methods. The technical input expected from this workshop will be on the following issues: (1) Proposed service delivery strategy; (2) Core intervention package; (3) Ensuring quality services for referred cases; and (4) Timeline of the project.

Milestone twenty-seven: Financial Sustainability Plan
Within six months, the financial sustainability plan will be developed, which will be assessed every year to observe the progress.

Milestone twenty-eight: The Forming and Functioning of Local MNCH Committees, Supportive Network and Women Support Groups
Within two months of program initiation, the local MNCH committees, local supportive committees and women support group will be formed and become functional in four months and continue activities till 60 months.

Milestone twenty-nine: Strengthening Capacity of Stakeholders
The stakeholders' capacity will be strengthened through workshops, meetings and actively engaging them in community activities. This will begin from second months of program initiation and will be continued till the end.

Milestone thirty: Collaborating with Micro-credit and Education Programs
Within three months of program initiation, BRAC Economic and BRAC Education Programmes and Government and NGO- run schools will be communicated and the plan activities will be developed within six months to reach target population and continued till the end of 60 months.

Challenges

During the implementation of programmes in urban slums, many challenges and threats may happen. The BRAC operational model is to try to minimize challenges and find answers to problems thru testing and trying new ideas and ways of doing business. Below are some of the major challenges that BRAC expects to encounter.

Table 4. Actions to address challenges

Challenges	Actions to address challenges
Involving female urban dwellers as health workers to provide comprehensive health care for mothers, neonates and children will be a challenge, as they all are likely to be involved in different jobs in urban areas for income-earning.	BRAC's experience in urban slums reveals that this problem can be minimized by selecting women who usually work as part-timer or work in their own households.
Urban slum dwellers lack basic health services, which include water and sanitation. This may affect the situation of their health improvement.	These services will be ensured through social mobilization and availing these services through mobilizing existing health system network of local government, government, and NGOs and financial resources from development partners and private sectors
Introduction of TBAs in this project will raise questions about provision of skilled birthing care.	Many different projects in Bangladesh including BRAC rural MNCH interventions and Gonoshasthya Kendro have been using trained TBAs for birthing care. Gonoshasthya, in fact, demonstrates reduction of maternal mortality and neonatal mortality in their intervention areas. Thus, using TBAs in Manoshi project in urban slums will enhance TBA's credibility.
Slum dwellers may be evicted impeding smooth implementation and impact of programme activities	It is observed that evicted people always move to the nearest dwelling. BRAC should constantly keep contact with evicted populations and ensure their services.
The political situation, that is, upcoming elections may create uncertainty and disruptive on-going programmes. This political violence in local slums may also impede programme activities.	BRAC local staff have experience in managing local disruption.
Weak governance is a major problem in the health sector. Rent seeking practices, unsanctioned absenteeism of staff and poor monitoring and supervision of staff in health facilities may affect quality of care for referral cases	In urban areas, this problem can be addressed by a) pre-selecting referral centres either government or UPHCP or private clinics; b) development of stronger accountability mechanisms between providers, functionaries and communities; and c) building greater community "voice"
Serious supply side weaknesses, especially in relation to human resources and drug supply in public health facilities may question BRAC's credibility in community based interventions.	BRAC interventions will require very careful sequencing of actions on both supply and demand sides. BRAC staff along with local stakeholders will need to monitor and review this on a regular basis and take proactive steps to keep expectations realistic.

MONITORING, EVALUATION, & DISSEMINATION

The Manoshi project has some distinctive features: one is to implement a large scale programme in urban slums of Bangladesh; two is to bring changes in maternal, neonatal and child health; and three is to contribute the Foundation's Community Health Solutions Initiative to replicate this model in other developing countries. Considering the issues, BRAC Health Programme will undertake monitoring and evaluation of the project through external and internal evaluations in line with the project objectives. The monitoring and evaluation of the project will be done to:

Inform the design of the initial project;
Improve implementation and scale up over time; and
Measure progress, success and sustainability of intervention packages

ICDDR,B, an internationally reputed organization based in Bangladesh will be sub-contracted to undertake monitoring and evaluation of the Manoshi project. BRAC Research and Evaluation Division, an independent wing will develop a Memorandum of Understanding (MOU with ICDDR,B to pursue research in this project. In addition, BRAC Health Programme will have an inbuilt system within Manoshi project for continuous monitoring and supervision of field activities.

