



“A Descriptive Study of Sustainability With Reference to the Solid Waste Management”

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Abstract:

India's waste crisis is a multifaceted problem poor practices are not only leading to wastage of limited resources, but also contributing to environmental degradation with only 2% of world's landmass and 4% of fresh waste resources a linear economy model of take-make-dispose would constrain India's manufacturing sector and consequently overall economy. A circular economy can only address this issue. A circular process is more than 3R's and it is extended to 9R's i.e. produce, reuse, recycle, redesigning, repurposing and recover. Objective of circular economy can only be achieved by making waste collecting fund applying these principles of 9R's.

Introduction:

Urban India is facing a wide variety of environmental challenges. These range from polluted air, water and land to climate change induced extreme weather events, shrinking urban greens, loss of biodiversity, rapid depletion of resources and a rapid plunge toward an live able habitat. [A preliminary assessment of actions and aspirations: Green Campus Movement]

Niti Ayog of India has already constituted II committees deed by ministries concerned and comprising domain expert, academics and industry representatives to prepare comprehensive action plans for II focus are as including end of life products, recyclable materials and waste that either continue to pose considerable challenges or an emerging as new challenge are as that must be addressed in a holistic manner. As per Niti Ayog report “with only 2% of the world's land mass and 4% of fresh water resources, a line economy model of ‘take-make-dispose’ would constrain Indian's manufacturing sector and consequently the overall economy.

Background of study:

Our planet is facing three crises of climate change nature and bio-diversity loss and pollution and waste India has policies and regulations in this area over the last decade. They have established new principles of sustainability and environmental protection. Rules have been written on clean air renewable energy, water and energy security and waste management for a circular economy. Aligned implementation of these policies is

expected to contribute towards India's commitment under the National Determined Contributions (INDC) under the Paris Climate Accord to reduce emissions intensity of GDP by 30-35 Perce from the 2005 level by 2030. Their implementation will also help meet the goals of the National Clean Air Program to reduce particulate matter concentrations by 20-30 percent by 2024 form 2017 level.

Problem Statement: India consumption pattern is not as extravagant and wasteful as rich nations, but a lot of waste remains unprocessed, leading to environmental hazards and economics loss.

Objectives of Study:

- 01) To protect the environment and study the principle of 9R's.
- 02) To study the statistically how solid waste in generating in India.
- 03) To understand the concept of circular economy.

Descriptive Analysis:

To protect the environment, natural resource and human health and to ensure sound management of solid waste stream the concept of circular economy will help a lot circular economy consist of '9R' principle. It is expended from '3R' to '9R'. Reduce, reuse, recycle, redesigning, repairing, refurbishment, remanufacturing, repurposing and recover. India's waste management crisis is a multifaceted problem. Poor practices are not only leading to a wastage of limited resources, but also contributing to environmental degradation.

"Solid waste" includes solid or semi solid domestic waste, sanitary waste. Commercial waste, institutional waste, food and other non-residential waste.

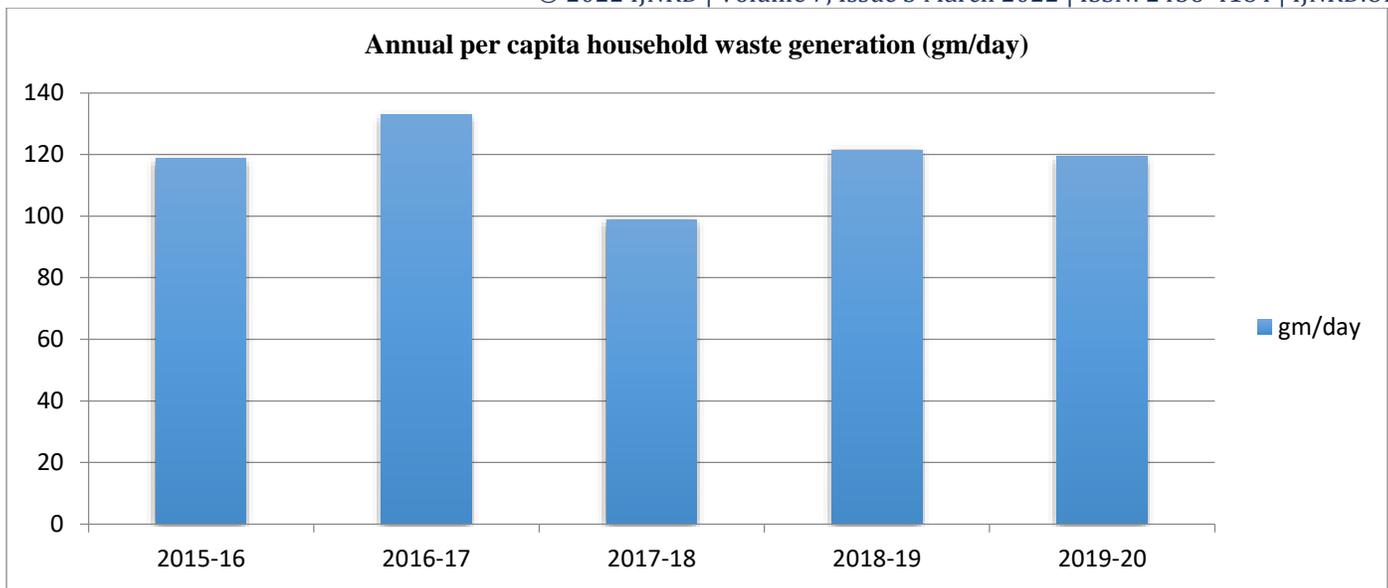
Statistical Analysis:

