

Legal Framework Dealing with Waste Management in Bangladesh: An Analysis and Evaluation

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Abstract

During the last few decades, the problems linked with waste management have acquired a serious dimension in Bangladesh. High population growth rate and increase of economic activities in the urban areas of Bangladesh combined with the lack of training in waste management practices complicate the efforts to improve the waste management services. In Bangladesh, the per capita generation of the wastes in urban residential areas is much higher compared with the rural residential areas. The ability of the countries to accumulate, process, dispose, or recycle the wastes in a cost effective manner is significantly limited. Bangladesh like the rest of the world has experienced significant growth of dangers facing the environment. Assaults on the atmosphere pose an insurmountable threat to human and various other life forms. The dumping of hazardous wastes and land-based sources of pollution pose a similar menace to the wetland, water bodies and oceans. Where many of the developed and developing countries have already found a scientific approach for proper disposal of waste materials, Bangladesh is yet to adopt 'A Comprehensive National Strategy' to significantly address the issue of waste disposal. However, some laws and policies like the Environment Conservation Act, 1995, among others, include some provisions for the reduction and control emissions of wastes from various sources as well as the disposal thereof. This paper is an endeavor to analyze and evaluate efficacy of existing legal frameworks in management of waste in Bangladesh.

Keywords: Waste, disposal, management, environment, Bangladesh, law

Introduction

The issue of waste generation is one of the by-products of the rapid advancement of modern science and technology, urbanization, rural-urban migration, industrialization, mushrooming of the population etc. (Abedin, 2015). There are no sector or development activities but to produce waste. Even some of the most technologically advanced industrial and manufacturing processes produce waste (Khan, 2004). "Waste is an inexorable creation of human activities, economic growth, urbanization and getting better living standards in cities, have led to an increase in the amount and complication of generated waste" (Irwandi, 2009). Hasty urbanization and population escalation are fundamentally liable for mounting the rate of waste assembly in Bangladesh. Many of the wastes are considered hazardous and harmful as they pose acute danger to human health and environment. "Due to lack of motivation, awareness, proper selection of technology and adequate financial support, a considerable

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portion of wastes, 40-60%, are not properly stored, collected or disposed in the designated places for ultimate disposal” (Waste Concern, 2014). As a result, this unyielding waste creates ecological harms. “In Bangladesh, akin to good number developing countries, unyielding waste management has so far been overlooked and least studied environmental issues” (Enayetullah, 2003). In recent times the fretful stakeholders have started to think this area to be an indispensable element to shield human physical condition and environment. Therefore, this paper proposes to prepare a comprehensive waste management strategy taking into account the risk to the atmosphere by reviewing existing laws on waste management systems in Bangladesh.

Conceptualizing Waste and Waste Management

The term waste has been derived from Latin word ‘*res derelicta*’ which means abandoned object. It is believed that the term has been developed based on the concept of “throw away” culture (Iqbal, 2004). Japan is the pioneer in this regard. It has introduced a 3R (reduce, reuse and recycle) initiatives regarding scientific disposal of wastes and adopted a comprehensive 3R National Strategy with a view to ensuring Reduce, Reuse and Recycling of the wastes (Sinha, 2005). “The principle of reducing waste, reusing and recycling resources and products is often called the "3Rs". Reducing means choosing to use things with care to reduce the amount of waste generated” (Jahan, 2016). Reusing involves the frequent utilize of substance or parts of substance which motionless have exploitable aspects. Recycling signifies the utilize of waste itself as wealth. Waste reduction can be achieved in a well-organized approach by focusing largely on the first of the 3Rs, that is "reduce", followed by "reuse" and then "recycle". The 3R inventiveness aims to advance the "3R's" worldwide so as to construct a sound-material-cycle culture through the successful exercise of wherewithal and resources. It was agreed upon at the G8 Sea Island Summit in June 2004 as a new G8 initiative. In order to officially initiate the 3R project, it was also decided to grasp a ministerial congregation in Japan in the year of 2005 (3R Forum, 2009).