External monitoring and evaluation

ICDDR,B and BRAC Research and Evaluation Division will be delegated responsibility for undertaking formative, operational and evaluative research to fulfil the project objectives. However, BRAC Health Programme will coordinate and manage the performance of ICDDR,B and BRAC Research and Evaluation in undertaking research. A Technical Committee will be formed with both BRAC and ICDDRB members, who will work on specific methods and instruments, such as the survey for evaluation and the monitoring means to be used at sentinel sites and analysis plans. They will jointly decide on research issues and plan for the monitoring and evaluation timeline. For monitoring purpose, some key indicators will be identified which will be followed throughout the project at monthly intervals and will be fed to the programme. Formative research will be conducted within six months of the project period. It will aim to inform the programme about the design strategy, as it rolls out.

Operational research will be started after six months of the project initiation. The objective of operational research is to improve programme operations, which will help scale up programme over time. Some illustrative examples are provided in the table below (Table 5). During the project period more operational research issues will be identified and conducted. Evaluative research will be undertaken to measure progress, success and sustainability of intervention packages over the period of the project. A baseline survey will be conducted at the very beginning of the project (within six months), a mid-term survey around third year and an end-line survey at the end of the fifth year. Different monitoring and evaluation activities are highlighted in the matrix below.

Table 5. Monitoring and evaluation themes with indicators and methods

Research	Themes	Illustrative Indicators	Methods	Timeline
Formative	Characteristics of slum community	% of population with SES, education, religion, geographic origin, ethnicity, language	Quantitative survey	1st 3 months
	Care configurations	Presence of health facilities (public, private and NGO) pharmacies, alternative care provider	Mapping in slum areas	1st 3 months
	Perceived usefulness of the MNCH interventions	Perception of women and community about the need of services and satisfaction	Quantitative methods: Interview of women, family members and CHWs	1st 3 months
	Quality of available referral services	Women, neonates and under-five develop complications and receive quality services in referral facilities	Quantitative survey Qualitative methods: Focus group discussions and in-depth interviews with women, CHWs and health providers and observation of facility and birthing hut	1st 6 months
	Willingness to pay for different care	% of women and family members will pay for MNCH services	Quantitative methods: Interview of women, family members and CHWs	1st 6 months
	Costs of health services	Costing of services delivered		1st 6 months

Research	Themes	Illustrative Indicators	Methods	Timeline
Operational	Acceptability of MNCH services	% of pregnancies registered % of pregnant women seek ANC, birthing hut, PNC and EOC % of neonates receive ENC, care for neonatal complications % of under five receive EPI and VitA and care for ARI and diarrhoea	Qualitative methods: Focus group discussions, in-depth interviews with women, community health workers, MNCH committees	Continuous
	Utilization of birthing hut with client satisfaction and needs assessment	% of pregnant women seek care from birthing hut Reasons for use and non-use %% of pregnant women, neonates and under-five are referred and receive treatment % of women satisfied % of population need MNCH services from BRAC	Quantitative methods Qualitative methods: Focus group discussions, in-depth interviews with women, community health workers, MNCH committees	Continuous
	Factors that influence service utilization	Socio-cultural behaviour, demography, ethnicity, religion, quality of services and family and social barriers	Qualitative study includes FGD, in-depth interview and observation	Continuous
	Quality of care given at community and facility levels	Service quality	Facility check up, observation and interviews of clients and health providers, community health workers, and BRAC staff	Continuous
	Staff performance and satisfaction	Workload Meeting attendance, Supervision Satisfaction	Qualitative and quantitative methods	Continuous
	CHWs' performance and satisfaction	Workload, training and meeting attendance, service delivery Satisfaction	Qualitative and quantitative methods	Continuous
	Public and private partnerships		Qualitative and quantitative methods	Continuous
	Quality of services provided by alternative care providers		Qualitative methods	Continuous

