PONDA MUNICIPALITY: A CASE STUDY OF WASTE MANAGEMENT SYSTEM

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I hereby declare that the data presented in this Dissertation report entitled, **"PONDA MUNICIPALITY: A CASE STUDY OF WASTE MANAGEMENT SYSTEM"** is based on the results of investigations carried out by me in the Master of Arts in Political Science at the D. D KosambiSchool of Social Sciences and Behevioural Studies (SSBS), Goa University under the Supervision of **Dr. Alaknanda Shringare** and the same has not been submitted elsewhere for the award of a degree or diploma by me. Further, I understand that Goa University or its authorities will not be responsible for the correctness of observations/ experimental or other findings given the dissertation.

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This is to certify that the dissertation report **"PONDA MUNICIPALITY: A CASE STUDY OF WASTE MANAGEMENT SYSTEM"** is a bonafide work carried out by **Ms.Needi Balchandra Naik**, under my supervision in partial fulfilment of the requirements for the award of thedegree of **Master of Arts in Political Science** in the Discipline: Political Science Programmeat the D. D Kosambi School of Social Sciences and Behevioural Studies (SSBS), GoaUniversity.

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ABBREVIATIONS USED

Entity	Abbreviation
Real Estate Regulatory Authority	RERA
Municipal Solid Waste Management	MSWM
Ponda Municipal Council	PMC
Swachh Bharat Mission	SBM
District Planning Commission	DPC
participatory Rural Assessment	PRA
Non Governmental Organization	NGO
Constitutional Amendment Act	CAA
Urban local Bodies	ULB
Public work Department	PWD
Material Recovery Facilities	MRF
Municipal Solid waste	MSW
Open defecation free	ODF
Goa State Urban Development Agency	GSUDA
Directorate of Municipal Administration	DMA
Panchayati Raj Institution	PRI
Special purpose Agency	SPA

CONTENTS

CHAPTER 1

Introduction

1.1 Introduction

A Municipality is usually a single administrative division having corporate status and powers of self-government as granted by national and regional laws to which it is subordinate. The Term Municipality means the governing body of ponda municipality. The term is derived from the French 'Municipalite' and Latin 'Municipalis'. The English word municipality derives from the Latin social contract Municipium derived from duty holders. The territory over which a municipality has jurisdiction may encompass one populated place such as a city, town, village, etc. Local government in India refers to governmental jurisdictions.

India is a federal republic with three spheres of government central, state, and local. Since 1992, local government in India has taken place in two distinct forms. Urban localities, covered in the 74th amendment to the constitution, have Nagar Palika but derive their powers from the individual state Department of Urban Development earlier known as the Directorate of Municipal Administration which exercises administrative control over the 13 Municipal Councils. The Department is also the Administrative Departmeant for the Goa State Urban Development Agency and Goa Real Estate Regulatory Authority (RERA). The Department of Urban Development deals with various functions under the Goa Municipalities Act, of 1968 It implements State and Central Government Schemes which include schemes of the Ministry of Housing and Urban Affairs.

Ponda Municipal Council

The CAMARA MUNICIPAL DE PONDA, was built between 1885 and 1896 and was

headquarters of "Administracas das Matas 'Ponda formed part of "New Conquest " of the Portuguese. Every Municipal Council is classified by the government on the basis of population.

The Department provides grants to the Municipal Corporation for Solid Waste Management and grants for developmental works are two major subjects provided by this Department. Our day-to-day living creates waste may it be cooking, eating, transporting, constructing, packaging, etc. The collecting of waste is called solid waste and can be a risk republic's health environment, etc. With the growing urbanization in cities or frequently visited tourist places problems of solid waste management are on the rise and need to be handled immediately. In many cases cities municipal solid waste contains hazardous pollutant chemical waste, hospital waste, animal excrement, sharp metals, etc. This waste facilities disease and injuries among children, rag pickers, and employees in the solid waste management sector. Although it contains vector insects and rodents can transmit various pathogenic agents and is difficult to trace the effect of such transmission to a specific population. And the implementation of MSWM practices benefits both public health and environmental quality directly and substantially.

Policies related to waste management in India are formulated at various level so Government including National, State, local level. Some key policies are Solid Waste Management Rules,2016, Swachh Bharat Mission, National Urban Sanitation Policy 2008, National Mission for clean Ganga, State level Policies, Plastic Waste Management Rules ,2016, Municipal Solid Waste Management And Handling Rules, 2000, National Policy of Recycling, Public Awareness and Educational Programs.

India treats wet waste generated by Ponda town and the Curti Panchayat area. The Ponda Municipal Council was awarded a Certificate of Appreciation for the best Management of non bio degradable dry and plastic waste, supporting a government initiative to Control the Garbage Menace.

Ponda Municipal Council (PMC) is set to introduce a solid waste management plant based on plasma technology, which will turn solid waste into powder after treatment. The PMC has already successfully solved the wet and dry garbage problem by introducing an organic waste management machine at the market complex. The Ponda Municipal Council building, built in the early 20th century, serves as a significant landmark in the city and reflects the history and governance of the city. However, the city faces challenges due to rapid urbanization and unplanned development, including traffic congestion, increased waste generation, and unplanned development. The Ponda Municipal Council building serves as a testament to the city's rich history and cultural heritage, but it is crucial for local authorities to address these issues and preserve the city's heritage.

1.2 Significance Of The Study

The Case study of Ponda Municipality is significant in order to understand the usefulness of 73rd and 74th Amendment Act, 1992 which decentralized the powers and functions to the local bodies. It makes us aware of how people participate in these local bodies directly and indirectly and since there is people's participation, these local self government bodies call for efficiency in the Administration at the local level.

The study emphasizes the adverse effects of ineffective disposal of waste. It also highlights Ponda Municipality's implementation of waste management policy initiatives. The study will also be useful in developing upcoming policy initiatives.

1.3 Conceptual Framework

Implementation of Part 12 A

After the Constitution Act came into force on 1st June, 1993, the Ministry of urban development took necessary steps to ensure that the provisions of the state Municipal laws are brought in

conformity with the provision and as result of various steps taken up by the ministry of urban development through correspondence and organizing meetings of the state level secretaries.

74th Amendment Act 1992

The Constitution Bill was introduced in the Parliament in 1991 and was referred to the Joint Parliamentary Committee with Members from both Lok Sabha and Rajya Sabha for consideration. The Committee held several sittings and also took oral evidence and written comments from various organizations and individuals. The committee had the opportunity to visit various Municipalities and held detailed discussions with their officers and elected representatives with several state governments. This was probably the first time that the parliamentary committee had deliberated extensively on legislation concerning local selfgovernment. The Bill as reported by the Joint Parliamentary Committee was taken up for consideration and passed by the Lok Sabha on 22 December 1992 and by the Rajya Sabha on 23December 1992 and it received the assent of the President on 20 April 1993. It was published in the Government Gazette on 20 April 1993 as the Constitution Act,1992". The Constitution Amendment Act came into force on 1 June 1993. The Constitution Act, 1992 has introduced a new part namely, part 10 A in the Constitution, which deals with the issues related to Municipalities.

The main provisions introduced by the above Act are

Constitution of Municipalities:- It provides for the Constitution of 3 types of Municipalities depending upon the size and area

Nagar Panchayat for an area in transition from rural to urban area

Municipal Council for small-urban areas

Municipal corporation for larger urban areas.

Composition of Municipalities:- Some seats may be filled by the nomination of people with Specific expertise and experience in municipal administration, in addition to the seats filled by direct elections. People who are nominated in this manner are not eligible to vote at municipal meetings.

Constitution of Wards Committees- This provides for the Constitution of wards committees in all Municipalities with a population of 3 lakhs or more.

Reservations of seats -To provide for adequate representation of SC/ST and women in the Municipal bodies.

Duration of Municipalities- The Municipality has a fixed term of 5 years from the date appointed for its first meeting.

Powers and Functions of Municipalities- Enables them to function as effective institutions of self government.

Finances of Municipalities- It has been left to legislature of a state relating to imposition of taxes such as Taxes, duties, fees etc collected by the Municipalities .

Committee for District Planning- planning and Allocation of resources at the district level for the Panchayati Raj institutions are done by the Zilla parishad. Urban areas, Municipal bodies discharge these functions within their jurisdiction.

Metropolitan Planning Committees- Constituted for preparing a draft development plan for the Metropolitan areas as a whole.

Need for the 74th Constitutional Amendment Act

Lack of focus on the urban

No Constitutional Recognition of Urban Self Governance

Lack of fiscal Autonomy

1.4 Literature Review

The author Matheus Polletopaulo R. D. mori vaina E. Schneider article stated that waste management challenges in developing cities using the Geographical Information System(GIS). It is, focusing on urban fabric, grey water outlets, and household garbage dumps. The study reveals that the most dominant urban fabric is low-standard living, with empty spaces. The average density of grey water disposal points and solid waste dumps is low. The article suggests that GIS can be a useful decision-making tool for urban planners in developing countries.

The author Sudarshan Kumar , Somendra Sharma, Suraj Jaluthriya in the year 2016 published a article on “Solid Waste Management A case study of Jaipur city”. Waste management situation in Jaipur faces significant challenges including the absence of recycling practices, improper disposal of recyclable materials with domestic waste, and lack of door to door waste collection. Street sweeping serves as the primary method for waste collection, with approximately 85% of the city's generated waste being transported daily. However, the process relies on manual loading on to various vehicles, including 3-wheelers, tractors and trucks, operating with insufficient capacity. Furthermore, there is a disconnect between the transportation system and primary collection, exacerbating the city's solid waste management issues. Garbage collection in slums, leading residents to dispose of waste near their living areas. Old Jaipur areas suffer from dirty and overflowing refuse bins causing people to throw garbage outside. Morning observations reveal thick black smoke from burning leaves, plastics and waste. drains and main sewer lines in various locations such as Mother Dairy, bais godam, Durgapura are often blocked due to indiscriminate garbage dumping. Adopting updated

technology providing better training for staff increasing public awareness and promoting sustainable system.

The author Hamsa Iyer, in the year 2016 article highlights on “Case study of Mumbai: decentralized solid waste management”. Mumbai Metropolitan Region (MMR), covering an area of 4,355 square kilometers, accommodates seven municipal corporations. According to the 74th Constitutional Amendment, all Municipal Corporations in India are required to handle solid waste management within their operational areas. Currently, these seven municipal corporations rely on centralized methods for waste management, where collected waste is deposited at designated landfills. Beyond the corporations, various entities, including the informal sector and emerging recyclers, play vital roles in waste management. These recyclers are establishing decentralized and of waste management challenges and the dependence of municipal corporations on central and state funding highlights crucial issues. The focus on energy and material recovery potentials, along with examples and a bio-medical waste technology provider, contributes to fostering greener, more sustainable communities. Understanding the limitations and failures of existing systems is pivotal for devising effective waste management strategies.

