



Policy Evolution of Solid Waste Management in Sri Lanka

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මිනිසා හා සත්ත්ව ප්‍රජාව සඳහා ජීවය ලබාදෙන ස්වාභාවික පරිසරය රැක ගැනීම අප සියළු දෙනා සතු යුතුකමක් මෙන්ම වගකීමක් ද වේ. නමුත් වර්තමානය වන විට පරිසරය අහිමිවන ස්වකීය සංවර්ධනය සලසා ගැනීමේ ප්‍රයත්නයක යෙදෙන සමාජයක තිරසාර සංවර්ධනයක් දක්නට නොලැබේ. මෙලෙස පරිසරය විනාශයේ එක් මූල බීජයක් ලෙස අපද්‍රව්‍ය අක්‍රමවත් බැහැර කිරීම හඳුනාගත හැකිය. අපද්‍රව්‍ය යනු “ව්‍යවස්ථානුකූලව නියෝග කොට නීතිගත කර ක්‍රමවත්ව කළමනාකරනය කිරීම හෝ කළමනාකරනය කිරීමට අදහස් කරන හෝ අවැසි යම්කිසි ද්‍රව්‍යයක් අපද්‍රව්‍යයක් වේ ” (Basel Convention Definition of Wastes) ඒදිනෙදා භාවිතයේදී නොවැදගත් යැයි සිතා ඉවතලන ඕනෑම ද්‍රව්‍යයක් අපද්‍රව්‍ය වශයෙන් හැඳින්විය හැක. මෙය වර්ථමානයේ මුහුණ පා ඇති ප්‍රධාන පාරසරික ගැටළුවක් ලෙස ද හඳුන්වන අතර ඒ පිළිබඳව යම් යම් ප්‍රතිපත්ති, නීතිරීති ද සම්පාදනය කොට ඇත. සන අපද්‍රව්‍ය කළමනාකරණය සඳහා විවිධ ප්‍රතිපත්ති ක්‍රියාත්මක කල ද ශ්‍රී ලංකාවේ සන අපද්‍රව්‍ය කළමනාකරණයට නිශ්චිත විසඳුම් සෙවීම ඉතා දුෂ්කර කාර්යක් බවට පත්වී ඇත. මෙම පර්යේෂණයේ මූලික අරමුණ ලෙස ශ්‍රී ලංකාවේ සන

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අපද්‍රව්‍ය කළමනාකරණය කිරීම සඳහා ගනු ලැබූ ප්‍රතිපත්තිමය පරිණාමය හදුනාගැනීමත් අනෙක් අරමුණු ලෙස සහ අපද්‍රව්‍ය කළමනාකරණයේ අභියෝග, අවස්ථා, පරතරයන්, හදුනාගැනීමත් ලෙස හැඳින්විය හැකිය. මේම පර්යේෂණයේදී ද්විතීය දත්ත භාවිත කර ඇති අතර එහිදී ශ්‍රී ලංකාවේ ප්‍රතිපත්ති සම්පාදන ලියවිලි සහ සහ අපද්‍රව්‍ය කළමනාකරණ ප්‍රතිපත්ති අධ්‍යයනයට ලක්කොට ඇත. ඊට අමතරව ගෝලීය සහ ප්‍රාදේශීය වශයෙන් ක්‍රියාත්මක වන ප්‍රතිපත්තීන් ද විමර්ශනයට ලක් කර ඇත. ශ්‍රී ලංකාවේ සහ අපද්‍රව්‍ය කළමනාකරණය ප්‍රධාන පාරිසරික, ආර්ථික සහ සමාජීය ගැටලු රාශියක් නිර්මාණය කර ඇත. ඒ සඳහා ජන සංඛ්‍යාව වර්ධනය, නාගරීකරණය, නාගරික ප්‍රදේශ කරා ජනතාව සංක්‍රමනය සහ සහ අපද්‍රව්‍ය බැහැර කිරීමේ විධිමත් ක්‍රමවේදයක් සෑම ප්‍රදේශයකටම නොමැති වීමත් හේතු වී ඇත. නමුත් ශ්‍රී ලංකාවේ සහ අපද්‍රව්‍ය කළමනාකරණය සඳහා මහ නගර සභා ආඥාපනත, නගර සභා ආඥාපනත සහ ප්‍රාදේශීය සභා ආඥාපනත යන පනත්වලින් බලය පවරා ඇත. ඊට අමතරව ජාතික පාරිසරික පනත, ජාතික පාරිසරික (ආරක්ෂණ සහ තත්ත්ව) රෙගුලාසි සහ සංශෝධනය කිරීම්, බාසල් සම්මුතිය සහ රොට්ටර්‍හැම් සම්මුතීන් ප්‍රධාන වේ.