Research	Themes	Illustrative Indicators	Methods	Timeline
	Training quality	Quality of training Knowledge and practice of CHWs, birth attendants and BRAC staff	Qualitative methods: Observation of training session, review of training module and interview of trainers and BRAC programme staff Interview of CHWs, birth attendants and staff and observation of their work	Continuous
	Supervision system	Record keeping system Action plan and field visits by staff and CHWs Meeting and follow up	Quantitative and qualitative methods	Continuous
Evaluative	Increase knowledge and practices Increase demand Increase skills of human resources Strengthen referral linkages	% of pregnancy identified % of ANC coverage % of birthing hut use % of EOC use % PNC use % of birth weight measured % of ENC coverage % of EPI and Vitamin A coverage % of knowledge about danger signs of pregnancy and neonates % reduction of neonatal sepsis and birth asphyxia % reduction of ARI and diarrheal illness % reduction of eclampsia, PPH and puerperal infections % reduction of neonatal, child and maternal mortality	Quantitative survey	Baseline:6 months Midterm: 36 months End-line: 60 months
	Sustainability of interventions	Regular meetings of and attendance at MNCH committees, women support groups and local supportive network Financing scheme functions for emergencies	Quantitative survey Qualitative study: Interview and FGD with stakeholders	Baseline:6 months Midterm: 36 months End-line: 60 months
	Cost of most efficient services	Costing of all approaches	Econometric analysis	54 months

Internal monitoring and evaluation

Internal monitoring and evaluation will be done by following standard tools, techniques and guidelines. Different methods will be observed, namely, management information system, field supervision and quality assurance. BRAC will develop standard management information system for recording of activities at all levels to ensure information flow for management decisions and resolve operational issues. Standard forms and guidelines will be developed to streamline information flow from community to central level. A monthly and quarterly reporting system will be developed to keep track of the performance and progress.

The supervisory staffs, such as Programme Organizers, Area Managers and Regional Managers will routinely conduct field visits, identify gaps, and immediately feedback to support field staff and community health workers. In addition, they will do spot check by visiting field without prior notice in certain pockets. The field findings will be discussed in weekly and monthly meetings with staff and community health workers to identify gaps and barriers and resolve problems.

Quality assurance will be developed with a team of skilled personnel to improve programme performance. The quality assurance at facility level was discussed earlier in project implementation plan. At community level, birthing hut and clinical skills of community health workers will be monitored by quality assurance team formed of members as discussed earlier except a medical doctor from clinic. They will not only monitor services through record-keeping system and observation, but also do frequent, small-scale research. They will identify problems and engage in dialogue with the community health workers and BRAC staff of areas where the monitoring is done. Based on the feedback, BRAC staff will take immediate measures to improve their performance.

Dissemination

BRAC and ICDDR,B Research Team will share the formative research findings immediately with planners and programmers of BRAC to refine programme strategy. Operational research findings will be shared to review programme performance. The final results will be shared at national level for improving maternal, neonatal and child health for urban poor and at regional and international levels for replicating the model in other developing countries. The

papers will be published in peer-reviewed journals and as technical working papers, and data will also be widely disseminated at appropriate international meetings and conferences.

Apart from this, a series of training workshops (four workshops) will be arranged in Bangladesh for public health professionals in South Asia. The aim of the project will be to disseminate knowledge gained from Manoshi project to strengthen regional capacity to do maternal, neonatal and child health programme in urban slums by replicating Manoshi model.

OPTIMIZING PUBLIC HEALTH OUTCOMES & INTELLECTUAL PROPERTY PLANS TO ACHIEVE GLOBAL ACCESS

Manoshi is placed at the outcome level in the continuum of efforts required to reach public health outcomes related to maternal, neonatal and child health. Testing out and scaling up of successful community based approaches by BRAC in urban slums of Bangladesh are likely to contribute to the overall reduction of maternal, neonatal and child deaths and diseases. Manoshi's efforts to bring about change in maternal, neonatal and child health will be imperative for achieving the Millennium Development Goals in Bangladesh by 2015.

