IOSR Journal of Business and Management (IOSR-JBM)
e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 20, Issue 8. Ver. III (August. 2018), PP 06-09
www.iosrjournals.org

Environmental Influences of Urban Solid Waste Management In Kushtia Municipality And Options For Sustainability

Mohammad Intaz Ali, PhD last semester
Faculty of PGC, Limkokwing University of Creative Technology, Cyberjaya, Malaysia.
Corresponding Author: Mohammad Intaz Ali
Email:intazdhaka24@yahoo.com

Abstract: *As a largely populated country, Bangladesh has a lot of problems of waste management from the beginning of its Independence in 1971. The purpose of the research is to investigate the present conditions and prepare the strategies for best urban waste management practice for the Kushtia municipality in Bangladesh thereby ensuring the safe and quality life and the environmental sustainability and investigate the human and environmental impacts resulting from the ongoing management practices. According to the United Nations Environment Programme (UNEP 2004), solid waste generation is an increasing global environmental and public health problem. The effect of particulate matter resulting from industrial pollution on the vertebrate animals includes impairment of respiratory system, damage to eyes, teeth and bones. This study is survey based classic descriptive research. Cluster sampling method was used to conduct the surveys. For socio-economic data collection, the 'Questionnaire survey' method was followed. The questionnaire was both open and close structured. The results of this study suggest that the success of sustainable urban waste management lies in the involvement of local communities as they are major stakeholders and decision-makers. It has been concluded that the community is capable of adequate waste management if given the appropriate opportunity.*

Keywords: *Urban Waste Management, stakeholders, Community Based Waste Management (CBWM), Kushtia Municipality, Environmental Sustainability.*

Date of Submission: 01-08-2018 Date of acceptance: 16-08-2018

I. Introduction

Rapid industrialization has made solid waste management a thoughtful problem today all over the world including Bangladesh. As a result, the environmental sustainability is damaging dramatically day by day. There is a strong relationship between inadequate waste collection and the existence of unplanned settlements in the region (Benefit Onu, Suresh S. Surendran & Trevor Price, 2014). Industries have a large environmental effect upon the surrounding natural of the environment. Changing of the water chemistry is the main connected environmental impact of the discharging sugar mills effluent on the open water body (M Salequzzaman, S M Tariqul Islam, A Tasnuva, M. A.Kashem and M. M. A.Masud, November 2008). Presently, in Kushtia municipality's citizens lead their life co-operating with potential pressures from these polluted industrial wastewater sources. This situation related to water quality which is not only essential for the human being, but also for the danger of diffusion of toxic substances into other ecosystems. Lack of industrial waste management also affects crop production and biodiversity and ecosystem degradation (Anjum Tasnuva, 2014).

Maximum numbers of people are interested to adopt Community Based Waste Management (CBWM), although they are not fully familiar about this system. They are also willing to use 3R principles for waste disposal.

3Rs: Reuse, Reduce and Recycle waste

In some time now, several numbers of industries and municipalities have been investigating with several innovative and participating methods of 3Rs: Reuse, Reduce and Recycle waste. There are thousands of town/cities and municipalities which are hubs of rapid financial development and population increasing, generate thousands tons of waste from industrial, domestic, health care/medical facilities, commercial and agricultural sources that must be achieved daily.

II. Literature review

Many different actors have experimented with various technological options to find viable alternative for appropriate collection and disposal of waste. Solid waste management has now become a global issue (Bulle, 1999). It has been an established fact that solid waste management is not just a technical issue (Dalla Torre,

1992) but also socio-political and cultural dimensions that need solutions through imaginative polities, administrative reorientation, institutional and organizational arrangements and an informed population.
Kant and Berry (2001) states the conventional view has been that only private or public management of these systems is the most effective irrespective of the nature of the resource to be managed or the socio-economic conditions of people associated with the resource. However, local governments often suffer from a lack of financial, technical and skilled human resources and are not able or willing to manage these systems. Despite these deficiencies, there are some examples of successful community based systems from around the world (See Ostrem 1990, Bhide and Sundaresan 1984, Ascher 1995).

The need to understand community participation and community based environmental management initiatives have been addressed by researchers and concerned institutions for the several years now. In 1992, the UNDP funded and World Bank managed Metropolitan Environmental Improvement Program (MEIP) initiated studies on this issue in four Asian cities (Lapid, 1992). The purpose was to understand the impact of urban environmental degradation on the welfare of the poor, how they were coping with this degradation and the recommend community based actions to enhance welfare. This was followed by a similar study under the UNDP Asia Pacific 2000 program (AP, 2000). Presently, researchers and development practitioners are now trying to shift the traditional mindset that poverty "causes" environmental deterioration and that urban poor generate wastes that degrade their habitat (Lee, 1994).

