

A CRITICAL STUDY OF THE IMPLEMENTATION OF LAW REGULATING SOLID WASTE MANAGEMENT IN GANDHINAGAR MUNICIPAL CORPORATION

Purvi Pokhariyal & Rashmi Kumari

Research Scholar, Nirma University, Gujarat, India

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ABSTRACT

“Municipal Solid Waste (MSW) has become a challenge before society as it is a neglected subject in the field of the environment which is hazardous for the health of human beings as well as other creatures too. In general terms, MSW refers to solid wastes from houses, streets and public places, shops, offices, and hospitals. To dispose of these wastes in a sound way, the management of municipal wastes is required which involves a planned system of effectively controlling the production, storage, collection, transportation, processing, and disposal or utilization of solid wastes. The Constitution of India provides a lot of rights to people like the right to a pollution-free environment which is very crucial. Through judicial articulation, the Indian Judiciary has also played a vital role to protect the environment. Under the provisions of the Environment Protection Act, 1986, the Municipal Solid Waste (Management & Handling) Rule, 2000 has been made which lays down the norms to be followed in case of MSW. Life cycle of the MSW may be as- generation-segregation- storage and collection- transportation- treatment- disposal. But, it has been found that in most cities, open dumping of MSW is the common practice that adversely affects the environment and public health. The present paper discusses the legal profile and policies available on solid waste management in India, responsibilities of the concerned departments and future need to enhance legal regime for better management of Indian environment”.

KEYWORDS: *Waste Management, Solid, Laws, Gandhinagar Municipal Corporation*

INTRODUCTION

"Solid wastes" are the discarded leftovers of our advanced consumer society. This growing mountain of garbage and trash represents not only an attitude of indifference toward valuable natural resources but also a serious economic and public health problem.

Jimmy Carter

Municipal Solid Waste Management (MSWM) has become a significant and ever-increasing problem on a national, regional and local level. Due to population growth, increasing industrial growth, and the transfer of village-to-city residents, a rapid increase in urban populations, a change in lifestyles, social status, as well as an increase in MSW trend in urban centers. SW comes from the actions of people and animals that are typically considered useless or undesirable. Solid waste can, therefore, be described as organic & inorganic waste materials generated through numerous social activities that have lost value to the first consumer in other words.¹ With production and consumption increasing rapidly, urban

¹World Bank (2005). Waste Management in China: Issues and Recommendations, May 2005.

communities frequently reject and produce solid waste that contributes to a significant increase in waste volumes produced from various sources, such as home waste, business wastes, institutional waste and industrial waste of varied range of types.

SWM is characterized in a way consistent with the best standards of public safety, economy, engineering, conservation, aesthetics as well as other environmental aspects and can be defined as a discipline associated with controls over generating, keeping, collecting, transferring and transporting, processing and disposing of solid waste. SWM covers all administrative, political, legal, planning or engineering functions involved in a variety of keys to solid waste problems faced by the local people. Failure to deal with solid waste causes emissions, human health, and increased global temperatures, livestock as well as many different types of habitats and detrimental environmental impacts. Solid waste can pollute all the essential components of life at the local and global levels of the living environment (e.g. air, land, and water).

The researcher will investigate the MSWM scenario in India by means of a literature review and the Gandhinagar City as a case study in the state of Gujarat. Gujarat is a state where living standards are high, with huge solid waste rising daily so that problems with environment and health occur. This is the reason the outbreak of the Surat pneumonia in September 1994 caused global panic and serious effects both on town and on the economy of the whole nation. About 60% of the population escaped from the area, as the industry suffered an estimated Rs. 12 trillion loss. Although the disease was tracked in less than a week, several serious public health and also the capacity of the local government to manage the city were created. Today, municipal waste disposal in Gujarat is one of the biggest issues. There are eight municipal corporation namely Gandhinagar, Ahmedabad, Surat, Vadodara, Rajkot, Jamnagar, Bhavnagar, Junagadh Municipal Corporations in which only some of the municipalities like Rajkot Municipal Corporation, Surat, Bhavnagar, and Ahmedabad municipal corporation has started to focus on management of solid waste but another municipal corporation in Gujarat is not working properly even not fulfilling any criteria of municipal solid waste management rule 2016. Gandhinagar city, which is a capital of Gujarat is one of them. It is the eighth municipal corporation that has a 2 lakh population spread over 56 sq.k.m areas with huge construction and infrastructure development. The city is an IT & educational hub. The municipal corporation provides basic services to citizens like collection, transporting management systems for effective service provision for solid waste management.

