

# **Best Practices Across the Globe for Solid Waste Management**

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Date of Submission: 27-10-2017

Date of acceptance: 16-11-2017  
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## **I. Introduction**

The 3R (reduce, reuse, and recycle) initiative should be promoted to enhance material-cycle society through the effective use of resources, thereby ensuring both environmental conservation and economic growth (Sakai et al., 2017) (Yoshida, Shimamura, & Aizawa, 2007). Among the 3Rs (2R = Reduce and Reuse) are considered high-priority for development

In the EU, the Thematic Strategy on the Prevention and Recycling of Waste was established in 2005. The policy framework was with a purpose to relook at environmental impacts of various products from a life-cycle perspective it is targeted to achieve a balance between economic growth and the environmental impacts associated with waste generation (Union, 2008). By the end of 2014, national or regional waste prevention programs had been developed in 27 of the 31 countries in the EU (28 EU member states and 3 European Free Trade Association countries) (EEA, 2015). The program initiative developed under Europe 2020, which is the growth strategy for the EU until 2020, addresses sustainable growth based on a more competitive, low-carbon economy that also protects the environment. (EC, 2011), European Union intends to do vast transformations in production chains and consumption patterns, as well as the redesign of industrial systems to achieve this target. (Council, 2014). In Germany, due to this directive, the Circular Economy Act (CEA) [25] was developed in 2012 which provides a framework for waste prevention and extended producer responsibility. According to the Act, the established waste prevention program need to focus on the waste prevention against the previous practice of the waste management hierarchy of the CEA, but it was not legally compulsive on industry. The program outlined the potential for policy makers to prevent waste for the first time in a systematic and comprehensive way. The program also introduced 34 specific waste prevention measures, besides it also provides its evaluation techniques. Some of the recommendations were for local authorities to develop waste prevention concepts and plans, to provide information and raise awareness regarding clean product design, and to strengthen the waste prevention aspects of purchase recommendations. (Government, 2013). While countries like Denmark have shifted their focus from waste taken to landfills to incarnation of it. In this country more than 60% of the waste is recycled and less than 10% goes to landfills. (Government T. D., 2013). While in Italy government is focused on reduction of hazardous and non hazardous waste by 10% and 5% by 2020.

Japan had established a Basic Act in year 2000, which is set to focus on restricting the exploitation of natural resources by focus on 3R's. Japan focused on reduce and reuse of waste and usage of advanced technology for recycling waste, it also laid a huge emphasis on metal recovery. Country sets target for reduction of food wastage and food loss for each city. Local authority of city of Kyoto, during 2015 had set a target to reduce food loss by 50% by 2020. This city had recorded highest food waste in year 2000. (City, 2015).

South Korea in its waste management policy has Extended producer responsibility and volume based waste fees system, where in the complete responsibility of reduce, recycle and reuse of waste generated due to consumption of a product is on its producer. In volume based waste fees system, household and the business pay the fees according to the quantity of waste generated by them, Both these policies are effective in the country since 1993-94. Country is now developing a policy on similar line to reduce food waste from household and business as well. (Ministry of Environment, 2015). In order to have effective policies for recycle and reuse, certain countries have developed citizen friendly and convenient policies like, waste electronic appliances are picked up for free by local authorities in certain countries, securing collection services, transportation and classification of recycling resources, extension of "waste to energy" facilities, and development of a recycling marketplace. The Framework Act on Resource Recirculation was legislated in May, 2016 (to be enforced from January 2018). Like the EU member states and Japan, Korea has also implemented a food waste prevention policy, which envisions an eco-friendly food culture, and an energy-saving low-carbon society with the target of a 20% reduction in the amount of food waste generated by 2012, compared to the 2008 level.

Taiwan also has Extended Producer Responsibility (EPR) in their waste management policy, wherein product producer needs to pay recycling fees based on quantity and quality of waste which needs to be recycled. Besides they also have a policy of volume based collection fees, city wise target to reduce plastic waste and food and garden based waste recycling program. Taiwan is gradually shifting its focus to sustainable material

management program, in comparison to other developing countries, which are still setting up structures for having effective waste management programs. Taiwan has come up with 6R program, which comprises of 3R's + energy recovery, land reclamation and redesign. (Lu, Hsiao, Shang, Yu, & Ma, 2006).

Vietnam has informal structure of peddlers who collect E-waste from households and sell them to electronic shops, which further classified by the repairers or shopkeepers. The repairable instruments are reworked on and sold in second hand market while usable parts of non repairable instruments are sent factories. Instruments which are impossible to be re-used are sent to dismantling workshops instead of landfills. Dismantled parts are sent to rural areas if they can be used by craftsman. ( Nguyen, Huynh, & Keiichi, 2010).

## II. Conclusion

There is a lot to learn from Best Practices across the Globe related to Solid Waste Management. Countries which are facing serious hazards due to unmanaged waste generated and spilled can study feasible of these well tested strategies and protect there natural resources.

## Bibliography

- [1]. Nguyen, D., Huynh, T.-H., & Keiichi, N. (2010). A new approach for the evaluation of recycling system for electronic waste in Vietnam. *Vietnam Journal of Sci Technology*, 102-108.
- [2]. (EEA), E. E. (2015). *Waste prevention in Europe—the status in 2014*. EEA. Copenhagen.
- [3]. City, K. (2015). *The fundamental plan for promoting a Sound- Material Cycle Society in Kyoto 2015–2020*. Kyoto.
- [4]. Council, E. (2014). *Towards a circular economy—a zero waste programme for Europe*. Communication from the Commission to the Euro- pean Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions.
- [5]. EC. (2011). *Roadmap to a Resource Efficient Europe*. Communication from the Commission to the Euro- pean Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions.
- [6]. Government, G. (2013). *Waste Prevention Programme of the German Government with the Involvement of the Federal Länder*. Retrieved from [www.bmub.bund.de/fileadmin/Daten\\_BMU/Pool/Broschueren/abfallvermeidungsprogramm\\_en\\_bf.pdf](http://www.bmub.bund.de/fileadmin/Daten_BMU/Pool/Broschueren/abfallvermeidungsprogramm_en_bf.pdf).
- [7]. Government, T. D. (2013). *Denmark without waste. Recy- cle more lincinerate less*.
- [8]. Lu, L.-T., Hsiao, T.-Y., Shang, N.-C., Yu, Y.-H., & Ma, H.-W. (2006). *MSW management for waste minimization in Taiwan: the last two decades*. *Waste Management*.
- [9]. Ministry of Environment, K. (2015). *Enviromental Review*. Korea.
- [10]. Union, E. (2008). *DIRECTIVE 2008/98/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL*. European Union.
- [11]. Yano, J., & Sakai, S. (2015). *Waste prevention indicators and their implications from life cycle perspective: a review*. *Mater Cycles Waste Management*, 38-56.
- [12]. Yoshida, H., Shimamura, K., & Aizawa, H. (2007). *3R strategies for the establishment of an international sound material-cycle society*. *J Mater Cycles Waste Management*, 101-111.

IOSR Journal of Business and Management (IOSR-JBM) is UGC approved Journal with SI. No. 4481, Journal no. 46879.

Shivi Khanna Best Practices Across the Globe for Solid Waste Management.” *IOSR Journal of Business and Management (IOSR-JBM)*, vol. 19, no. 11, 2017, pp. 62-63.