The more common view now appears to be that the urban poor are the victims and not the cause of environmental deterioration. Given access to important resources like land and even a minimal support from external groups and institution, low income can improve and maintain a decent and livable environment.

Lee (1994) suggests that the provision of support by external NGO's has shown great potential as catalysts in assisting low income communities in terms of empowerment and environmental issues. For the longer term, she states that the increasing activism of indigenous NGO's in mobilizing community collective efforts represents a significant source of outside support.

Lack of industrial waste management also affects crop production and biodiversity and ecosystem degradation (Anjum Tasnuva, 2014). The effect of particulate matter resulting from industrial pollution on the vertebrate animals includes impairment of respiratory system, damage to eyes, teeth and bones. Susceptibility to disease, pests or other stress-related environmental hazards and reduces ability to reproduce (Smith, 1975; Pope et al., 1995 and Blake & Rowland, 1995). Particulate matter that enters the lungs may lodge there and result in chronic respiratory problems including emphysema, pneumonia, bronchitis, asthma and respiratory tuberculosis. Particulate matter associated with sugar mill operation may cause a mutation in the species by altering food chains, and affecting the ecosystem (Efe, 2008).

III. Methodology

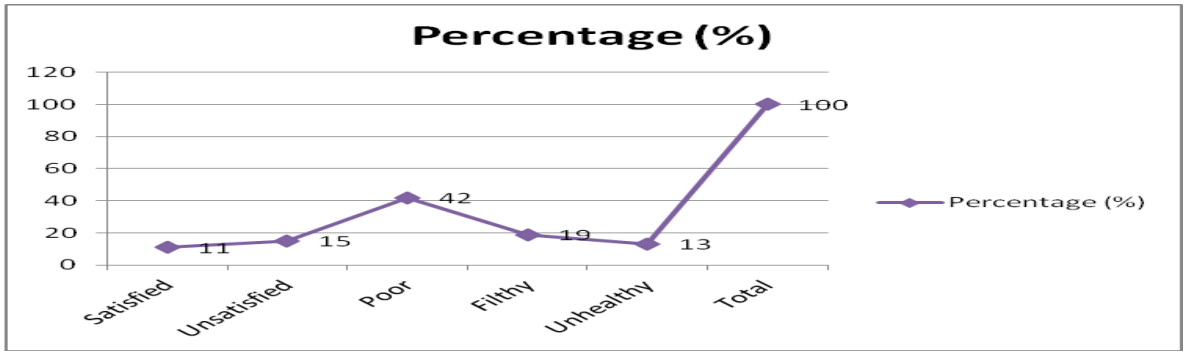
In general, three main sources of information and data were utilized. Primary data was collected from the field through questionnaires, structured and semi-structured interviews. The study used secondary source of information and data, especially as it addresses conceptual and contextual issues as well as a review of literature. Secondary source were also used for the development of a theoretical framework, design principles and from different related books, Journals from library of Environmental Science.

IV. Results and discussion

The present result indicates that 71% people are conscious about their environment and 29% people are not conscious about their environment. Most of the people, who are conscious about their environment, live in centre place of the town and they have knowledge about environment,

About 42% people are satisfied about their present environmental condition and 58% people are not satisfied. Majority people have opined that the present environment condition is not acceptable to them, because the environment is being polluted widely and rapidly by creating chemical waste in various industries waste in their local area. Most of the people know that all kinds of waste are very dangerous for their environment because it causes of diseases, makes and spread odor after being rotten in nearby water body and damping site. Though very few people are aware about their environment to stop contaminate various element of environment but some times it is very hard because of unavailable instrument and proper strategic concept and lack of skill man power in their locality.

The present environmental condition was categorized into five groups and house heads in the study area were asked to choose. About 11% people opined that the present environmental condition is good, whereas 15% people decided present environmental condition is something good. About 42% people said the present environmental condition is poor. Another 19% people think that present environmental condition is filthy and the remaining 13% people has given opinion about present condition of environment that is unhealthy who live in remote area in Kushtia town.



The present waste management organization's activities choose 42% house head that mostly live in central point of Kushtia town but 58% house head are not satisfies and mostly they live out of central place. They have a bundle of complain to the authority.

The present survey indicated 33% people and municipal authority opined Kushtia municipality use manually pulled van for carrying waste. Vans are used for collecting waste from door to door from near area of municipality. However, this service is limited because the waste collectors do not go every house. About 67% people and municipal authority told municipality uses motorized vehicles (such as pick up, track) collecting waste from long distance from municipality. In this area, door to door waste collecting service is not available now for which people are upset and complaining against municipality. Even people complained that wastes are not collected on a regular basis rather waste collection occurs every seven and fifteen days.