The author Kalpana Markandey, in the year 2023 published a article on “Solid waste management A case study of Hyderabad India”. Hyderabad faces challenges in waste disposal due to lack of land and limited collection capacity. Urban local bodies spend 77.95% of revenue on collection but only collect 50-70% of municipal solid waste. The governments smart city mission and swachh Bharat mission address waste management. The Greater Hyderabad municipal corporations manages waste collection and management. Vehicles and tricycle reduce stray animals and pollution. The solid waste transportation process involves collecting garbage from residence in GHMC areas, using tricycle and wheel barrows for narrow lanes, and transferring it to compactor bins and 25 tonne vehicles at 22 stations. Over the past three

years Hyderabad has experienced a rise in garbage collection due to efficient collection methods urbanization and consumerism despite recycling efforts. Food waste, green waste and coconut make up over 50% of Hyderabad solid waste with potential for composting demolition and construction site waste including rocks, silt, earth to air pollution and dust. Plastic waste clogs drainage network and poses choking hazards

The author Arya Mitra, Earth 5R volunteer, in the year 2021,article “state don’t plastic waste management” Initiatives at Dehradun, India. data analyzed after segregation waste helps identify the main categories contributing to pollution and the companies generating the most plastic waste, aiding in research and raising awareness about the issue. The changing markets foundation reports that Coco cola and pepsico are the largest producers of plastic packaging. India generates 3.3 million metric tonnes of plastic waste with 60% going for recycling. The covid 19 pandemic has exacerbated the issue, with metropolitan cities contributing to over 50%of plastic waste deposition. The increasing dependency on plastic threatens both terrestrial and aquactic ecosystems. The individual joined the 'know your Plastics project to understand waste types and contribute to sustainable development. They aim to raise awareness about plastic waste in their city and implement steps to control the crises. Arya Mitra, volunteers, collected 246 plastic waste items from10 locations in Dehradun. The city's lack of management leads to littered and hazardous plastic waste, which is then left in soil to decompose. People must switch to recycle able and reusable plastics, and government should implement policies and economic incentive to encourage manufacturers to adopt alternatives.

The author Vishruti Gupta in the year 2000 published the article on “Solid waste management A case study of Delhi”. Solid Waste is a bad commodity that is not easily disposal of causing health issues and clogging drains and sewers. The municipal solid waste management rules 2000, municipal solid waste include commercial and residential waste generated in municipal areas. Poor waste management affects health and societal amenities, transmitting disease,

causing visual and smell impacts and creating conditions for disease vectors. A study by Mufeed shar holy highlights about 90% of municipal solid waste is dispose of in open dumps and landfill, causing public health and environmental problems. The need for proper designed collection bins, proper segregation and control on open dumping. The study investigate solid waste management in Delhi, focusing on household, Dhalao worker, waste collector and segregation mechanisms at different stages up to community level ,investigate the relationship between poor waste management and adverse health impacts, and examines the roles of authorities. The Municipal corporation of Delhi, New Delhi municipal council and Delhi cantonment board manage 95% of the city's solid waste ,with support from other agencies. Study examines the health impact of mismanagement of solid waste, on household and children under 5 and health issues such as government availability of free facilities, expenditure on health and household of diseases caused by solid waste. The collection process involves lifting and removing waste, organizing house to house collection, removing waste from slums and biodegradable waste. Biomedical and industrial wastes from residential areas should be transferred to community bins. Horticulture and construction waste should be separately collected and disposal of and waste should .not be burned.

The author Natasha Kalra and S Manasi in the year 2020 highlight the article on “Initiatives in solid waste management A case study of city of Bengaluru”. Economic reforms in the 1990s led to increase urbanization and migration, leading to increased waste production

Bengaluru, with a population of 10,207,063, generated of MSW daily including wet waste 64% and dry waste 28% and inert waste 6% and 3% domestic hazardous waste. Karnataka experienced 31.27% increases in urban population delivery of civic services and city has seen active participation from stakeholders increases awareness and formation of citizen groups busing social media platforms, initiatives such as awareness campaign etc. Citizen 's network have emerged in various civic issues such as solid waste management wildlife conservation zoning regulations, traffic concern and infrastructure development. Hernryetal explore the state of municipal solid waste management in key

highlights the need for a comprehensive framework for urban environmental stewardship. The study suggests the involvement of people and private awareness and lack of resources as barriers. The implementation of integrated waste management in the Pholippines Bangladesh, India. It concludes that MSWM is due to waste Composition, involvement of informal sector, voluntary groups' private organizations, NGOs and community based organizations and rapid privatization of collection, transportation and processing systems. Waste Management should contribute such as Millennium Development goals which advocate for exclusive policies and partnership with private actors.

The author A Venu Prasad ,in the year 2018 published a article on "Punjab solid waste management policy 2018". Punjab state solid waste management policy notified by the Department of local government Punjab in 2016. This policy aim to ensure scientific and systematic management of solid waste in all urban local bodies and providing a clean and healthy environment, focusing on proper sources segregation, robust collection and transportation mechanism and scientific processing and disposal and the principles of 3Rs reduce, reuse, reduce need for appropriate processing of biodegradable and non biodegradable waste and aim to reduce the financial burden on urban local bodies while the health hazards and irreparable damage to the environment and soil fertility. The vision is to achieve clean green Punjab by adopting the 6Rs waste management principles and implementing environmentally friendly, financial viable and socially acceptable solid waste management technology. The Punjab state has 167 ULBs geneating4100tonnes per day solid waste. The Department of local government, Punjab through its implementation agency PMIDC, has initiated a low cost easy to operate and maintainable scientific waste management approach focusing on 100%sourcessegregation. Initiatives have been taken to bring effectiveness in municipal solid waste management through stakeholders involvement community mobilization and handholding support decentralized composting has started at varying scales in ULBs across the state. Institutions, schools and religious organization covered for management of their own parks.

World health organization in his article “Waste Management” in 2015 discusses waste management, including post-consumer waste, sewage/wastewater, agricultural/food waste, and industrial by-products. Waste management is crucial for mitigating methane emissions, with the IPCC AR4 report estimating 70%of global economic mitigation potential. Health concerns arise from exposure to hazardous pollutants, such as metals, chemicals, and pathogens. Sewage treatment is essential for sanitation and reducing infectious diseases risk. Incineration reduces land filled waste and hazardous material but has high capital and operating costs. However, if the best technologies are used, emissions are small and unlikely to affect background levels. Waste minimization a recycling including composting are strategies that can reduce waste generation and emissions. International comparisons show that per capita waste generation is 40% lower in Japan and the EU compared to the USA. Policies targeting producers and households can reduce post-consumer waste. Recycling of certain types of waste has increased in some countries, and cash incentives often encourage informal recycling. Minimizing waste through reuse and recycling is unlikely to negatively impact population health. Composting, similar to recycling, focuses on biodegradable matter and has applications in agriculture, horticulture, and landscaping. Backyard burning, a practice involving unregulated burning of solid waste, is prevalent across all income levels due to inadequate waste collection, economic reasons, and convenience. This leads to local air pollution, particularly dioxin emissions, and is not a good climate mitigation opportunity.

Lydie S.A. Yiougo , Temitope D.T. Oyedotun, Corentin Y.C. some and Evariste C. D. Dain, in their article “Urban cities and waste generation in developing countries QG is evaluation of two cities in Burkina Faso” in 2013 discuss Burkina Faso, discuss a population of around 60,000 and 40,000 respectively. The local government manages solid waste management, while the National Agency of Water and Sanitation manages wastewater. The Fada local government has its own Strategy Plan for Solid Waste Management (SPSWM), while the Pouytenga city has no waste management strategy. This study aims to compare waste outlets in these two cities

using GIS to evaluate waste generation, disposal, and management within the cities. The survey used a GPS device to collect data on grey water outlets and household garbage dumps sites/techniques. Study examines the urban fabric of Fada N' Gourmaand Pouytenga, Burkina Faso, focusing on living standards, wastewater discharge points, and household garbage dumps. Results show low living standards in7areasand 62% in Pouytenga, with the middle class concentrated in three areas. The study emphasizes the need for better waste management in developing countries. Households lacking excreta disposal. 46% of household waste is dumped in the street, promoting disease vector proliferation. Pouytenga urban housing is dominated by low standards (62%), with land plot occupancy rates exceeding90%. The city has 1,304 grey water outlets and 1,491 solid waste dumps.

Swati Bhatia and Susmita Sengupta in their article "Reducing plastics in rural areas in 2023" discuss Swachh Bharat Mission focuses on managing plastics as a key pillar for achieving the Sustainable Development Goal on water and sanitation. However, the challenge lies in the lack of data on waste generation, with government departments and pollution control boards working in silos. Additionally, stakeholders' awareness about their roles and responsibilities is lacking, with weak implementation stalled by the Ministry of Environment, Forest and Climate Change's inclusion of rural areas in the Plastic Waste Management Rules, 2016.: management of plastic waste in rural areas is funded by various sources, including SBM, MGNREGS, SFC, FFC, MLALAD, MFIs, Swachhta Funds, and CSR funds. However,

understanding the plastic value chain is often lacking, leading to material recovery facilities and limited reuse of recyclable plastics. Plastic management is a complex issue that requires a tailored approach to each region and terrain. States like Bihar, Tamil Nadu, and Odisha have implemented waste auditing models to better manage and generate revenue from plastic waste. However, there are challenges such as logistical issues, low bulk density of waste, and limited funding sources. To address these issues, states need to identify revenue sources and develop market interventions. Policy guidelines can help manage the informal sector, create

employment, and improve EPR implementation. A centrally driven policy and monitoring framework, along with interdepartmental coordination, is needed. Step-by-step solutions at all stages of the plastic waste management chain include encouraging segregation at source, developing community ownership, and implementing a user-fee system.

Janya sang Arun and Chau Kim Heng article on "current urban organic waste management and policies in Cambodia" discuss Cambodia government has implemented the 3R strategy for sustainable solid waste management, aiming to increase waste collection services, promote recycling, enhance composting, and improve disposal sites. By 2015, the government plans to compost 20%of organic waste from all sectors, and by 2020, to increase composting fromhouseholdsby40% and from business centres by 50%. The 3R concept is new to Cambodian officials, and the government improper establish 3R policies and regulations, organize capacity building programs, implement pilot-scale projects, disseminate knowledge, and integrate the initiatives into national policy development. However, data on waste generation in Cambodia is not systematically collected, and the country's waste generation rate is underestimated, leading to environmental problems related to improper waste management. waste disposal sites are poorly managed, causing health risks and generating foul odors. Burning is used to reduce waste volume, but it also releases smog and carcinogens. Most sites are flood-prone, and leachate contaminates groundwater. Despite increasing waste generation, there's little improvement in local governments or private sectors. Urban Organic Waste. Solid waste management necessitates collaboration between national and local governments, with the national government creating a legal framework and guidelines, while local governments implement policies, support private companies, and encourage waste reduction.

P.K Pradhan, C.R Mohanty, A.K Swar and P. Mohapatra in Article "Urban Solid Waste Management of Guwahati city in north east India" in 2012 discuss urbanization in developing countries like India has led to infrastructure deficiencies, including water supply and solid

waste management. Waste generation is expected toexceed260 million tons by 2047, with India's population contributing 72.5%. To achieve sustainable development, a shift from open cycle to closed cycle waste management is urgent, with integrated solid waste management being the most widely accepted concept. The study focuses on the collection, transportation, and disposal of municipal waste in Guwahati, India. The authors conducted extensive literature study on available methods for solid waste management, collected in formation from government reports, and conducted field studies. A survey research method was used to collect data at the household level, with 34 wards selected from six zones. The proximity analysis of waste samples was conducted to evaluate the different parameters of the waste, including moisture content, volatile matter (VM), fixed carbon (FC), and ash percentage. The ultimate analysis of MSW components typically involves determining the percentage of carbon, hydrogen, oxygen, nitrogen, and Sulphur. The energy content of MSW was determined using laboratory bomb calorimeter, which measured the heat exchange between the calorimeter and the water surrounding it. The heat capacity of the substance was calculated using the heat capacity of the adiabatic system.

