

Study The Kitchen Waste Management Practices In Rural Household.

Abstract

The problem of waste is a universal one as waste exists in every society. India is now the world's 3rd largest garbage generator. Now a day waste is becoming more complex as variety of materials is discarded as waste together. So the research was conducted to study the wastes management practices in rural household of Koraput district, Odisha, with a sample of 110 female respondents. The respondents were selected using multi stage purposive random and proportionate sampling method. A pre-tested interview schedule cum observation sheet was used to collect the data. The findings of the study clearly revealed that biodegradable and non biodegradable waste (3.63%) separation was not readily in practice. The main reason of not separating was lack of awareness (13.6%) followed by lack of discipline in home ((4.54%) and laziness (3.63%). Improper waste disposal methods such as dumping in open(80.9%) and gutter (60.9%), burning (90.0%) were practised more readily in comparison to environmental friendly methods like composting (4.5%) for kitchen waste.

Since the beginning, human kind has been generating waste. Any unwanted or unusable materials or any substance which is discarded after primary use or it is worthless, defective and of no use is known as waste (**Wikipedia**). The problem of waste is a universal one as waste exists in every society. Business for Social Responsibility, **BSR (2010)** carried out a study on "The New Frontier in Sustainability" concluded most businesses define waste as "anything that does not create value". Increasing population level, urbanization, consumerism, industrialization and increasing living standards have enhanced the waste generation in developing countries. Waste management problems only appear more serious in developing economies because of poor management framework. India is now the world's 3rd largest garbage generator. Around 45 million tonnes or 3 million trucks of untreated garbage are disposed in unhygienic manner every day (**India spend**). According to Union Ministry of State for Environment, Forest and Climate Change, 62 million tonnes of waste is generated annually in the country at present, out of which 5.6 million tonnes is plastic waste, 0.17 million tonnes is biomedical waste, hazardous waste generation is 7.90 million tonnes per

33 annum and 15 lakh tonnes is e-waste. Further added that only about 75-80 per cent of the
34 municipal waste gets collected and only 22-28 per cent of this waste is processed and treated
35 (**down to earth**). According to forest and environment ministry in Odisha 43 million tonnes
36 waste was generated in 2014-15.

37 Now a day waste is becoming more complex as variety of materials is discarded as
38 waste together. It is very important to understand the wastes, their nature, problems
39 associated with them, and how to dispose them off hygienically. **Indhira et al. (2015)**
40 conducted a study on Awareness and attitudes of people perception towards to household
41 solid waste disposal: Kumbakonam Town, Tamilnadu, India concluded that they were
42 disposing three and six kilograms of bio degradable and non biodegradable waste /week. The
43 type of household solid waste disposal items were food items, vegetables, dry leaves, plastics,
44 garden waste, batteries, electronic goods, cloths, rubbers and glasses. Waste can be divided as
45 3 types i.e. municipal waste, commercial and industrial waste, construction or demolition
46 waste. Kitchen waste forms a significant constituent of municipal waste. It can be
47 biodegradable like food waste, green waste, vegetable peels, paper or non-biodegradable like
48 glass, bottles, cans, metals, certain plastics etc. The biodegradable waste decomposes easily
49 while the non biodegradable contents can be of serious concern as they stay for long in the
50 environment and hard to decompose.

51 Present day kitchen wastes are collected in mixed scale and disposed in places, which are
52 environmentally very sensitive. A study on People's perception on household solid waste
53 management in Ojo local Government area in Nigeria revealed that most of the respondents
54 did not separate their waste; out of the 364 households, only 63 (17.3%) separated their waste
55 when storing it, while the remaining 301 (82.7%) did not do any kind of solid waste
56 separation, which is a reflection of what happens in most African cities by **Longe et.al.**
57 **(2009)**. Disorganized and inappropriate kitchen waste disposal creates severe environmental
58 issues such as air pollution, water pollution, reduction of aesthetic value of the environment
59 etc. that have direct impact on the society and the country's development. So there is a need
60 to "Study The Kitchen Waste Management Practices In Rural Household" to understand the
61 extend of different management practices.

62

63 **RESEARCH METHODS**

64 A systematic methodology is an important step to a research because it directly
65 influences the validity of the research findings. Exploratory research design was adopted to

66 gain familiarities and to acquire a new insight into the existing aspects of various issues
 67 related to kitchen waste management practices. Multi stage purposive random and
 68 proportionate sampling method was used to select the respondents for the study. The locale
 69 for this present study was Similiguda and Nandapur block of Koraput district, in the state of
 70 Odisha. Further, from a total of 37 Gram panchayat from the above two blocks, Khurji and
 71 Subai Gram panchayat were selected purposively as the researcher could easily reach the
 72 respondent. Two villages from each gram panchayat such as Muliaput, Khatalaput,
 73 Dalaiguda, Luhaba were selected randomly out of which 110 female respondents were
 74 selected proportionately. An interview schedule cum observation sheet was used to elicited
 75 data from the respondents at their residence through direct interview cum observation
 76 method. The data collection tools were pretested in 10 houses to check its practicability. The
 77 data collected was further analysed using various statistical tools like frequency and
 78 percentage.