While the 5'R conception is introduced following the 3'R concept, 2 additional stages (recover and refuse) of waste management course of action are added in the 5R Concept. “The first one is ‘recover’, which involves restoring substance that can no longer be recycled into power sources or environmentally responsive resources to evade them from landfill” (Waste for Change, 2019). “The last stage is ‘refuse’, which is the distribution of waste that can no longer be cast-off or restored at the landfill” (Jackson, 1962). Inverted triangle 3'R (reduce-reuse-recycle) notion illustrates the quantity of waste level that ought to be handled in every string (Singh, 2012). This implies that, in real meaning, most of the assembly of waste ought to be compact from the creation. Only while the creation of waste can no longer be avoided, the substances are reused. One of the methods of reuse is from beginning to end the up-cycling course or making handicrafts. “When substance can no longer be used all over again, the waste is recycled, which is melted, chopped, to be formed into a new product that might

suffer a decrease in quality” (Norgaard, 2004). “The decrease of quality in recycled materials, as well as the energy and resources needed to recycle waste, are two of several reasons why recycling is not the first priority of handling the waste the proper way. The main priority is always to reduce/prevent the waste generation from the beginning i.e. reduce” (Rosengren, 2019).

Etymologically waste is designed to mean the thing that is no longer useful and to be thrown away. In other words, ‘waste’ means and includes material, food etc. that are no longer needed and is to be thrown away. The term waste is also the synonym of refuse or garbage (Salam, 2001). Many efforts have been adopted in national and international context in order to legally define the term ‘waste’. At the very outset, I will shed light on the legal connotation of the term ‘waste’ given in various national and international instruments and lastly a conclusion will be drawn defining ‘waste’ from Bangladesh perspective. According to the WHO, “waste means the thing that has physical, chemical or biological characteristics which requires special handling and disposal procedures to avoid risks to health and other adverse environmental effects” (Khan, 2004).

Existing laws and policies dealing with management of waste

In dealing with the environmental dreadful conditions of the state, assortments of environmental laws have been made from time to time. There are more than 200 area specified laws that are in operation dealing with environmental issues in Bangladesh. They spotlight largely on soil use, space above soil and water toxic waste, sound, noxious chemicals, unyielding waste, forest preservation, flora and fauna protection, mineral resources, coastal region management, industry, ecological wellbeing and hygiene etc. In Bangladesh, prior to 1995, there was no such all-inclusive piece of legislation to comprehensively describe the expression 'waste'. However, the Environment Conservation Act, 1995 provides a relatively sound meaning of 'wastes' despite the fact that it is not comprehensive for each and every one purpose. Though at hand there is no all-inclusive legal framework relating to waste management in Bangladesh. However, there are a number of area wise legislations dealing with waste disposal in Bangladesh.

The Constitution of Bangladesh

Recent days have seen a significant increase in the level of understanding of the dangers facing the worldwide environment and an extreme variety of environmental harms is at the moment the subject matter of grim concern. But countries like Bangladesh are yet to determine or understand the dangers facing the environment, because the Constitution of Bangladesh doesn't include the issue of environment in any of its provisions expressly whereas our neighboring countries like India, Malaysia etc. contain specific provision of environmental issues in their constitution.

“The fundamental principles of state policy enshrined in part II of the Constitution of Bangladesh are economic, social and cultural rights which are *second-generation* human rights” (UNESCO, 1997). On the other hand,

fundamental rights incorporated in part-III of the Constitution are civil and political rights in nature, which are individual or *first generation of human rights* and protected by judicial enforcements and judicial reviews (Springer, 2020). There is another *third generation human right* which outlines '*right to development, right to environment*' which is absent in our constitution (Springer, 20). There are a number of such provisions in part-III of our constitution containing fundamental rights. For example, article 31 provides for right to life, which also includes the right to live in an environment free from pollution. However, the Supreme Court of Bangladesh in two cases (Ain O Salish Kendra vs Bangladesh, 1999 BLD 488 and Prof. Nurul Islam V State, 2000, 52 DLR 413) held the contention that 'right to life' enshrined in the Constitution as a fundamental right, includes the right to live in a healthy environment.

The Environment Policy, 1992

The United Nations Conference on Environment and Development (UNCED) held in Rio-de-Janeiro, Brazil in 1992 cemented the way in adopting comprehensive environmental laws. Agenda 21 of the UNCED urged the party states to abide by the International legal Instruments and to include them in the national laws for implementation. In the Proclamation of Independence of Bangladesh, it is provided that "*We further resolve that we undertake to observe and give effect to all duties and obligations that devolve upon as a member of the family of Nations and to abide by the Charter of the United Nations*" (Mujibnagar, 1972).

