

# A Study on Household Handling of Plastic Waste in Rajarampur Village, South 24 Parganas (*Everyone Can Play Their Part to Eliminate Plastic Pollution*)

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## Abstract:

Effective household plastic waste management in rural areas is vital to prevent environmental degradation, protect public health from disease-carrying pests, and curb the pollution of soil and water sources. It supports sustainable development, reduces the reliance on harmful open burning, and aligns with sanitation goals like the Swachh Bharat Mission. This study adds to the knowledge gaps in the composition of plastic waste discarded, current reuse levels and recycling initiatives by households in the study area. By gaining knowledge from school or home, the community can take a serious action about the plastic waste problem. Most of the rural households are still using traditional methods of managing plastic waste, even though recommended plastic waste management practices such as reusing and recycling were found amongst rural areas. The present study was carried out with main objective of a) To show the demographic characteristics of studied households of Magrahat-1 block of South 24 parganas district of West Bengal. b) To document plastic waste composition of households of Magrahat-1 block of South 24 Parganas. c) To discuss the household management of plastic waste discarded by households. d) To show the consumption pattern of household plastic, e) To analyse the knowledge, attitude, awareness, and behaviours of households in the study area towards plastic waste management in separating plastic waste before its disposal. Near about 30 households were surveyed in the study area during the time of survey. These households have been surveyed through personal interviews to gather the required information. Plastic waste in Rajarampur is shaped by household size, income, and education, with families generating 60% plastic waste compared to food and paper. Bottles and bags dominate usage, driven by availability, low cost, and convenience. Disposal remains irregular, with most waste stored outside homes and only 40% segregated. Awareness is growing, with 40% households taking individual action, but challenges like distant dumping sites and irregular collection persist. The study suggests that Policy measures should focus on decentralized recycling units, source segregation, awareness campaigns, and integrating informal waste pickers to build a sustainable system.

**Keywords:** Plastic Pollution, SDG, household plastic management, sustainable lifestyle

## INTRODUCTION:

A study on household handling of plastic waste in a village is crucial due to the rapid, yet often invisible, increase in plastic consumption in rural areas and the simultaneous lack of formal waste management infrastructure. Such studies provide the necessary baseline data for developing localized, sustainable, and community-driven solutions to manage plastic pollution.

The background for this study is built on the convergence of rising rural consumerism and inadequate infrastructure.

- **Rise of Single-Use Plastics (SUPs):** Increased income and purchasing power in villages have changed consumption patterns. Ready-to-eat foods, packaged products, and small sachets

(shampoos, gutka, snacks) are now common, contributing to high volumes of low-value, non-recyclable plastic waste.

- **Lack of Infrastructure:** Unlike urban areas, most rural communities lack organized solid waste collection, segregation, and disposal systems.
- **Traditional Waste Management:** Due to the absence of formal services, rural households often resort to traditional methods like open burning, dumping in backyards, or throwing waste into water bodies.
- **Environmental and Health Impact:** Open burning of plastics releases toxic gases (dioxins, furans) that are carcinogenic. Uncontrolled dumping leads to blocked drainage, soil contamination, and health risks from mosquitoes breeding in stagnant water trapped in plastics.

The rationale of the study is that the study is conducted to bridge the knowledge gap regarding rural plastic waste management and provide actionable insights.

Effective household plastic waste management in rural areas is vital to prevent environmental degradation, protect public health from disease-carrying pests, and curb the pollution of soil and water sources. It supports sustainable development, reduces the reliance on harmful open burning, and aligns with sanitation goals like the Swachh Bharat Mission.

Plastics are a sub-species of a class of materials known as polymers. The word ‘plastic’ originates from a Greek word ‘plastikos’, which means ‘it can be shaped or moulded by heat’. The first plastics were made in the 1860s, but it was not until the 1940s that the plastics industry became one of the world’s fastest-growing sectors. Since then, conventional materials like wood, metal, and leather have been steadily supplanted by plastics.

## STUDY OF LITERATURE

Duhan Sandeep Singh, Khyalia Pradeep & Laura Jitender Singh (2022) published a paper named Plastic Waste Management in Rural Areas Around the World. This study gives the scenario about the plastic management services in rural areas around the world. Central Pollution Control Board, Delhi published Annual Report 2020-21 on Implementation of Plastic Waste Management Rules, 2016. It is observed that maximum quantity of plastic waste is generated in Telangana followed by Tamil Nadu, West Bengal & Uttar Pradesh in that order. The estimated plastic waste generation is approximately 417925 TPA during 2020-21. Bakshi Shilpi Kapur, Kaur Mehar and Gautam Shweta of TERI published a report named Circular Economy for Plastics in India: A RoadMap The paper states that to limit global warming below 2 °C, rapid reduction in global energy consumption is required. The industry has been focusing on reducing the sectoral greenhouse gas (GHG) emissions from production (supply-side) of widely used resources such as steel, cement, plastics. However, this can be achievable only when reduction in supply-side emissions is complemented with demand-side management. Here, circular economy (CE) has an important role to play as it can through better demand management create opportunities to reduce the demand for virgin resources and emissions associated with their production. Gwada B, Ogendi G. , Makindi S.M. , Trott S. (2019) published a paper on Composition of plastic waste discarded by households and its management Approaches. This paper discusses that among the emerging environmental issues within Sub-Saharan Africa is the haphazard disposal of plastic waste, some of which end up downstream in the marine environment leading to negative effects. Notably there have been cases of humpback whales getting entangled in ‘ghost’ fishing nets, and endangered turtles ingesting plastic wastes in Watamu beach in Kenya. The aim of the current study was to assess the composition and management of plastic waste discarded by households in Watamu ward. Yintii Bright Buzong , Anim-Gyampo Maxwell & Braimah Maurice M. (2014) published a paper on Household Perspective of Plastic Waste Management in Urban Ghana: A Case Study of the Bolgatanga Municipality The study was carried out to ascertain the plastic waste situation, identify household plastic waste management practices and challenges, and to find out from the household’s perspective the way forward to reducing plastic waste. Halder Srimanta (2018)

