

Study on Bio-Degradable (Organic) Kitchen Waste Management Practices in the Selected Households



HOME SCIENCE

KEYWORDS: Bio-waste, Recycling, Green manuring and Environment pollution.

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ABSTRACT

The study was conducted in Anamalai block in Coimbatore district of Tamil Nadu State. One hundred and fifty households were selected for the survey with equal representation from the three categories of households. The study revealed that the disposal of household waste was a major problem and it was found that the vegetable waste, leftover foods, garden waste were the common household waste that get accumulated in different quantities. The awareness and training programme has given in the selected households on preparation of green manuring through composting methods. This green manure could be utilize for growing organic vegetables. This is the simple and indigenous method to protect and safeguard the environment. The survey also indicates that the proper training, awareness and demonstration could motivate the mind of people and create good awareness of proper utilization of waste management in home can safeguard the mother Earth and protecting environment from pollution.

INTRODUCTION

"Recycling is a good thing to do. It makes people feel good to do it. The thing I want to emphasize is the vast difference between recycling for the purpose of feeling good and recycling for the purpose of solving the trash problem." --Barry Commoner^[8]

Bio waste or bio-degradable material is a form of biomass. Biomass refers to any organic matter which is available on a renewable basis including agricultural crops and agricultural waste and residues, wood and aquatic plants usually expressed as dry weight/unit area. Bio-waste is a waste material capable of decomposing under aerobic or anaerobic condition^[3].

The legal definition of waste can be found in section 75(2) of the Environmental Protection Act 1990, but for these purposes waste is anything which you decide to, or are required to, dispose of. This includes items that can be given to someone else or recycled^[6].

Hundreds of tons of biodegradable organic waste are being generated in cities and towns in the country, creating disposal problems. This waste can be converted into valuable compost by applying Home composting and vermicomposting technology. This approach reduces pollution and provides a valuable substitute for chemical fertilizers. This process is profitable at any scale of operation, provided proper process parameters are maintained^[5].

Recycling is a solution for accumulative household waste. The National Institute of Environmental Health Sciences explains that waste is anything rejected, abandoned, discarded or thrown out. It is important to practice the three "R"s of recycling and waste management: reduce, reuse and recycle. By reducing the amount of waste that goes to landfills, we can help with environmental problems and prevent additional toxicity to the soil^[7].

Waste management is a distinct practice from resource recovery which focuses on delaying the rate of consumption of natural resources. All waste material, whether they are solid, liquid, gaseous or radioactive fall within the limit of waste management^[9].

Green manuring involves the cultivation of leguminous plants that are used due to their symbiotic nitrogen or N fixing capacity. In some areas, non-leguminous plants may also be used due to their local availability, drought tolerance, quick growth and adaptation to adverse conditions^[4].

The popularity of organic farming is gradually increasing and now organic agriculture is practiced in most of the countries of the world^[2].

Vegetables produce with less chemical residue will be boon for the public health. This is of special importance for vegetables which are consumed either raw or mildly cooked. Enhanced self-life of organically produced vegetables will go a long way in reducing the pre and post-harvest losses of these commodities, which at present is about 25-40% ^[1].

Realizing the importance of proper management of bio-degradable (organic) household waste to vegetable gardening, the research was undertaken with the following objectives to

- Find out the availability of household organic waste in selected households
- To identify the methods of disposing waste
- Find out the problem faced by the home makers during disposing the waste.

The aim of the study is to create awareness for the villagers to convert bio-degradable (organic) household waste to home compost and vermicompost which is the alternative for avoiding chemical fertilizer and pesticides to vegetable gardening.

METHODOLOGY

The study was conducted in Anaimalai block of Coimbatore district in Tamil Nadu State. Out of 19 villages in Anaimalai block, Anaimalai village was selected as a study area. From the population, one hundred and fifty households were randomly selected with equal representation from the three categories of households such as small 50, medium 50 and large 50 households for the survey.

An interview schedule was formulated which includes socio economic profile, availability of household waste, problems faced and method of disposal. With the help of the interview schedule, the survey was carried out in the selected households. The homemakers belonging to the farm families were contacted personally one at a time, at their convenience. The required information was then elicited following the schedule and recorded side by side.

MAJOR FINDINGS:

The findings of the study on "Study on bio-degradable (organic) kitchen waste management practices in the selected households" are furnished below:

Socio-economic profile

The socio-economic profile helps to understand the age, education, occupation, and marital status, type of family, family size, family income of the households. A high proportion (35 per cent) of the homemakers belonged to the age group of 31-40

years and majority of them had undergone primary education (30 per cent). It was found that more than ninety per cent of households were performing agriculture as the main occupation. The survey indicates that majority of the households lived in nuclear and few households lived in joined families.