As a party to Agenda 21, Bangladesh is under obligation to implementing the international legal instrument as part of national programme policy. In pursuance to this, Environmental Policy for the first time in 1992 was adopted to eradicate serious impediments to the protection and improvement of the environment. The Ministry of Environment and Forest and the Department of Environment (DOE) of Bangladesh were created in 1989. So far as the question of legal framework dealing with waste disposal in Bangladesh is concerned, there is no specific and complete legislation to deal with the harms of waste disposal in Bangladesh. However, there are some sector wise Acts dealing with environmental problems. The Environmental Policy of 1992 was a significant advance in these regards. The Policy Provides some sector wise remarkable way out from growing problems of waste disposal, although not directly, but indirectly.

The Environmental Conservation Act, 1995

The Environmental Conservation Act, 1995 is at present the key legislative framework concerning environment shield to protect in Bangladesh. Section 12 of the Act of 1995 requires that "prior to establishment of Industrial projects environmental aspects have to be given appropriate consideration and prior environmental clearance is obtained". The key features of the Act can be summarized as it encloses stipulation for guideline in respect of vehicles emitting smolder injurious for the atmosphere, environmental clearance, regulation of the

industries and other improvement actions discharge permit, promulgation of standards for quality of air, water, noise and soil for different areas for different purposes, promulgation of standard limit for discharging and emitting waste. The Department of Environment headed by a DG who has absolute power over the department, power of DG to shut down the actions considered injurious to human life or the environment. Any person exaggerated or is likely to be exaggerated from the toxic waste may make an application before DG for damages, declaration of an area affected by pollution as an ecologically critical area (Section 5, ECA, 1995). The Act also contains provision of punishment under section 16 by a maximum of 10 years imprisonment or a maximum fine of Tk. 10 lac or both.

The Environment Conservation Act, 1995 is the vocal point of pollution control legislation in Bangladesh. The Act covers the entire environmental malacies with a view to conserving, improving, controlling and mitigating pollution of the environment. But the Act, if technically scrutinized will be found not free from defect, e.g.

1. “There is no limited yardstick to test the standard of pollution.
2. The aggrieved party or parties affected from the pollution or degradation of the environment cannot directly go before the Environmental courts.
3. The Act doesn't open its mouth in respect of the procedure of giving punishment.
4. Before giving clearance certificate, there is no provision in the Act for consultation with the public.”

The Environmental Conservation Rules, 1997 made under the Environment Conservation Act, 1995 have divided industries and projects into four categories. These categories are:

- 1) Green,
- 2) Orange-A
- 3) Orange-B and
- 4) Red.

Applicants for environmental clearance for new industries and projects under the orange-B and Red categories are compulsory to tender a preliminary assessment (FEE) report and the design of the Effluent Treatment Plant (ETP). An environmental impact assessment (EIA) has to be undertaken and the EIA report to be approved by the Department of Environment (DOE) before setting up or import of tools for any industry or project under Red category. As per Schedule-I of the Environmental Conservation Rules, 1997, “Prior to commissioning of projects falling under Orange-B and red category final clearance form DOE is required. All urban and fill sites as well as setting up of any kind of incinerators fall within the red category and the environmental clearance form DOE is mandatory”.

The Rules provides for industries falling under the Green category, Environmental Clearance Certificate (ECE) must be renewed often every three years, for orange-B and red categories, the ECE must be renewed every year, But the ECR, 1997, doesn't specify the documentation required for renewal of the ECE. Moreover, there is no specific criterion of locating Industrial Plants in the ECR 1997. The ECR, 1997 says, any industry violating commission Standard of gaseous, liquid or solid etc. the DOE will issue warning and directives to mitigate the problem within a stipulated time, but the ECR doesn't signifies that how many times such warning and directives will be given for non-compliance of the same.