The study analyses “A critical study of the implementation of law regulating solid waste management in Gandhinagar Municipal Corporation.” The study will investigate the collection, transportation, storage, treatment and disposal practices & operations in Gandhinagar City. After the pilot study, this was found that there are several lacunae in the management system and the implementation of law was absent. According to prescribed law, there is need to improve and follow all rules and regulation of solid waste management handling rule 2016.

Statement of Problem

Solid waste management is a very important and primary need because it directly affects public health and the environment. The presence of waste is not allowed in healthy living conditions for the human beings community. This reality is obvious. This research titled - A Critical study of the law of Solid waste management in Gandhinagar Municipal Corporation. Gandhinagar is recognized as a green city where municipal solid waste disposal is a hurdle in its success. In a

www.go.worldbank.org, visited on 20.02.2018

pilot study, the Researcher found that urban solid waste disposal including collection, storage, transportation, disposal is a major challenge in Gandhinagar city. This problem will be resolved through a multi-pronged approach and by effectiveness about the current rules, regulations, and policies about solid waste management and need to focus on all stakeholders who are directly and indirectly involve in the solid waste management process. MSW practices in Gandhinagar city will challengeable tasks for the researcher.

Aim of the Research-

The Researcher's aim is to study MSWM function & the role of Functionaries, the legal issue relating to MSWM, the Health & Social issue of workers employed in disposes of, Environmental legal issues and challenges of the different stakeholders. The study will make legal suggestions and recommendations based on the findings of the study.

OBJECTIVES OF THE RESEARCH

Researcher focus on the following research objectives:

- To analyze the legal framework for MSWM systems in India.
- To examine the implementation of law related to MSWM in Gandhinagar city in the state of Gujarat.
- To analyze the impact of MSWM in Gandhinagar.

Hypothesis

- There are administrative challenges in the implementation of MSW rules in Gandhinagar city in the state of Gujarat.
- There is a gap in the implementation of MSW rule in Gandhinagar.

Research Questions

- What is the legal framework related to Municipal Solid Waste Management?
- How this legal framework implemented?
- What are gaps in the solid waste management system?
- How was the system of Municipal solid waste management implement?
- What are the main legal issues for SWM in Gandhinagar city in the state of Gujarat?
- How to assess the impact of proper MSWM?

RESEARCH METHODOLOGY

The research is empirical as well as doctrinal. The information of the research will be collected from primary & secondary sources. Secondary data will include the Authors' view, Scholarly view, Articles published in Journals, obligations of judiciary, Regulations, and directions or orders passed by the State Government. Data and information received from the Government Statistical department and Environmental department. While collecting primary data, the method will be used as a survey method, discussion method, and observation method. It will be used with the help of structured questionnaires

for a person engaged in handling for Municipal Solid Waste, and different questioner for personal engage in managing the MSW&authorities engaging for MSWM.

LITERATURE REVIEW

It is important to refer previous studies briefly in related fields of the subject so as to discover or fill out research, if any literature on financial services is found in general.

Scenario of SWM in the present Indian context By R. Rajput, G.Prasad,& A.K.Chopra-Noted that "A trend has been reported worldwide to significantly increase city solid waste generation. The over population rate, industrialization, progress, and economic growth have noticed this. This is a result of Due higher economic growth, which ultimately led to a higher production of solid waste, consumption pace has been high, covering less than 50% of the total population in the last decade. Municipal solid waste generation revealed a variety of developments in terms of solid waste produced on a world scale & positive relationship to economic development. In the western as well as some eastern developed countries, municipal solid waste production has been reported much higher."²