published a paper on Plastic Pollution and Dengue Fever in Kolkata and Its Surrounding Areas. The paper states that the biggest current problem with the conventional plastics is the associated environmental concerns, including nonbiodegradability, release of toxic pollutants, litter and impacts on landfill as a result of the production and disposal of plastic waste. Dengue is the most rapidly spreading mosquito-borne viral disease in Kolkata and surrounding area by the plastic cup and others uses. Nasir N, (2022) published a paper on Plastic waste knowledge of households towards a sustainable environment. According to this paper plastic waste in Malaysia has become a serious problem since it affects not only the environment but wildlife animals and marine life too. These may cause by irresponsible people in dealing with their plastic waste management. Therefore, this study is conducted mainly to analyse the knowledge, attitude, awareness, and behaviours of households in Pasir Gudang towards plastic waste management in separating plastic waste before its disposal. Datta Sugata, Chauhan Abhishek, Ranjan Anuj, Singh Tuli Hardeep, Dhama Kuldeep, Sardar Abul Hasan, Jindal Tanu (2022) published a paper on Plastic Waste in India: overview, impact, and measures to mitigate: Review. The review paper aimed to examine the major impact of plastic waste in India and how to reduce plastic consumption, considering measures such as phasing out or banning multilayered plastics that cannot be recycled, contemplating renewable raw materials, promoting the use of bioplastics, incentivizing the recycling business, and making the rules and guidelines for Extended Producer Responsibility (EPR) simple and enforceable. Ministry of Housing and Urban Affairs (2019) published a report on Plastic Waste Management Issues, Solutions and Case Studies. The report states that the Sustainable Plastic Waste Management Plan has been implemented in three stages. Khuc Quy Van, Dang Thao, Tran Mai, Nguyen Dinh Tien, Nguyen Thuy, Pham Phu and Tran Trung (2023) published a paper on Household-Level Strategies to Tackle Plastic Waste Pollution in a Transitional Country. According to this paper as one of the world's fastest-growing economies, Vietnam is tackling environmental pollution, particularly plastic waste. This study contributes to the literature on environmental culture and practical solutions by better understanding households' behaviours and motivations for (i) sorting waste, (ii) contributing to the environmental fund and (iii) relocating. Plastic Waste Management (Amendment) Rules were notified on 27th March, 2018. These rules shall apply to every waste Generator, Local Body, Gram Panchayat, Manufacturer, Importer, Producer and Brand Owner. Carry bags made of virgin or recycled plastic, shall not be less than fifty microns in thickness. Gram Panchayat either on its own or by engaging an agency shall set up, operationalize and coordinate for waste management in the rural area under their control and for performing the associated functions, namely, ensuring segregation, collection, storage, transportation, plastic waste and channelization of recyclable plastic waste fraction to recyclers having valid registration; ensuring that no damage is caused to the environment during this process; creating awareness among all stakeholders about their responsibilities; and ensuring that open burning of plastic waste does not take place.

## RESEARCH GAP

Research on rural household plastic waste handling reveals a high reliance on open dumping (70%) and burning (20%), driven by poor infrastructure and low awareness. A significant gap exists in understanding the behavioral, social, and economic factors influencing plastic disposal, as well as the impact of specifically tailored, community-led waste management strategies in village settings.

## OBJECTIVES:

- To show the demographic characteristics of studied households of village Rajarampur , Magrahat-1 block of South 24 Parganas district of West Bengal.
- To document plastic waste composition of households of Rajarampur village Magrahat-1 block.
- To discuss the household management of plastic waste discarded by households.
- To show the consumption pattern of household plastic.

- To analyse the knowledge, attitude, awareness, and behaviours of households in the study area towards plastic waste management in separating plastic waste before its disposal.

**STUDY AREA:**

Raja Rampur is a large village located in district, West Bengal. Magrahat - I Block of South Twenty-Four Parganas. (Fig No.3) . The area is part of the extensive deltaic plains of the Bengal Delta, characterized by a predominantly agrarian economy, rural-urban continuum characteristics, and vulnerability to environmental factors such as tidal surges, cyclonic storms, and flooding common to the South 24 Parganas district. Often characterized by a mix of agricultural labourers and small-scale cultivators, typical of the rural, yet peri-urban areas near Kolkata. The population consists of rural settlements, with a significant percentage of Scheduled Caste (SC) residents in the broader Magrahat area. This area is chosen because of these geographic and demographic characteristics.

**METHODOLOGY:**

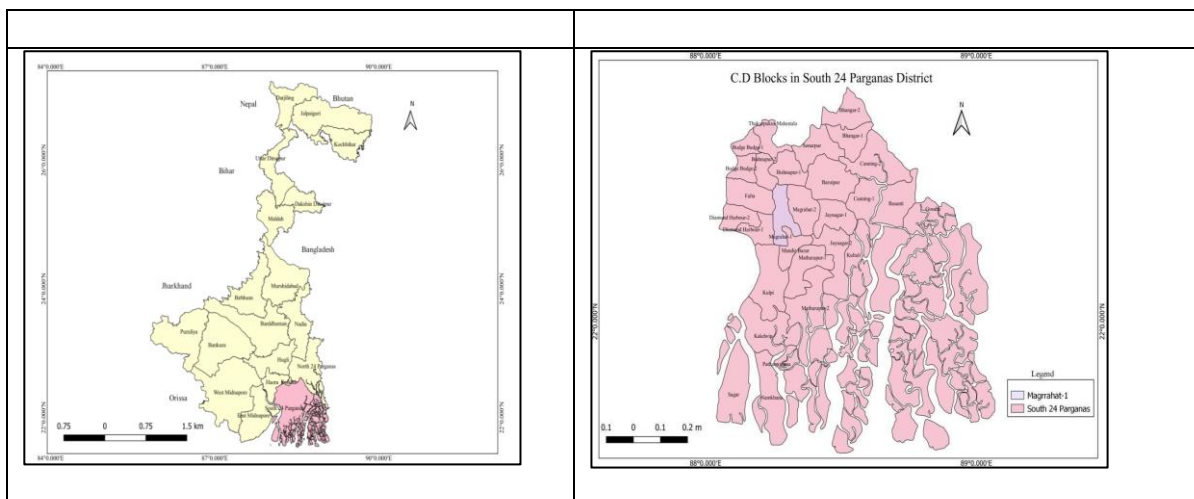
The methodology of the study has been divided into three steps