1.5 Research Gap

Ample of study is done in regards to waste management at National level that is a part from Goa. There is insufficient study available when it comes to management of Municipalities in Goa. Therefore Ponda municipality is chosen as the Geographical limitation of my study.

1.6 Objectives

To Study the provision of the 74th Amendment Acts

To study ineffective waste Management and disposal strategy

To assess the implementation strategies

To learn public opinion on the implemented waste management strategies.

1.7 Hypothesis

Inefficient waste management is caused by a lack of garbage disposal units in Ponda Municipal area.

Improper waste management in the locality is caused by the lack of awareness about waste segregation.

1.8 Research Methodology

The data is collected from both primary as well as secondary sources. Primary sources included government official documents and reports, and survey reports. The survey is limited to the responses of people from the city in Ponda area. Around hundred responses will e collected from the people who are the residents of that place. The respondents will be selected on the basis of using random sampling methods. A structured questionnaire will be used to collect the data. To understand this topic comprehensively, selective case studies of different municipalities throughout India will be studied.

1.9 Chapterization

Chapter 1- Introduction

Chapter 2- Decentralization and urban planning

Chapter 3- Waste Management System in Ponda

Chapter 4- People's perception of waste management in Ponda

Chapter 5- Conclusion

Conclusion

Ponda Municipality appears to be a crucial component in maintaining a clean and sustainable environment. However, the effectiveness of the system depends on various factors such as community participation, technological advancements, and adherence to waste disposal guidelines. Continuous monitoring and adaptation to emerging challenges will be essential for the municipality to enhance its waste management practices and contribute to a healthier community and studies with the help of the Goa Municipality Act 1968 and the 74th Amendment Act. There are many problems which are faced by the people the le, main problems are Garbage collection, disposal, and drain system.

CHAPTER II

Decentralization And Urban Planning

2.1 Post-Independence Period

The 74th Constitutional Amendment Act was passed by the Indian government in 1992. In every big city with a population of one million or more, this Act required the creation of municipal corporations. Committees for metropolitan planning were also constituted by it. It granted urban infrastructure design and construction authority to local governments. The focus has shifted in the twenty-first century to sustainable urban development and smart cities. The Indian government launched the Smart Cities Mission in 2015 with the goal of developing 100 smart cities across the country by 2022. The government has made various efforts to encourage urban development and improve the quality of life. The Smart City Mission, AMRUT, the Pradhan Mantri Awas Yojana, and the Swachh Bharat Mission are among them. It promote economic development in cities, urban governments create laws and regulations.Project development for housing, infrastructure, and employment generation falls under the purview

of the urban government.The equitable and efficient distribution of resources and services to the city's citizens is guaranteed by the urban administration.Urban governments have a crucial role in maintaining the environment in urban areas, defending the rights of inhabitants, especially women and children, and ensuring public safety and security through the enforcement of laws and regulations.

2.2Background of the 74th Constitutional Amendment Act

The Constitution of India has guaranteed equal civil and political rights to both, men and women. Article 325 and 326 of the constitution guarantee political equality- equal right to participate in political activities and right to vote respectively. While the right to vote is exercised and enjoyed by large number of women, the right to participate, in the national and state level politics, is still a distant dream. A committee on the status of women was established by the Indian government in 1972 to investigate the various challenges that women encounter when auditing the constitutional guarantees. These challenges include poverty and deprivation, participation in the workforce, political governance and decisionmaking processes, access to justice, personal laws, sex ratios, and a lack of social security. The report of the committee titled 'Towards Equality' was published in 1974. We live in the age of democracy. Political participation and representation are the hallmarks of democracy.Women in India are unable to exercise their right to participate in political matters, despite the Constitution's guarantee of equal political status. Women were granted reservations for municipal councils and corporations in towns and urban areas by the 74th Constitutional Amendment Act. At least one-third of the total number of seats must be allocated for reserved seating. This includes the seats set aside for female SC/ST members.Direct elections will be subject to these reservations. This reservation is put into effect by designating various constituencies as reserved constituencies for each election term, in a rotational procedure. (Regional centre for urban and Environmental studies all india institute of local self government mumbai by priyamvada tokekar)

2.3 The 73rd and 74th Constitutional Amendments Act

The 73rd and 74th Constitutional Amendments' passage in 1992, Panchayats and Municipalities were elevated to the status of important local self-government entities for both rural and urban areas. An methodical effort has been made to put Panchayati Raj's operational vision into practice. This approach, which has to do with institutionalizing participatory democracy at the local level, has been grounded and realistic. Recognising that this is a massive ongoing social experiment, policymakers and administrators are open to learning and critical feedback. In the early years of independent India .The first was a centralising trend with its emphasis on large scale industrialisation, the development of technology through scientific institutions and training, the creation of economic infrastructure, and a National Planning Commission pursuing the objectives of high growth in industrialisation and intensification of agriculture .other trend that coexisted was an ideal based, with variations among proponents, on the idea of village self-sufficiency. It placed a strong emphasis on artisanal production, agriculture, and local self-governing institutions like schools, cooperatives, and panchayats, which stand in for the social, political, and economic organizations of villages .In essence, the Indian Constitution recognized a unitary state while allowing for certain federal characteristics or ideals. opposing trend, the governmental emphasis on nation-building and economic prosperity, was not ignored. Launching the Community Development Programme highlighted the significance of the 'local' as a deconstructed socio-political space. It was because of the inadequate response from local communities to the CD Programme that the Planning Commission of India set up a committee under the Chairmanship of Shri Balwant Rai Mehta

to suggest ways for amending and improving it. To increase community involvement in the CD Program, the Committee looked to Panchayati Raj and suggested establishing Panchayats at three different levels. When it was established in 1978, the Ashok Mehta Committee presented extensive amendment proposals. Andhra Pradesh and Karnataka are two states that chose to model their panchayats after the recommendations made by the Ashok Mehta Committee. There were two more committees during the 1980s: the LM Singhvi Committee and the GVK Rao Committee. As a result, the Union government decided to propose an amendment to incorporate panchayats within the Constitution's system of government. (The state of Panchayats:2007 -2008, institute of Rural Management Anand)

2.4 Historical background of local self Government

The concept of local self-government is not new in India. Ancient Indian history reveals evidence of village panchayats consisting of informally elected elderly members who settled disputes within their communities. The Rig Veda mentions the role of the village head Gramin in charge of civil and military affairs, while the Atharva Veda envisages institutions such as "sabha", "samiti", "sabhapati" and "sabhasad" which are mainly involved in legal activities. Development of Panchayati Raj Pre-Independence Period Even before the 73rd Constitutional Amendment, local governments (panchayats and municipalities) were important instruments of democratic decentralization. The saying "panch-pardhan" reflects the deep cultural roots of panchayat in India.

2.5 Evolution of local self-governance in India local government plays a crucial role in bolstering national policy, governance remained somewhat decentralized even during British colonial authority. The Punjab District Boards Act, for example, was introduced in 1883 with the goal of "better provision for local selfgovernment in the Districts of the Punjab." The Central Provinces Local-Self Government Act, 1883, which established district councils and local boards and charged them with overseeing and maintaining public works, was introduced

in the same year. Even with these laws, local government expansion and development were severely constrained during British control. For example, the number of municipalities in the nation decreased from 749 in 1885– 1886 to 713 in 1887. As desires for independence increased, so did proposals for more local governance, and third-tier institutions gained importance.The legal recognition of local bodies was restricted to Part IV of the Constitution, beyond the purview of the nonenforceable Directive Principles of State Policy, despite Gandhiji's declaration that "Panchayat Raj represents true democracy realised." After the British left, the institutionalization of local entities regressed as several Indian states abolished district councils and placed the responsibilities of these bodies under state government authority, as happened in Bihar in 1958. But the first Five Year Plan (1951–1956) acknowledged the value of decentralized governance, saying that under a democratic system with a "proper diffusion of power and responsibility," local self-governing organizations are essential.The 1957 Balwant Rai Mehta Committee's recommendations gave the idea of forming local bodies even more traction. The Committee recommended a three-tiered Panchayati Raj structure (consisting of Zilla Parishads, Panchayati Samitis, and Gram Panchayats) and reservation for women, emphasizing that the primary role of local bodies is to act as a middleman between the general public and the government. Even though more than 200,000 village panchayats were operating in India by 1959 as a result of these proposals, their effectiveness was mostly undermined by their lack of both functional and financial autonomy.

2.6 Urban planning by municipalities and panchayats

Urban Planning by municipalities and panchayats plays a key role in shaping the development and well-being of both urban and rural areas. Municipalities are local bodies established by state governments to govern and manage urban areas. They serve larger urban areas and perform various functions such as infrastructure, public health and sanitation .Municipalities participate in local planning, development and management within their jurisdiction. District

planning as Municipalities work with panchayats to strengthen plans and resources. Municipal Delegations they serve smaller urban areas and focus on local governance. Panchayats are rural local bodies responsible for decentralized planning and development. Preparation of plans and budgets in accordance with state and national objectives certain criteria prevent individuals from holding office.

2.7 Historical Roots of Panchayats

The father of the nation Mahatma Gandhi considered panchayats as the foundation of India's political system where decentralized form of governance structure is established at grass root level. Panchayats in rural India with the use of the historical, analytical and descriptive methods In the Indian Constitution, panchayats had a rich history. Ancient Indian texts mention village panchayats consisting of five informally elected elders who settled intracommunity disputes. The Rig Veda refers to the role of "Gramin", the village headman in charge of civil and military affairs, while the Atharva Veda prescribes the institution of "sabha", "samiti", "sabhapati" and "sabhasad", which mainly deals with with judicial activities. functions.

2.8 Decentralization

Decentralisation refers to the sharing of functions and decision-making authority between several units or units in a connected system. Unlike a centralized structure where one entity has complete control, decentralization involves sharing responsibility among several smaller groups.

2.9The Urban governance-Municipalities

Urban governments are established under the 73rd and 74th Amendments to the Indian Constitution.Decentralizing decision-making authority from the Central Government to the local administrations allowed .Nagar Panchayats are local government units that oversee regions that are changing from rural to urban and offer essential civic services including street

lighting, sanitary facilities, and access to water. Local Councils, also known as Nagar Palikas. Larger metropolitan regions are under the jurisdiction of these local governments, which also offer a variety of basic services to locals, including trash management, water supply, and upkeep of public places and local roadways and Local Businesses.These are India's largest and most complex urban governments. They are responsible for managing large cities, Responsible for providing healthcare, education, and public transportation services.

2.10 local Government

Local government plays a key role in extending the democratic process to the grassroots level and involving local communities in decision-making. In India, local government institutions – panchayats in rural areas and municipalities in urban areas – have deep historical roots and have evolved considerably over time. The Constitution of India defines panchayats and municipalities as institutions of local self-government. These bodies function as the main channels of democratic decentralization.

2.11Centralized and Decentralized planning

In a centralized planning system, decisions are made by a small group or an individual. each, regardless of their unique local knowledge. Decentralized design on the contrary, distributed design involves taking into account local knowledge and adapting decisions to specific circumstances. It respects the diversity and uniqueness of each place. Urban planning can be either market-oriented (supporting decentralization) or emphasizing market failures (criticizing sparse suburbs as inefficient and unfair).People can express their opinions, participate in policy-making and governance processes. Decentralization becomes an effective tool to promote sustainable and inclusive urban planning if it is carefully implemented. We explore the multifaceted impact of decentralization on urban development and highlight its role in promoting sustainable cities that serve diverse populations.

Participatory urban governance supported by decentralization improves the resilience of cities to climate stocks. Openness, accountability and responsibility become important characteristics for effective adaptation to climate change.