MSWM in India: A Legal Study by Dr. P. K. Pandey It was observed that "MSW has become a threat to the community as it is an environmentally harmful subject that is also hazardous to human health and other species. MSW applies in general to solid waste from houses, highways, stores, workplaces and hospitals. management of local waste, including a proposed system for regulation of the production, storage, collection, transport, processing or disposal or use of solid waste must be deposited soundly. The Indian Constitution provides many rights, including the right to atmosphere free of pollution, which is extremely important. The Indian judiciary also played a crucial role in protecting the environment through judicial articulation. MSW (Management & Handling) Rule, 2000 lays down the standards to be followed in the case of MSW was established under the Environment Protection Act of 1986. The MSW life cycle could be segregation-storage and collection-transport-treatment-disposal-of-generation. Yet open MSW dumping is common practice in most cities which has detrimental impacts on environment and health."³

Financing Solid Waste Management: Issues and Options, Paul P. Appasamy & Prakash Nellyat says that "In India, the Ministry of Environment & Forests has come out with MSW Rules (2000). The degree of compliance with these rules leaves much to be desired. In most municipalities, compliance with disposal requirements is virtually absent. The expenditure on solid waste disposal in most municipalities is a very small percentage of the solid waste management budget. Twelfth Finance Commission has allocated 50 percent of its grants to urban local bodies for SWM alone. The Jawaharlal Nehru National Urban Renewal Mission will also provide infrastructure grants (which include SWM) to 63 cities. ULBs can also consider other options such as public-private partnerships, user charges, loans and other financing options for managing solid wastes and generating revenue that could defray at least operation and maintenance costs of SWM. Urban local bodies have to estimate both the capital and operating costs of meeting the MSW Rules (2000) and come up with a financing plan"⁴.

² Rajput. R,Prasad.G and Chopra. A.K, "Scenario of SWM in present Indian context" Caspian Journal of Environmental Sciences, Caspian J. Env. Sci. 2009, Vol. 7 No.1 pp. 45~53.

³P. K. Pandey,MSWM in India: A Legal Study, Journal of Science Forum, vol. ii, no.1, 2011

⁴Paul P. Appasamy and Prakash Nellyat, Financing SWM: Issues and Options, Proceedings of the International Conference on Sustainable Solid Waste Management, 5 - 7 September 2007, Chennai, India. pp.537-542

MSWM in India-Current State & Future Challenges: A Review, Rajendra Kumar Kaushal, George K. Varghese, MayuriChabukdhara noted that 'Attention to an effective management plan is based on estimates of the volumes and characteristics of urban solid waste and its forecasting over time. In the last four (4) decades, this study analyses changing patterns in the amounts and characteristics of MSWs in major cities in India. The research reviews or discusses current practices for estimating or predicting MSW. The growing need for effective waste management technology is illustrated, which could help to develop productive strategies for urban communities in charge of MSW management".⁵

SWM; Clean India by Reduce Solid Waste, Amit Bajaj & Vipin KumarHe noted that "Solid waste in India is rapidly increasing every day as human beings ' living standards in India have increased by leaps and bounds for about 20 years as a result of increasing population. Solid waste handling in India is not the order of the day. We still consider it to be a total waste, but it becomes very valuable if we cut, reuse or recycles. Misuse of solid waste causes pollution, human health, rising temperatures, animals, & numerous types of ecosystems and adverse environmental effects. This article describes that handling of solid waste is not a single human task; all human beings have the sole responsibility of preserving ecosystem equilibrium by handling solid waste correctly."⁶

Impact of Solid Waste on Health & Environment, Pervez Alam1 &KafeelAhmad says that "The increased rate of solid waste is largely due to urbanization or population growth, as well as a major problem in municipal administration is their proper management. This analysis established origins or components of solid waste but highlighted the form or quantity of SW disposed of, methods of disposal of solid waste and the impact on the health of unsuitable waste management. The results suggest that excreta as well as other fluid and solid waste are a serious health threat for both homes and the environment and contribute to the spread of infectious diseases."⁷

Challenges & Opportunities in MSWM: Case of Addis Ababa City, Central Ethiopia, NigatuRegassa 1, Rajan.Sundaram 2 and BizuneshBogaleSeboka-observed that' solid waste, as a product of humanity's daily activity, must be properly managed. Addis-Abeba faces problems associated with maladministered solid waste activities, as in other cities in developing countries. This study analyzes current problems, opportunities or current SWM practices of the municipality. The survey was carried out in the suburbs of Bole or Akaki Kaliti. Many methods for selection of units including stratified sampling, systematic random sampling or purposeful sampling have been employed. While the majority of the data collected was qualitative in nature, quantitative data from surveys and secondary sources were also used. The learning showed that reasons for SWM's low performance in the city include: inaccessibility of city due to spatial or urban structures, a lack of well-designed road or time schedules, bad, malfunctioning operating equipment; open waste disposal, poor final dump condition; corner littering around skips to support ICS. The financial challenge involves insufficient funds and lack of support for reducing waste: recycling, absenteeism of cost recovery, use of the energy

