Concept Note for Knowledge Products (KP2)

Project Number: 46465

Regional–Capacity Development Technical Assistance (R-CDTA)

August 2015

South Asia Urban Knowledge Hub

(Co-financed by the Sanitation Financing Partnership Trust Fund under the Water Financing Partnership Facility)

University of Moratuwa
Sri Lanka
August 2015

1. INTRODUCTION

Safe sanitation is widely recognized as an essential foundation for better health and living condition. Although targets of sanitation are achieved as a country, Sri Lanka needs more attention on pollution occurring due to use of substandard sanitary facilities, improper management of solid waste and sewage. Selection of effective methods, technologies and designs is a fundamental requirement in order to achieve better hygiene and to improve the living condition of people.

Among two selected municipal councils, environmental sanitation is at a lower level in Moratuwa MC. The contamination of waste for the major water bodies such as Bolgoda Lake, Lunawa Lagoon and Panadura Ganga in Moratuwa Municipal Council can be presented as one of the major environment sanitation issue in the area. Basically Lunawa lagoon is receiving drainage water from the Moratuwa- Ratmalana basin and water is severely polluted by contamination of its tributaries. Lunawa Lagoon is the most polluted water body in the town as its feeder canals passes through high density low-income settlements and industrial areas. Since most of the areas in the MMC have highly density development, most of them (more than 90%) discharging the waste water to the storm water drainages which caused unsanitary conditions in the residential and urban environment. Further, due to the lack of space for solid waste disposal, more than 90% of the people has to have seek the municipal waste collection system which is only kitchen waste are collected. Hence, people used to burn, irregular dumping of the non-degradable and other degradable wastes at their premises which has harmful effects to the quality of the environment. In addition to industrial waste, domestic effluent is discharged into these water bodies from the shanty settlements in the lagoon banks. Practice of proper treatment methods and disposal options can be identified as a decisive need to scale up the level of environmental sanitation in Moratuwa MC. Solid waste management is the crucial event in Gampaha MC since Local Authority is lacking physical and human resources. Less involvement of LA and managing solid waste within households is identified as the best solution.

Lack of awareness on effective methods and technologies has become the major reason for using substandard methods to fulfill the sanitation needs. Having noted the need and observing the lessons learnt at previous instances, the aim of this project, under the objective 1 of the K-Hub Sri Lanka Programme, is to develop a User Manual/Practice Guide for households of Moratuwa and Gampaha Municipal Council areas to select proper treatment methods and disposal options along with appropriate technical designs.

1.1 Proposed Knowledge Product

The proposed Knowledge Product is a user manual/practice guide for households to select proper treatment methods and disposal options. This focuses on three major categories;

1. Domestic solid waste management
2. Maintenance of household soakage pits and septic tanks
3. Surface runoff

a tri-partied interactive base for the system operators, and activity managers (officials of the LA) and the service receivers (citizens) of the selected LA areas. The information will be provided, retrieved, updated and verified by both the service providers and the receivers. The development of the system will be based on the lessons learnt, mainly from the previous attempt to develop a similar EMIS for Kotte Sri Jayawardenepura Municipal Council that was discussed under the Case Study I of K-Hub Sri Lanka programme, and will follow a process of close interactions with the identified stakeholders. University of Moratuwa, Ministry of Urban Development, Water supply and Drainage (as per the current portfolio), Urban Development Authority, selected Local Authorities, Divisional Secretariats, Sri Lanka Institute of Local Governance, Mayors Forum, Chamber of Commerce, Business Associations, and Tax Payers Associations, and National Water Supply and Drainage Board will be the key partners involving in the development.

The aims of this project are in line with the aims of the ADB and the objectives of the Water and Sanitation grant. The operations of the system after the complete installation within the two LAs selected for the project, are expected from end 2017.

1.2 Rationale

Sanitation is a fundamental requirement of citizens of a city. Since poor sanitation leads to cause major hygienic issues, it is essential to promote safe standard sanitation practices among the people. Promotion of comfort convenience and welfare for the citizens of the Local Authority area is one of the mandatory function that has assigned to Local Authorities through the Municipal Council Ordinance, No 9 of 1947. Under this legal provisions they are manly involved in solid waste and septage management to offer a clean environment for its inhabitants. Generally, their tasks include; solid waste collection and disposal, providing gully service, construction and maintenance of drainage system, regulating the built form etc. Providing necessary infrastructure and sanitation based service delivery is not only sufficient for good hygiene of people. People should have aware on best sanitation practices and there should be a precise way of using sanitary facilities that have come up to satisfactory standards.

Although people in most of developing countries have access to sanitary facilities up to a satisfactory level, people are using substandard designs. Based on observations and surveys same scenario is noted in high density low income settlements in Moratuwa MC. In addition, solid waste management in Gampaha MC has become a critical issue since they face resource constraints. Subsequently, there is a need of managing domestic solid waste within households itself as far as possible without expecting the LA to manage the entire process.

Having noted the need and observing the context of the area, the aim is to develop a location specific user manual/practice guide targeting households of both municipal councils namely Gampaha and Moratuwa to select better treatment methods and disposal options. It will be a comprehensive user guide that would help the citizens to maintain their own waste by themselves up to maximum level within the household and to maintain a hygienic sanitary system domestically.

The aim of distributing such a manual is to aware people on standards of sanitary facilities and to introduce best sanitary practices including the use of proper show-cage pit and septic tank designs, maintenance of septic tanks, and proper ways of handling solid waste. The ultimate target of this activity is to,

- Prevent groundwater contamination from failing septic systems
- Prioritize waste avoidance over recycling and recycling over the other forms of environmentally sound disposal
- Reuse non-degradable wastes as far as possible
- Guarantee an environmentally sound residual waste treatment and disposal as basic prerequisites for human existence

2. METHODOLOGY

1. Study the contextual background and geographic characters of the area
2. Identify the existing sanitation practices of two MCs
3. Research on best practices of treatment methods and disposal options in the Asian context
4. Develop the user manual based on lessons learnt
5. Distribute the user manual among the citizens of the municipality
6. Conduct an awareness workshop for municipal officers

3. AUDIENCE

The dissemination actions envisaged in the project will address 2 main target audiences; The **general public** in Moratuwa and Gampaha MCs to whom the manual will be

distributed and who will be benefited after becoming aware on utilizing better sanitary facilities; **Municipal council officers** who will be participated for awareness workshops on technical details on better treatment methods and disposal options. This knowledge is to be shared with people who need to aware on these best practices those who are now enjoying the poor sanitary facilities.

4. PEER REVIEW

Peer review will be doing as two stages;

- Within organization : Senior staff of Faculty of Architecture and Faculty of Engineering
- Outside organization : National Water Supply and Drainage Board, Western Province Solid Waste Management Authority, Sri Lanka Institute of Local Governance(SLILG)

5. REGIONAL PERSPECTIVE

Contribution of partner countries with similar experiences regarding best practices on proper treatment methods and disposal options that have used in Asian context which became successful will be very much helpful in developing an effective user manual.

Sharing of information on following key areas will be supportive factors for Sri Lankan K-Hub group.

- Key factors concerned in selecting treatment methods and disposal options
- Technical details of designs (ex. Location specific septic tank designs)
- Limitations and challenges faced