National Policy for Water Supply and Sanitation 1998

After the independence of Bangladesh, the Government laid importance on treatment of spoiled water supply and hygiene services and setting up of new services in rural and metropolitan areas through the Department of Public Health Engineering (DPHE). Local Government Division of the Ministry of Local Government gives special emphasis on participation of private sector and non government organizations in water supply and sanitation in urban areas. Some unyielding waste and recycling related plans under this strategy are specified below:

- “Local Government Bodies (City Corporations and Municipalities) may transfer, where feasible collection, removal and management of solid waste to the private sector.
- Measures to be taken to recycle the waste as much as possible and promote use of organic waste materials for compost and biogas production
- Private sector including NGO participation in sanitation is encouraged” (GOB, 1998).

National Clean Development Mechanism (NCDM) Strategy, 2001

The Ministry of Environment and Forest has identified the waste division as one of the prospective sectors for attracting Clean Development Mechanism (CDM) economics in the nation. The clean development mechanism, a mutual device recognized under the Kyoto Protocol. It has the impending to aid rising countries in achieving sustainable development by promoting environmentally responsive venture from modern country governments and businesses. CDM permits overseas express investment in projects, which reduces conservatory gas emissions. The waste sector options stop methane from biomethanation processes. The methane composed can be flared or used to generate power. The waste sector options for Bangladesh can be landfill gas recuperation, composting, chick waste, and human excreta management by means of eco-sanitation and waste water management.

The Bangladesh Labour Act, 2006

Bangladesh is continuing its sustainable development by increasing industries *vis-à-vis* agricultural revolution. Unfortunately, agriculture is in threat by indiscriminate dumping of industrial waste on agricultural land and river bodies. The absence of dogmatic control for harmful waste management has led to instinctive dumping of dangerous waste all the way through the country, posturing grim risks to public physical condition and the environment. Bangladesh is a party of Basel Convention on the Control of Transboundary Movement of Hazardous Waste, 1992 and Stockholm Convention. Hazardous waste management remains a moderately unpublicized part of the industrial progress of Bangladesh. In 1996, Bangladesh set a regulatory framework but at the beginning of the RETA there was no noteworthy express legislative support paying attention on management of hazardous waste. There are a number of conventional course of action and legislation that can afford support for hazardous waste management and to convene the necessities of the Basel Convention. Section 54 of the Bangladesh Labour Act, 2006 provides “effective arrangements shall be made in every establishment for disposal of wastes and effluents due to the manufacturing process carried on therein”. Section 351 speaks prescribing “arrangements to be made in an establishment for disposal of its wastes and effluents or for requiring approval from prescribed authority for such arrangements”.

The Penal Code, 1860

Penal code is the comprehensive piece of legislation in Bangladesh which encompasses every aspect of a state including disposal and management of waste. “Nuisance may be defined as unreasonable interference with the use or enjoyment of land or some right over or in connection with causing damage to the plaintiff” (Reserve Bank of India vs Ashish Kushum, 1996). Nuisance is of two types-

- i) Public nuisance
- ii) Private nuisance

As per section 268 of the Penal Code, 1860, “a person is guilty of a public nuisance who does any act or is guilty of an illegal omission which causes any common injury, danger or annoyance to the public or to the people in general who dwell or occupy property in the vicinity or which must necessarily cause injury, obstruction, danger or annoyance to persons who may have occasion to use any public right”. Plain reading of section 268 implies that, if waste is not disposed in a proper way, it will amount to public nuisance, because improper waste management causes damage, risk or annoyance to the public in numerous ways.

Some provisions of the Penal Code have been provided penalty for some of the causes which can arise from improper waste management. Section 269 says that “whoever unlawfully or negligently does any act which is likely to spread the infection of any disease dangerous to life shall be punished with imprisonment of either description for a term which may extend to 6 months or with fine or with

both”. We know that waste not disposed of in a proper manner causes infectious diseases and whoever causes it shall be punished under section 269 and section 270. Section 277 states that “whoever voluntarily corrupts or fouls the water of any public spring or reservoir shall be punished with imprisonment of either description for a term which may extend to 3 months, or with fine which may extend to five hundred taka or with both”. So, waste should not be thrown in any public place or lake which renders it unfit for the purpose for which it is usually used.

The Code of Criminal Procedure, 1898

The Code of Criminal Procedure is the mother adjective law relating to bringing violators behind the bird. Section 133 (1) of the CrPC provides that “nuisance should be removed from any way, river or channel which is or may be lawfully used by the public whenever a District Magistrate or any other Executive Magistrate considers on receiving a police report or other information and on taking such evidence (if any)”. Such a magistrate may make a provisional order requiring the person causing nuisance to confiscate annoyance within a time fixed in the order.