BRAC will be able to develop model for scaling up of community based interventions in urban slums and to demonstrate the impact of interventions on reduction of maternal, neonatal and child death and diseases. This will enhance global knowledge on the one hand, and enlighten the Foundation's Community Health Solutions Initiative to replicate the model of Manoshi in slums of other developing countries.

BRAC does not expect to secure any intellectual property rights for this project. On the contrary, BRAC will immediately communicate knowledge, experiences and tools produced in this project with the public domain. Different strategies will be used to promote rapid dissemination and implementation of lessons.

The first strategy is related to dissemination of lessons on community-based approaches to maternal and newborn health. Systematic documentation and

meticulous evaluation of programme implementation in urban slums will be conducted by ICDDR,B and BRAC Research and Evaluation Division. The findings will be rapidly disseminated within BRAC to learn successes and failures and strategize the programme direction accordingly. Moreover, local and national government and NGO stakeholders, media, research and advocacy organizations will be included in dissemination series in order to influence the policy and implement the lessons in the national programme. BRAC will also share experiences and lessons with other organizations working in neighboring countries, such as SEARCH, SNEHA and PATH and throughout the world through its extensive global, national and county specific efforts. The second strategy is the application of lessons and the use of tools related to community-based project support. These lessons and tools will be systematically transferred to the Foundation for use in Community Health Solutions world-wide. The third strategy includes publication and dissemination of lessons to capture support from other large international funding agencies. Both BRAC and the Foundation have advantageous access to many of these institutions and are therefore well placed to influence their practice in community support.

ORGANIZATIONAL CAPACITY AND MANAGEMENT PLAN

Organizational Capacity and Facilities

BRAC is a developmental organization focusing on poverty alleviation and empowering of the poor, especially women and children. It was established in 1972, shortly after independence of Bangladesh as a relief organization to help and rehabilitate the war affected people. BRAC's life began with health programme, but, subsequently moved to socio-economic development and education. Now, BRAC is fighting the war of poverty and poverty of health through multifaceted holistic approaches combining economic development with education, health and social development. At the grassroots level, BRAC organizes women into VO groups and BRAC's various programmes are essentially implemented through these member groups. Today, BRAC's multifaceted development interventions extend to 4.86 million households in over 65,000 out of 86,000 villages and over 5,000 urban slums in all the 64 districts of Bangladesh.

BRAC is based in Bangladesh reaching about 100 million populations in Bangladesh through multiple interventions. BRAC's budget is approximately $330 million in 2006 in which self contribution is 74% and donor contribution is 26%. The major donors are DFID, Royal Netherlands Embassy, Canadian CIDA and World Bank. BRAC's governing body comprises 12 members representing Bangladesh and abroad.

BRAC has a long history of providing health services to the poor. The Health Programme was initiated just after the nine months of its inception in 1972. In the early eighties BRAC launched a nationwide Oral Therapy Extension Programme (OTEP) to fight massive deaths from diarrheal illnesses. It reaches almost 13 million households even the farthest villages to communicate the message on the management and prevention of diarrhea through interpersonal communications. Today, BRAC Health Programme caters to basic health needs of 31 million people through Essential Health Care Programme (EHC). The collaborative initiatives of BRAC and the government, namely, National Tuberculosis (TB) Control Programme and National Nutrition Programme serve over 80 million populations to address major health problems in Bangladesh. BRAC has received funds from Global Fund for TB, malaria and HIV/AIDS to control tuberculosis in Bangladesh. In this project, BRAC not only implements programme, but also provides sub-grantees to many other NGOs showing great success in increasing case detection and cure rates. The strengths of BRAC in learning and doing put them in a better position to actively engage in offering services and strengthening health system in partnership. The Research and Evaluation Division of BRAC carries out timely monitoring and evaluation of interventions. BRAC is above all, committed to learning and innovation.

