

Improvement of Health, Hygiene and Nutritional Status of Urban Slum Dwellers- A Program of RCE Greater Dhaka, Bangladesh

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1. Short Description of the Program

RCE Greater Dhaka has been undertaking special informal education program on improvement of health, hygiene and nutritional status of urban slum-dwellers providing knowledge about food and nutrients, hygiene and immunity. More than 28% people of Dhaka megacity are living in the slums under a very miserable condition. Most of them are underfed, illiterate and do not have knowledge about nutritional value of foods. Due to poor sanitation and congested living with 4 to 5 people in 10m² room, they often suffer from contiguous diseases like diarrhea, dysentery, typhoid, dengue and pneumonia etc. Lack of proper nutrition, they used to have very low immunity and thus high child death, stillbirth, blindness and physical malformation are very common. Considering the living standard of slum-dwellers, RCE Greater Dhaka partners: CGEC, College of Nursing of IUBAT, Rotary District Greater Dhaka 3280, Centre for Policy Research (CPR), Quantum Foundation and Sikder Medical College, Dhaka, Bangladesh in collaboration with Simon Frazer University, have started informal education, health-camping, training on sanitation, immunization; blood donation and research study on nutritional status of urban slums, especially for the pregnant women. Two research monographs have already been published; “Improving Nutritional Status for Low Income Households”: CPR Commentary No 8; Summer 2012 and “Benchmarking the Nutritional Status of Women in the Tongi-Ashulia Slums”: CPR Commentary No 7, Summer 2010. The major findings of the studies revealed that among the urban slum population, the majority have an adequate calorie-intake which mainly derives from cereals, primarily rice. They seldom take proteins, vitamins and other nutrient-rich foods and thus, suffer from malnutrition and diseases. These findings have opened a new dimension of education for sustainable development in Dhaka megacity.

2. Description of the Context

Bangladesh is the world’s most densely populated country in the tropical monsoon region of South Asia with a population 165 million in 147,570 km². The great Ganges-Brahmaputra-Meghna riverine systems carves its way through Bangladesh forming a large delta that covers around one-third of the country’s area and is home to 70% of population in the coastal area that is rich with fertile soil and biodiversity. However, the coastal regions of the country are very vulnerable to cyclonic storms, tidal surges, floods and water-logging, erosion and salinity intrusion and pollution etc.; and millions of people are affected every year from many crises like food, water, pollution, biodiversity loss; damages of agricultural crops, households and domestic pets and animals, structures and embankments etc; suffering from famine, malnutrition and forcing people into abject poverty and migration to the cities especially to the capital city, Dhaka for food, shelter, work opportunity and for better life to have their ultimate shelter in Dhaka and its suburb. The cities are the ultimate shelters during major disasters like floods, tidal surge, cyclones, tornadoes and famine (Miyani and Rahman, 2010).

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Dhaka is now a megacity with more than 14 million people and 28% are poor and live in the slums. From 1951 to 2001, the population of Dhaka city had increased 25 times and the area was increased by 18 times (Jahan, 2009 and Rahman, 2010). It is projected that, the population will rise at 20 million in 2020, and Dhaka will be the world's third largest city (Satu and Ovi, 2009). Due to the effect of climate change, the basic ingredients namely air, space, light, water and other logistic support and services of the citizen are increasingly hampered and the city is becoming uninhabitable. Dhaka has been rated as the least livable location among the 140 cities surveyed by the Economist Intelligence Unit (Economist Intelligent Report 2012). Resource management and biomass recycling have been seriously affected.



Figs. 1 & 2 Crowd of people in Dhaka and Rail Station



Fig. 3 & 4 Slums along the roads and water bodies

The huge population has made the megacity over-crowded, congested, polluted, unhygienic and unliveable. Research has shown that over 40% of the female workers in the factories suffer from chronic diseases such as gastro-intestinal and sexually transmitted diseases (STDs), reproductive

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tract infections (RTIs), menstrual and blood pressure problems, anaemia and family planning related illnesses. The abortion rate among garment workers is high, with about 18% of married workers interviewed having experienced at least one abortion usually in unhygienic and inappropriate situations (Richard *et al.* 2010 and Roberts 2001). This study reveals that the major causes of ill-health of the huge workforce are: single-track work under stress and longer working period without any relaxation and amusement, unhealthy living condition and nutritional deficiency. Most of them are underfed, illiterate and do not have knowledge about nutritional value of foods. Due to poor sanitation and congested living with 4 to 5 people in 10m² room, they often suffer from contagious diseases like diarrhea, dysentery, typhoid, dengue and pneumonia etc. Lack of proper nutrition, they used to have very low immunity and thus high child death, stillbirth, blindness and physical malformation are very common.



