

A METHOD OF CORPORATE SOCIAL RESPONSIBILITY TOWARDS SOLID WASTE TREATMENT FOLLOWED IN EDUCATIONAL INSTITUTIONS MADURAI

Dr. P. Kannadas

*Assistant Professor, Department of Management Studies
Madurai Kamaraj University, Madurai*

Dr. A.R. Nithya

*Assistant Professor, Department of Management Studies
Saveetha Engineering College, Chennai*

Abstract

Design/methodology/approach - Basically the research is Conceptual research type.

The researcher has adopted the descriptive research method for this study

Data collection: Personal interviews and Observations was made.

Secondary data collection was made, on which data was collected from journals, surveys, text books, magazines etc.,

Findings - From our research we here to conclude that the rural urban connectivity is vital for the balanced growth on both side.

Originality/value - This paper communicates the agriculture and food processing development through waste treatment from urban side.

Key words: Agriculture, Food processing, waste treatment, Paper type - Conceptual Study method.

Introduction

Real India exists in villages, said the Father of the Nation, Mahatma Gandhi. Anyway notwithstanding all the endeavors even following sixty years of Independence, one of the striking parts of the nation has been the tremendous contrast as far as offices in the metropolitan and country territories. The financial exercises of any nation is simply rely on balanced development in all the territories of the area. In India accomplishing this reasonable development will be refined by provincial metropolitan holding. It is a diverse fact cum all inclusive wonder. Rustic indebtness, an obstruction for improvement it requires exhaustive analysis to address the issues in the entirety of its dimensions. Highlighting the insufficiencies in rural. Dr A. P. J. Kalam, has been insisting his Vision 2020, and, to throw off poverty has been accentuating the selection of PURA (Providing Urban Amenities in Rural Areas).

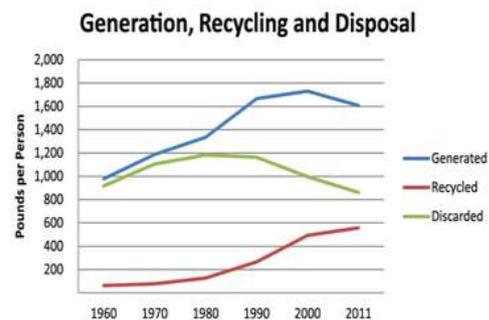
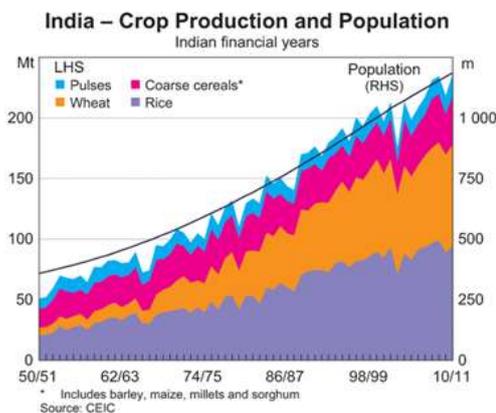
Agriculture and food processing: The nation should focus on 360 million tons of food and farming creation by 2020. Different zones of horticulture and agro-food handling would carry success to country individuals and accelerate financial development.

Trigger for this article

Importance of Waste Management as Urban - Rural connectivity

In recent years, there has been momentous development in agriculture creation, with increments in food creation across the world since the start of the 1960s. From that point forward, total world food creation has developed by 145%. In Africa it rose by 140%, in Latin America by practically 200% and in Asia by 280%. The best increments have been in China, where a fivefold increment happened, generally during the 1980s-1990s. In industrialized nations, creation began from a higher base; yet it actually multiplied in the USA more than 40 years and developed by 68% in Western Europe (FAO 2005).

Over a similar period, total populace has developed from three billion to in excess of six billion, forcing an expanding effect of the human impression on the Earth as utilization designs change. Again however, per capita farming creation has outperformed populace development for every individual today, there is an extra 25% more food contrasted and in 1960. These total figures, nonetheless, shroud significant territorial contrasts. In Asia and Latin America, per capita food creation expanded by 76 and 28%, individually.. These farming creation gains have lifted millions out of neediness and gave a stage to country and metropolitan financial development in numerous parts of the world.



