

Study on the quantity and quality of solid waste and awareness among the public in Gorakhpur city

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Abstract

The amount of municipal solid waste generated in Gorakhpur city has been increased dramatically during the past several years. For assessment of solid waste management requires accurate knowledge of the quantity and quality of solid wastes. This questionnaire conducted for knowing the people's perceptions and behaviour about solid waste management. The result concluded that waste generated from a house is between 1-2 kg/day and half of them is biodegradable. There are many factors which effect the amount of waste like no. of peoples in a house, age, house size, Area, education level, awareness etc.

Keywords: Solid waste, Gorakhpur, qualitative analysis, biodegradable waste

Introduction

All Anthropogenic activities produces waste in which solid waste is common. Tremendous growth in population and their changing consumption patterns also increase the amount of solid waste. Because Now a days peoples reject and create lots of solid substances frequently due to quick increment in creation and their utilization (Purvar 2018) [3]. It resulted to other complication such as health problems (Trondillo *et al*, 2018) [4]. Almost There are no efficient and effective management of solid waste (Iresha *et al*, 2021) [1]. For assessment of solid waste management in future exact knowledge of the quantity and quality of solid waste requires (Jeyapriya and Saseetharan 2007) [2].

In Gorakhpur, numerous solid waste management programmes are running however the public's behaviour towards solid waste management become challenging to local authorities as well as cooperating agencies. So I framed this questionnaire for evaluation of current scenario of solid waste generation in Gorakhpur. The details collected by this questionnaire can be helped to evaluate the actual amount of solid waste generation and people awareness towards solid waste.

Questionnaire was produced consisting of 53 questions related to the topic of my research "Qualitative analysis of solid waste of Gorakhpur city and impact of its dumping on the quality of ground water".

Questionnaire survey: The selection of questionnaire were included to get data that on analysis could help in getting objective of the research work and to gather data in area of municipal solid waste management of Gorakhpur city. The questionnaire were designed as brief and simple worded, easy to read and understood without any bias or ambiguity.

Result and discussion: Total 100 people's responds are recorded for my study. Following figures are giving analysis of recorded response.

Total 53 questions were asked from 100 persons in offline mode. The opinion was collected from 100 persons who were between 20 to 60 years old. The population include ladies as well as gents. About 45 % respondents were between the age group of 20-29 years and 24% peoples are

more than 50 years. In which 60% were ladies and remaining 40% were male. About 70% of them are graduate and mature while 18% at intermediate level followed by high school and primary level.

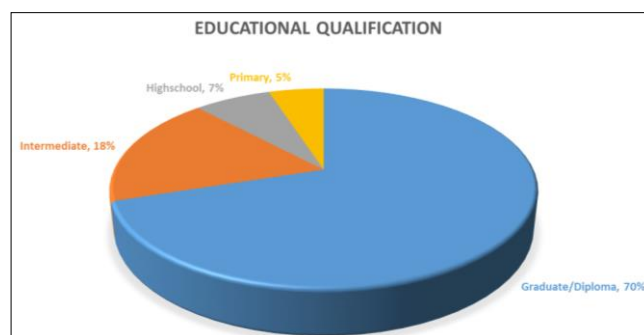


Fig 1

Half of the respondent belongs to Gorakhpur by birth and 25 percent of them living in city from more than 10 years while 15% persons living in city from 1-5 years.

Maximum number of respondent (60%) living in joint family in which about 40% respondent were living with family with 4-8 members in a house. About 70% respondent belongs from urban areas.