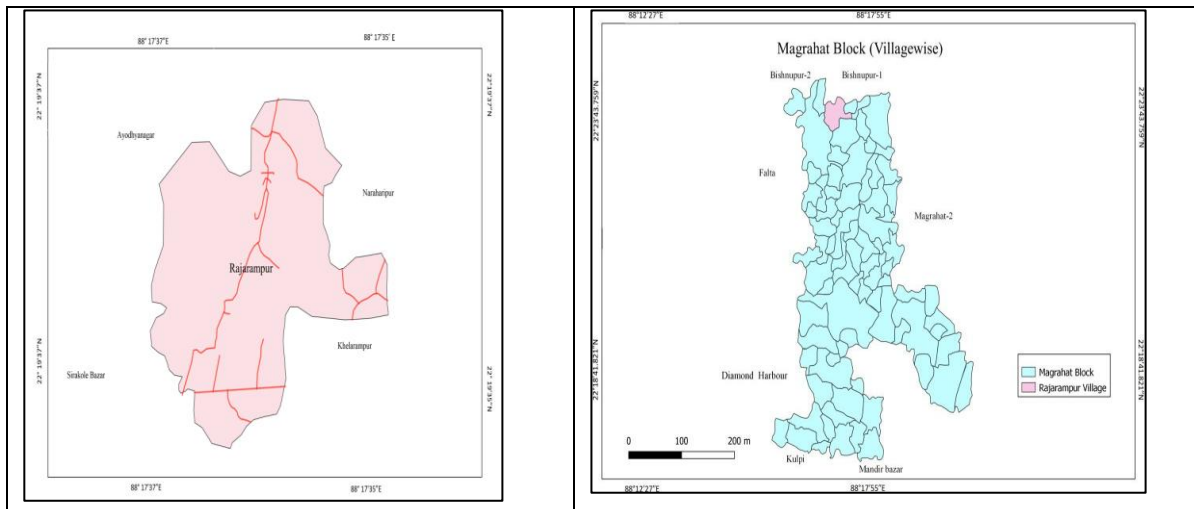
**Pre field:** This stage involves collection of different secondary data and maps. Questionnaire was prepared to collect primary data through door-to-door survey. Various data like census and the map of block area have been collected from Magrahat –I Block BDO (block development office) and various sources. The government data and the secondary data has been collected and manipulated where it necessary.

**Field Work** – Near about 100 households were surveyed in the study area during the time of survey. These households have been surveyed through personal interviews to gather the required information. Photographs were also collected.

**Post Field** – This included the analysis of data gathered with the help of maps and diagrams. The selection of formula or related methods and techniques of quantifications were made. Various cartographic techniques bar graphs, pie graphs, line graphs, scatter diagrams of the study area were prepared using Map info, a GIS software, analysed and interpreted.

**LOCATION MAP**





Source: Census of India  
Fig No.3

## DISCUSSION

### Plastic Pollution

Plastic waste is ‘the accumulation of plastic objects (e.g.: plastic bottles and much more) in the Earth’s environment that adversely affects wildlife, wildlife habitat, and humans.’ It is non – biodegradable and thus the issue of plastic waste management is therefore a major global phenomenon.

The growth in the usage of plastic is a major contributor of environmental degradation today. India generates 26000 TDP of plastic waste amounting to 9.4 million TPA.70% of plastic packaging products are converted into plastic waste in a short span. It is believed after their entry into the environment, plastics can persist up to 100 years without being decomposed by sunlight and/or microorganisms (non-biodegradable). The issue of plastic waste management is therefore a major global phenomenon that has crept up over the decades, and really requires a global and comprehensive solution that includes systemic rethinks about usage and production.

#### ➤ Harmful Effects of plastic

- Consuming plastic can cause cancer, effects hormone levels and heart damage.
- It is polluting oceans, soil and groundwater also.
- It also releases toxins, plastic degradation triggered by UV rays leads to methane
- damages to aesthetics

#### ➤ Link between plastic pollution and SDGs

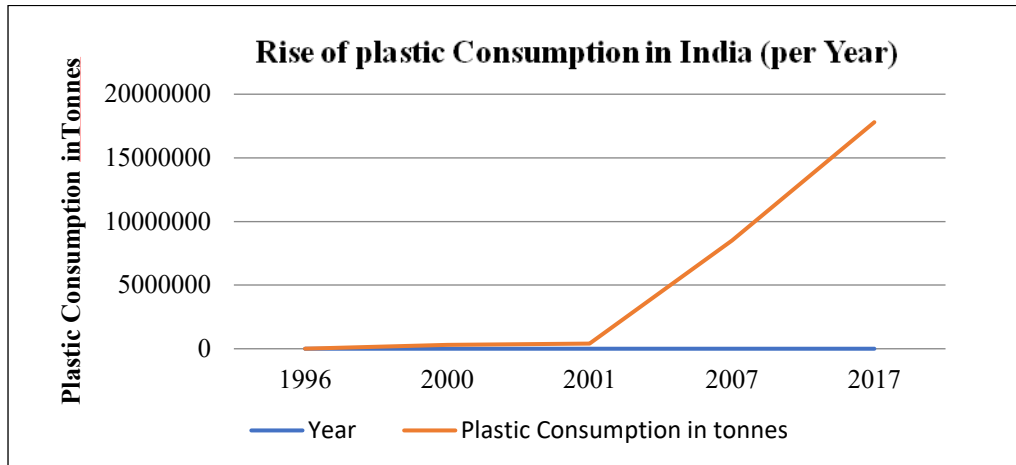
One could easily link plastic pollution to other SDGs as well, given that plastic and plastic waste are omnipresent. The diverse negative impacts of plastic on sustainability clearly demonstrate that the world has to deal with a tough and persistent problem.