ප්‍රමුඛ පද - සහ අපද්‍රව්‍ය, කළමනාකරණය, ප්‍රජාව, පරිසරය, නාගරීකරණය.

1.1 Introduction

The municipal solid waste management [MSWM] problem in Sri Lanka is massive and Solid Wastes are becoming a multidimensional threat to the Sri Lankan environment. The problem represents a measurable threat to the public health an environmental quality in the nation and requires national attention of the highest priority and urgency. The problem requires a fresh look, massive and aggressive endeavors of human and financial resources at all levels of government, industry and the population. Solutions for the problem must be guided by approved policies and strategies. Since independence, there have been various policy frameworks developed to guide the management of solid wastes in Sri Lanka. Analysis of the development of the policy would be useful

to inform the implementation of existing policies and the formulation of future policies relevant to solid waste management in the country. There is a need for action, and to logically take action, a new national strategy is needed.

This paper searches to examine the policy evolution of solid waste management in Sri Lanka and to determine its challenges and opportunities by assessing policy gaps, trends and stakeholders perception of solid waste management in Sri Lanka. Sri Lankan solid waste generation has been increasing drastically. The consumption rates and the patterns are different from each High, Middle and Low income levels in the urban areas and as well as from the urban areas to the rural areas, so that the waste generation pattern also different from each other (Wijerathna, et al., 2014). According to AIT (2004) the per capita per day waste generation on the average was 0.85 kg in Colombo Municipal Council (CMC), 0.75 kg in other Municipal Councils (MC), 0.60 in Urban Councils (UC) and 0.4 kg in Pradeshiya Shabhas (Bandara, 2015). Total waste generation in Sri Lanka is 6,400 tons per day and waste collection is 2,700 tons per day, Daily organic waste to compost 400 tons and waste disposal 2,300 tons in Sri Lanka (jathilake & Fernando, 2016). In addition, The present composition of solid waste collection by the Municipal Councils 49.5% (1,696 Mt), Urban Councils 17.4% (594.5 Mt) and "Pradesiya Saba" Areas 33.1% (1,133 Mt). Conversely, through the several government and non- government projects were operating towards the National Solid Waste Management (H.N.Hikkaduwa, et al., 2015)).

The primary sources of MSW in the country are households, markets and commercial establishments while industries and hospitals constitute the secondary sources (Bandara, 2015). MSW of Sri Lanka typically consists of a very high percentage of perishable organic material which is about 65 - 66% by weight with moderate amounts of plastics and paper and low contents of metal and glass. The moisture content in the MSW is also very high in the range of 70 - 80% on a wet weight basis. The average calorific value is low of around 600 - 1000 kcal/ kg (Bandara, 2015). To address the problem of Solid waste management (SWM) that has evolved over the years, Sri Lanka has enacted a number of policy and legal frameworks as well as created institutions and

systems at different levels of governance. The resulting evidence would be useful to inform the implementation of existing policies and the formulation of new SWM policies in the future.

1.2 Objectives:

To explore the evolution of solid waste management policies in Sri Lanka from the perspective of policy priorities and strategies for solid waste management.

1.3 Method:

This study was an integrative synthesis of the policy priorities and strategies stipulated by the major solid waste management policies in Sri Lanka since independence and how they address SWM associated environment outcomes. The synthesis addressed the evolution, devolvement and segmentation of solid waste management policies as well as the institutional mechanisms for policy processes and external policies shaping the policy landscape.