2.12Decentralization promotes local governance and administrative capability

It enables local representatives to gain valuable experience and skills in governance, fostering a culture of self-reliance. Local entities can design and implement development programs adapted to their needs. This flexibility enables targeted interventions, especially in regions with unique challenges. Despite impressive achievements, ongoing challenges require strategic action. Strengthening, improving fiscal decentralization Local capacity, ensuring cohesive decentralization and mitigating political interference are essential to the success of this change process.

2.13 Benefits of Decentralization

Local Participation a Decentralization fosters citizen engagement by bringing decisionmaking closer to the people. Local representatives can better understand community needs and preferences, accountability Local governments become more accountable to their constituents, leading to improved governance. Local authorities can address specific regional issues more effectively than a centralized . Decentralization enables faster responses to local problems without bureaucratic delays. Local governments can prioritize development projects based on local needs. Empowering local bodies contributes to balanced regional development. Delegating responsibilities to local governments allows the central government to focus on broader national issues.

2.14 Community Participation

Local community participation in rural or urban areas is essential. Sustainable development requires active participation of community members. Community participation enables

capacity building. When community members are actively involved, they gain the knowledge, skills and confidence to participate effectively. Community involvement empowers them to take responsibility for their environment . Community participation ensures that decisions related to development projects are done collectively taking into account local needs and priorities Community participation helps to accurately identify local needs by involving residents, municipalities can prioritize resources according to real needs. When community members actively participate, solutions become targeted and relevant. They understand their challenges and can provide effective solutions. Based on the opinions of the community, municipalities can allocate resources effectively. This prevents waste and ensures that funds are directed to where they are most needed. Community participation promotes transparency in resource allocation. Residents can control the use of resources and hold authorities accountable.

2.15 Challenges and Drawbacks of Decentralization

Insufficient Funding , Local bodies often lack adequate financial resources to carry out their functions effectively. Dependency Overreliance on central grants can hinder local autonomy. Local officials may lack the necessary skills and training to manage decentralized systems. Bureaucratic rules limit local flexibility in resource allocation. Political Interference local politics can be influenced by state-level or national political interests. Decentralization can create opportunities for corruption at the local level. Decentralization may exacerbate disparities between urban and rural areas. Marginalized groups may not benefit equally from decentralized policies. Multiple local bodies can lead to fragmented decision-making and Overlapping jurisdictions can create confusion and inefficiencies.

2.16 District Planning Commissions (DPCs)

DPCs are constitutionally mandated bodies created at the district level in India. They facilitate decentralized planning involving local stakeholders and draw up development plans, allocate

resources and respond to the specific needs of different areas of the district. They ensure that planning decisions are made closer to the ground, taking in consider the local context and priorities.

2.17 Participatory Rural Assessment (PRA)

PRA is an approach that involves local communities in assessing their needs, resources and challenges. It enables active participation, sets community priorities and informs urban planning decisions. PRA methods can be used to gather information, engage stakeholders and design context-specific interventions.

2.18 Stakeholder participation

In decentralized planning, stakeholder engagement (especially marginalized groups) is crucial. Their opinions contribute to more inclusive and effective urban plans. public consultations, community meetings, focus groups and participatory workshops help gather different perspectives. Advisory engagement ensures that urban planning meets local needs and aspirations. Local officials and community leaders need training in planning, budgeting and project management .

2.19 Links with higher level planning

Urban plans should be regional and national in accordance with development goals. Effective coordination between local, regional and national planning agencies ensures consistency and sharing knowledge and best practices at different levels improves overall planning outcomes . Decentralization it is about empowering communities, promoting local ownership and creating

a sustainable urban environment . By implementing these tools and mechanisms, we are paving the way for more responsive and people-centered urban planning.

2.20 Context-based process

Decentralization is contextual and varies from country to country. The level and type of decentralization determines the powers and financial resources available to local government both rural and urban . Decentralization allows local governments to address specific issues based on their unique local expertise.

2.21Public participation and equity

Decentralization promotes public participation and Engaged citizens promote better informed policy and sustainable urban development. Their voice is important to create fair solutions.Transparency and accountability play a important role in local government and must act transparently and ensure a fair distribution of resources. Accountability mechanisms hold them accountable for their decisions.

2.22 Urban Decentralization and Municipal Arrangements

Urban decentralization refers to the process of redistributing power, authority, and decisionmaking from central government bodies to local levels, such as municipalities. In the globalized scenario, states are transforming themselves. They can transfer power or sanction new powers through international agreements. Simultaneously, they allow constitutional ordering within their own territories, leading to a phenomenon known as "globalization."Decentralization can take various forms, including administrative or political overtones. It may involve other organizations, such as non-governmental organizations (NGOs), through public-private partnerships. Advocates of decentralization argue that it replaces bureaucratic structures with multiple agencies that can respond efficiently to problems.

2.23 Metropolitan Governance in India

India's metropolitan governance operates under the decentralization framework established by the 74th Constitutional Amendment Act of Period .The opportunity lies in creating effective metropolitan governance mechanisms with decentralized local government structures.

2.24 Prime Minister Narendra Modi's Perspective

Prime Minister Narendra Modi has emphasized the need for decentralization in urban planning.He advocates that planning should occur at the state level. The development of satellite towns can help alleviate pressure on existing cities.

2.25 Different Committees

Balwant Rai Mehta Committee (1957)

An important milestone in local administration was the Balwant Rai Mehta Committee, which recommended the creation of a three-tier local government system. This committee emphasized the importance of decentralization and active participation of citizens in decision-making at the local level.

Ashok Mehta Committee (1977-1978)

The Ashok Committee Mehta continued to emphasize the need for people's democracy and recommended the strengthening of local bodies and emphasized the role of panchayat in rural development and community empowerment.

G. V. K. Rao Committee (1985)

G. V. K. Rao Committee focused on financial autonomy of local bodies. Recommended measures to increase funds available to panchayats and municipalities.

L. M. Singhvi Committee (1986)

L. The M. Singhvi Committee explored ways to promote women's participation in local governance. The need to reserve seats for women in panchayats and municipalities was emphasized.

2.26 Urban local bodies

One of the primary responsibilities of all Urban Local Bodies across the nation is the management of municipal solid garbage. Every ULB is expected to carefully develop, carry out, and keep an eye on every system for delivering municipal solid waste services in metropolitan areas. With limited financial resources, technical capacities and land availability .With the launch of the flagship programme by the Government of India, Swachh Bharat Mission in 2014 that aims to provide basic infrastructural and service delivery with respect to sanitation facilities to every family, including toilets and adopting the scientific methods to collect, process and disposal of municipal solid waste. The mission focuses on quality and sustainability of the service provision as well as emphasising on the commitment on every stakeholder to bring about a visible change in society and provides guidance to urban local bodies on the planning, design, implementation and monitoring of municipal solid waste management systems and with an aim to maximise resource conservation and efficiency and minimize health and environmental impacts. Waste minimization should be the primary focus of all community awareness programmes. This handbook outlines ULBs' duties for handling particular unique waste streams, such as plastic trash, biomedical waste, slaughterhouse waste, e-waste, waste tires, and lead battery waste. benefits of decentralized trash disposal Small business owners and informal laborers can find employment in decentralized systems, which provide a lower level of mechanization than centralised solutions . Decentralized solutions can be specifically designed to meet the needs of the local waste stream, environment, society, and economy. Decentralized systems lower the costs that ULBs spend for garbage collection,

transportation, and disposal (Swachh Bharat Mission municipal solid waste by central public health and environmental engineering organizations)

2.27 Municipalities

Municipalities in India are governed by elected representatives. These representatives are responsible for decision-making and implementation of policies and programs. However, their effectiveness depends on the availability of resources, skilled personnel, and the degree of local participation and accountability in governance. In recent years, the government of India has initiated several programs to promote the development of municipalities and enhance their capacity to provide quality services to citizens.

2.28 Constitution of Municipalities

The Union, state, and municipal governments are the three tiers of government established under the Indian Constitution. The establishment of municipalities was made possible by the 74th Constitutional Amendment Act of 1992. The Act allows for the creation of urban local authorities based on the size, population, and income of the urban region. State legislatures are able to pass laws that control how municipalities are formed and run in their own states.

To fund services for its residents, municipalities are able to impose taxes, fees, and levies. In order to manage their territory, municipal bodies can also pass laws and ordinances.

2.29 Composition of Municipalities

The composition of municipalities might change based on the particular local government. In most towns, decisions about the day-to-day operations of the Municipality are made by the council or governing body. This body may also have the authority to approve the annual budget, create local laws, issue licenses, and employ municipal employees. The chief executive of most towns is usually the mayor or another elected official. Municipalities are made up of departments including parks and recreation, public works, sanitation, police, and fire.

Recreational activities and municipal services are provided by these departments. Certain municipalities may have separate boards or districts in responsibility of particular sectors of the Municipality. Airports, school systems, and public utilities are a few instances of these areas

2.30 Constitution of Wards Committees

The public's participation in local self-government is increased by ward committees. They are constituted in all of the state's municipalities as well as in urban local bodies with a population of three lakhs or more. The Wards Committee is constituted by the Municipality and is required by the State Municipal Act to have a minimum of 11 members and a maximum of 21 members. Reservation of seats in Wards Committees are reserved in the same manner as the seats in the Municipality. This includes reservations for Scheduled Castes, Scheduled Tribes, and women. The duration of a municipality is five years. This can be extended by the state government by a maximum of six months.

2.31 Powers and Functions of the Municipalities

The corresponding State Municipal Acts specify the municipalities' authority and duties. Water supply, sanitation, health and hygiene, solid waste management, roads and bridges, street lighting, public transportation, slum rehabilitation, and public parks are among the civic services that are often provided by municipalities. In addition, they are in charge of licensing, tax collection, and public facilities

2.32 Finances of Municipalities

It is the responsibility of municipalities to raise and manage their own funds. This includes establishing budgets, approving spending, and collecting taxes and fees. They are also able to issue bonds and take out loans. Municipalities must also make sure that all of their expenses are compliant with the law and that their financial resources are managed

Finance Commission-The 74th CAA introduces many of the major features related to the Finance Commission. These include, Finance Commission for Municipalities: The Amendment called for the creation of a state-level Finance Commission. It will examine towns' financial standing. it will offer suggestions on issues like grants, taxation, and resource distribution.

2.33 Grants for Municipalities

The Amendment required states to give municipalities grants-in-aid. The provision of essential services including roads, sanitary facilities, and water supply is the purpose of this award. The Amendment also required governments to regularly transfer funds to municipalities. This is to protect their individuality and financial independence. To choose the members of the municipal council, there are five-year municipal elections. These representatives are in charge of making choices. Municipalities are required to keep accurate financial records. The local government should receive these documents so they may be audited. The accuracy of the Municipality's financial management is confirmed by this audit.

The local government may conduct an independent audit if it finds any irregularities.

2.34 District Planning Committee

The task of creating plans for district development falls to the district planning committees. They are made up of delegates from the local administration, the municipal council, and other interested parties. They are in charge of determining the district's requirements and creating development plans. Additionally, they are able to distribute funding for initiatives that will benefit the district.

2.35Notified The Local Committee

Locally created area committees are administrative or political bodies. They deal with regional problems in a particular area. The 73rd and 74th CAAs control the establishment of the area committees by the state administration. The purpose of these committees is to encourage local

development. They empower the neighborhood and guarantee that residents actively participate in the process of development.