- SDG 3: Good health and well-being.
- SDG 6: Clean water and sanitation.
- SDG 11: Sustainable cities and communities.
- SDG 12: Responsible consumption and production.
- SDG 13: Climate action.
- SDG 14: Life below water (protection of the seas and oceans).
- SDG 15: Life on land (restore ecosystems and preserve diversity).

#### ➤ Importance of Household plastic waste management

- The per capita plastic consumption in India is 11 kg in 2014-15.
- Issue of post-consumer plastic waste has become a major issue of concern.

- Households as a subset of the public consume more plastic products and subsequently generates enormous amount of waste.
- Most of the rural households are still using traditional methods of managing plastic waste. Households within the Panchayet faced numerous challenges in disposing of their waste.



Source: Central Pollution Control Board

Fig No.1

**Top 6 Plastic Waste producing States of India**

States	Plastic Consumption in TPA
Maharashtra	311254
Gujarat	337693.96
Tamil Nadu	430107
Uttar Pradesh	375950
Karnataka	368080
West Bengal	417925

Source: NDTV

Fig No.2

In environmental awareness, people needed to understand that recycling is an important factor of plastic reduction as it had the potential to become everyone’s daily activity. This study aims to analyse the knowledge, awareness, attitude and behaviour of households on plastic waste management. The paper is divided into the following sections:

- Demographic Characteristics of Household
- Composition of plastic wastes in household and their management
- Household Management of Plastic
- Household Consumption of plastics

**DEMOGRAPHIC CHARACTERISTICS OF HOUSEHOLDS OF RAJARAMPUR VILLAGE**

In this study, we propose and adopt a plastic waste reduction conceptual framework. This framework contains three parts: the transforming system, the consumption-production system, and the receiving system. The household is a crucial actor in the first two systems. This is because households participate in producing goods/services and are consumers/beneficiaries of goods/services. Through the production and consumption processes, households generate waste. The transforming system, which includes various strategies and actions, can help reduce plastic waste and save resources by, for example, reusing and recycling waste, which will ultimately protect the environment and improve people’s well-being.

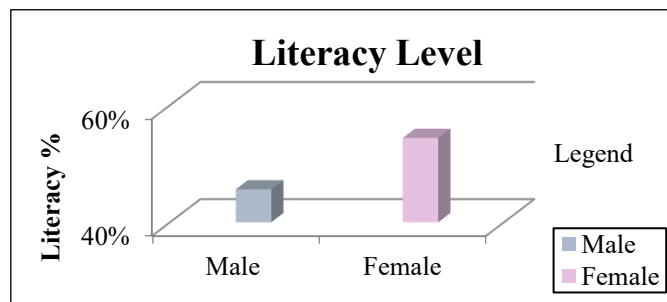
Factors influencing are:

- Household Size
- Income
- Educational status

**Literacy:**

Literacy rate of raja rampur village is 63.69% out of which 69.79% males and 57.11% females are literate. There are about 638 houses in Raja rampur village.

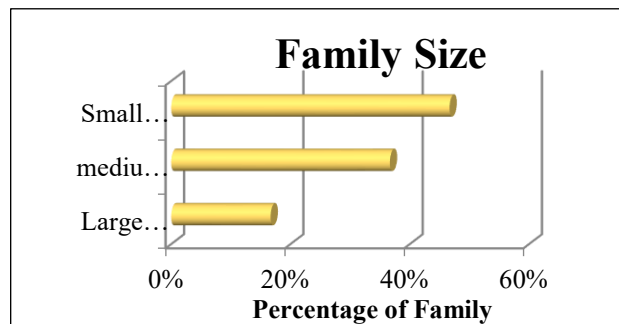
According to the primary survey, the male literacy rate is 45.61% and female literacy rate 54.38%. (Fig No.4)



Source: Primary survey Fig No.4

❖ **Household Size:**

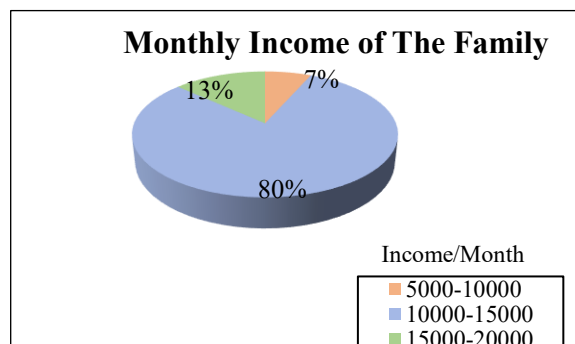
There are 45% Small family, 35% medium and 15% large family situated. (Fig No.5)



Source: Primary survey Fig No.5

**Income:**

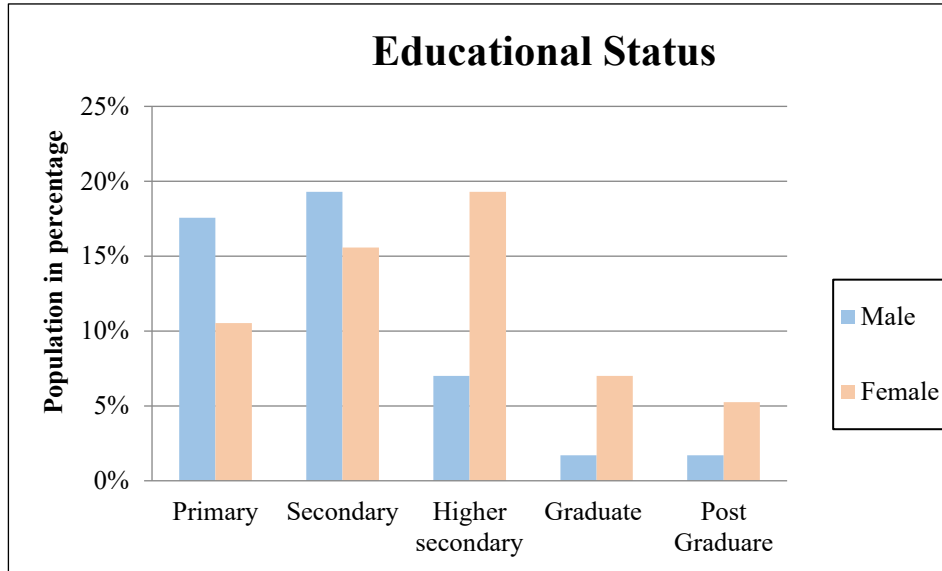
Family income is not high. (Fig No.6)