⁵Rajendra Kumar Kaushal, George K. Varghese ,MayuriChabukdhara,MSWM in India-Current State and Future Challenges: A Review, Vol. 4 No.04 April 2012.

⁶Amit Bajaj and Vipin Kumar, **SWM; Clean India by Reduce Solid Waste**, IJGHC; June – August 2013, Vol.2, No.3, 610-617.

⁷Pervez Alam1 &KafeelAhmade, **Impact Of Solid Waste On Health And The Environment** Pervez Alam1 &KafeelAhmade, Special Issue of International Journal of Sustainable Development and Green Economics (IJSDEG), ISSN No.: 2315-4721, V-2, I-1, 2, 2013

alternative, disposal & composting.”⁸

Municipal solid waste disposal: a case learning in Guwahati city to mitigate man-made disaster, Dr. Lakhimi Gogoi says, “In almost all urban centers of the world, our ecosystem faces a potential threat from unsafe waste disposal practices. While the living standard has changed significantly, there is still a simplistic approach to public health or wellness. Large amounts of municipal waste are one of the serious results of unplanned growth. capital of Assam is Guwahati, and that there is no exception, either, to the gateway to North-East India. Within such a short period of time, the city faces numerous difficulties due to the rapid population growth. improper disposal of municipal solid waste is one major problem in town. MSWM has developed a serious problem due to improved economic and urbanization activities.”⁹

Lessons from MSW Processing initiatives in India, Dr. Kurian Joseph This says, "India is producing approximately 40 million tons of municipal waste every year. Despite some commendable efforts by fragmented municipalities, individuals, communities and NGOs, the waste management situation appears to be bad. The main mode of waste disposal is open dumps today. As an alternative for waste processing, composting, bio-methanation or thermal processing are being tried. This article analyses the successes of such waste treatment programs in India but describes main constraints.”¹⁰

High-resolution climate reconstructions of recent warming using instrumental & ice core records from coastal Antarctica, Meloth Thamban, Sushant. Naik, C.M. Laluraj and R. Ravindra say that the “ In-situ Antarctic surface temperature observational database is quite incomplete. Further studies on proxy ice are therefore necessary for reconstruction in a hundred years and decade of past climate change. This study reviews available instruments and proxies from the East Antarctic Dronning Maud Land and reports recent evidence of climate change and globe in Antarctic A strong 0.25 ° C / decade warming trend has been illustrated by monthly average air temperature record of Novolazaresarevskava (Nobova) station that is longest since 1961 as well as a steady meteorological record in the area. Well-dated ice cores from Dronning Land Coastal were assessed to establish spatial continuity of this warming.”¹¹

MSWM: A Case Study of Phursungi Plant, Pune, Mane A. V., & Parveen Anjum He notes that "Solid waste disposal in urban areas around the world is a major challenge. Solid waste management requires control in compliance with the best sustainability standards of production, storage, collection, transfer and transport, processing and disposal of solid waste. It covers all roles related to administrative, political, law, planning or engineering. One such waste treatment plant in Phursungi, Pune is the basis of the present case study. the plant employs the techniques of multi-product recycling and waste reduction (MPRWM). The process theory is an extraction from Municipal Solid Waste (MSW) of available commercially viable end products and the production of an overhead residue of under 20 percent of the input for the waste disposal. The people are demanding that the plant be relocated elsewhere in order to keep the environment safe. The plant

⁸, Nigatu Regassa 1, Rajan D. Sundaraa 2 and Bizunesh Bogale Seboka, Challenges and Opportunities in MSWM: The Case of Addis Ababa City, Central Ethiopia - J Hum Ecol, 33(3): 179-190 (2011)

⁹Dr. Lakhimi Gogoi, MSW disposal: a case study in Guwahati city to mitigate the manmade disaster, IOSR Journal Of Humanities And Social Science (IOSR-JHSS) Volume 9, Issue 3 (Mar. - Apr. 2013), PP 55-60.