Data sources and Strategy

The main data sources for this study were SWM Policy documents and SWM policy reviews in Sri Lanka as well as some global and regional levels policy contents. Two types of search strategies were used. The first one was the search of electronic SWM policy documents from the general search engine and the websites of relevant organizations. The second was search for remaining SWM policy documents through the active involvement of a SWM policy expert in Sri Lanka who was familiar with most of the SWM policy documents. These two strategies has resulted in the retrieval of most of the important SWM policy documents relevant for this study.

1.4 Result:

Analysis of development of policy that solid waste management in Sri Lanka has evolved to specificity in terms of focus, functions and scope. Solid waste management policies in Sri Lanka has evolved from simple informal policies to supplementary provision in legislation such as

Municipal Council Ordinance, Urban Council Ordinance, Pradeshiya Sabha Act, National Environment Act, Amendment to the National Environmental (Protection & Quality) regulations No.01 of 1990, Basel convention & Rota dam convention (Bandara, 2007).

Sri Lanka's policy relating to the waste management have a long history. According to the Section 99 of the Police Ordinance No.16 of 1865, failing to keep one's environment was an offence. It says: " No filth, or dirt, or dead or disabled animal shall be cast or allowed to remain in any street, road, canal, or other thoroughfare within any such town and limits, and every inhabitant within any such town and limits shall keep the space and street or road, and all surface drains, ditches, and gutters before his house clean, and the owners or occupiers of all private avenues, passages, yards, and ways, and all slaughter houses shall keep the same clean and shall remove the offal to such place as the principal police officer or the division may point out under the directions of the Superintendent of police officer, and any person willfully offending against this section shall be guilty of an offence, and liable to any fine not exceeding twenty rupees." (Parliamentary research journal 2013).

In the recent past, several important act and regulations had been passed by Parliament. For example Act

National Environmental Act No. 47 of 1980,

National Environmental (Amendment) Act, No. 56 of 1988,

National Environmental (Amendment) Act, No. 53 of 2000

Regulation

Order published under the Gazette Notification No. 1533/16 dated 25.01.2008

Re: Environmental Protection License Prescribed Activities, Gazette Notification No. 1534/18 dated 01.02.2008,

Re: National Environmental Protection & Quality Regulations, Gazette Notification No. 850/4 dated 20.12.1994

Re: Appeal Procedure.

The following guidelines have been introduced to appreciate the effect on various environmental factors. For Air emission, fuel & vehicle importation standards, Prohibition of Ozone depleting substances, List of vehicle exhaust emission standards, Permissible Ambient Air Quality Standards in relation to class of Air Pollutants, Air emission, fuel & vehicle Importation standards for solid waste management Prohibition of Polythene or any polythene product of 20 micron or below in thickness, License for discharge, emission or disposal of waste/scheduled waste management, Municipal Solid Waste 627/19 dated 10.11.2009, Regulations on Polythene and Plastic Management 2017. These standers deal with waste management. It is prohibited to discharge waste into environment.

If any activity generate waste 100 tones per day, it should consider as prescribed project it is reported that EIA regulation is required the EIA Regulation (Gazette Extraordinary) No 772/22 of 24th June 1993, No 859/14 of 23rd February 1995)

As far back as in 2003 the Central Environmental Authority (CEA) had launched a Solid Waste Management Programme, under which it was to issue site clearance certificates for the dumping of solid waste. However, still solid waste is dumped haphazardly by many local garbage into Muthurajawela thereby causing severe environmental and health problems (parliamentary research journal 2013)

In addition, local level the provincial council should implement the following principles: Provincial Council Act 1987 Act N0 42,1987- 13th amendment, Power decentralized and also Local Government Ordinances, Municipal Council Ordinance - 1980, Urban Council Ordinance ,Pradeshiya Saba Act No.15 of 1987, The municipal government ordinance of 1980.129,131, Urban councils Ordinance (118,119,and 120), Pradeshiya Sabha Act No 15 of 1987(93,94).

As a national level policy for solid waste management such as 2001-National Strategy for Waste Management, Western Provincial Council – Waste Management Program, National Cleaner production program, Hazardous Waste Regulations National Level (Gazette extraordinary No 924/13 of May 23 1996).