Source: Primary survey Fig No.6

**Educational status:**

Educational status is high in primary, secondary & higher secondary in primary and Secondary male are high but in Graduation and post graduate level female are high. (Fig No.7)



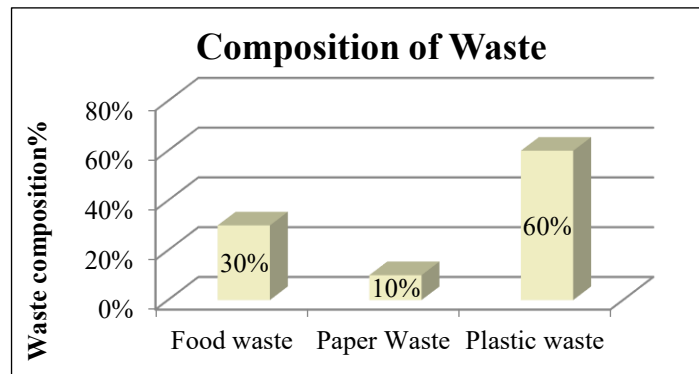
Source: Primary survey

Fig No.7

**COMPOSITION OF PLASTIC WASTES IN HOUSEHOLD AND THEIR MANAGEMENT IN RAJARAMPUR VILLAGE**

❖ **Composition of Plastic Waste in Households:**

The amount of plastic waste discarded from households is 60%, food waste 30% and paper waste 10%. (Fig No.8)



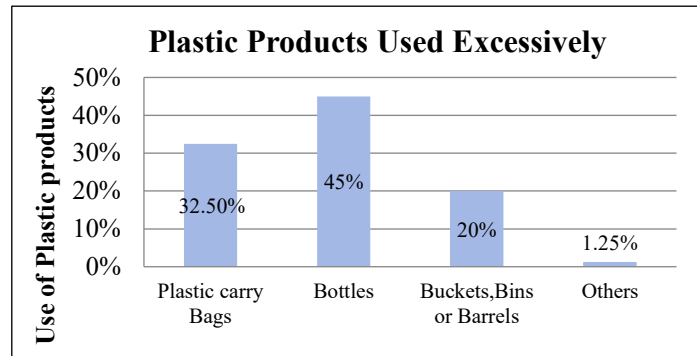
Source: Primary household survey

Fig No.8

❖ **Plastic Products used excessively:**

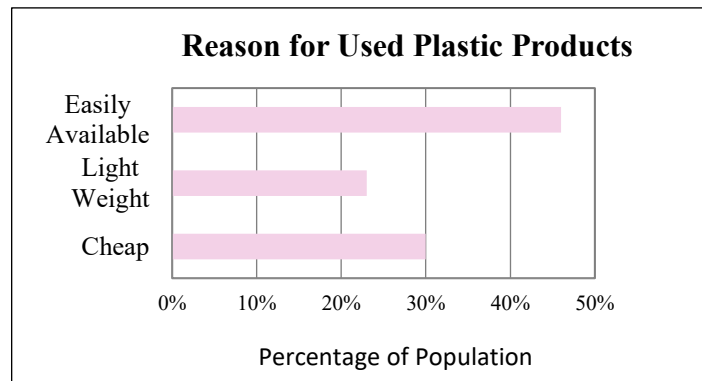
The highest number of plastic products used by households are Plastic bottles 45% followed by plastic bags 32.50%, buckets and food container 20% and others 1.25%. (Fig No.9)

Source: Primary household survey Fig No.9



❖ **Reason behind Use of Plastic Products:**

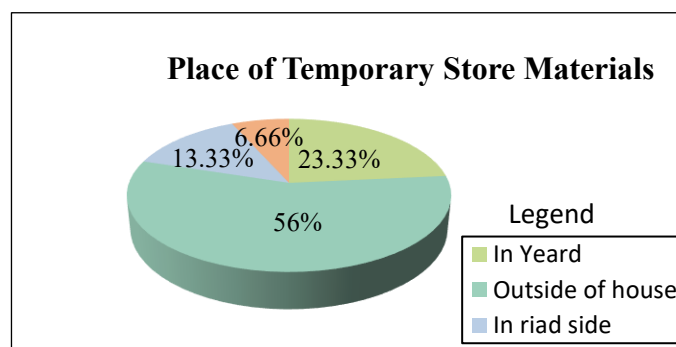
45% people use plastic for it is easily available and 35% people for cheap and 25% people because of light weight. (Fig No.10)



Source: Primary household survey Fig No.10

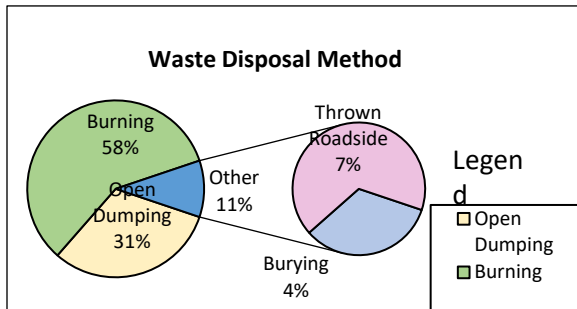
❖ **Place of temporary store the Plastic waste:**

When households have good temporal storage systems, the environment is enhanced and vice versa .56%people store the households plastic waste outside of their house and 23% people store in yard and 13.33% people in road side and 6.66% people in other places. (Fig No.11)