2.36 Committee For The Town Area

An Indian local government entity called a Town region Committee (TAC) is in charge of overseeing the growth of an urban region. The municipal government established the committee. It is in charge of managing the town's operations, including the provision of infrastructure, public amenities, and essential services. Members of the community elect the committee's members.

2.37Board of Directors

A cantonment board is the local governmental body in India that is in charge of a military base or cantonment. The board oversees development initiatives, police enforcement, and public infrastructure in the area. The members of the board are chosen by the national government.

2.38 Township

A township has a variety of institutional, commercial, and residential buildings. Parks, open areas, and other amenities are a few examples. Townships are typically developed by public or private organizations. In places with little development, they supply houses and other infrastructure. They are well-liked by middle-class and upper-class families and are frequently built to provide a good standard of life .Townships in India are administered by local government units such as the panchayat or the municipality, depending on where they are located. The neighborhood

2.39Port confidence

An Indian local government organization called a Port Trust is in charge of harbor or port development. The members of the Port Trust are appointed by the Central Government. Law

and order, public infrastructure, and development initiatives in the port region fall under the purview of the Port Trust.

2.40Organization

An organization known as a special purpose agency (SPA) is one that has been set up specifically to deal with problems or difficulties in a given field or business. Usually, either the government or private organizations create SPAs. Compared to conventional government agencies, they are intended to be more adaptable and effective. SPAs are created with a specific purpose in mind, such as overseeing a public transportation system, creating and maintaining public infrastructure, or offering a specific service.

2.41Major achievements

Due to the dual acts' prominence of fresh perspectives and pressing challenges, the democratic spaces have been legitimately opened up in many respects. The overwhelming quantity of elected officials present at the third tie is evidence of the legitimacy of local government. The presence of notable female participation in Panchayats is the most noticeable development. Since the 73rd Act was passed, the percentage of elected women members has been gradually increasing. There are currently 3.1 million elected members in India's 260,512 Panchayats, with a record 1.3 million of them being women and terms of grassroots politics, this is India's most revolutionary affirmative action strategy for women to date.

The government of Prime Minister Narasimha Rao of the Congress(l) Party introduced the 73rd and 74th constitutional amendments in parliament in September 1991. The two separate bills were the 73rd Amendment Bill for municipalities and the 72nd Amendment Bill for rural local bodies, also known as panchayats.After being referred to a Joint Select Committee of Parliament, the 73rd and 74th Amendment Bills were eventually passed in December of 1992. On April 20, 1993, the President signed the legislation into law after they had been approved

by the state legislatures of more than half the states .The term "may," on the other hand, appears frequently in the discretionary provisions. Therefore, even though a lot of the optional clauses outlined a goal.

2.42Conclusion

Large cities with populations of one million or more are home to municipal corporations. They have important duties and authority. These duties include the provision of basic services, upkeep of public infrastructure, protection of public health and sanitation, encouragement of culture and education, and assistance with tourism and leisure. In smaller urban areas, municipalities and Nagar Panchayats are formed. They are crucial in fostering local development and supplying fundamental civic facilities. In India, the function of municipalities has changed over time and grown in significance. They address issues that metropolitan regions face, such as population expansion, fast urbanization, and the requirement for sustainable development.

India commemorates its 75th anniversary of independence, it has made significant strides toward self-governance. The third-tier institutions, Urban Local Bodies (ULBs) and Panchayati Raj Institutions (PRIs), have been an essential component in bringing governance to the masses throughout its development as the largest democracy in the world. India's decentralized administration, hailed as the largest direct democracy experiment globally, provides some hope during a period when democracies are eroding everywhere else. This synopsis attempts to convey the development and turbulent yet inspiring voyage of India's third-tier universities.

CHAPTER III

Waste Management System In Ponda Municipality

3.1 Introduction

Ponda municipal council (PMC) has alleged that work on its proposed garbage treatment plant at Kerye-Khandepar in Curti-Khandepar village panchayat jurisdiction has been delayed by the Public works department (PWD).An engineer from the civic body revealed that the cost of the plant was 8.5 crore in March with 1,98,60,000 for mechanical components and

5.94 crore for civil works. The cost at present of mechanical components has been raised to 2,37,26,250, thus raising the cost of the plant to 8.97 crore.

3.2 Structure of the Ponda municipal council

Structure of Ponda municipal council is pyramidical in nature which symbolizes the structure of the hierarchy emphasizing superior subordinate relationship which works on the principles of span of control, centralization and responsibility. Span of control means the number of persons a leader can supervise effectively. Span of control should be based on the specialization of employees. Ponda Municipal Council is composed of chairman, vice Chairperson and other councilors, Chairperson and vice Chairperson is elected by the councilors from among themselves. A municipal councilor is to be directly elected by the people residing in their particular ward. On the basis of universal adult franchise and for the purpose of electing the councilors an urban area is divided into 15 wards.

Ponda Municipal Council is structured into 3 sections like administrative section, Treasury section, technical section under the chief officer. He has executive powers. He has to exercise powers and discharge the duties conferred on him under the 74th Amendment Act. He is the custodian of all the records of the council including all the papers and documents connected with the proceedings of the council.

3.3 Community Engagement Programme

As part of the Nature Conservation Day celebrations, the NSS Unit of P.E.S's Ravi S. Naik College of Arts and Science Farmagudi Ponda, collaborated with the Hilldari Group and Ponda Municipality to organize a session titled 'Overview of Waste Management in Ponda. During this session, Dhiraj Shennoy, Assistant SWM Officer of Hilldari Group, explained the steps taken to enhance solid waste management in Ponda, starting from household waste segregation, door-to-door collection, to waste treatment at the Material Recovery Facilities (MRF) center located in Keri, Ponda. He also discussed upcoming initiatives for collecting sanitary and hazardous waste and encouraged students to raise public awareness about proper waste disposal practices .The Ponda municipal council has issued a tender for the Door-toDoor Collection of Municipal Solid Waste within its jurisdiction for a duration of one year.

3.4 Hilldaari Project

The government has allocated funds for the purchase of various equipment, including nine Tata Ace Hopper vehicles with a capacity of 1.8 cubic meters each, four Mini Garbage vehicles, two Tata Hitachi Excavators, and seven Trucks for garbage transportation. The Council has implemented Project "Hilldaari", a CSR initiative by Nestlé India and executed by Stree Mukti Sangathan with technical support from Recity Network Pvt. Ltd., aimed at providing training on waste collection with minimal contact and ensuring proper sanitation and facilities. Safai Karmacharis have been trained to use smartphones and digital monitoring apps for waste collection and segregation.

Nestle India has partnered with Ponda Municipal Council and other stakeholders to launch Project Hilldaari in Ponda Goa, aimed at establishing Ponda as one of the cleanest tourist cities in India by 2023. The project focuses on professional training of waste workers, waste diversion, and capacity building for urban local bodies. The pilot phase initiated in February 2021, covered 3950 property units, implementing waste management awareness through traditional and digital media despite COVID-19 lockdown restrictions. The project also included creative street art activities to promote ideal waste management practices and deployed Waste Intelligence Technology for real-time monitoring of waste management activities. Following the successful pilot phase, the project is set to expand to all wards of the city.

Chairman of PMC, highlighted the progress of Project HILLDAARI, drawing parallels with the Swachh Bharat Abhiyan initiated by Hon. Shri. Narendra Modi, Prime Minister of India in 2014. He emphasized the project's role in establishing a Solid Waste Management System in the city and stressed the importance of the '3 Rs' concept—Reduce, Reuse, and Recycle— in achieving effective waste management. He urged citizens, PMC staff, and government officials to collaborate in making Ponda one of India's cleanest cities.

According to, Head of Factory Corporate Affairs at Nestlé India Ltd, Ponda's priority status as a tourist destination necessitates the implementation of HILLDAARI Initiatives. He emphasized the significance of behavior change among citizens and society for successful solid waste management. The Hilldaari Project Lead, remarked that the launch event adhered to government-mandated COVID-19 protocols ensuring attendees safety.

HILLDAARI, an initiative supported by Nestlé India and implemented by Stree Mukti Sanghatana with technical partner Recity Network, aims to enhance solid and plastic waste management solutions in Indian tourist cities. Currently active in Mussoorie, Nainital, Dalhousie, Ponda, Mahabaleshwar, and Munnar, the initiative has diverted 4668 metric tons of

waste from landfills and is professionalizing 220 waste collectors and informal waste pickers through collaborative efforts with municipal councils, citizens, contractors, waste workers, and influencers.

The Ponda Municipal Council is contemplating the construction of a garbage treatment plant on its land. The proposed 30 metric tons plant, expected to cost 8.97 crore, will address the town's garbage disposal challenges. Despite delays and cost escalations, efforts are underway to expedite the plant's completion for the town's hygiene.

Addition to the seven vehicles previously provided to the Ponda Municipal Council, two more will be allocated. These specialized vehicles have the capability to reach even remote areas of the town. Citizens can directly deposit their waste into these vehicles during door-todoor collection, eliminating the need for waste to remain in bins awaiting collection. This initiative has been highly successful, as highlighted by Gomes. Municipal bodies will also receive grants from the 14th Finance Commission, with larger councils allotted 1.10 crore and smaller ones 50 lakh exclusively for solid waste management. Gomes emphasized that municipalities now have sufficient resources to make the Swachh Bharat Mission successful. Recently, dustbins were also supplied to further support waste management efforts.

The Ponda Municipal Council has taken immediate action following an incident where two truckloads of unsegregated waste were dumped on PMC land. This illegal dumping has prompted a criminal case under the municipal solid waste rule. The council is committed to preventing further illegal dumping and will identify and take action against those responsible for the incident.

The Ponda Municipal Council is actively seeking cooperation from locals to support waste segregation efforts. Chairman appealed to residents to minimize plastic usage and switch to traditional lifestyles, advocating for plastic-free practices and proper waste segregation. He highlighted the environmental impacts of plastic waste and emphasized the importance of

community participation in waste management. The council plans to sell cotton bags in the market and impose fines on vendors using plastic bags to promote sustainable practices.

Chief Minister Pramod Sawant assured the house that the transportation of garbage from Sonsoddo to the solid waste management facility in Saligao is a temporary arrangement until a long-term treatment solution is implemented. The Saligao facility is approaching its capacity limit due to garbage from beach belt panchayats in North Goa. Sawant emphasized the importance of compliance with Solid Waste Management Rules 2016 during transportation to ensure environmental safety. Saligao MLA raised concerns about leachate spills and associated odors, urging for stricter enforcement to address residents' . Various methods such as open burning, sanitary landfills, composting, and recycling are used to manage solid waste. Waste is transported using different vehicles like trucks, trailers, and animal-drawn carts in small towns and villages, whereas container carriers and dumping placers are utilized in larger cities for waste transportation.

Addressing plastic waste management through innovative strategies and community engagement has been instrumental in creating a positive impact and raising awareness about waste management practices. Workers were equipped with essential tools and provided training to enhance their skills, including the use of smartphones for waste collection and segregation. This empowerment enabled them to identify various government schemes and access social security benefits.

Furthermore, food and sanitation supplies were distributed to support these workers during times of change. The mentoring process not only improved their practices but also benefited local bodies implementing the program. The mapping and deployment processes were optimized, allowing workers to efficiently plan their activities and meet specific targets. They felt empowered through training and the use of digital tools.

Incentives were also provided for effective planning and execution of waste management activities across the country. This collective effort, led by Recity, has mobilized waste professionals and brought about significant changes in waste management practices. The stakeholders involved, including waste pickers and sanitation workers, fully endorse these initiatives, appreciating the positive impact on their work and the environment.