¹⁰Dr. Kurian Joseph, Lessons From Municipal Solid Waste Processing Initiatives In India, International Symposium MBT 2007. www.wasteconsult.de.

¹¹Meloth thamban, sushant s. Naik*, c. M. Laluraj and r. Ravindra, high resolution climate reconstructions of recent warming using instrumental and ice core records from coastal Antarctica, MAUSAM, 62, 4 (October 2011), 665-672, meloth@ncaor.org

has already exceeded its waste disposal capacity and its rapidly growing population developments that make the problems more complex.”¹²

Studies on MSWM in Mysore City- A case study, YadavIshwar Chandra and N.Linthetaingambi Devi He noted that "the management of sound waste is a very serious issue in Mysore city. They conducted detailed research on the methods of procedures for sources, volume generated, collection, transport, storage, treatment or disposal of MSW.”¹³

MSWM: A Case Study of Phursungi Plant, Goswami, and Sarma "In urban areas all around the world, SWM is a major challenge. SWM is related to controls in a manner that conforms to the best principles of sustainability for producing, storing, collecting, transport and storage, processing and disposal of solid waste. This covers all aspects of management, accounting, regulation, planning & engineering involved in solutions. a current case study is based in Phursungi, Pune, one such solid waste facility. MPRWM is applied to the plant. The process is based on the extraction of functional, marketable end products from the MSW and on the processing of waste pipes for concentrations of less than 20% of the amount of incoming waste. People demand that the plant be relocated elsewhere so that safe conditions in the area are preserved. The plant has already reached its potential for waste disposal, and the fast-growing trends of housing around it make problems much more complicated. It is now well-understood. Several experts have suggested that the waste dump site be moved to another location. We propose the final way for waste management of an integrated SWM with a sustainable approach”.¹⁴

CHAPTERIZATIONS

Chapter-1: Introduction In this chapter, the researcher focus on the place of SWM in Urban areas & their effects on health and the environment. Which explains the causes of Air, Water & Soil Contamination & Global Warming and Climate change. The researcher also focuses on the objectives of SWM and problems at the Global level, India level, and Gujarat level. Then in this chapter, there is an explanation of literature reviews, Statement of Problem, Hypothesis, Objectives, Research methodology and Limitations of the study.

Chapter-2: Legal framework for MSWM in India In this chapter, researcher focuses on Rules, Legislation & Legal provisions regarding Waste Management and their successful initiatives by state governments and local authorities to handle solid waste in India.

Chapter-3: The Role of Judiciary in Promoting Policy of MSW in India In this chapter, researcher took all the case laws of article 21, fundamental duties, the right to pollution-free and wholesome environment, role of lower courts in Solid Waste Management in which Saga of Almitra case. Then, researcher focus on laws pertaining to landfills and the role of Judiciary, new technology, and the law.

Chapter-4: SWM Practices in Gandhinagar City In this chapter, researcher analyses, rules & regulations, salient features of SWM rules 2016 and present status & problems of MSWMin Gandhinagar city.

¹²Mane A. V. and ParveenAnjum, MSWM: A Case Study of Phursungi Plant, Pune, Volume 2, Issue 2: 89-99.

¹³YadavIshwar Chandra and N.Linthetaingambi Devi, Studies on Municipal Solid Waste Management in Mysore City- A case study, <http://www.seas.columbia.edu>.,2009

¹⁴MSWM: A Case Study of Phursungi Plant, Pune, Mane A. V. and ParveenAnjum,World Journal of Environmental Biosciences, Volume 2, Issue 2: 89-99<http://www.environmentaljournal.org/Dec2013>.

Chapter-5: Findings of the Waste Management in Gandhinagar City In this chapter, the researcher finds out the result of all the four questionnaires and discusses them in detail.

Chapter-6: Conclusion, Suggestions, and recommendations In this chapter, the researcher finds out the implementation of law regulating SWM in Gandhinagar Municipal Corporation.

SIGNIFICANCE OF THE STUDY

The research provides a motivational force and direction to the Government for effective monitoring & implementation of the rules & regulating law.

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