REVIEW ARTICLE

SLUM SANITATION PROGRAM

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ABSTRACT

Slum Sanitation Program (SSP) was conceptualized with the objective of improving health and hygiene conditions of slums in Mumbai through better sanitation services. The approach to build only demand based community toilets and active involvement of the community based organization for maintenance demonstrated consistent achievement of objectives resulting in Reduction of open defecation and improved health and hygiene conditions. The implementation of "ONLY WOMEN" community organization demonstrated accrual of other social benefits. The Program through its approach over years has demonstrated its sustainability and potential to be deployed in other cities of India. The program has deployed various innovative technical solutions viz. Bio Digester, Bio Culture, incinerator and solar panel to overcome hurdles in providing sustainable sanitation services in remote and geographically impossible slums. The use of GIS based platform has enhanced transparency and cleanliness. The program emphasizes success of mission, Swatch Bharat Mission, if rightly implemented.

INTRODUCTION

Being financial capital of India, Mumbai has earned its reputation as a Bread provider to all of its citizens and hence significant sections from rural and adverse geographic have migrated to the city. Mumbai is spread over 438 sq. km. As per the population census of 2011, the slum population in Mumbai is 52, 0 7,700 out of 1, 24, 42,373 (41.85%) of total population. The slum dwellers have to largely depend on public toilets provided by the government agencies. These sanitation services were poorly maintained at large. In order to avoid long queues, slum dwellers adopted an easy solution of open defecation along nalla side, railway tracks. This caused serious public health and environmental risks and epidemics for the entire population of the city. In 1995, the World Bank financed Mumbai Sewerage Disposal Project of MCGM by forming Slum Sanitation Program (SSP) to address health, hygiene issues due to lack of basic sanitation facilities of increasing slum population of Mumbai. The communities are involved in all phases (planning, construction, design and maintenance) of building sanitation services (Community Based Toilets). The SSP focused on addressing the technical and social obstacles in providing sanitation services. The practical and successful

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implementation of this approach has been a long journey in the history of MCGM. After getting fresh wave of policy and financial support of Central Government in the form of Swatch Bharat Abhiyan in 2014, the SSP has been consciously investing its efforts to use the latest Socio Technological developments (such as use of renewable solar energy and Bio toilets, GIS mapping, Incinerators etc.) in its overall service offering.

Literature review

Akkani (2007) - Success of construction projects depends mainly on success of performance. Many previous researches had studied the performance of construction projects. Dissanayaka and Kumaraswamy remarked that one of the principle reasons for the construction industry's poor performance has been attributed to the inappropriateness of the chosen procurement system. Thomas et al. identified the main performance criteria of construction projects as financial stability, progress of work, standard of quality, health and safety, resources, relationship with clients, relationship with consultants, claim and contractual disputes, relationship with subcontractors, reputation and amount of subcontracting. Chan and Kumaraswamy stated that construction time is increasingly important because it often serves as a crucial benchmarking for assessing the performance of a project and the efficiency of the project organization.

Jacson, 2011. Social impact assessment (SIA) has not been widely adopted as a component of the assessment process for project or policy appraisal. This paper focuses on four issues: how we are labeling research on social impacts; what historical events led to the separation of SIA from the environmental impact assessment (EIA) process; whether the Guidelines and Principles for Social Impact Assessment helped focus the research and practice of SIA; and whether there is evidence that we are accumulating a body of knowledge labeled social impact assessment. To become institutionalized EIA–SIA must be a statutory requirement, otherwise agencies and consulting firms that do EIA will not include social impacts.

Rabel J. Burdge and Frank Vanclay 2 Social impact assessment can be defined as the process of assessing or estimating, in advance, the social consequences that are likely to follow from specific policy actions or project development, particularly in the context of appropriate national, state, or provincial environmental policy legislation. Social impacts include all social and cultural consequences to human populations of any public or private actions that alter the ways in which people live, work, play, relate to one another, organize to meet their needs, and generally cope as members of society. Cultural impacts involve changes to the norms, values, and beliefs of individuals that guide and rationalize their cognition of themselves and their society. While SIA is normally undertaken within the relevant national environmental policy framework, it is not restricted to this, and SIA as a process and methodology has the potential to contribute greatly to the planning process. As an example, New Zealand health professionals have recently been planning the introduction of new health care systems in the indigenous Maori communities and were looking at SIA to assist in the process of evaluation of alternatives, and to help in their understanding and management of the process of social change (Association for Social Assessment 1994)

Research methodology

Objectives

- To delineate the selective measures taken by BMC to remove open defecation from slum for the city.
- Tostudythesocialimpactoftheselectedmeasuresforslumde velopmenttakenbyBMC.

Hypothesis

- BMC has taken active measures to ensure slum development for a city.
- Measures taken up by BMC have positive social impact.

Data collection and analysis

Secondary data from BMC's website was obtained to identify measures taken by BMC in ensuring slum development for a city. Sources like BMC's City Development Plan, Environmental Status Reports (ESR), City Sanitation Plan and newspaper reports were also referred. Information was also obtained from websites of JNNURM and Primary data was collected by making stratified random sample survey of 1870 resident's from all twenty three wards of Mumbai City regarding their satisfaction about BMC's social infrastructural provisioning and maintenance measures and their awareness regarding BMC's projects and services. qualitative analysis of data and social impact evaluation was carried out.