79 RESEARCH FINDINGS AND DISCUSSION

80 The findings of the present study as well as relevant discussion have been presented under the
 81 following head

82 **Table 1 : Profile of the respondents**

83

n=110

Variables	Categories	Frequency	Percentage
Age	young (<30)	43	39
	middle age (31-45)	43	39
	old (>45)	24	21.8
Education	Illiterate	41	37.2
	Primary school	35	31.8
	High school	22	20
	Intermediate and above	12	10.9
Type of family	Nuclear	87	79.0
	Joint	23	20.9
Occupation of respondent	Housewife	19	17.2
	Labourer	87	79
	Service	4	3.6

	Skilled worker	-	-
Total income of the family from per month	<10,000/-	33	30
	10,001/- to 15,000/-	55	50
	15,001/- to 20,000/-	22	20
Type of housing	Katcha	5	4.5
	Semi Pucca	83	75.4
	Pucca	22	20.0

84

85 The table 1 revealed that 30.0 percent of the sample belonged to the age group below
 86 30 years, 31 to 45 years each and remaining 21.8 percent were in the age group of above 45
 87 years. According to the study 37.2 percent respondents were illiterate and 62.8 percent were
 88 literate. Among the literate respondents it was found that, 31.8 percent completed primary
 89 school education and only 10.9 percent had educational qualification of intermediate and
 90 above.

91 It was found that all of the respondents under study were married and most of them
 92 belonged to the nuclear family (79.0 %), which showed that joint family system is gradually
 93 disintegrating from the society. It was evident that 17.2 percent of the total samples were
 94 housewives and only 3.6 percent were employed. Majority of them i.e. 79.0 percent were
 95 labourers by occupation and worked in agricultural field. The table also showed that 50.0
 96 percent of the sample belonged to the income range Rs 10,000/- to 15,000/- followed by 20.0
 97 percent belonged to income range Rs 15,001/- to Rs20,000/- and 30.0 percent belonged to the
 98 income range below Rs10,000/- per month. Majority of respondents had semi pucca house
 99 (75.4%) followed by 20% had pucca house, rest of the 4.5% respondents (4.5%) lived in
 100 katcha house.

101 An observable number of illiteracy was found. Very few respondents had higher
 102 education. It may be due to the absence of college and school in the nearby area as well as
 103 poor transportation facility in that area. Majority of the respondents belonged to the nuclear
 104 family, which showed that joint family system is gradually disintegrating from the society.

105 **Table 2 : Handling of kitchen waste prior to disposal by the respondents**

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n=110

Variables	Categories	Frequency	Percentage
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Separation of waste	Solid and liquid waste	82	74.54
	Biodegradable and non biodegradable waste	4	3.63
	Do not separate	24	21.8
Feeling about separation	Like it very much	24	21.8
	In a habit to do so	62	56.3
Reasons for not separation	Laziness	4	3.63
	Not aware	15	13.6
	Lack of discipline in home	5	4.54
Responsibility of cleaning	Respondent	90	81.8
	Any other member	20	18.1
Method of collection	polythene bags	27	24.5
	Covered dustbins	10	9.09
	Uncovered dustbin	61	55.45
	Any other	12	10.9
Transportation of waste from home to final point	Respondent	90	81.8
	Any other member	20	18.1
Method of transportation	Hand carrying to the Community disposal point	110	100

107 Table 2 depicted the waste handling practices used by the households. Out of the 110
 108 respondents 74.54% separated the solid and liquid waste and only 3.63% separated
 109 biodegradable and non biodegradable waste prior to disposal. The rest of the respondents
 110 didn't bother to separate the waste. The results of the study were in agreement with the
 111 findings of **Warunasinghe and Yapa (2016)**.