In 1960, we created 88 million tons of waste and reused 6 percent of it (5.6 million tons). In 2011, we created around 250 million tons of waste and reused and treated the soil around 87 million tons of it, for a reusing pace of 35 percent. However, while we are reusing more, we are likewise producing more than we did in 1960. What amount of this expanded age can be credited to populace development? On the off chance that you consider, we find that people are reusing more and discarding short of what they did in 1960. Solid waste management topped in the year 2000.

Objectives of the Study

1. To study the various sources of Solid waste in and around Madurai City
2. Analysing the methods waste management practices in Educational Institution In Madurai.

Review of Literature

Meaning of Urban

The urban area of the country was defined in 1971 census as follows:

1. All places with a Municipality, Corporation or Cantonment and places notified as town area
2. All other places which satisfied the following criteria:
3. A minimum population of 5000
3. at least 75% of the male working population are non-agriculturalists and
4. a density of population at least 1000 per sq.mile (390 per sq.km)

India is a global agricultural powerhouse. It is the world's largest producer of milk, pulses, and spices, and has the world's largest cattle herd (buffaloes), as well as the largest area under wheat, rice and cotton. It is the second largest producer of rice, wheat, cotton, sugarcane, farmed fish, sheep & goat meat, fruit, vegetables and tea. The country has some 195 m ha under cultivation of which some 63 percent are rainfed (roughly 125m ha) while 37 percent are irrigated (70m ha). In addition, forests cover some 65m ha of India's land.

According to 2011 census, the country's rural population is almost 83.25 crore (68.8% of total population). There has been wide consensus that the rural development should be inclusive and sustainable in order to alleviate the poverty. The tentative Gross Budgetary Support (GBS) for the Ministry of Rural Development for the Twelfth Five Year Plan (2012-17) is Rs. 44,3261 crore (against the Rs. 29,1682 crores of Eleventh Plan period) which includes the major programs.

In spite of the fact that horticulture presently represents just 14 percent of Gross Domestic Product (GDP), it is as yet the primary wellspring of occupation for most of the provincial populace. As such fast development of farming is basic for comprehensiveness. Significant primary changes are occurring inside the area and there are unequivocal indications of improved execution. Horticultural development has quickened contrasted with the Tenth Plan and broadening is continuing.

Major Challenges

- Natural Resources
 - Shrinking land base
 - Dwindling water resources
 - Extreme weather events
- Farm Operations

- Shortages of farm labour
- Youths' participation in agriculture declining
- Inadequate mechanization
- Increasing costs of inputs
- Price volatility
- Subsidies vs public investment

The three main agricultural challenges are as follows:

1. Improving agricultural productivity per unit of land:

Improving the productivity per unit of land should be the primary factor of agrarian development as basically all cultivable land is cultivated. Water assets are additionally restricted and water for water system should fight with expanding modern and metropolitan necessities. All measures to build profitability will require misusing, among them: expanding yields, enhancement to higher worth harvests, and creating esteem chains to diminish showcasing costs.

2. Reducing rural poverty through a socially inclusive strategy that comprises both agriculture as well as non-farm employment:

Rural development must also benefit the poor, landless, women, scheduled castes and tribes. Moreover, there are strong regional disparities: most of India's poor are in downpour taken care of regions or in the Eastern Indo-Gangetic fields. Arriving at such gatherings has not been simple. While progress has been made - the rustic populace delegated helpless tumbled from almost 40% in the mid 1990s to underneath 30% by the mid-2000s (about a 1% fall for each year) - there is a reasonable requirement for a quicker decrease. Henceforth, destitution mitigation is a focal mainstay of the rustic advancement endeavors of the Government and the World Bank.