BRAC's particular strengths are in its community based delivery and integration of services and facilitating the process of social mobilization within communities. There are continual efforts for capacity development of community health workers and field staff organized by BRAC Training Division and training cell of BRAC Health Programme. BRAC's capacity to reach the grassroots through community-based health infrastructures and human resources, on the one hand, and to coordinate and link with local health care professionals and elites, on the other, reinforces the use of the existing public health system, and helps to improve service quality offered at health facilities. The grassroots network of more than 50 thousand community health workers reach poor people with low-

cost health interventions. In line with the goal of achieving reduction in child mortality in Bangladesh, in 2001, BRAC collaborated with Save the Children, USA's Bangladesh in its new initiative Saving Newborn Lives (SNL)' supported by Bill and Melinda Gates Foundation. The major objective of SNL was to increase use and practices of healthy maternal and newborn care services. This initiative tested community based models and brought into light the significance of community based caregivers who were trained to provide essential maternal and newborn care in community. Recently, BRAC has started maternal, neonatal and child health programme in one rural district of Bangladesh transferring knowledge from SNL project to promote community based home care and develop referral linkage with health facilities.

The partnering experience of BRAC with the government, local government and local institutions has always been crucial for reaching health services to the grassroots. BRAC does not operate a parallel health system, instead it works within the national framework of service provision to support government programmes. In rural districts, BRAC's experience of working with District Hospitals and Upazila Health Complexes suggests that even without formal linkage, referred patients from BRAC receive adequate care from health care professionals. The relationship with the local government in National Nutrition Programme and the local institutions in Targeting Ultra-poor (TUP) programme eases the access of the poor to quality health and nutrition services. The active involvement of BRAC in local committees strengthens the health care system by readily identifying problems and taking urgent initiatives to resolve it. Achievements, particularly in EPI, tuberculosis, nutrition and water and sanitation are examples of successful partnership. On the one hand, the partnership with the community and on the other, with public and private health sectors strengthens BRAC's roles and responsibilities in community health actions and solutions.

BRAC works internationally and has experience of system strengthening even in challenging environments. Its work in Afghanistan entails rehabilitation and management of district level health systems in five provinces covering 25 districts with 23 comprehensive health centres, 40 basic health centres and four district hospitals. At the community level, a total of 1767 health posts are in operation through 2334 community health workers and 258 community health volunteers. In addition, 533 mobile clinics are held in a month. BRAC is actively

involved in strengthening health system through capacity development of health care providers at facility and community, improvement of quality of care in health facilities, provision of basic health services at grassroots and community empowerment.

Box 2: Strengths of BRAC

- Holistic, pro-poor rights-based approach
- Focus on gender empowerment and empowerment of the poorest people
- Experience in community based health interventions implementation
- Extensive human network and infrastructures to reach grassroots
- Partnership with people for community participation
- Partnership with government, local government and NGOs
- Continual process of human resource development
- Presence of forums for dialogue
- Accountability to communities
- Incentives for community health workers to perform well
- Supportive supervision
- Continuous, active learning environment
- Commitment to finding innovative solutions
- Continuous monitoring of activities
- Evidence based approach to implementation

NGOs play a crucial role in bringing the voices of people into implementation, advocacy and policy through strengthening community participation. BRAC's partnerships with communities, local government, government, other NGOs, civil society and international organizations have been instrumental in coordinating initiatives to mobilize support, resources and knowledge sharing at local, national, regional and global levels. Through this experience, BRAC has developed extensive experience in acting as an efficient and trusted negotiator of relationships between different organizations and levels of the health system, as well as being an efficient programme implementer. This proactive role contributes to strengthening the links and co-ordination between different health system actors and agencies. BRAC thus has a unique capacity as a non-governmental organization to manage and integrate systems and structures from community to national level.