Figs. 5 & 6 Ill-health garment workers and slum children are suffering from malnutrition

Dhaka city is noted for a serious shortage of housing facilities. Willcox (1979) showed that due to physiographic factors such as low-lying agricultural lands and natural barriers such as rivers, canals, depressions, the expansion of the city has been seriously contained. Lack of proper infrastructure facilities and unplanned urbanization has created new hazards in informal settlements. As these settlements grow larger and denser, lack of sanitation, clean water and garbage removal, in addition to congested living conditions add to the disaster vulnerability of slum dwellers; resulting in further environmental and health problems. The UN Millennium Task Force on slum dwellers reported that lack of provision for water and sanitation and high levels of overcrowding contribute many communicable and non-communicable diseases, injury, and premature deaths in several urban slums in the megacities of Dhaka and São Paula (UN Millennium Project 2005, 59-60).

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Figs. 7 &8 Unhygienic sanitation and miserable conditions in the slums of Dhaka



Fig. 9 Slum along the railway line at Tejgaon Fig. 10 Quality of life in slums

Lacking or inadequate education and skills, most urban migrants work in the informal sectors as rickshaw pullers, van and auto drivers, construction workers and day laborers. Garment workers and vendors, street hawkers etc. are also significant in numbers living in the slums. Generally, these people consume rice 2 or 3 times per day but milk, meat, fruits and vegetables are not often consumed. Therefore, malnutrition among women and children is a serious problem in Dhaka. Protein-energy malnutrition, iron deficiency anaemia, iodine deficiency disorders, and vitamin A deficiency are common (UNICEF 2010). The World Food Program (2004) estimated the prevalence of anaemia among pregnant women in Bangladesh is 47%. Malnutrition passes from generation to next generation as malnourished mothers give birth to malnourished children, and under age-five mortality rate is 59‰ (World Bank 2011). The inadequate consumption of protein and micronutrients results in various long- and short-term health problems e.g. stunting, underweight, osteoporosis, and low bone-mass (Leslie 1991 and UNICEF 2011).

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Figs. 11 & 12 Researchers are discussing with the women and a student is collecting Data



Figs. 13 & 14 Unhygienic beverage shop and costly Betel leaf and nut shop

Relative under-emphasis, ignorance and lack of knowledge on overall nutrients and hygiene status are often the root cause of food insecurity, inadequate access to healthcare services, poor sanitation and unsafe water, illiteracy and low education, and lack of proper caring practices among pregnant women in the urban slums and poor population have affecting the over all livability and sustainability of urban life of Dhaka Megacity.

Considering the facts, the RCE Greater Dhaka partners started education for sustainable development (ESD) programs to focus the great issue and to mitigate the sufferings of the huge population of the urban slums. The program includes: awareness, training, developing consciousness and practicing for healthy lifestyle, free immunization and health check up, medication, blood donation and conducting research on nutrient status of slum dwellers.

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Figs. 15 & 16 Health camp (immunization against six contagious diseases and feeding vitamin A)



Figs. 17 & 18 Blood Donation and Health Check Up

3. Main Partners and Their Roles: The main partners of the RCE Greater Dhaka are performing the program which are:

1. Centre for Global Environmental Culture (CGEC): The lead organization initiated and is coordinating the program
2. International University of Business Agriculture and Technology: Providing logistic supports
3. College of Health Science and Nursing of IUBAT: Providing health services, training and conducting research on nutrient status
4. Rotary District Greater Dhaka 3280: Supporting the program financially
5. Centre for Policy Research (CPR): Conducting research and helping in publications
6. Quantum Foundation: Conducting health check up and also blood donation program
7. Sikder Medical College, Dhaka: Conducting health check up and also blood donation program
8. Simon Fraser University: Supporting technically and logistically

4. Contribution of the Program

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CGEC is the pioneer organization, has been working for ESD since 2003. It has been conducting research on socioeconomic conditions of the Dhaka Megacity and presented a paper, in the Global Summit on Coastal Seas: Environmental Management of Enclosed Coastal Seas (EMECS 9), in August 30, 2011, Baltimore, USA, entitled “Vulnerability of the Bay of Bengal Enclosed Coastal Sea due to Socio-Economic Conditions of the Megacity of Dhaka” (Rahman, 2011). During the study, the miserable condition of the slum population has been investigated. Thereafter, to focus the issue related to health, hygiene and nutrition with poverty, CGEC organized collaboration with the Rotary District Greater Dhaka, College of Health Science and Nursing of IUBAT, Centre for Policy Research (CPR), Quantum Foundation, Shikder Medical College, Dhaka of Bangladesh and Simon Frazer University of Canada to aware, training and practice through campaign, health camp and immunization, as a host organization, CGEC took the leadership and is supporting financially, and coordinating the program among the RCE partners. It is now a regular program and the slum people used to visit the health camp and are benefitted. Coordination among the partners is a great factor for successfully achieving this goal. CGEC has been organizing and keeping a schedule of works, viz. training and campaign, health check up, blood donation and observing immunization day etc. It has built up a close relation with the slum people for their improvement of health, hygiene and nutritional status in the community. The project has contributed in