3. Guaranteeing that farming development reacts to food security needs: 3. Ensuring that agricultural growth responds to food security needs:

The sharp ascent in food-grain creation during India's Green Revolution of the 1970s empowered the nation to accomplish independence in food-grains and fight off the danger of starvation. Farming heightening during the 1970s to 1980s saw an expanded interest for rustic work that raised country compensation and, along with declining food costs, decreased provincial neediness. Anyway farming development during the 1990s and 2000s eased back down, averaging about 3.5% per annum, and grain yields have expanded by just 1.4% per annum during the 2000s. The lull in agrarian development has become a significant reason for concern. India's rice yields are 33% of China's and about portion of those in Vietnam and Indonesia. The equivalent is valid for most other agrarian products.

Policy makers will hence have to start as well as finish up approach activities and public projects to move the area away from the current arrangement and institutional system that gives off an impression of being not, at this point reasonable and construct a

strong establishment for a significantly more beneficial, universally serious, and broadened rural area.

Role and function of the Government in Rural development

The Government's policies and projects have laid accentuation on destitution easing, age of work and pay openings and arrangement of framework and fundamental offices to address the issues of rustic poor. The Ministry of Rural Development in India is the zenith body for figuring arrangements, guidelines and acts relating to the advancement of the country area. Horticulture, handiworks, fisheries, poultry, and journal are the essential supporters of the rustic business and economy. The presentation of Bharat Nirman, a task by the Government of India in a joint effort with the State Governments and the Panchayati Raj Institutions is a significant advance towards the improvement of the rustic area. The National Rural Employment Guarantee Act 2005 was presented by the Ministry of Rural Development, for improving the day to day environments and its food in the provincial area of India. The Ministry of Rural Development in India is occupied with enactments for the social and financial improvement of the provincial people. The service comprises of three divisions viz., Department of Rural Development, Department of Land Resources and Department of Drinking Water Supply. Under the branch of rustic turn of events, there are three independent bodies viz., Council for Advancement of People's Action and Rural Technology (CAPART), National Institute of Rural Development (NIRD) and National Rural Road Development Agency (NRRDA). The target of the service can comprehensively be explained as to energize, advance and help intentional activity in the usage of undertakings for the upgrade of rustic thriving, fortify and advance willfulendeavors in provincial improvement with center around infusing new mechanical data sources, go about as the public nodal point for co-appointment of all endeavors at age and spread of innovations pertinent to country improvement in its wide sense and help and advance projects focused on protection of the climate and normal assets. undertaking of Integrated Solid waste Management Project having concession time of 20 years based of PPP Model. Study, Design, Supply and development of waste preparing and removal office of 350 TPD and O and M of the venture for the concession time of 20 years after date of Commissioning. Development and Development of Sanitary Land fill Facility (SLF) and O and M of the equivalent for the removal of latent and handling rejects and to oblige blended waste in line in with MSW Rules 2000.

Existing Schemes of Government for Solid waste management

JNNURM Scheme

Project Under Jawaharlal Nehru National Urban Renewal Mission (JNNURM) Scheme. It is the first project of Integrated Solid waste Management Project having concession period of 20 years based of PPP Model. Survey, Design, Supply and construction of waste

processing and disposal facility of 350 TPD and O & M of the project for the concession period of 20 years after date of Commissioning. Construction and Development of Sanitary Land fill Facility (SLF) and O & M of the same for the disposal of inert & processing rejects & to accommodate mixed waste in line with MSW Rules 2000.

Waste management Issues in Urban Areas

Solid Waste Management Department

Headed by a Superintendent Engineer, the division cares for evacuation of strong waste which is a significant duty of the Corporation. Consistently 4500 MT of trash is gathered and eliminated from the city. Night conservancy is being completed in terrifically significant

streets and business zones of the city. House to house assortment of trash is recommended in all zones.