BRAC has a large presence in many of the urban areas of Bangladesh. In 90 wards of urban Dhaka, BRAC has organized more than 2,500 VOs (with a membership of about 90,000 women and families). The VO's link, in fact,

facilitates BRAC to approach health from multiple development interventions. Recently, the EHC Programme including TB Control Programme has created strong platform for BRAC to begin any new initiatives in urban Bangladesh. To reach services to disadvantaged women and children, community participation and health systems need to be strengthened. A partnership approach is essential. BRAC already has considerable experience in putting this into action. The scalability and sustainability of successful community based health for the urban poor will be possible due to BRAC's commitment, partnership with community, local stakeholders, government and NGOs and extensive grassroots network.

Management and Staffing Plan

The Programme will be implemented within the existing BRAC infrastructure. For the project itself, full-time staff will be appointed at central level. A full-time Project Director will be appointed who will coordinate, manage and supervise field activities, but will be guided and directed by the Director of the BRAC Health Programme and Deputy Executive Directors, Programme Operations, BRAC. For technical support and field operations, two Assistant Project Director will be given responsibility. Sector Specialist will be solely responsible for monitoring and supervision and documentation of field activities. This core team will be supported for the day-to-day management by Research and Evaluation Division (RED), Monitoring Division, Human Resource Development Division, Finance Division, Advocacy Division and Logistics and Procurement Division of BRAC. However, for this project, one Finance Officer and one Logistics Officer will be deployed.

The programme will be implemented and managed through administrative offices established at regional and area levels, which will be gradually expanded to all suggested locations over the project period, as planned. At regional level, the programme will be coordinated, managed and supervised by one Regional Manager, Medical Officer, Finance Officer, Data Analyst and Monitoring Officer. At area level, the programme will be managed, supervised and implemented by Area Managers and Programme Organizers based at Area Offices. There will be one Accountant appointed in each Area Office for maintaining accounts. The BRAC staff will be deployed at Manoshi Project from core BRAC Health Programme. The field activities will be carried out by

community health workers, namely Shasthya Shebikas, Shasthya Kormis, Urban Birth Attendants and Community Midwives.

Core Team

1. Central level

Project Director (Current BRAC staff person): Dr. Kaosar Afsana will serve as a full time Project Director to Manoshi Project. She has medical background with MPH from Harvard University and PhD from Edith Cowan University. Dr. Afsana has over 14 years of work experience in public health, namely, reproductive health, maternal and child health, nutrition and health system management. Over the years at BRAC, she spent most of her time in research, specifically maternal health and health system development. Her solid experience in public health research enabled her to use expertise in health management. For the last three years, she has been working as a manager in Bank-funded, collaborative National Nutrition Programme. For the last two years, she has been extensively involved in Maternal, neonatal and Child Health Project in rural areas in which her involvement includes from conceptual evolvement and proposal development to management of programme implementation.

The Project Director will be responsible for the overall direction, coordination, management, administration and supervision of the project. She will give lead and guide the team members of the project to plan, organize, manage and implement the project. The Project Director will also provide overall technical leadership on maternal, neonatal and child health and coordinate with ICDDR,B and BRAC Research and Evaluation and Division for monitoring and evaluation of the project. She will be reportable to Mr. Faruque Ahmed, Director BRAC Health Programme and Mr. Aminul Alam, Deputy Executive Director BRAC. Her curriculum vitae is attached.

Assistant Project Director, field operations (Current BRAC staff person): Mr. Habibur Rahman having master degree in sociology and MPHM (Masters in Primary Health Care Management) will serve as a Assistant Project Director for the project field operations. Mr. Rahman has over 22 years experience in public health and development programme of BRAC in Bangladesh and Afghanistan. He has expertise in planning and implementation of the overall programme independently and managing project staff. Working closely with the project staff,

he will be responsible for management, administration and supervision of field operations and ensure effectiveness and efficiency of project activities to reach the target population in urban slums. He will be reportable to the Project Director.

Assistant Project Director, Technical supervision (to be hired): The Assistant Project Director (to be based in Dhaka) will have medical background with experience in the relevant field. S/he will provide technical assistance to the project design and implementation and will be responsible for overall technical supervision of the field. S/he will work closely with the core team and will be reportable to the Project Director.