Among 100 interviewed opined that about 57% people are satisfied about the 3R method because they said 3R method is very important to reduce waste and save resources and save environment by reducing pollution. They also think about 3R method is environmentally helpful which is now vital for human being. About 43% people opined negatively because they have no concept about 3R method.

The Table shows the obstacle of implementing 3R method. About 12% people opined lack of idea is obstacle for implementing 3R method and 34% people opined financial problems is the obstacle of implementing it. Consisting of 23% people opined lack of technology and the remaining 31% people opined lack of willingness of scheme is obstacle for implementing of 3Rmethod.

Obstacles	Cumulative Frequency	Percentage (%)	Cumulative Percentage (%)
Lack of idea	12	12	12
Financial problems	46	34	46
Lack of technology	69	23	69
Lack of willingness of scheme	100	31	100
Total	Cum Freq = 227	= 100%	Cum Per = 227%

The present research finds out the relationship between ages and interested to adapt CBWM. The Table shows about 4 head of the household (6.5%) belongs to 25 to 29 years age group, 8 head of the household(12.9%) belong to 30 to 34 years age group, 7 head of the household (11.3%) belong to 35 to 39 years age group, 12 head of the household (19.35%) belong to 40 to 44 years age group, 14 head of the household (22.6%) belong to 45 to 49 years age group, 7 head of the household (11.3%) belong to 50 to 54 years age group, 5 head of the household (8.06%) belong to 55 to 59 years age group and 5 head of the household (8.06%) belong to 60 above years age group have interest to participate in community based waste management system. On the other hand total 38 head of the household belong to different age group are interested to participate in community based waste management system.

Interested to participation	Age								Total
	25- 29	30-34	35-39	40-44	45-49	50-54	55-59	60+	
Yes	4	8	7	12	14	7	5	5	62
	6.5%	12.9%	11.3%	19.35%	22.6%	11.3	8.06%	8.06%	100%
No	4	3	5	5	9	6	4	2	38
	10.52%	7.89%	13.16%	13.16%	23.68%	15.78%	10.5%	5.4%	100%

Among 100 interviewees in the surveyed area in Kushtia Municipal, mostly 46% head of the house holds have opined that odor pollution created by urban waste mostly found near border of the Kushtia town by rotten waste in the unclean drain. About 31% interviewed have said urban waste pollute water widely in study area whereas 12% interviewed opined air pollution created by urban waste and the remaining 11% interviewed have declared urban waste created soil pollution in the study area.

Pattern	Cumulative Frequency	Percentage (%)	Cumulative Percentage (%)
Air pollution	12	12	12
Water pollution	43	31	43
Soil pollution	54	11	54
Odor pollution	100	46	100
Total	209	100%	209%

V. Conclusion

Bangladesh is a densely populated country. More people create more waste resulting in more pollution. Waste management is a big challenge for Bangladesh. Our resource is limited, so we should try to utilize wastes as resources in other systems. To this end, the 3Rs system of waste management would be a good option. The community-based waste management is the best way to manage waste while earning livelihoods for community people. Moreover, people's awareness about the environment and motivation to keep it clean and healthy are essential in order to implement the community-based waste management.

About 9 percent house heads are satisfied about dustbin but as many as 91 percent house heads are not satisfied about their dustbin. Therefore, cleaning, repairing and providing new dustbins are immediately needed. Necessary action should also be made to collect wastes from these dustbins on daily basis.

Although most of the people are likely to be satisfied if the 3R method is implemented but about 43 percent people do not have the knowledge of this method. Therefore, people need to be trained through seminar, workshop, leaflet, etc.

Reference

[1]. Benefit Onu, Suresh S. Surendran& Trevor Price, 2014, Impact of Inadequate Urban Planning on Municipal Solid Waste Management in the Niger Delta Region of Nigeria.
[2]. M. Salequzzaman, A. Islam SMT, Tasnuva A, Kashem MA and Masud MM (2008). Environmental impact of sugar industry - a case study on kushtia sugar mills in Bangladesh. J. Innov. dev. stra., 2(3): 31-35.
[3]. Mukti, Sadia Afroz, Solid Waste Management in Dhaka City: Problems and Prospects, www.ijird.com, Vol 2 Issue 11, November-2013.
[4]. S. Roy, L. N. Banna, S A Mamun3 and M. A. Farukh (2013) Effects of industrial wastewater reuse intended for crop Production, MBSTU, Tangail-1902, J. Bangladesh Agril, 2013.

Mohammad Intaz Ali." Environmental Influences of Urban Solid Waste Management In Kushtia Municipality And Options For Sustainability ."IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 17, no. 8, 2018, pp 06-09.