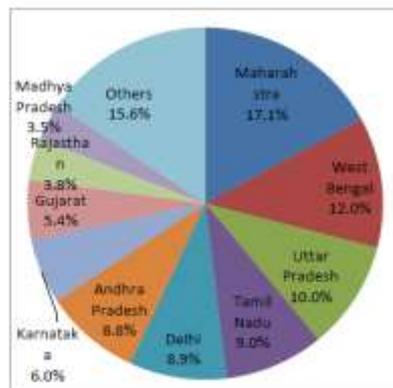


Figure 5, Share of States and Union Territories in Urban MSW Generated

Sources of Solid Wastes

Solid waste problems in developing countries are aggravated by the malfunctioning of traditional waste management systems due to rapid development and concentration of growing population. The below table summarizes the Solid waste generated from various sources and the environmental impacts it creates.



Sources	Typical Waste Generators	Components of Solid Waste
Residential	Single and multifamily dwellings	Food wastes, paper, cardboard, plastics, textiles, glass, metals, ashes, special wastes (bulky items, consumer electronics, batteries, oil, tires) and household hazardous wastes
Commercial	Stores, hotels, restaurants, markets, office buildings	Paper, cardboard, plastics, wood, food wastes, glass, metals, special wastes, hazardous wastes
Institutional	Schools, government centre, hospitals, prisons, colleges, schools, temples, churches etc.	Paper, cardboard, plastics, wood, food wastes, glass, metals, special wastes, hazardous wastes
Municipal Services	Street cleaning, landscaping, parks, beaches, recreational areas etc.	Street sweepings, landscape and tree trimmings, general wastes from parks, beaches and other recreational areas

Sources of Solid Waste

Sl. No.	Source	Quantity Tones per day	Composition percentage
1	Domestic	288.00	64 %
2	Commercial	108.00	24 %
3	Industrial	-	-
4	Hospitals & Clinics	18.00	4 %
5	Others	36.00	8 %
6	TOTAL	450.00	100 %

Source: Madurai Corporation

Chemical Composition

Sl. No.	Components	Percentage by Weight
1	Paper	1.3325
2	Plastic	0.7525
3	Metals	0.085
4	Glass	0.1675
5	Silt	30.13
6	Rubber / Rixin	0.0845
7	Gunny bags	0.1175
8	Cotton	0.36
9	Wood	0.3425
10	Paddy Straw	1.477
11	Cow Dung	0.9046
12	Banana Stem	0.35325
13	Coconut Husk	0.70
14	Baggage	0.26535
15	Vegetables & Fruit Waste	29.00
16	Leaves Waste	8.238
17	Food Waste	24.367
18	Fish Waste	1.3228

Source: Study Made by Madurai corporation along with IES, Anna University.

Environmental Impacts

	Landfill	Composting	Incineration	Recycling	Transport
Air	Emissions of methane (CH ₄) and carbon monoxide (CO) odours	Emissions of methane (CH ₄), and Carbon Monoxide (CO) odours	Emissions of SO ₂ , NO _x , HCL, HF, NMVOC, CO, CO ₂ , N ₂ O, Dioxins, furans, heavy metals (Zinc, Lead, Copper, Arsenic	Emissions of dust	Emissions of dust, NO _x , SO ₂ , release of hazardous substances from accidental spills
Water	Leaching of salts, heavy metals, biodegradable and	N/A	Deposition of hazardous substances on surface water	Wastewater discharge	Risk of surface water and groundwater contamination

	persistent organics to ground water				n from accidental spills
Soil	Accumulation of hazardous substances in soil	N/A	landfilling of ashes and scrap	Land filling of final residues	Risk of soil contamination from accidental spills
Landscape	Soil occupancy, restriction on other land uses	Soil occupancy, restriction on other land uses	Visual intrusion; restriction on other land uses	Visual intrusion	Traffic
Ecosystem	Contamination and accumulation of toxic substances in food chain	Contamination and accumulation of toxic substances in food chain	Contamination and accumulation of toxic substances in food chain	N/A	Risk of contamination from accidental spills
Urban areas	Exposure to hazardous substances	N/A	Exposure to hazardous substances	Exposure to hazardous substances	Risk of exposure to hazardous substances from accidental spills, traffic