- Learning and Knowledge
- Sustainable and healthy lifestyle, malnutrition in relation to poverty
- Healthy life of the urban poor
- Identification of root of the problem and working collectively keeping humanity in mind
- Leadership and coordination
- In deed, the whole program is based on ethical and socio-cultural ideologically humanitarian as about three million urban people has been suffering due to critical issues of poverty, malnutrition and unhygienic condition although, the rich and so-called civil society, government and political organizations are ignoring the very important issue of the large section of the city dwellers.
- We did not face any significant barrier rather the slum dwellers cooperated with the program happily. Since, our approach was friendly; they entertained the volunteers and students providing information, receiving training and practicing lessons about hygiene and nutrition for a healthy and sustainable life. Although finance is an important issue, but IUBAT, Rotary District Greater Dhaka, Simon Frazer University are funding the program and Quantum Foundation, Shikder Medical College are supporting medical and healthcare services.

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5. Up-scaling of Results

- CGEC, the lead organization of RCE Greater Dhaka has been conducting research on socioeconomic conditions of the Dhaka Megacity since 2008 and presented a paper entitled “Vulnerability of the Bay of Bengal Enclosed Coastal Sea due to Socio-Economic Conditions of the Megacity of Dhaka”, in the Global Summit on Coastal Seas: Environmental Management of Enclosed Coastal Seas (EMECS 9), in August 30 2011, Baltimore, USA, and the research identified the miserable condition of urban slum dwellers. Then CGEC has started volunteered program to improve the health, hygiene and nutrition status of urban slum people through ESD program.
- Started research work “ Benchmarking the Nutritional status in the Tongi- Ashulia Road Slums” by the College of Health Sciences and Nursing of IUBAT and Simon Fraser University, Vancouver, Canada, and published CPR Commentary No. 7, Summer 2010 (Richards *et. al.* 2010). Results showed that, although urban poor consumes sufficient high-calorie cereal-based food but lacks adequate quantities from the full range nutrients of food groups. Results also showed that people are habituated with smoking, chewing betel leaves and nuts and drinks beverages by spending a significant portion of their income.
- Based on the research, investigation has been continued on the improvement of nutritional status for women in low-income households and published CPR Commentary No. 8, Summer 2012 (Shahrin and Richards 2012). Results showed that, women face problems of inadequate calorie intake and lack of dietary variety. Many women suffer a deficiency in necessary vitamins and micronutrients to be found in fruits, vegetables, and dairy products. Nearly all women in the rural sample use hygienic tube well water, but the great majority of urban women unhygienic tap water.
- Recommendations over the findings are: behavioral change through education, nutritional advice, cleanliness, promotional nutritional supplements, improvements in hygiene, role of social enterprises, campaign against chewing and smoking tobacco and betel leaves and nuts. Recommendations were also made from market price analysis of food commodities that through changing behavior and food habit it is possible to improve health, hygiene and nutrition and can be saved millions from malnutrition, diseases and mortality. Thus the program is progressing further through voluntary collaboration with partner organizations for awareness, training and campaigns.
- RCE partners CGEC, Rotary District Greater Dhaka, College of health College of Health Science and Nursing of IUBAT, Centre for Policy Research (CPR), Quantum Foundation, Sikder Medical College, Dhaka of Bangladesh and Simon Frazer University of

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Canada have been organizing regular awareness campaign, training, and free health camps for the slum people and urban poor, regularly.

- The volunteers coming from Canada, USA, Australia, UK, Netherlands and Japan etc. and the students of College of Health Science and Nursing are visiting slum gathering experiences and giving training to the urban poor.
- The students are doing research and practicum and collecting data and enriching the health standard of the illiterate urban people especially the women and children.
- The program has also been extended in the rural area of Jamalpur District (CPR Commentary No. 8, Summer 2012 & Shahrin and Richards 2012).
- This program has impacted positively upon civil society, local community, NGOs and attracting hundreds of volunteers from the country and abroad.
- It is getting importance and local poor people are being benefitted through this ESD program organized by RCE Greater Dhaka.

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