(Annual per capita household waste generation, gm/day)

2015-16	-	118.7
2016-17	-	132.8
2017-18	-	98.8
2018-19	-	121.5
2019-20	-	119.3

(Source: Times special : Re planet 26/02/2022)

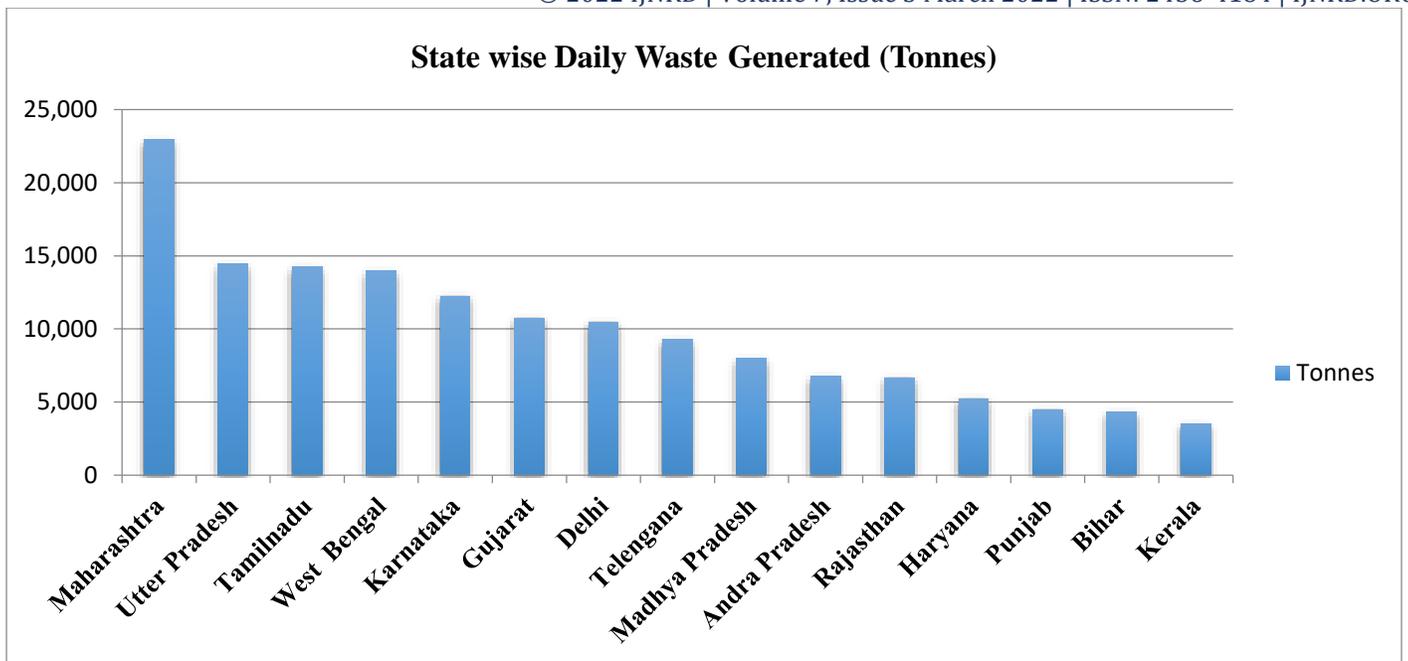




State wise Daily Waste Generated

Maharashtra	- 22,945
Uttar Pradesh	- 14,468
Tamilnadu	- 14,228
West Bengal	- 13,980
Karnataka	- 12,258
Gujarat	- 10,755
Delhi	- 10,471
Telangana	- 9,285
Madhya Pradesh	- 7,980
Andhra Pradesh	- 6,766
Rajasthan	- 6,659
Haryana	- 5,232
Punjab	- 4,478
Bihar	- 4,334
Kerala	- 3,521

These are top 15 States producing more than 95% waste for the nation.



Observation:

- 01) India is one of the largest generator's of solid municipal waste in the world which may not surprising given the country's population.
- 02) The bigger part of this waste is disposed of without any sort of treatment or processing.
- 03) As per world Bank Report India is the world's third largest generator of solid waste but at No. 187 out of 215 countries when it comes to PCs capita, solid waste generations.
- 04) As per the graph Maharashtra is the largest generator of daily waste in India.
- 05) In Maharashtra plastic, E-waste, food, agriculture material are need to be recycled and principle of '9R' should be applied for that.

Conclusion:

- 01) Circular economy can address the environmental issues and helps in reducing carbon footprints.
- 02) The extraction of resources is increasing day by day. That's why it is a need of an hour to repurpose, redirect production process and re-consuming the same recycle products.
- 03) In India plastic, electronics, textile sector have enormous potential for circularity.
- 04) Sustainable food system play an important role in enhancing economy wide circularity regenerative food production use of local product diversification of agriculture and crop varieties and agro forestry are same example for reducing the waste and facilitating the application of circular economy.
- 05) It is important at institutional and organizational level to integrate circularity by proper strategies.

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A preliminary assessment of actions and aspirations: Green Campus Movement.