Slum improvement

Increasing rural-urban migration, limited land availability for development and high land value due to commercial development challenged public authorities' ability to provide basic sanitation services to slums. In the latter part of 1990, many government and private agencies were vested with the responsibility of constructing toilet blocks in slum areas of Mumbai. The following figure of slum population served under sanitation sheds some light on the progress achieved by these agencies. Despite of the large number of toilet blocks developed by different agencies by construction of toilet blocks, quality of basic sanitation services offered to slum dwellers remained poor and in adequate. The developing agencies encountered numerous obstacles in effective addressing of sanitation issue. Most of the toilet blocks constructed were load bearing structures with asbestos cement roofing sheets with poor quality of construction resulting in a short life span of average 3 years. Unavailability of water was the main cause behind poor cleanliness causing medical hazards to users. The lack of electricity restricted time to use these toilets and aggravated an issue of open defecation causing huge inconvenience to slum dwellers specifically to women of this section. Due to these reasons, conditions of toilet blocks became unhygienic and unusable. The users lacked a sense of ownership of maintenance of these toilet blocks and contributed for rapid dilapidation of these services. This cycle of failure was perpetuated aggravating already bad situations and increasing health issues and epidemics.

Health care facility

Mumbai Municipal Corporation provides public   health services through 47 health centers, 9 Diagnostic centre, 11 Maternity Homes, 3 Pediatric Hospital and one 500 bedded Chatrapati Shivaji Maharaj Hospital. Total Private Hospitals in BMC areas are 409 with 6322 Bed facility. Standard norms for number of beds in hospitals are one bed for 550 persons. Hence as per norms there should be 4849 beds for 40 lacks Population. It shows that BMC has good medical facility as total beds are 4156 including private and public hospitals .But as far as Government facility is considered ratio comes to 0.14 beds for 550 persons. IPD and OPD status of CSM Hospital shows great stress on Government facility as total number of IPD and OPD cases from April 2007 to March 2008 were 162351 and these were 236478 from April 2009 to March 2010. Health Department of BMC carries out health survey every year for controlling infectious disease, family planning, women & child health care issues. Infectious diseases status shows that there is twofold increase in diahoriya. This indicates BMC has to pay more attention towards public health care facility by improving relevant infrastructure.

Education

Mumbai Municipal Corporation runs pre-primary and secondary schools. Educational Board runs primary schools.

Ward wise nurseries run by BMC. Mumbai Municipal Corporation celebrates World Environment Day each year. Students also participate in it and tree plantation is carried out. Every year science exhibitions are organized by BMC to develop scientific approach among students. In the year 2011-12 a public enlightenment program on right to education was run by BMC. ESR 2008-09 mentions that BMC has initiated the program of development of social infrastructure for the city by invoking Public-Private-Partnership instruments. The program comprises of 69 projects.BMC has formulated strategy of holistic and sustainable development of the city by planning and initiating projects through PPP in the sphere of education, health, housing, sports, entertainment and art.

Development of social culture

- **Education:**14projects- school building, boy's hostel, nursingcollegeandhostel**or**008
- **Health:** 7 projects - Primary Health Centers (PHC), Dispensary, Maternity home
- **Housing:** 11projects
- **Welfare:**17 projects consisting of Community center, Library, Mahila Udyog Kendra, Multi- purpose hall
- **Administrative:**12 projects-Wardoffices, firestation, administrative building
- **Commercial:** 11 projects - Shopping center, Market
- **Traffic and Transport:** 5 projects - Parking plaza, Parking Zones
- **Art and Environment:** 5 projects - Art gallery, drama theater, convention center, art center
- **Sport and Recreation:** 9 projects - Sports complex, play ground, garden, and parks

Partnerships are emerging of BMC with different stakeholders, which further will make cost saving and improvement in overall infrastructure in future.

- Whether they know that Dryads wet garbageis separated at house hold level,
- Collection and transportation of garbage is done by private contractors,
- There is dumping ground at Bh and up and Ghatkopar in Mumbai.
- BMC provide tree samplings to citizens and schools for tree plantation,
- Artificial ponds are created by BMC for idol immersion during Ganpatifestival,
- There are some NGOs like Pratha Samajik Sanstha, Samidha Samajik Sanstha.

BMC gives rebate of 10% on property tax on installation of solar water heating system to existing residential buildings, BMCgives5%discountin property to the socities recycling solid waste by50%

An environmental status report for Thane and various projects taken up by BMC are published on BMC website (www.mcgm.gov.in) every year. The Commissioner along with officers from various service departments attend the complaints of the citizens personally on 1st and 3rd Monday of every month, BMC encourages private sector participation for projects like road building, improvement of traffic islands, developmentofNaturePark,conservationofcreeks,lakesanditsbeautification.Awareness among stakeholder's will help determine reach of BMC's projects and programmers. It was found that the entire resident sample was aware on an average of 5 of these activities. BMC thus has to play more active role in making people aware of its various projects and services and to raise their participation as it will improve reach of their programmers.

Conclusion

The social impact evaluation of BMC measures for sustainable development is found to be participative and also proactive. Analysis of BMC measures in areas of slum redevelopment, health and education initiates and its cost effectiveness by emerging partnerships with other stakeholders validates the first hypothesis that was made BMC has taken active measures to ensures sustainable development for the city.

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