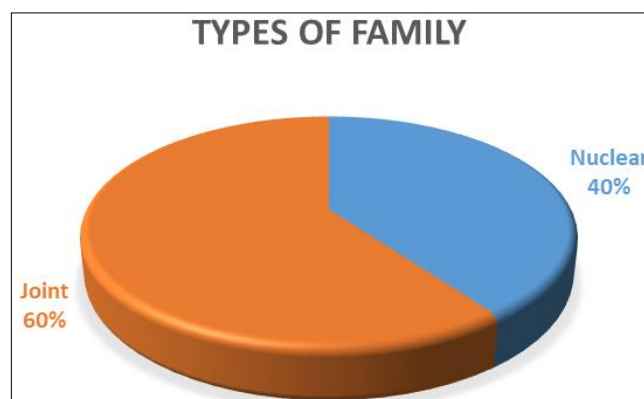


Fig 2

In questionnaire survey half of the respondent say that maximum 2 person of their house in a job in which 40% of them mentioned their occupation as a private job, followed by 25% in Government services and 15% having business while 10% busy in their other job.

In which half of the waste is biodegradable followed by 30% mixed waste and remaining 20% is plastic waste and 10% miscellaneous waste.

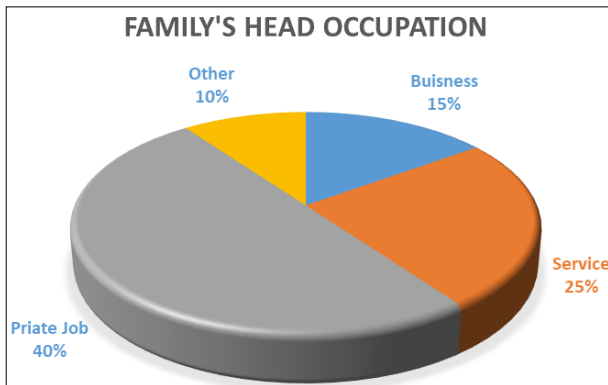


Fig 3

69 % of respondent were living in medium income group (MIG) society (700-1500sqft) and

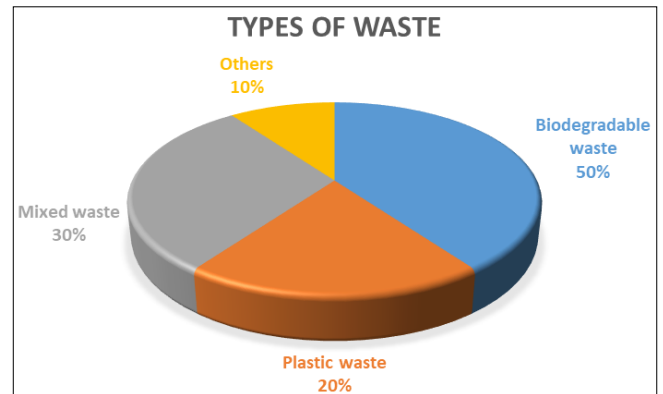


Fig 6

Maximum respondent (92%) agree that they are not using specific type of dustbin.