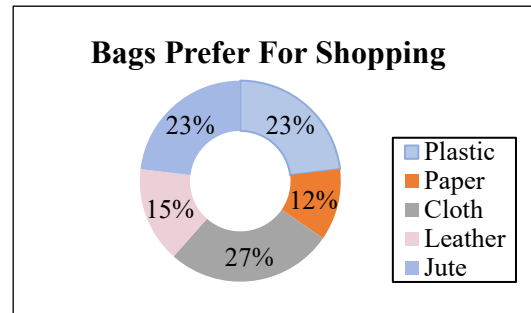


Source: Primary survey Fig No.11

❖ **Waste Disposal method used:**



Source: Primary survey Fig No.12



Source: Primary survey Fig No.13

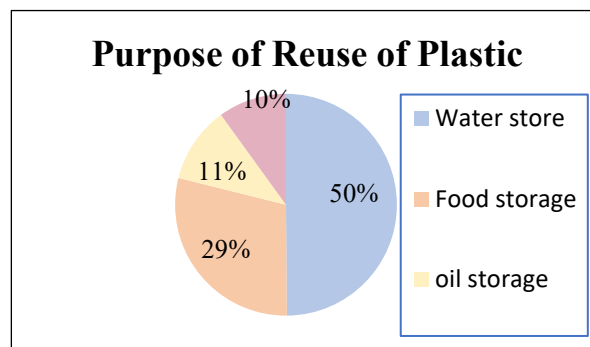
❖ **Bags preferred for shopping:**

Most of the people in this village used cloth bags for shopping, nearly 27% followed by 23% plastic and jute bags, nylon bags, leather bags 15% and paper bags 12%. (Fig No.13)

➤ **Household Management of Plastic In Rajarampur Village**

➤ **Purpose of Reuse Plastic Products:**

Water store 43% of people followed by food storage 25%, oil storage 9.6%, general storage 8.6% and many other purposes. (Fig No.14)



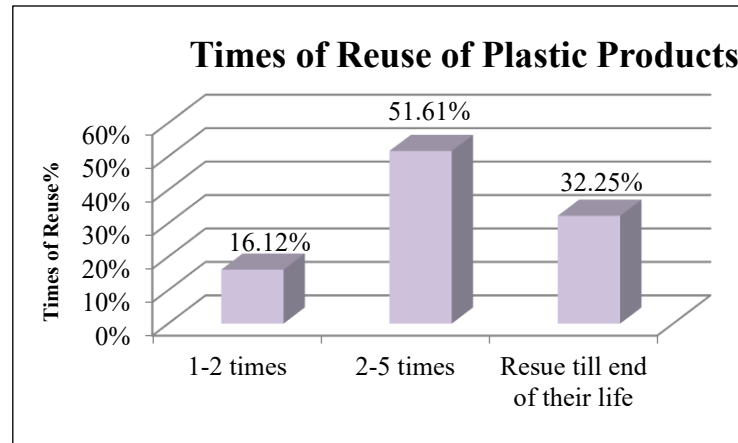
Source: Primary survey Fig No.14

❖ **Person Responsible for Management of Households plastic:**

From primary household surveys we know that mothers are mainly responsible for household plastic waste management nearly 35% and father's 30% and elders 20% and children are also responsible for management of plastic nearly 15%.

❖ **Times of Reuse:**

51.61% people reuse plastic products 2-5 times, 32.25% people reuse till the end of their life and 1-2 times used by 16.12% people. (Fig No.15)



Source: Primary survey

Fig No.15

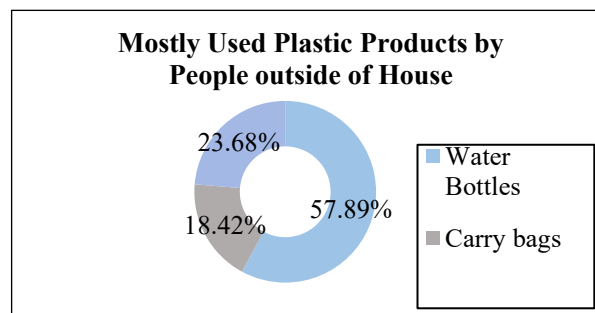
Category	The Society of the Plastics Industry, Inc. (SPI) coding system in 1988
Polyethylene terephthalate (PET)	1
High-density polyethylene (HDPE)	2
Polyvinyl chloride (PVC)	3
Low-density polyethylene (LDPE)	4
Polypropylene (PP)	5
Polystyrene (PS)	6
Polycarbonate (PC) and others	7

Source: Society of the Plastics Industry



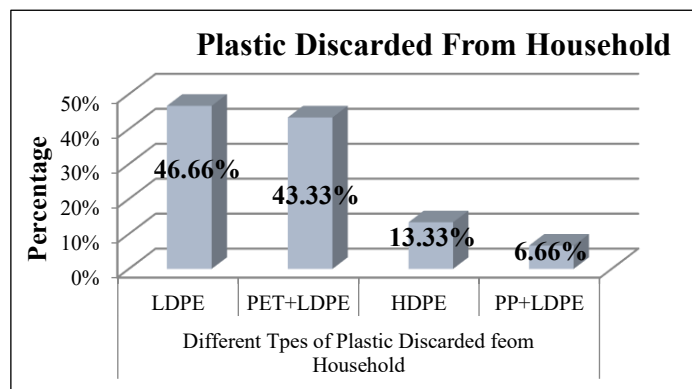
Source: Society of the Plastics Industry

❖ **Mostly Used Plastic Products:** buy plastic water bottles 57.89% and also buy Containers and carry bags for shopping 18.42%.