3.5 Clearance of dustbins

At present there are 13 workers and 3 Vehicles are assigned for garbage collection. Workers are of middle age. Age plays an important role in the working capacity of the individual.

Garbage is collected and transported through the trucks.

3.6 Problems of Garbage collection and disposal

Spread of malaria due to water logging in between the huge logs of the saw mill. Gutters are overflowing in rainy season due to the dumping of garbage in the gutters. Garbage is a major source of pollution with direct effects in health and environment.

3.7 Current waste scenario

Ponda generates 13 tons of municipal solid waste (MSW) daily. The area of the city is 5 square kilometers and the population density is one person per square kilometer. Sorting of waste at the source is about 80%. room for improvement, especially considering the literacy rate2.

3.8 Inadequate waste segregation

Ponda currently only achieves 80% waste segregation at source. Proper separation of dry and wet waste is essential for efficient disposal, reuse and recycling. Encouraging households and

workplaces to use colour-coded bins can significantly improve waste management by promoting better sorting at birth.

3.9 Biomedical waste management

Mixing general household waste with biomedical waste poses risks. It loads an incinerator to handle biohazardous waste. Sorting biomedical waste using dedicated containers and sharps containers is essential to prevent contamination and ensure safe disposal.

3.10 Solid Waste Generation Rate

Ponda generates 13 tonnes of municipal solid waste (MSW) every day. This waste includes different types of waste such as biodegradable, non-biodegradable, construction waste, metal and plastic.

3.11 Incorrect disposal and environmental risks

Safe disposal of waste leads to release of hazardous gases and leaching. These pollutants can harm the environment and public health. According to the Solid Waste Regulations 2016, Ponda must ensure proper disposal of 13 tons of waste generated daily.

3.12 Landfills and Sustainability

Ponda has landfill challenges. Proper management and monitoring of these areas is essential to prevent environmental pollution. Sustainable waste management practices must be prioritized.

3.13 Literacy and awareness

With a literacy rate of %, there is room for improvement in waste management awareness and education. Public campaigns and community participation can increase awareness of responsible waste management.

3.14 Swachh Bharat Mission

Ponda municipality in the Union Territory of Pondicherry has been actively involved in the Swachh Bharat Mission (SBM). Launched by the Prime Minister of India in 2014, the nationwide initiative aims to achieve the Open Defecation Free (ODF) tribute to Mahatma Gandhi by October 2, 2019.Here are some key points about SBM and its impact. SBM focuses on sanitation and hygiene, resulting in the construction of more than 10 million household toilets across the country. Sanitation coverage increased from 39% in 2014 to 100% in 2019, with approximately 6,000 villages reporting as ODF. The SBM-G campaign had significant economic, environmental and health impacts. It also affected the empowerment of women.

3.15 Solid Waste Management in Ponda

Waste Sorting, Proper waste sorting is crucial. Mixing general household waste with biomedical waste strains incinerators designed only to handle bio hazardous waste. Residents should separate waste at source using biomedical waste bins and biomedical sharps containers.

3.16 Sewerage treatment plant in Ponda

Ponda Municipal Council is likely to set up a sewerage treatment plant in Ponda.The proposed plant is estimated to cost about Rs 250 crore. A Pune based consultancy has been roped in to prepare a detailed feasibility report regarding the project. However, the state government did not disclose the name of the consultancy firm. Under the project, sewage from the Ponda municipal area and Curti-Khandepar village panchayat area in Ponda constituency and sewage from Bandora and Kawle village panchayat areas in Marcaim constituency will be treated in the plant. The project aims to produce an environmentally-safe liquid waste and solid waste suitable as farm fertilizer. Of the total cost, the Union Government will provide Rs 175 crore and the state government will provide the remaining Rs 75 crore.

People's suggestions on improvement of waste management system in Ponda

Suggestion
No plastic on road
Clean city
Clean green environment
People should co-operate
Strictly they have to ban the plastic
More awareness

The ban on plastic is crucial, plastic pollution poses a significant threat to the environment, wildlife, and human health. By strictly enforcing a ban on plastic, particularly single-use plastic. Particularly single use plastic like bags and bottles. Ponda can drastically reduce its environmental footprint. Instead , promoting the use of eco-friendly alternatives like biodegradable bags and reusable containers can help mitigate the adverse effects of plastic pollution. Maintaining a clean city requires the collective efforts of residents, businesses, and local authorities. People should be encouraged to dispose of their waste responsibly by utilizing designated bins for recyclable item. Additionally, regular clean up drives and community initiatives can help keep the streets, parks, and public spaces of ponda free from litter and debris.

Creating a clean , green environment also entails investing in sustainable waste management practices. This includes implementing recycling programs, composting facilities, and waste to energy initiatives to minimize the amount of waste sent to landfills. By adopting a circular economy approach , where resources are reused, recycled, and repurposed, ponda can reduce its environmental impact while promoting economic growth and innovation. Fostering

cooperation among residents is essential for the success of any waste management strategy. Encouraging neighborhoods to work together in implanting waste reduction measures, such as composting or organizing neighborhood clean up events can strengthen social cohesion and promote a sense of collective responsibility towards the environment.

Increasing awareness about the importance of waste management and environmental conservation is key to instigating behavioral change. Education initiatives targeting schools, workplaces, and community centers can raise awareness about the environmental consequences of improper waste disposal and the benefits of recycling and composting. Additionally , levragin digital platforms, social media, and traditional media channels can amplify messaging and reach wider audience, inspiring individuals to take action and adopt sustainable practices in their daily lives.

3.17 Conclusion

It is important to separate general household waste from biomedical waste. Mixing these two types of waste strains an incinerator specifically designed for biohazardous waste. Use biomedical waste bins and biomedical sharps containers for proper sorting. Segregation of waste sources, encourage residents to sort waste at source. This means sorting recyclable, organic and non-recyclable waste before disposal. Currently, Ponda achieves approximately 80% of waste segregation at source, which leaves room for improvement. Conduct awareness programs to inform citizens about waste segregation practices. Creative street art, painted waste collection vehicles, and public walls can help bring about behavioral change among residents and tourists. Ponda generates approximately 13 Metric Tons of Municipal Solid Waste (MSW) per day1. The city covers an area of 5 square kilometers and has a population density of people per square kilometer. The waste segregation at the source stands at about 80%1. Ponda has a population of approximately 154,561 (as per the 2011 Census) The average waste generated per person per day in Ponda is 143 grams. With a literacy rate, there is further scope for

improvement in waste management practices , Improper management of solid waste poses risks to the environment and public health. The unsafe disposal of waste can lead to the generation of dangerous gases and leachates. it is imperative that the 13 Metric Tons of waste generated daily in Ponda be properly disposed of in accordance with the Solid Waste Management Rules 2016. Encouraging the use of color-coded dustbins in households and workplaces can lead to more efficient waste management with increased segregation at the source. Every household in Ponda should adopt the practice of using kitchen dustbins to keep dry and wet waste segregated. The Ponda Municipal Council traces its roots back to the Camara Municipal de Ponda, built between 1885 and 1896. During the Portuguese regime, it served as the headquarters of "Administração das Matas" and catered to all the villages in Ponda Taluka. After the reconstitution of the Municipal Council, members from all 14 wards are now elected by the council. Efforts toward efficient waste management and community awareness are crucial for maintaining a clean and sustainable environment in Ponda. The Ponda Municipal Council is responsible for governing and managing civic affairs in the Ponda area. They have adopted an innovative approach towards integrated egovernance services to simplify interactions with citizens. Citizens can access information about their dues and make payments online. The Town and Country Planning Department in

Goa oversees land use and development regulations. Ponda was part of the Novas Conquistas (New Conquests) during Portuguese rule. It was ruled by the Sonde Rajas under the Vijaynagar Kingdom or the Bijapur Sultanate Ponda, a city in Goa, grappled with waste management issues. The quantity of solid waste was increasing due to tourism and urbanization, in collaboration with the Goa State Urban Development Agency (GSUDA), Directorate of Municipal Administration (DMA), and Ponda Municipal Council (PMC), launched Project HILLDAARI. The project aims to establish Ponda as one of the cleanest tourist cities in India by 2023. During the pilot phase, they identified challenges, conducted waste management

awareness campaigns, and implemented creative street art activities. In addition, they used unique waste information technology for real-time monitoring Urban planning and design are critical for sustainable growth , the Ponda Municipal Council has adopted advanced technology to provide integrated e-government services. This approach informs citizens about their charges and facilitates payment . Ponda has adopted practices like door-to-door waste collection, waste segregation and awareness campaigns. As a result of these efforts, the city was recognized for its cleanliness in the Swachh Bharat Mission. Overall, Ponda municipality has been active in dealing with issues related to waste management, urban planning, historical context, e-governance and cleanliness. By implementing strategic solutions, they aim to create a cleaner and more sustainable city. The project aims to professionally train 105 waste workers. it focuses on diverting 13.8 tons of waste away from landfills. The project enables capacity building of local communities . A Unique Waste Intelligence Technology was deployed for end-to-end monitoring of waste management activities and real-time problem-solving. The project will expand to the remaining 11 wards of the city after successful implementation in 4 wards during the pilot phase. Ponda successfully processes approximately 85% of its waste, demonstrating a commitment to sustainability and cleanliness. These initiatives showcase Ponda's dedication to waste management, cleanliness, and sustainable practices .The municipal solid waste management (MSWM) in Ponda, Goa, presents both environmental challenges and opportunities for improvement. Ponda generates approximately 13 metric tons of municipal solid waste (MSW) per day within its 5-square-kilometer area.The city's population density is people per square kilometer

Unfortunately, only 80% of waste is currently segregated at the source. Ponda has a population of around 154,561 (as per the 2011 Census) On average, each person in Ponda generates 143 grams of waste per day ,Ponda produces a total of 4,745 tonnes of MSW ,Solid waste management is a significant challenge for Ponda, as improper disposal poses risks to both the environment and public health. Unsafe waste disposal can lead to the release of dangerous

gases and leachates. Encouraging the use of color-coded dustbins in households and workplaces can enhance waste segregation at the source. Every household should adopt kitchen dustbins to separate dry and wet waste effectively. Leachate generation from landfills can contaminate soil and water. Greenhouse gases emitted during waste decomposition contribute to climate change. Efforts toward better waste management, increased awareness, and community participation can significantly mitigate the environmental impact in Ponda.

Let's work together to create a cleaner and more sustainable future. The project intends to professionally train 105 waste workers. It aims to divert 13.8 metric tons of waste away from landfills. The project focuses on enhancing capacity within urban local bodies.

Conclusion

The Ponda municipal council conducted many awareness programmes to create awareness among the people. Ponda municipality conducted cleanliness drive in December 2016, in collaboration with swach bharat mission to motivate people to keep india clean . it organized meetings of self help groups, where they were educated about the importance of composting organic waste at home, and also using natural manure produced through garbage treatment plant. various talks were given and to educate them. It also created awareness among the people about the ill-effect of the disposal of solid waste.

CHAPTER IV

People's Perspective Of Waste Management In Ponda

4.1 Introduction

Ponda, also known as Fonda, lies in the North Goa district of Goa, India. Positioned centrally within Goa, it is approximately 28 kilometers south east of Panaji, the capital, and 17 kilometers north east of Margao, the district headquarters. Ponda boasts numerous renowned temples and a vibrant cultural legacy, often dubbed "Antruz Mahal," sitting at an average elevation of 42 meters and linked to Panaji via National Highway 7481. This city holds significant religious importance with its plethora of Hindu temples, including Shri Manguesh, Shri Nagesh, Shri Ganapati, Shri Ramnath, and Goddess Shri Shantadurga, among others.