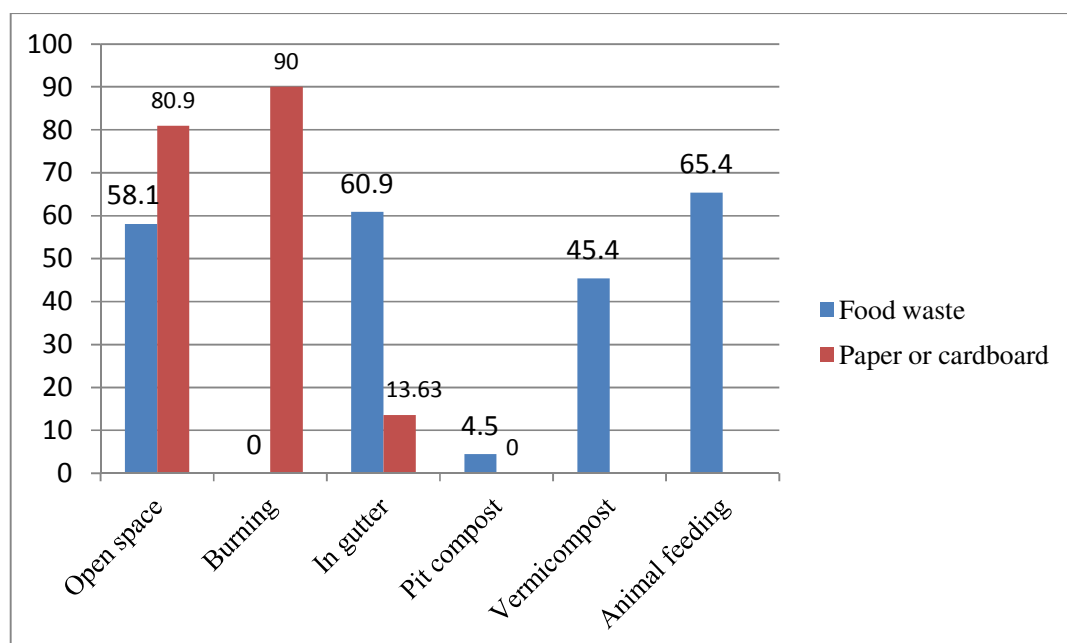
112 While questioning the respondents about the reason of waste separation, 56.3%
 113 replied that they were in a habit of doing so. Reason for non separation of waste was due to
 114 unawareness (13.6%), laziness (3.63%) and lack of discipline in home (4.54%).

115 The findings of research conducted by **Adogu et al. (2015)** and **Yoda et al. (2014)**
 116 was in agreement with the findings of the researcher that majority of respondents don't
 117 separate waste prior to disposal.

118 According to the data majority of the respondents (81.8%) preferred to clean their
 119 house themselves as well as transport waste from home to final disposal point. Around 18.1%
 120 respondents revealed that both cleaning of house and disposal of waste was performed by
 121 other members of the family like daughter-in-law or daughter etc. Uncovered dustbins was
 122 preferred for waste collection by 55.45% of respondents while 9.09% of respondents used
 123 covered dustbins for waste collection. Around 24.5% respondent stated that they used
 124 polythene bags to store waste products and 10.9% respondents used to throw in open space
 125 directly as soon as the waste was generated.

126 As there was no community waste disposal facility or any other waste disposal facility
 127 available in the study area, waste was carried by hands and thrown at disposal point. It is also
 128 observed that none of the male members were involved in kitchen waste management
 129 practices like cleaning, collection and transportation of waste from household to final point.
 130 Only female members were responsible for such activities.

131 The findings of research was disintegrating with the findings of the research of
 132 **Adogu *et al.* (2015)** and **Yoda *et al.* (2014)** which revealed that wheeled barrower or paid
 133 collector were more effective method of waste transport and covered dustbin was primary
 134 choice to store waste..



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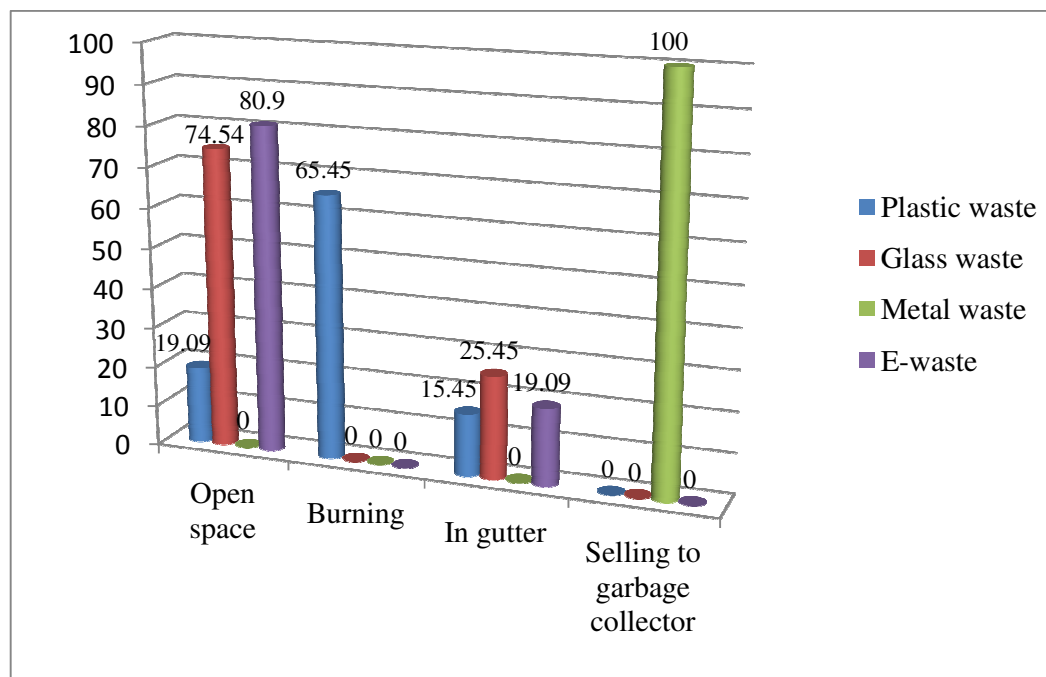
136 **Fig. 1 : Waste disposal practices for biodegradable kitchen waste products**