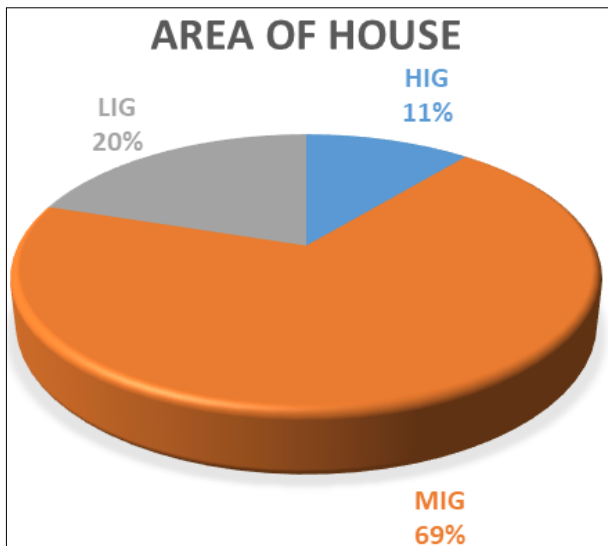


Fig 4

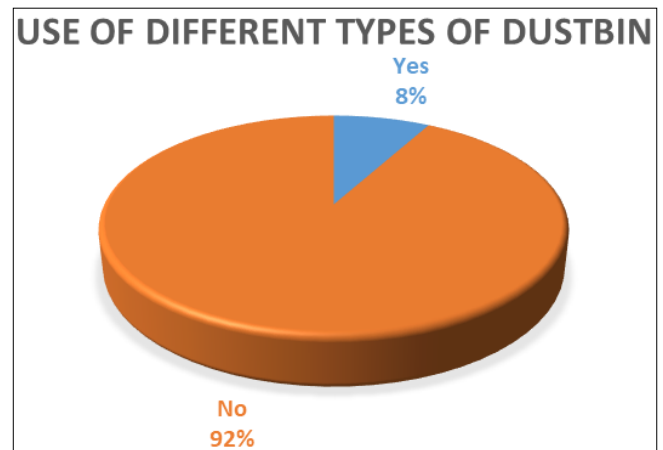


Fig 7

20% belongs from lower income group (LIG) (less than 700sqft) followed by 11% higher income group (HIG) (more than 1500sqft).

69 % responders are agree that they are not following waste source separation due to lack of knowledge, awareness and time. While 31% respondent are saying that they are following waste segregation at source site to separate 55% Biodegradable waste and 20% Non- Biodegradable waste followed by 25% recyclable material.

On analysis of questionnaire survey result it is found that 60% person were generating waste between 1-2 kg per day.

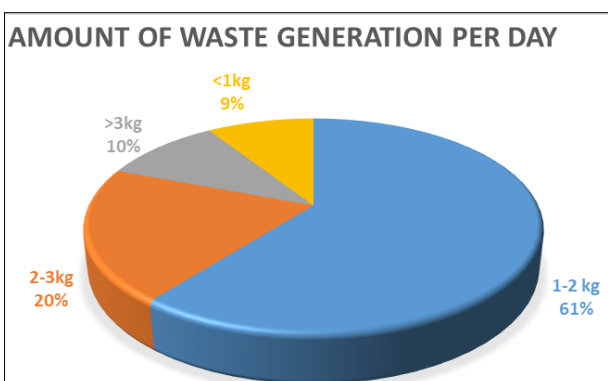


Fig 5

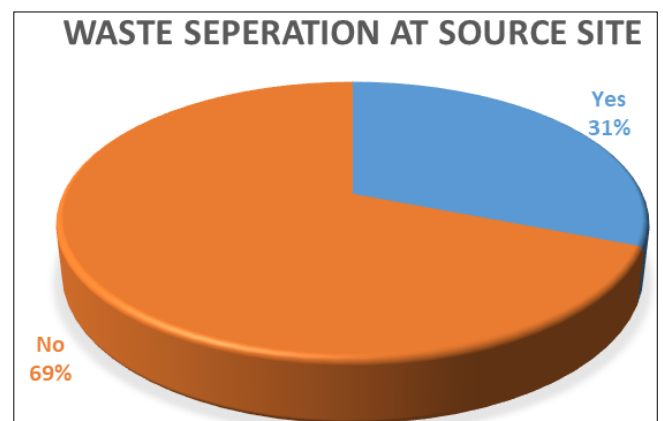


Fig 8

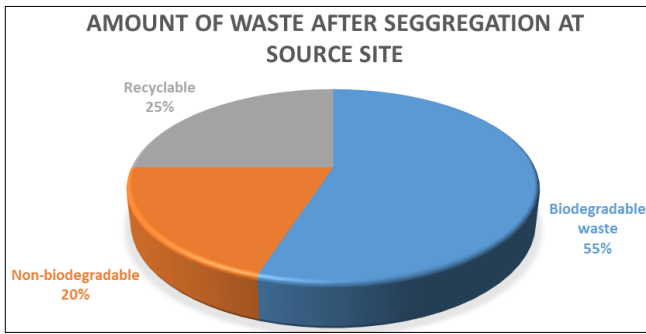


Fig 9



Fig 10

More than half of the respondent (55%) say that waste is collected from their door to door step, while 25% responder through their waste into public dustbin followed by 15% in open dumping site.