Source: Primary survey Fig No.16

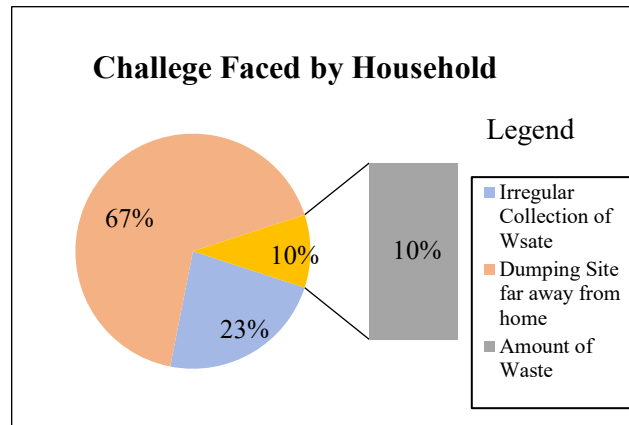
❖ **Plastic Discarded from Household:** LDPE and PET are high 46.66% and 43.33% discarded from households. HDPE and PP+LDPE are quite low 13.33% and 6.66%. (Fig No.17)



Source: Primary survey Fig No.17

❖ **Challenges faced by Households:**

Dumping site is far away from the home 67%, irregular collection of waste 23% and amount of waste is also a big challenge faced by households. (Fig No.18)



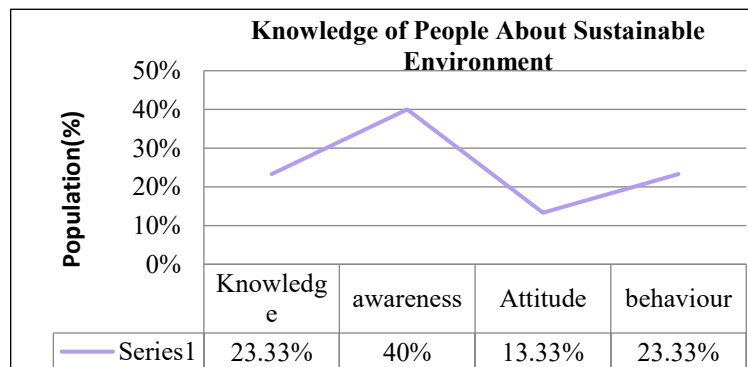
Source: Primary household survey Fig No.18

❖ **Mode of disposing plastic waste:**

Percentage of plastic waste thrown with household Waste is higher and only 40 % is separated at home.

❖ **Knowledge of people about sustainable management of plastic:**

❖ People’s attitudes and pro-environmental actions were influenced by their understanding, knowledge, and risk perceptions of climate change. 40% people are aware of sustainable environment and their knowledge and behavior 23.33% about plastic waste and their attitude 13.33% about sustainable management of plastic (Fig No.19)

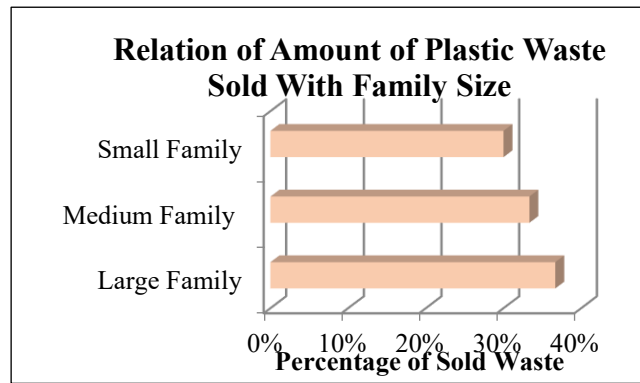


Source: Primary household survey Fig No.19

**RELATIONSHIP BETWEEN EDUCATIONAL STATUS AND REASON FOR CHOOSING TO USE PLASTIC PRODUCTS**

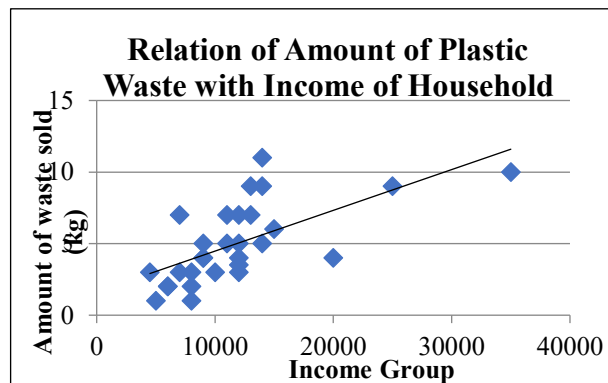
The choice of plastic products was largely dependent on the educational status of the respondent

➤ Relation of household size with amount of plastic waste is positive as with increase in household members there is increase in household plastic consumption and waste. (Fig No.20)



Source: Primary household survey Fig No.20

• Relation of household income with amount of plastic waste is positive as with increase in income there is increase in consumption of plastic and waste (Fig No.21)



Source: Primary household survey Fig No.21

**Initiative Taken for Plastic Waste Management:**

40% people take individual action for waste management, government regulation 26.6% and 16.66% by the NGOs and others 13.33%. (Fig No.22)



Source: Primary household survey Fig No.22

### Major findings

This study captures the household dynamics, plastic usage patterns, disposal challenges, and community initiatives in Rajarampur.

1. Plastic waste reduction is analyzed through three systems—transforming, consumption-production, and receiving—with households as key actors.
2. Household Characteristics: 45% small, 35% medium, and 15% large families; literacy rate is 63.69% (male 69.79%, female 57.11%).
3. Income & Education: Family incomes are generally low; education levels are higher in primary/secondary for males, while females dominate at graduation/post-graduation.
4. Waste Composition: Household waste consists of 60% plastic, 30% food, and 10% paper.
5. Plastic Usage: Plastic bottles (45%) and bags (32.5%) are most used, followed by buckets/containers (20%).
6. Reasons for Plastic Use: Availability (45%), low cost (35%), and lightweight (25%) drive preference for plastics.
7. Storage & Disposal: 56% store plastic waste outside homes; disposal is irregular, with 40% separating plastic at home.
8. Reuse Practices: Plastics reused mainly for water storage (43%), food storage (25%), and oil storage (9.6%); 51.61% reuse 2–5 times.
9. Challenges: Distance to dumping sites (67%), irregular waste collection (23%), and high waste volume are major issues.
10. Awareness & Initiatives: 40% aware of sustainable practices; 40% take individual action, 26.6% rely on government regulation, and 16.6% on NGOs.