Sector Specialist: Monitoring, Supervision & Documentation (Current BRAC staff person) Ms. Taskeen Chowdhury will serve as a Sector Specialist and perform monitoring, supervision and documentation based in Dhaka for the Manoshi project. She has done postgraduate studies in Public Health from James P. Grant School of Public Health, BRAC University and in Nutrition from Dhaka University, Bangladesh. She has been working in public health sector for 4 years. Before joining BRAC, she had worked in Helen-Keller International in Bangladesh.

Ms Chowdhury will be responsible for developing an effective management information system, quality assurance team and documentation of field reports. She will directly supervise the monitoring team based in the field and provide necessary feedbacks. She will work closely with the Monitoring Division and Research and Evaluation Division to develop tools and materials to facilitate on-going evaluation of project activities. Ms. Chowdhury will be reportable to the Project Director.

Finance Officer (to be deployed): Finance Officer will be deployed from the Finance Division. S/he will have Masters degree in Business Administration and five years of working experience. S/he will be responsible for the overall financial management of the project including financial monitoring of the sub-contracts. S/he will work closely with the Project Director and maintain close contact with BRAC Finance Division.

Logistics Officer (to be deployed): Logistics Officer will be deployed from BRAC Health Programme, based in Dhaka. S/he will be responsible for developing a system to sort out necessary inputs with its exact amount for training and implementation supplies and other accessories and maintain records. The Logistics Officer will work closely with the team and visit fields extensively to collect information for adjusting supplies. S/he will be reportable to the Assistant Project Director, Field Operations.

Training cell: The existing Training cell of BRAC Health Programme will provide all training services necessary for human capacity development. They will be responsible for development of materials, planning for training sessions and maintain the quality to facilitate goal driven activities.

2. Regional Office

Regional Managers (8) (to be hired) The Regional Managers will be posted in Project's regional office. They will have educational background of Master degree in any discipline and at least 10 years of work experience in the relevant field. S/he will be responsible for overall direction, management, administration and supervision of the project in corresponding regions. S/he will report to Assistant Project Director, Field Operations at regular intervals to keep updated about programme activities. At the same time, s/he will sensitize community through regional level meetings and advocacy workshops, and maintain liaison with different stakeholders.

Regional Medical Officers (8): (to be hired) Regional Medical Officer will be recruited with medical background and deployed at the relevant regions. S/he will provide technical support and supervision of field level implementation and maintain liaison with medical professionals. Regional Medical officer will report to Assistant Project Director, field operations and work closely with Assistant Project Director, technical supervision.

Regional Accountants (8): (to be hired) The Regional Accountant must be a graduate in Finance and Accounting with at least 3 years working experience in the relevant field. S/he will be responsible for maintaining the accounts of the project according to project code. He will keep record of financial accounting of the region and report the overall financial requirements and expenditures to the

authority. S/he will be reportable to the Assistant Project Director, field operations and work closely with Finance Officer based at central level.

Data Analysts (8): (to be hired) Data analyst will be working in Management Information System. S/he will have Masters or Bachelors degree with experience in data entry and analysis. The major responsibilities are to collect and analysis programmatic data and prepare monthly performance reports. S/he will regularly process data, analyze report and send necessary programmatic feedback on the basis of his/her reports. S/he will regularly consolidate data and send the reports to head office for necessary action. S/he must assist and provide information to prepare the annual reports.

Monitoring Officers (8): (to be deployed/hired) The Monitoring Officer will be responsible for monitoring the quality of the programme. S/he will have Bachelors degree in any discipline. The Monitoring Officer will prepare checklist and guideline for regular monitoring and supervision and will verify and accredit the quality of the programme. His/her additional responsibility will be to prepare monthly report, give feedback to the field and suggest for future improvisation.

3. Area Office

Area Manager (40): (to be deployed) Area manager will preferably have Master degree in any discipline and two years of work experience. S/he will be responsible for management, coordination, implementation and supervision of the programme activities. To facilitate activities in achieving the objectives s/he will maintain liaison with government and other health providers, stakeholders and establish referral linkage with them. The Area Manager will also monitor the records and reports and will be reportable to Regional Manager.