137 ❖ Multiple response.

138 Waste management or waste disposal is all the activities and actions required to
 139 manage waste from its inception to its final disposal. There are various kind of disposal
 140 practices are in action, some are good some are not. Figure 1 revealed the waste disposal
 141 practices by the respondents for biodegradable kitchen waste product.

142 Biodegradable kitchen waste in study area included food waste generated before
 143 (vegetable waste) and after cooking, paper and cardboard. It was observed that many of them
 144 practised improper waste disposal method such as dumping the food waste in open space
 145 (58.1%) and in gutter (60.9%). Though composting was one of the environmentally friendly
 146 way to manage the biodegradable waste, only 45.4% of the respondents prepare
 147 vermicompost and 4.5% prepare pit compost domestically. Very fewer amounts of paper and
 148 cardboard waste was generated which they either threw in open space (80.9%) and gutter
 149 (13.63%) or burnt it (90.0%).

150 Multiple responses were observed in this table because of the type of biodegradable
 151 waste such as veg - nonveg, solid-semisolid waste etc. The finding of researcher was not in
 152 line with the findings of **Warunasinghe and Yapa (2016)** that majority of respondents
 153 dispose the waste in garbage tractors followed by burning.



155 **Fig. 2 : Waste disposal practices for non biodegradable kitchen waste product**

156 Non biodegradable waste should be handled separately like plastic bags, glass bottles
157 etc. which cannot be decomposed, their disposal poses a big problem. Waste disposal
158 practices by the respondents for non biodegradable kitchen waste product is described in
159 figure 2.

160 Non biodegradable kitchen waste includes plastic, glass, metal and E-waste, which
161 most of the respondents were in a practice of throwing it in an open space. There was an
162 increased use of plastics due to changes in life style and industrialisation in which plastic
163 packages replace other forms of packaging. It was estimated that over 65.45% of households
164 burn plastic waste, a non biodegradable component of their domestic waste which add toxic
165 gaseous emissions in atmosphere. Burning plastic pollutes air and destroy the ozone layer,
166 thereby increasing the risk of health hazards, including cancers.

167 The findings of the researcher was in line with the findings of **Yooda *et al.* (2014)**
168 that burning plastic was practise more which is harmful to both health and environment.

169 Glass waste and E-waste were thrown in gutter by 25.45% and 19.09% respondents
170 respectively. Different type of metal waste was generated which was either sold to garbage
171 collector or purchased new one with exchange offer.

172 It is felt that there is a need for effective disposal facilities for biodegradable and non
173 biodegradable waste. The respondents suggested that there should be proper and adequate
174 placement of municipality waste bins or door to door collection regularly by Municipal
175 Corporation to enable effective management of waste at community level.

176 The findings of researcher were not in line with the findings of **Warunasinghe** and
177 **Yapa (2016)** that majority of respondents disposed the waste in garbage tractors followed by
178 burning.

179 **Conclusion**

180 The result of the study revealed that solid and liquid waste separation was quite in practice
181 and awareness must be created among other respondents about practise of biodegradable and
182 non biodegradable waste to separate prior to disposal. The main reason of not separating was

183 lack of awareness followed by laziness and lack of discipline in home. Improper waste
184 disposal methods such as dumping in open and gutter, burning were practised more readily in
185 comparison to environmental friendly methods like composting for biodegradable kitchen
186 waste due to laziness and lack of discipline. As per food waste was concern majority of the
187 respondents used the waste as animal feeding. The common disposal practices for non
188 biodegradable kitchen waste was dumping at any place followed by burning, resulting due to
189 lack of awareness about the effect of such action on human life as well as environment. Due
190 to available facilities metal waste was the only waste which was either sold or exchanged
191 rather than throwing.

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