The Ports Act, 1908

This Act contains some provisions relating to waste management and disposal from the port, which includes that “the government may make rules for regulating the manner in which oil or water mixed with oil shall be discharged in any such port and for the disposal of the same” (Section 21). If any person disobeys any rules he shall be punished for each such offence with fine, which may extend to one thousand taka. “If any person voluntarily vitiates the atmosphere in any place so as to make it noxious to the health of a person which can be easily done by improper waste disposal shall be punished with a fine which may extend to five hundred taka” (Section 278, PC). Negligent behavior with facet to toxic material and likely to explode substance shall be punished under sections 284 & 286. So, if the disposal of waste is not carried on in a proper manner, the person can be punished under these sections.

According to Section 290, “whoever commits a public nuisance in any case not otherwise punishable by this code shall be punished with fine which may extend to taka 200. Section 290 provides punishment for those “who by not disposing of waste in a proper manner if any person causes, ‘any type of public nuisance which is not covered by any other sections of the penal code”.

Bangladesh Wildlife (Preservation) Ordinance, 1973

In this Ordinance, many of the protections have been included for the preservation of wildlife. But as Bangladesh is a flood affected country, many of the wild animals are destroyed when the forest area is attacked by flood and their destroyed body / rotten body of wild animals scatters within the forest. Such kinds of organic wastes pollute the environment of the wild life and that may have a negative impact on the wild animal. To protect from such kinds of

pollution there is no provision relating to proper disposal of such kinds of organic wastes in the ordinance.

Water Resources Development Act, 1992

Bangladesh is known as the motherland of river which is the main source of water for consumption and household works. These rivers are being polluted by throwing waste directly. Once Buriganga was regarded as the lifeline of Dhaka. Now Buriganga is in the list of dead river because no life forms are found therein. This is due to the widespread dumping of industrial and man-made waste. The actual situation is that toxic waste has set in on the Buriganga, Balu, Shitalakhya and several other rivers in Bangladesh and made it roughly impractical to recycle the water. The administration over the years has permitted industrialists to pollute the rivers, canals and swampland in and around the capital to such a level that ground water has turn out to be pitch black in quite a lot of spots. At the same time, most of the industry which are directed to install 'Effluent Treatment Plants (ETP)', violates the direction and Government has yet to take any action against the violators. Furthermore, the Department of Environment (DOE) is in dark about it.

Medical Waste (Management and Processing) Rules, 2008

Medical wastes have been the cause for a good figure of deaths around the world. According to the WHO report in 2018 total quantity of general and non-harmful waste generated by medical care activities is about 85%. Remaining 15% is treated hazardous substances that may be contagious, noxious or radioactive.

To legally address the matter the government of Bangladesh adopted the Bangladesh Medical Waste (Management and Processing) Rules, 2008 which conclusively deals with the waste disposal of medicals and hospitals in Bangladesh. There is no additional legislation dealing with management and dispensation of medical wastes. Prior to that section 269 of the Penal Code 1860 may be found as an instrument to deal with the matter. The section says that, "any person who neglectfully or illegally does any act, which may cause the outbreak of contagious disease and harm public health, shall be punished with 6 months' imprisonment or fine or both" (Section.269, Penal Code).

But it is a matter of great concern that in our country, troubles remain unsettled even with stringent laws. "Enacting rules is 'a white elephant' to our medical governance" (Zahur, 2007). Rule no. 8 of the Medical Waste (Management and Processing) Rules provides to set up dumping zones in seven divisions. Nevertheless, Dhaka has the only dedicated throwing away ground for the dumping of medical wastes which is extremely inadequate to meet up the burden of a growing number of hospitals in Dhaka. Rule no. 3 prescribes the establishment of 7 divisional powers that be in 7 divisions of our state. According to the rule, it was believed to be completed within three months of the passing of the law. Regrettably, even after 12 years of passing, neither the divisional power establishment has been formed nor has anybody looked after the supervision and dumping of medical wastes.