Programme Organizer (80): (to be hired) Programme Organizer will preferably have Master/Bachelor degree in any discipline. S/he will be responsible for supervision and monitoring of the programme activities, and provide hand-on training to accelerate the activities. S/he will coordinate existing health related activities, maintain liaison with local health service providers, and sensitize community on programme issues. S/he will also ensure accuracy of records and reports and will be reportable to Area Manager.

Accountant/ Office Assistants (40): (to be deployed) The Accountant/Office Assistant must have Higher Secondary qualification (HSC) and perform dual duties as an accountant and programmatic activities. He will maintain financial accounts and manage the stock and report to Area Manager. S/he will keep close contact with Regional Accountant.

4. Community

Shasthya Kormi (1600): (to be hired) Shasthya Kormi is the second frontline worker having minimum ten years of schooling (SSC). She will be responsible for direct service delivery, organizing health education forum and supervising activities of Shasthya Shebikas. She will keep records of the delivered services and report to the Area Office. To establish an effective referral system, she will maintain liaison with local service providers and create demands in the community.

Shasthya Shebika (8000): (to be hired) The first frontline worker of the whole implementation is the Shasthya Shebika. She will have reading and writing skills. The main responsibility of an SS is to visit household everyday and collect information regarding family planning, pregnancy, birth, immunization, illness and so on. She will also assist UBAs in birthing hut for clean delivery and offer care to neonates. She will also be responsible for postnatal care of neonates and ensure basic treatment and proper referral of neonatal complications. She will also deliver some services related to simple treatment of common illnesses and sell health commodities at doorstep. The Shasthya Shebika will report to Shasthya Kormi.

Urban Birth Attendant (approx. 1520 UBAs and approx. 760 birthing huts): (to be hired) Two urban birth attendants will be selected from the practicing TBAs in the locality for each birthing hut. Her prime responsibilities will be to conduct safe delivery and provide post-partum care to mothers at birthing hut. She will manage and refer birth complications to referral facilities. She will be present in antenatal care session and motivate and prepare the mother for delivering at birthing hut. The number of birthing huts run by UBAs is estimated as 95% (760) of the total where the number of UBAs will be 1,520. However, it will be finally decided based on the results of the formative research.

Community Midwife (approx. 80 Community Midwives and approx. 40 birthing huts): (to be hired) Two community midwives will be selected from existing women practicing in the locality who have received training in Family Welfare Visitor or Nursing-midwifery. She will conduct safe delivery at birthing hut. During delivery she will manage and refer birth complications. The number of birthing huts run by community midwives is estimated as 5% (40) of the total where the number of midwives will be 80. However, it will be finally decided based on the results of the formative research.

Oversight by BRAC: Key personnel

Deputy Executive Director, Programme Operations, BRAC (5% FTE) – Mr. Aminul Alam, Deputy Executive Director, BRAC is responsible for overall management and supervision of BRAC's all programmes in Bangladesh and overseas. He will give overall directions to the Project and will maintain relationships with both the Bill and Melinda Gates Foundation and the Government of Bangladesh.

Deputy Executive Director, BRAC (5% FTE): Dr. AMR Chowdhury has been providing technical support and guidance in proposal development and programme designing. He will be responsible for technical guidance to the project. He will be the co-chair of Manoshi Advisory Panel.

Director, BRAC Health Programme (15% FTE): Mr. Faruque Ahmed, Director BRAC Health Programme is responsible for overall management and supervision of BRAC Health Programme. He will give direction to the Project Director and will be responsible for the senior project staff recruitment, mentoring and oversight. He will maintain relationship with Government of Bangladesh, Bills and Melinda Gates Foundation, different stakeholders and ICDDR, B.

Key Advisors (to be confirmed)

Dr. Zafrullah Chowdhury, MD is the Project Coordinator of Gono Shasthya Kendra. He will serve as a key advisor to the project and co-chair Manoshi Advisory Panel.

Dr. Abhay Bang, MD, MPH is the founder of SEARCH, India and a renowned researcher in the field of neonatology. He will be a key advisor to the project especially to provide technical support.

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