Health Impacts of Solid Waste

Modernization and progress has had a lot of impediments and one of the principle parts of concern is the contamination it is causing to the earth - be it land, air, and water. With increment in the worldwide populace and the rising interest for food and different basics, there has been an ascent in the measure of waste being created day by day by every family unit. This waste is eventually tossed into metropolitan waste assortment habitats from where it is gathered by the zone districts to be additionally tossed into the landfills and dumps. In any case, either because of asset crunch or wasteful foundation. Not the

entirety of this waste gets gathered and moved to the last dumpsites. It can make genuine effects on wellbeing and issues the general climate. Squander that isn't appropriately overseen, particularly excreta and other fluid and strong waste from family units and the local area, are a genuine wellbeing risk and lead to the spread of irresistible infections. Unattended waste lying around draws in flies, rodents, and different animals that thus spread illness. Regularly it is the wet waste that decays and deliveries a terrible scent. This prompts unhygienic conditions and accordingly to an ascent in the medical issues. The plague episode in Surat is a genuine illustration of a city enduring because of the hard mentality of the nearby body in keeping up neatness in the city. Plastic waste is another reason for infirmity. Along these lines inordinate strong waste that is created ought to be constrained by taking certain preventive measures.

Role of Educational Institutions in Solid Waste Management

Educating a student is equal as educating a family. The best educators with the greatest instructing "best stuff", perceive that various elements meddle with their capacity to arrive at a significant number of their understudies. Youngsters today are progressively casualties of numerous ecological dangers that contrarily influence their job lift. Numerous families are in a condition of progress and until it gets settled, in whatever structure, youngsters' neglected physical and feelings will keep on meddling with their capacity to learn and change in schools and colleges. Waste the executives is a particular zone of training inside the expansive field of the social work calling. Understudies can obtain remarkable information and abilities to the climate and society. Understudies can help social specialists in knowing the strategies for removal of waste, it will winds up with twin advantages self-control and social order



Methods of Solid Waste Treatment

Incineration method of waste management

Burning as a removal strategy includes consuming the waste. Some of the time this is essentially alluded to as warm treatment, as an overall class of high temperature treatment of rubbish material. This strategy can be utilized to change squander into heat, gas, steam and debris. One of the upsides of cremation is that with this strategy, decline volume can be diminished considerably or more and it requires little utilization of land.

Sanitary Landfills as waste disposal

Landfill is presumably the most polished in a larger number of territories of the world than some other strategy. Landfills are regularly old and deserted quarries and mining regions. Thought about the most practical method of garbage removal, about 75% of the expense of usage is owing to the assortment and transportation of waste from private and organizations to the landfills. The waste is layered in slight spreads and afterward compacted, with a layer of clean earth covering the waste material before more layers are added over the long time

Recycling

Reusing of waste material methods taking the materials and changing them into new items. This is a critical idea in the advanced waste minimization reasoning. It's tied in with reducing the strain on the climate through limiting the need to completely arrange. In our regular living, we may as of now be isolating out paper items, aluminum soft drink jars or glass bottles into various waste compartments so these could be reused.

Avoidance and reduction methods

voidance of waste material being made is otherwise called squander decrease. Techniques for evasion incorporate reuse of recycled items, fixing broken things as opposed to purchasing new, planning items to be refillable or reusable, (for example, cotton rather than plastic shopping sacks), urging buyers to try not to utilize dispensable items, (for example, expendable cutlery), eliminating any food/fluid remaining parts from jars and bundling and planning items that utilization less material to accomplish a similar reason (for instance, light weighting of drink jars).

Conclusion

To conclude that the present system of solid waste management the role of educational institution is vital and unavoidable. Creating the awareness about waste management is vested with the Institutional heads. Each and every student should be aware with the knowledge about environmental system. It was noted that this existing system of dual (two-fold) responsibility results in inefficient collection leading to

complaints and inadequate redressal/corrective mechanism. The institutional strength and capacity of education department needs to be revamped to ensure effective management of the system.

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