### CONCLUSION

#### Simple Effective ways to reduce plastic use and waste management at home

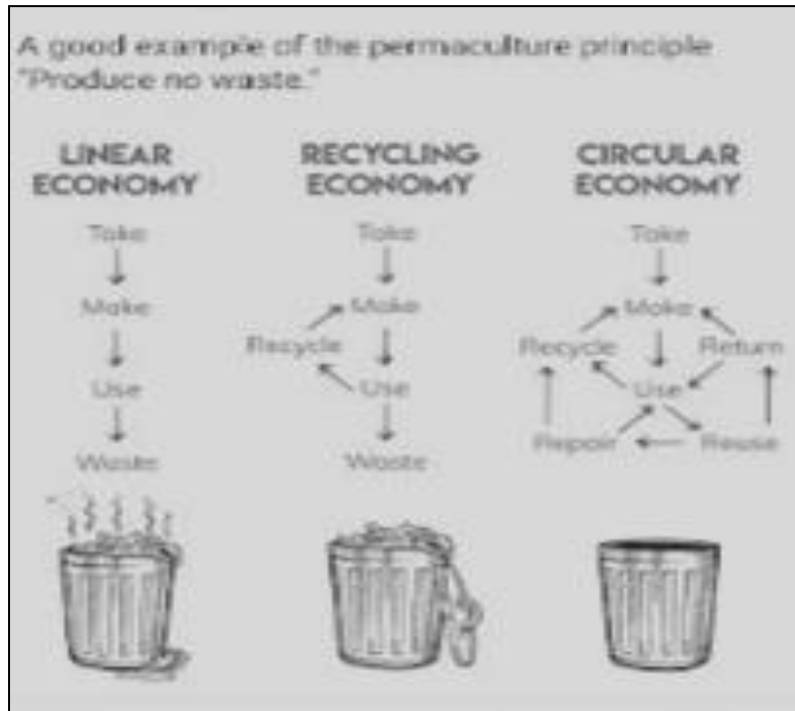
- Starting a sustainable - lifestyle
- Use reusable bags and containers
- Use of Seasonal and local instead of packed
- Application of recycled plastics
- Repurposing –Adapt for use in a different purpose.
- Upcycling- The act of taking something no longer in use and giving it a second life and new function
- Composting
- Home recycles programs
- Relation between education and use of plastic
- Distance of dumping site
- Aware about disposable plastic
- Reusable water bottle

By gaining knowledge from school or home, the community can take a serious action about the plastic waste problem. Recycling awareness and environmental concern should be instilled in children from an early age if we want this to make it a habit for them

#### Plastic Waste Management for rural areas

- Gram Panchayats (GPs) are best suited for creating awareness on the shunned use of plastic, especially the single use kind and undertake decentralized measures for effective Plastic Waste Management (PWM).
- Swachh Bharat Mission (Grameen) (SBM [G]) Phase-II strives to improve rural cleanliness through Solid and Liquid Waste Management (SLWM) activities.
- Swachh Bharat Mission supports Gram Panchayats to create awareness on curbing the use of single-use plastic and effective management of plastic waste.

- **Plastic Waste Management Rules 2022**
- **Ban on Single Use Plastic**
- **Use of alternatives for plastic use**
- Managing plastic waste will help us in honouring our commitment to Sustainable Development Goals and the national mission of Swachh Bharat India.
- Plastic pollution management is also mentioned under Sustainable Development Goals
- ❑ United Nations Sustainable Development Goals (SDGs)
- ❑ Plastic production and management –Goal 11,12,14,6



<p><b>Methods of plastic waste management</b></p> <ul style="list-style-type: none"> <li>▪ Reuse</li> <li>▪ Reduce</li> <li>▪ Discourage the use of disposal plastics</li> <li>▪ Minimize Buying Water</li> <li>▪ Minimize use of Plastics Cutlery</li> <li>▪ Purchase item Secondhand</li> <li>▪ Support a bag Tax or Ban</li> </ul>	<p><b>Examples:</b></p> <ul style="list-style-type: none"> <li>▪ Operation Blue Mountain in Nilgiris, Tamil Nadu</li> <li>▪ Sikkim: First State to Ban Plastics Bottles &amp; Disposable Foam Products</li> <li>▪ Maharashtra- Ban on Plastics</li> <li>▪ Himachal Pradesh - Sustainable Plastic Waste Management</li> <li>▪ Recycle</li> <li>▪ Utilization of Plastic Waste in Road Construction</li> <li>▪ Plastic to Toilet (Plastone)15/ Pavement Blocks</li> <li>▪ Recycling of multilayered plastic</li> <li>▪ Go Green Initiative of Tetra Pak</li> <li>▪ Conversion of PET bottle waste into textile products</li> <li>▪ Recovery</li> <li>▪ Plastic to Alternate Fuel</li> <li>▪ Waste Incineration</li> </ul>
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### Some planning recommendations

Here's a set of policy recommendations distilled from the findings in Rajarampur village, designed for Panchayat leaders, NGOs, and local governance:

1. **Strengthen Door-to-Door Collection:** Empower Self-Help Groups (SHGs) with e-carts to ensure regular household plastic waste collection.
2. **Establish Decentralized MRFs:** Create Gram Panchayat-level Material Recovery Facilities for segregation, shredding, and recycling.
3. **Promote Source Segregation:** Distribute color-coded bins (Blue for dry/plastic, Green for wet) to every household.
4. **Leverage Plastic-to-Road Initiatives:** Channel non-recyclable plastics into road construction projects, aligning with state-level programs.
5. **Formalize Recycling Linkages:** Partner with registered recyclers and scrap dealers to handle PET, HDPE, and other recyclable plastics.
6. **Conduct Awareness Campaigns:** Launch IEC drives to discourage burning plastics and highlight eco-friendly alternatives like cloth and jute bags.
7. **Introduce Incentive Schemes:** Reward households that provide segregated plastic waste through tokens or discounts on local services.
8. **Support Household Reuse Practices:** Encourage safe reuse of plastics for water, food, and oil storage, while promoting durable alternatives.
9. **Address Infrastructure Gaps:** Reduce distance to dumping sites, ensure regular collection schedules, and improve temporary storage facilities.
10. **Integrate Informal Sector & Research:** Map waste pickers, study microplastic impacts on soil/water, and assess barriers to alternative packaging adoption.

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