Additionally, Ponda is home to the Santa Anna Christian Church, locally known as "Ponda Church," reflecting its rich Christian heritage. Moreover, historical forts dot the landscape, adding to the area's historical charm. Ponda Fort, a pivotal landmark in Goa's history, was initially constructed by the Muslim forces of the Adil Shah Kingdom in the early 16th century to off Portuguese advances. Shivaji I made attempts to seize it in 1665 and finally succeeded in 1675. Over the years, control of the fort exchanged hands between the Marathas and the Portuguese, witnessing significant historical events. Today, the meticulously restored fort stands as a testament to its historical significance. Also referred to as Forte de Pondá, Ponda Fort (Shivaji Fort) was erected in 1546 by Muslim forces before falling under the rule of Shivaji Maharaj in 1675. Its grounds feature a statue of Shivaji and offer stunning panoramic views of the surrounding landscape. The Safa Masjid, an architectural gem near Ponda, was commissioned in 1560 by Ibrahim Adil Shah I of Bijapur. Renowned for its intricate Mihrab design, it holds great significance as an Islamic monument in the region.

Ponda's rich tapestry of cultural heritage, religious diversity, and historical landmarks make it a captivating destination for tourists exploring Goa. Situated in central Goa, approximately 28 km southeast of Panaji (Goa's capital), and 17 km northeast of Margao (district headquarters), Ponda serves as the gateway to Goa's wildlife sanctuaries, including Bondla and Mahavir. Ponda's distinction as the cultural hub of Goa is attributed to its rich heritage and abundance of renowned temples. Serving as both a hub for large and small-scale industries, Ponda holds the status of Goa's industrial center. With its rapid growth and development, Ponda has emerged as one of the most swiftly expanding cities in Goa. Ponda's economic landscape is marked by numerous industries and factories that play a significant role. Key industries in Ponda encompass chemical manufacturing, steel production, spice cultivation, and the presence of Acacia mills. Despite Goa's beach-centric reputation, Ponda shines for its magnificent temples, which draw tourists and contribute to the local economy. Ponda boasts adequate emergency

services, including a fire station, reputable hospitals like Savarkar Hospital, and efficient law enforcement.

Problem is not a problem until and unless you think it as a problem. Problems get created when the issue are not addressed or addressed improper So in order to drain the problems from the municipality they should provide to proper solution for the issue. The common problem faced by the municipality is construction an infrastructure. The other problems include the pollution, drainage, garbage, improper market planning, corruption, improper construction of roads,delay in work,illegal construction etc. And the municipality is the only institution people look at which will address these problems faced by its citizens.

There are number of problems faced by the people from municipal area which i have noticed through questionaire circulated among people in Ponda municipality. The people replied according to way they feel about conditions of municipality and the degree or level of expectations is from the municipality. Everyone has given answers according to the problems which are highlighted in their opinions.

4.2 Garbage Problem

Garbage is major problem faced by the people in that area. The garbage has direct impact on the health of people. Many diseases spread because of stagnation of garbage. Garbage is produce too much in modern times because of growing population and there growing material needs. In old times the garbage was to decompose or it was burn but today the garbage gets multiplied every day if it is left to decompose naturally . If tried to burn the large amount of garbage causes lots of smoke. There are two garbage trucks in municipality kept for garbage collection and workers who go on rounds to collect the garbage daily.

According to municipality the garbage is regularly cleaned in this area but people said that these municipality vehicles do not come regularly. Such problems arise because there are less

number of trucks and garbage workers to tackle this issue. Along with the increasing population further the waste problem will also increase. This issue has led implication in Ponda municipality and therefore it is been discussed and explained in the research. Some people throw garbage in water bodies and thus polluting fresh water and this is cause a serious health issues. It is also important that there should be regular cleaning of these bins and proper disposal is also of the equal importance.

4.3 Health Problems

Heath problem is another serious issue faced by the people . This problem arise only during the rainy season because of slag nation of water in the drainages etc. This took place mainly because of less awareness about such diseases. The worker are provided with special medical camps during such epidemic.

4.4 Pollution

Another problem which come into notice during the survey is the pollution problem. Pollution is caused due to three factors vehicles, garbage and factories. Among which the one factor prevalent in this area these are Garbage. Garbage problem it cause lot of air and water pollution. The dry garbage which is burnt emits lots of smoke during exhaustion and the wet garbage which is always lift to decompose generates horrible smell .

This garbage causes even land pollution as the waste is scattered all around or the empty property and that land gets polluted. Futher disposing of garbage into water bodies and it's also affects the aquactic fauna.

4.5 Drainage

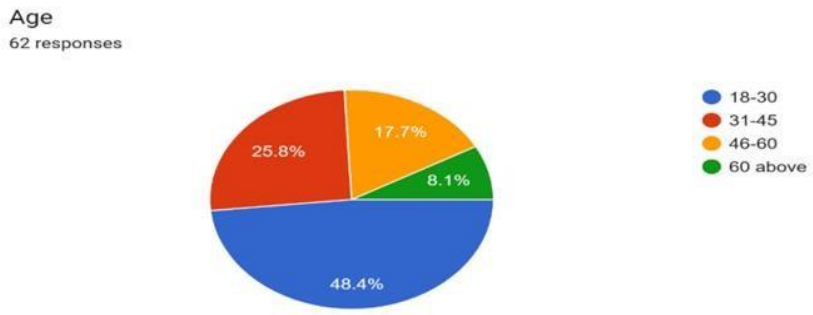
The problem of drainage also come foremost when i surveyed the people. The problems caused by the improper drainages is also discussed under the garbage and health issues. The disposal

of garbage into the drainage choked up the entire drainage system and so the problems multiples in a chain reaction. These choked up garbage becomes breeding ground for mosquitoes in rainy season and thus the people are affected.

4.6 Profile of the respondent

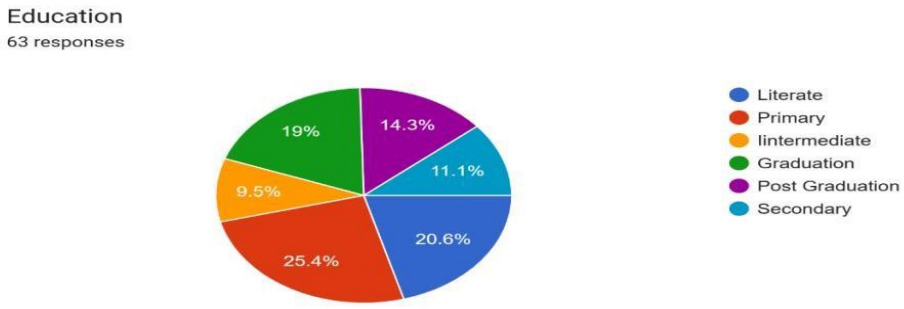
For the study 63 responses were collected from Ponda Taluka. In this context Age, Sex, Education, Occupation have been discussed in the following.

Figure 4.1: Age of the respondents



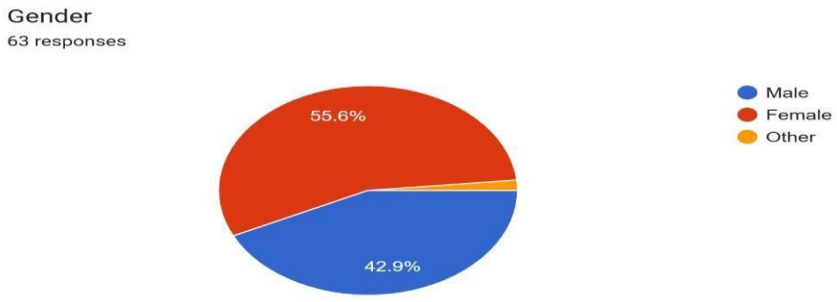
The Figure 4.1, mentions about the age of the respondents. Majority of the respondents 48.4 percent belongs to age group of 18-30 and less than half of them 25.8 percent belong to 31-45 age group. Some of them 17.7 percent belong to age group 46-60 . And a very few belong to 60 and above.

Figure 4.2: Education of the respondent



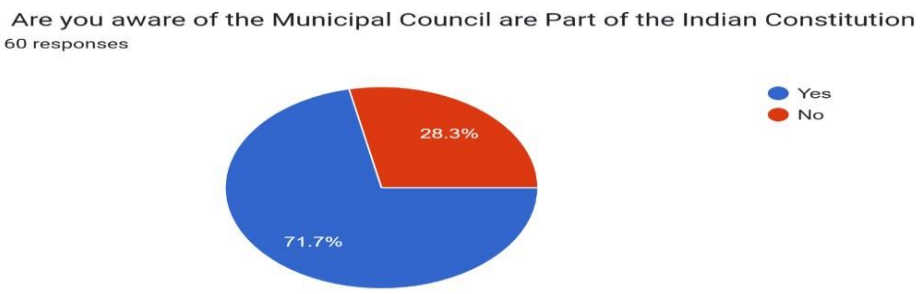
In Figure 4.2, it is noted that among the respondents, 20.6 percent are literate, 25.4 percent have completed primary education, 9.5% have completed intermediate education, 19 percent have graduated, 14.3 percent have completed post-graduation, and 11.1 percent completed secondary education.

Figure 4.3: Gender



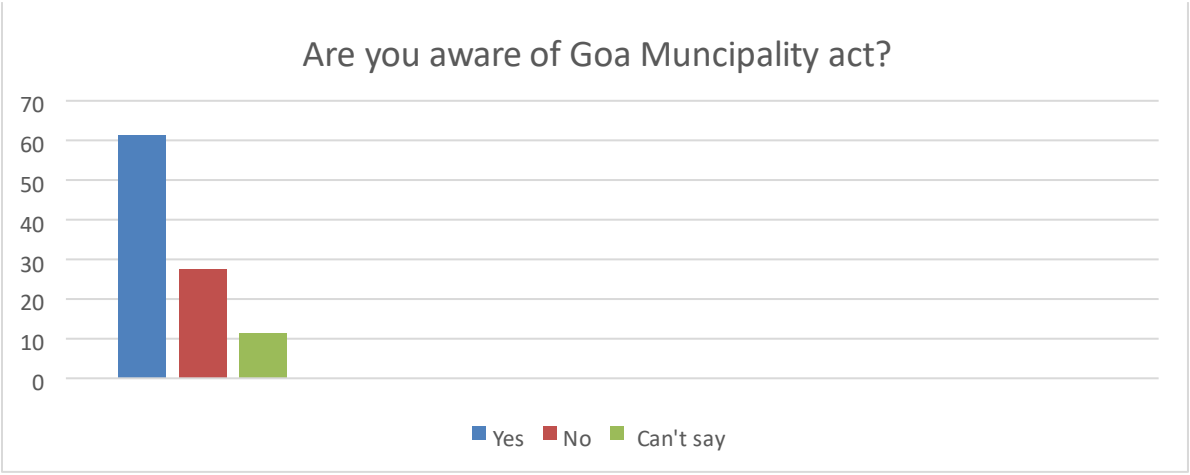
In Figure 4.3, The attempt has been made to maintained gender parity. The study comprises 42.9 percent male respondents and 55.6 percent female respondents. The survey included 63 respondents of Ponda.