On Daily basis for management of solid waste, 75% respondent threw their waste in Public Dustbin while 12% dump in open space, followed 10% burn them.

Table 1: General awareness and behavior towards solid waste management

S. No.	Questions	Yes	No
1.	Do you have knowledge about segregation of waste?	60%	40%
2.	Do you have time for separation of waste at home?	30%	70%
3.	Do you separate waste at home on daily basis?	31%	69%
4.	Did you ever attend awareness program about solid waste management conducted by any authority?	45%	55%
5.	Do you know about solid waste management?	72%	28%
6.	Is your school/College conducted any program about solid waste management?	40%	60%
7.	Do you agree that school/college administrators have important role to play in the implementation of solid waste management at school/college level?	60%	40%
8.	Do you know the any effective mechanism for school/college or household waste management?	30%	70%
9.	Do you know the effects of improper solid waste management?	45%	55%
10.	Do you know the penalties for violation of solid waste Management?	20%	80%
11.	Do you know the types of wastes?	40%	60%
12.	Do you reuse your grocery plastic bags?	65%	35%
13.	Do you reuse your washable plastic bottles and food container?	70%	30%
14.	Do you interested in reusing your old things in place of shopping of new things?	35%	65%
15.	Do you aware about e-waste?	55%	45%
16.	Do you use household waste as a compost in gardening?	25%	75%
17.	Do you know how to make organic compost?	60%	40%
18.	Do you know the importance of organic compost?	90%	10%
19.	Do you throw your waste from your vehicle or public transport on road?	35%	65%
20.	Do you generally see garbage on roadside during travelling?	40%	60%
21.	Do you participate in solid waste management program of your school/college?	35%	65%
22.	Do you think that improper waste management is threat to our environment?	90%	10%
23.	Do you agree that segregation of waste is beneficial for school/college and house?	55%	45%
24.	Do you think that you are also responsible for management of solid waste?	85%	15%
25.	Do you think that collection and management of waste is sole responsibility of municipality?	35%	65%
26.	Do you also responsible for production of wastes in house and your working area?	70%	30%
27.	Do you see the specific place for collection of wastes in your society/colony?	75%	25%
28.	Do you use public dustbin in public places?	70%	30%
29.	Do you aware with different colours and there uses of dustbin?	40%	60%
30.	Do you throw medical wastes in common dustbin?	70%	30%
31.	Do you committed to minimise the waste?	80%	20%
32.	Are waste materials are collected accordingly to the schedule time in your colony/ society?	69%	31%
33.	Are solid waste collected once a week only?	32%	68%
34.	Did you ever seen designated area for collection of solid waste?	79%	21%
35.	Did you think that nothing waste is left out after collection of waste?	89%	11%
36.	Do you willing to know about environmental issues and concern?	76%	24%
37.	Do you have dumping yard in your city?	96%	4%
38.	Are Infectious, Chemical and toxic substances are collected collectively without any precaution?	70%	30%
39.	Is Municipality van comes per day in your colony/society for collection of wastes?	92%	8%
40.	Do you have proper solid waste management system in your city?	84%	16%
41.	Did you aware the harmful effect of incineration/ burning of solid waste?	65%	35%

Conclusion

The programme conducted by municipal authorities of Gorakhpur city towards solid waste management and their implementation is insufficient to succeed in addressing environmental issues as well as related concerns. There are many rules and work conducted by municipality but there ground scenario is different from reality, so it should be emphasized.

As well as social responsibility must be emphasized and every individual should actively participate to improve effectiveness of well thought plans. This will be possible through proper awareness and their implementation on daily basis.

From the above study conducted by questionnaire, it was found that there are 45% peoples, who, unaware of waste management programmes although some are well educated (65%) and know the harmful effect of mismanagement of solid waste but they do not willingness to comply.

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