The applicable laws of the International for Solid Waste Management in Sri Lanka are used by the time Basel Convention. Its main objectives of the convention are the reduction of the production of hazardous waste and the restriction of transboundary movement and disposal of such waste. It also aims to ensure that any transboundary movement and disposal of hazardous waste, when allowed, is strictly controlled and is undertaken in an environmentally sound and responsible way. Locally, draft regulations are being prepared in an effort to control the movement of such waste. Further, The Rotterdam Convention (formally, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade) is a multilateral treaty to promote shared responsibilities in relation to importation of hazardous chemicals.

While the importance of roles of various stakeholders and actors in SWM is clearly articulated in the policy frameworks, these roles are not well operationalized and coordination mechanisms are not well stated in the policy guidelines.

Moreover, the model of public private partnership that would be applicable for the management of solid waste in Sri Lanka is not clear from the reviewed policy frameworks. There is a magnificent shift to promoting good practices; from generic Acts to specific ones; and from centralized mandates to more decentralized responsibilities. The roles of local level implementation mechanisms is also increasing. However, the environment perspective is more emphasized than the health and economic perspectives of solid waste management principles.

1.5 Conclusion:

Municipal solid waste (MSW) is a serious environmental & socioeconomic issue in Sri Lanka. The rapid development, urbanization, migration and population growth will further pressing these issues.

Despite the chronological development of solid waste management policy priorities and strategies, their focus on environment dominates over health outcomes.

More importantly, there is need to change the views of the policy making bodies towards solid waste. As stated in the policies, the dominant perspective is that solid wastes are not being viewed as resources, rather as mere wastes. Consequently, the policy interventions are inclined towards collection, transportation and disposal, with little emphasis on recycling and re-use.

To way-forward to the transition to more sustainable waste management in Sri Lanka, It is better to build a "resource management infrastructure" with the fundamental change of mindsets and attitudes toward "waste" into "resources" and tap the resource value of waste. With the present condition in view of the long-term upward trend and volatility of prices material recoveries, many profitable new business opportunities are available in environmentally responsible recycling and waste disposal.

Bibliography

Bandara, N. J., 2007. *Review Of Policies Related To Waste Management In Sri Lanka*. management Institute. Jayawardhanapura, Department of Forestry and Environmental Science..

Bandara, N. J., 2015. *Municipal Solid Waste Management - The Sri Lankan Case*. Jayawardhanapura, Paper Presented at Conference on Developments in Forestry and Environment Management in Sri Lanka.

Wijerathna D.M.C.B., 2014. *Solid Waste Generation*, Characteristics : S.l., s.n.

Dhussa A.K and Varshney A.K. (2000) *Bio Energy News*, 'Energy Recovery from Municipal Solid Waste - Potential and Possibility', UNDP, Vol.4, No. 1

H.N.Hikkaduwa, et al., 2015. *Sustainable Approaches to the Municipal Solid Waste Management in Sri Lanka*. Kandy, 6th International Conference on Structural Engineering.

International Solid Waste Association & United Nations Environment Programme (2002) (ISWA & UNEP), Waste Management, 'Industry as a partner for sustainable development'.

Jathilake, N. & Fernando, S., 2016. *The performance and potential of the unicipal solid waste compost plants in Baticalooa*. S.l., international water management Institute.

National Research Institute (NRI), (2003), *China. Municipal Solid Waste Management in China*. Country Report,

National Research Institute (NRI),(2003), *India. Municipal Solid Waste Management in India*. Country Report,

National Research Institute (NRI), (2003), *Sri Lanka. Municipal Solid Waste Management in Sri Lanka*. Country Report.

National Research Institute (NRI), (2003) *Thailand. Municipal Solid Waste Management in Thailand*. Country Report,

Kumanayake. G. (2013) *Waste Management in Sri Lanka: Effective Approaches*, Parliamentary Research Journal, volume 01

Schubeler, P. *Conceptual Framework for Municipal Solid Waste Management in Low-Income*.

Technology, A. I. O., 2004. *Municipal Solid Waste Management in Asia, Bangkok* , A publication of SIDA funded Sustainable Solid Waste Landfill Project.

Wijerathna, D. Et al., 2014. *Solide Waste Generation*, Characteristic. s.l., s.n.