Availability of Household Organic Waste

Table I shows the availability of household organic waste in selected households.

**TABLE I
THE AVAILABILITY OF HOUSEHOLD ORGANIC WASTE IN SELECTED HOUSEHOLDS**

S.No.	Types of waste	Percentage of households		
		small (N=50)	medium(N=50)	Large (N=50)
a.	Vegetable waste	100	100	100
b.	Food waste	100	100	100
c.	Garden waste	34	45	60

Cent per cent of all the category of homemakers opined that vegetable waste and food waste are available regularly. Sixty percent and ninety percent of the large households found with the availability of garden waste.

Quantity of household waste available

Table II shows the quantity of household waste available in the selected households

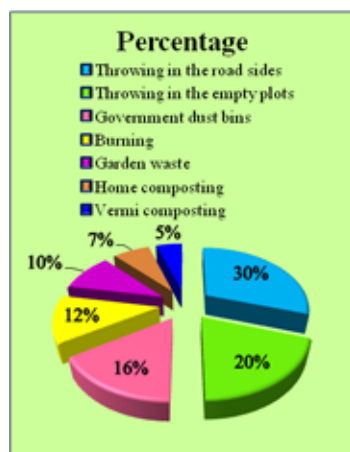
Sl. No	Types of waste	Averagr quantity of waste in Kg. per day)		
		Small	Medium	Large
1	Kitchen waste			
a.	Vegetable peels	0.140	0.210	0.400
b.	Coffee/tea	0.020	0.037	0.055
c.	Left overs	0.040	0.065	0.105
d.	Bone/meat waste	0.015	0.025	0.060
e.	Egg/coconut shells	0.050	0.075	0.100
2.	Garden waste	0.100	0.150	0.175

From the quantity analysis of all the category of houses the study shows that compare to small and medium families large families were generating more quantities of household waste.

Waste disposal methods

Figure I shows the waste disposal methods in selected households.

**FIGURE I
METHOD OF DISPOSING THE HOUSEHOLD WASTE IN SELECTED HOUSEHOLDS**



The study reveals that 30 per cent of the household wastes were thrown in the road side and 20 per cent of wastes were thrown in the empty plots and because of that the environment is becoming unhygienic and causing many health problems. Sixteen per cent of the household wastes were throwing in government dust bins and twelve per cent of household wastes were burning near the houses and increasing the environmental pollution. Home garden (10 per cent). The other methods of disposing the waste by the selected households were home composting (7per cent) and vermicomposting (5 per cent).

Problem faced by accumulation of household waste

All over the world every human being creates waste with the improved living standards. The amount of waste creation is increasing day by day in the all households. There are many problems occurring due to accumulation of waste. In present condition the garbage in carried dumped in big plastic bags to the different areas. The hygienic and smart methods adoption and disposing the waste is a very serious concern. With this a little afford to safeguard the environment, society and health of humans as well as animals which is cost nothing but associating the great value for the humanity.

Table III problem faced by accumulation of household waste

**TABLE III
PROBLEM FACED BY ACCUMULATION OF HOUSEHOLD WASTE**

Sl.no.	Problems	Percentage		
		S*	M*	L*
1	Insects, mosquitoes, flies and rodents in breeding places	100	96	90
2	Unhygienic surrounding	100	92	90
3	Environmental pollution	99	90	88
4	Health problems	97	90	80
5	Polluted water supply	95	88	80
6	Unpleasant odour	90	86	84
7	Street dogs problems	90	84	87
8	Overflows of drainage	89	78	75

*S- Small, M- Medium, L-Large families

The common problems faced by the households were disposing the waste. Cent per cent of the small households, 96 per cent of medium and 90 per cent of large families complained insects, mosquitoes, flies and rodents in breeding places were the major problems. Cent percent of small households, 92 per cent of medium and 90 per cent of large families were complaining of the unhygienic surroundings. More than 80 per cent of all the category of household explained health problems, polluted water supply, unpleasant odour and street dogs were the problems faced due to accumulation of waste. Overflows of drainage was the other problem expressed by more than 75 per cent of the households.

CONCLUSION

In the absence of proper household management practices in houses, the waste lies in the streets, empty plots, road sides and the waste water drains which causes water blockage and creating bad odour caused environment pollution. Because of all these common problem different health hazards were developing. So, keeping all these in mind the present study concentrated only in the organic household waste generated by the households per day was carried to the waste to waste recovery as home composting and vermicomposting. The homemakers were happy to adopt these simple techniques to safeguard our mother Earth from pollution by waste and also till some extend protecting the environment from different hazards.

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