Rule 7 of the Medical Waste Rule prescribes the maintenance of medical wastes take apart from other general waste during the gathering, covering, storing and carrying to dumping areas. Unfortunately, the true scenario is that almost every hospital disposes of their wastes by assimilating them with general wastes without sterilizing them. In Bangladesh no protected areas for the disposal of medical wastes are established, rendering the throwing of medical wastes in canals. This un-wrap dumping zones eventually became harmful for the environment and food chain. According to Rule no. 5, three types of licenses would be given for –

1. Wrapping and storing;
2. Collection and transportation and
3. Refining and removal to a third party to deal with disposal mechanisms.

Regrettably, these three farm duties are to be dealt with by a particular third party dedicated to carry out the task. Rule 6 speaks about prior training as sine qua non to engage in refining and removal of medical wastes. As most of the provisions of the rule remain unimplemented like no divisional authorities yet to be formed, training of the third party to deal with disposal mechanisms seems a fortress in the sky.

Findings

In the light of above analysis of various enactments, policies and rules, it is very much evident that there is no separate law in Bangladesh to exhaustively deal with the issues of proper waste disposal. So far as the Environment conservation Act, 1995 is concerned, the DG of the department of Environment (DOE) has given a wide power and discretion to preserve and protect the environment from any kind of degradation. So, if the Director General (DG) thinks that due to emission, handling, transportation of wastes, from any source or sectors, there is any possibility of environmental degradation, he can take necessary action as he thinks fit. But there are some technical obstacles to the smooth exercise of the power of DG conferred upon him. Recently we have interviewed Mr. Ziaul Hogue the deputy Director General of DOE. Responding to a query he said that they had to work hard, after receiving a complaint under section 8 of the ECA, 1995 to investigate and file a case with the Environment Court, but the judges of the court are not sometimes found to be strict to the accused and in most of the cases they impose very lighter punishment disappointing the investigating officers.

In response to another query, he said, there was a technical problem to launch Mobile Courts Operation at the field level under the existing laws of DOE under which the Magistrates cannot impose fine exceeding 10 thousand. So, they had to follow the Pure Food Ordinance 1959 and other laws of BSTA, to award heavier fines. In an answer to the question of why and how the industries pollute the environment after they got clearance certificates from DOE fulfilling all the requirements of law, he said, many industries do not apply for clearance certificates. He also added that an estimated 72% to 80% of industries took a Clearance Certificate and it is not possible to find out those who do not

take clearance certificates with 4 or 5 inspectors of the DOE. The Deputy Director General also expressed his concern over the fact that many dishonest industry owners taking the opportunity of insufficient manpower of DOE violate the conditions of Clearance Certificate e.g. establishment of ETP etc.

As per section 12 of the ECA, 1995 read with rule. 7 of ECR, 1997, “no industry shall be established and no Project shall be undertaken anywhere without obtaining environmental clearance.” For this Purpose, an environmental impact assessment (EIA) is *sine qua non* which is to be approved by the DOE. But the ECR, 97 contains no provisions as to the standard of EIA. In response to a question as to how the DOE measures the standard of EIA, he said, the DOE has formulated a guideline named EIA guideline. He further added, we sometimes advised to follow the guideline of ADB and other international standards for EIA. He also said, there was "no Legal Cell" in the DOE, which is very much essential to take legal initiatives against the perpetrators. As a result, they had to request NGOs like BELA to render legal service.

He also shared their weakness to discharge their functions due to some technical problems e.g. before taking question against large pollutant industries, they had to face various workers and owners associations affiliated to different political parties, interference of ruling party leaders etc. So far the Environment Court Act 2010 is concerned; the aggrieved person has hardly any opportunity to directly move to the court without exhausting the remedy provided by DOE. Section 17 of the ECA, 1995, significantly restricted the power of taking cognizance of the Environment Court. Apparently, the Environment Conservation Act, 1995, and the Rules made under this Act seem to be exhaustive to properly address the issue of waste disposal if the proper implementation can be ensured.

Among sectors emitting waste factories or industries stand in first place. But the Factories Act, 1965 provides very poor punishment of the manager guilty of emitting waste. Factories guilty of emitting waste shall be punishable with fine which may extend to one thousand taka which is similar to giving beg in nature. However, after the enactment of ECA, 1995 and Rules 1997, factories, industries are regulated and clearance certificate for their establishment is given by DOE as per these Act and Rules.

The Brick Burning (Control) Act, 1989 requires a license to be obtained for burning brick or establishing a brickfield or making brick. But there is no provision in the Act as to the particulars or protections to be fulfilled to dispose of wastes emitted by burning brick in order to have license. However, Brickfield falls under the Red category under the ECR 1997, and therefore clearance certificate is to be obtained according to the rule. Interference with the use or enjoyment of land or some right over or in connection with causing damage, however the Code gives a scope to the aggrieved person to go before the Court without filing an application or complaint to DOE. The Code of Criminal Procedure goes one step ahead to mitigate the disposal of waste caused by the public as it empowers the magistrate to give a conditional order requiring the person causing nuisance to remove nuisance within a time fixed in the order.

The magistrate may give such order upon receiving a police report or other information from the sufferer.

Some Useful Recommendations

Therefore, in the light of above evaluation the following recommendation may be suggested for proper waste disposal:

1. For the effective implementation of the provisions of Environment Conservation Act, 1995, the present manpower of the DOE should be increased from 244 to 1783 as proposed by the DOE.

2. The Environment Conservation Act, 1995 and the Rules, 1997 must be implemented meticulously.

3. A separate legal cell should be established in the DOE for the resolution of legal matters.

4. A comprehensive law dealing with waste disposal has to be enacted.

5. The following section wise measures should be taken:

A. Municipal Solid Waste Management

i. Each Municipality should have its own Action Plan in addressing SWM issues effectively with requisite strategies for implementation.

ii. Each city should have an Action plan for sanitation, which includes solid waste management (SWM).

iii. Public awareness should be built up to bring about requisite change in attitudinal and behavioral patterns.

iv. Institutional capabilities should be strengthened through provision of requisite and sufficient number of relevant equipment, adequate manpower with hands on state of the art training.

v. Appropriate and adequate provisions should be made by the Municipalities for treatment and recycling of solid wastes.

vi. Provisions should be made for appropriate and adequate legal support in solid waste handling by Municipalities.

vii. Involvement of Private sectors in collection, transportation and recycling of wastes should be encouraged for improvement of solid waste management services.

viii. Govt.-NGO partnership should be built up in the entire process.

B. Medical Waste Management

i. A comprehensive Medical Waste Management Rules (MWMR) should be made in consultation with both stakeholders and the public.

ii. Guidelines on MWM should be made involving the line ministries

iii. Provisions should be made active involvement of city corporations and Municipalities in MWM.

iv. MWM courses should be introduced in medical education and B.Sc. education in nursing.

v. Private sector entrepreneurship should be developed in MWM.

vi. The Local Government Health Directorate should be authorized to enforce.

C. Industrial and Hazardous Waste Management

Waste Reduction

- i. EIA should be conducted prior to setting up new industries.
- ii. Environmental Management System (EMS) should be followed in the industries.
- iii. EMP (Environment Management Plan) should be followed in the Industries.
- iv. All industries new and existing should have their respective ETPs constructed and running.
Campaign should be launched for generation of awareness among the relevant stakeholders.
- v. Each industrial unit should have its own waste recycling facility such as composting and bio-gas plants.
- vi. Regulatory bodies should be formed to oversee and ensure waste reduction Process.

Waste Recycling

- i. Recyclable and non-recyclable waste should be segregated at source and promoted by municipalities.
- ii. Non-recyclable waste should be disposed off after prior treatment.
- iii. Requisite rules and regulations should be formed for efficient recycling of waste.
- iv. Recycling zone should be created.

Waste Reuse

- i. Recycled goods can be reused.
- ii. Quality of reusable waste should be ensured
- iii. Provisions should be made for marketing of products made of reused waste.
- iv. Adoption of 5 R Principles (Reduce, Reuse, Recycle, Recovery and Disposal) in the spirit of the slogan "*Your Wastes are My Resources*" should be encouraged. Sufficient laws and national 5R strategies should be formulated in this regard.

Conclusion

Like development planning, legislations in Bangladesh are enforced in a top-to-bottom approach. Bureaucrats and legislatures impose law on people. Since such law does not have people's ownership, people become apathetic in following laws and problems surface during enforcement. So, in environment legislation, a bottom-to-top approach has to be followed so that greater attention will be drawn to the enforcement of legislation dealing with waste disposal including meeting reporting requirements and providing independent

verifications that targets to the implementation of laws dealing with disposal of waste.

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