Figure 4.4: Awareness of the Municipal Council as the part of the Indian Constitution



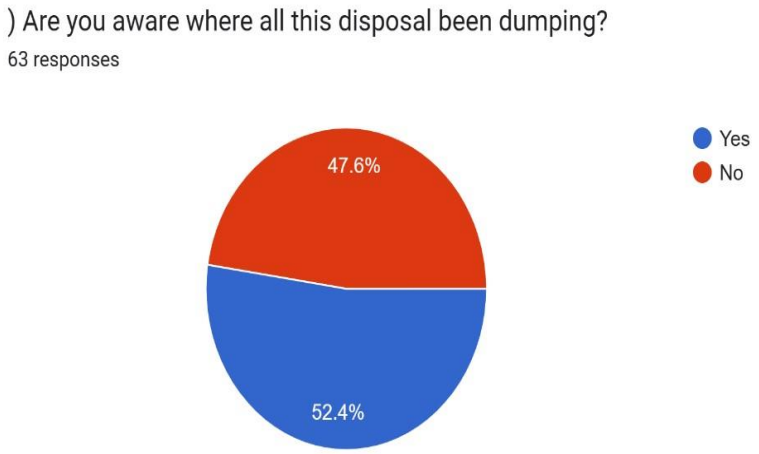
In Figure 4.4, it is noted that 71.7 percent of the respondents are aware that municipal councils are a part of the Indian constitution, while 28.3 percent are not aware of this Indian constitution

Figure 4.5: Awareness of Goa Municipality Act



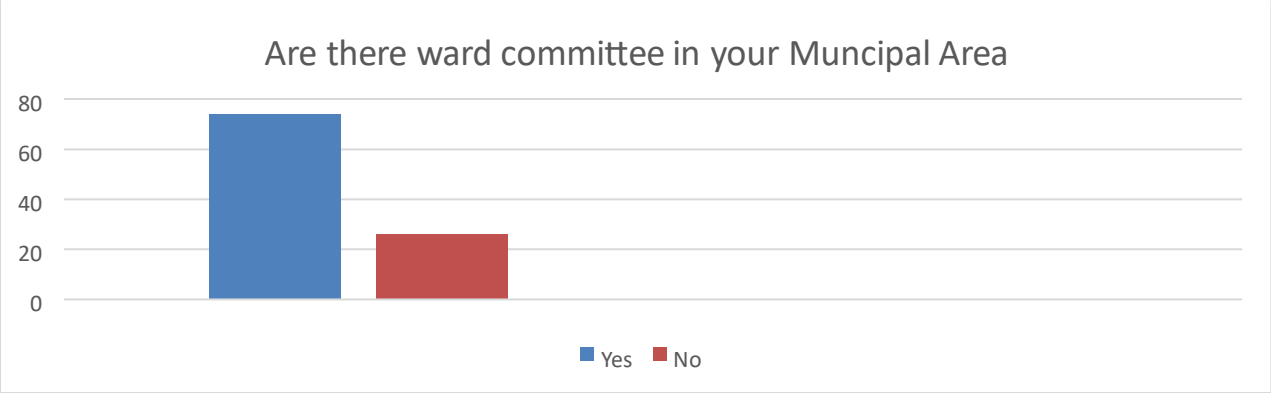
In Figure 4.5 it is noted that 61.3 percent of respondents indicated awareness of the Goa Municipality Act, while 27.4 percent stated they were not aware of it. The remaining 11.3 percent either had partial knowledge or were uncertain about the Act.

Figure 4.6: Awareness about the disposal been dump



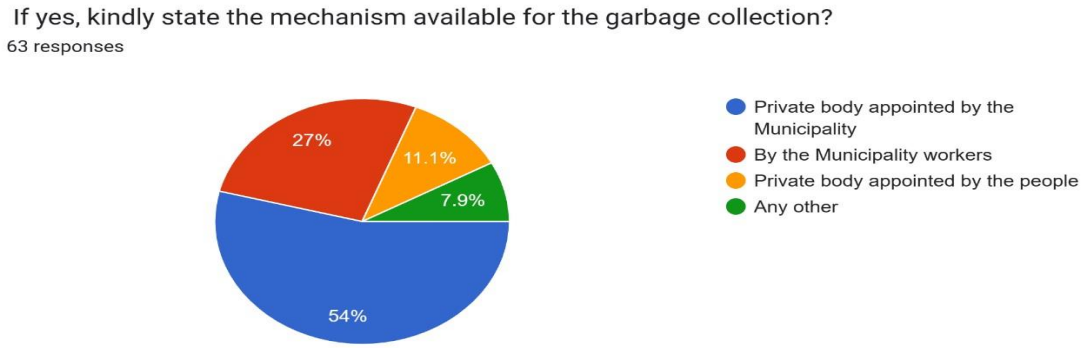
In Figure 4.6, it is noted that approximately 52.4 percent of individuals were aware of the locations where waste disposal was being dumped, while the remaining 47.6 percent unaware.

Figure 4.7: Wards Committee in Municipal Area



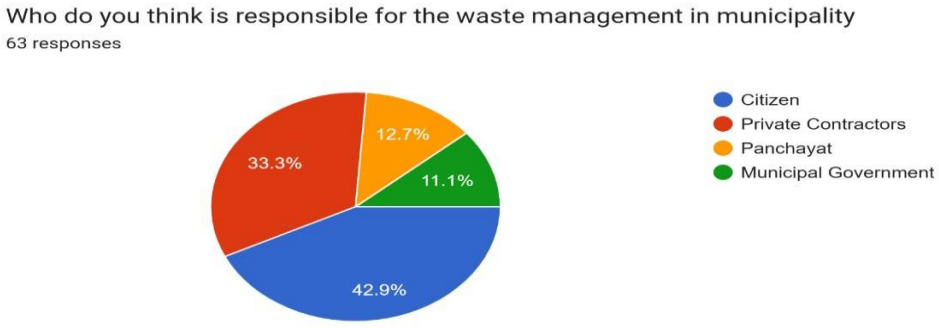
In Figure 4.7 there is a discussion about the ward committee within your municipal area, indicating that 74.2 percent of respondents were aware of the ward committee, while 25.8 percent were not aware of it.

Figure 4.8: Mechanism available for the garbage collection.



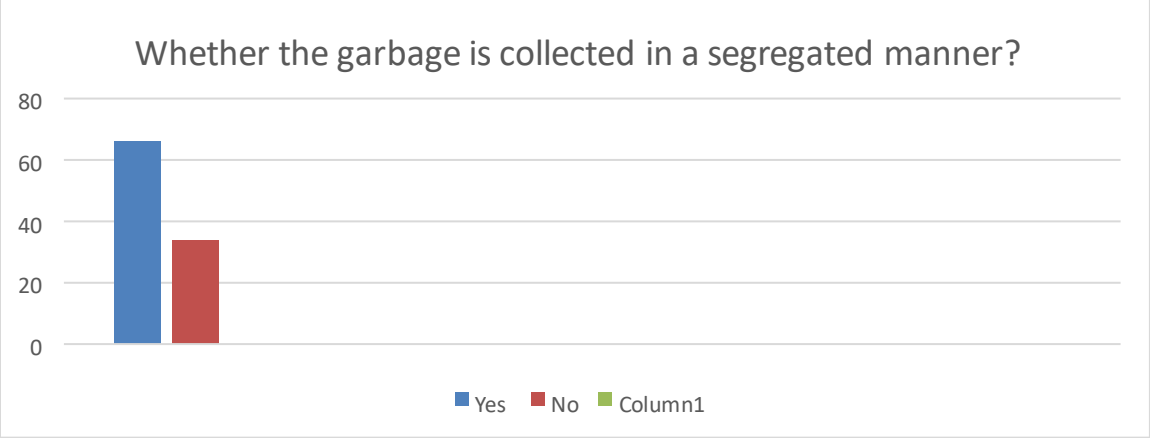
In Figure 4.8, the garbage collection mechanism is stated. 54 percent of the respondents favoured a private body appointed by the municipality, while 27 percent supported municipal workers. Additionally, 11.1 percent supported a private body appointed by the people, and 7.9 percent favoured any other method.

Figure 4.9: Responsible for the waste management in municipality



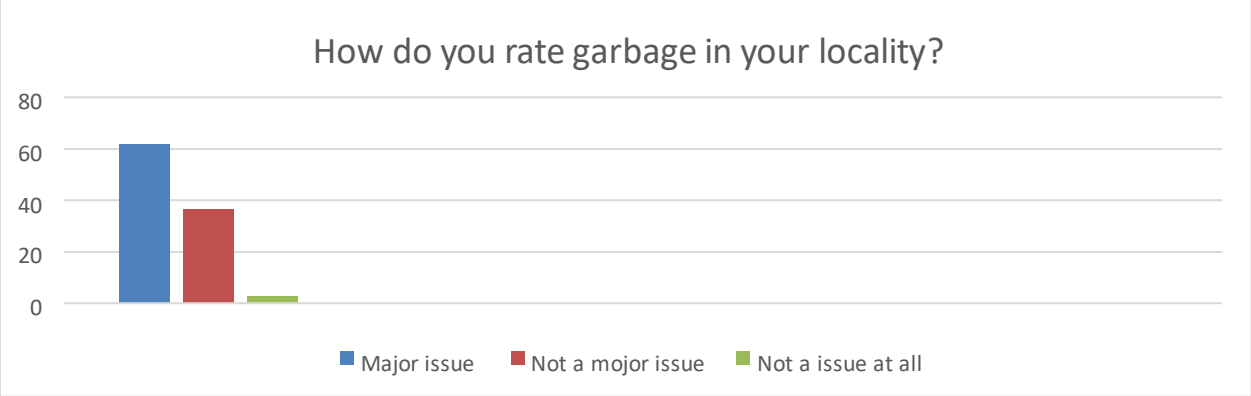
In Figure 4.9, the majority of respondents, 42.9 percent believe citizens are responsible for waste management in the municipality. Meanwhile, 33.3 percent of respondents support private contractors, 13.7 percent support the panchayat, and 11.1 percent support the municipal government for waste management.

Figure 4.10: Segregation Manner



In Figure 4.10, it is noted whether the garbage is collected in a segregated manner. The majority of respondents, 66.1 percent stated that garbage is collected in a segregated manner, while 33.9 percent of respondents stated that garbage is not collected in a segregated manner.

Figure 4.11: Rating of Garbage

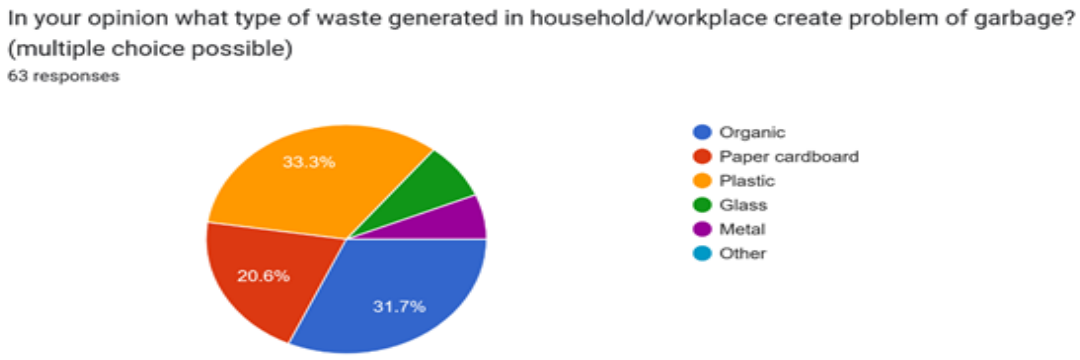


In Figure 4.11 it is noted that the majority of respondents, 61.9 percent believe that garbage is a major issue in their locality, while 36.5 percent of them feel that garbage is not a major issue.

Figure 4.12: Municipality's efforts in dealing with garbage issue.

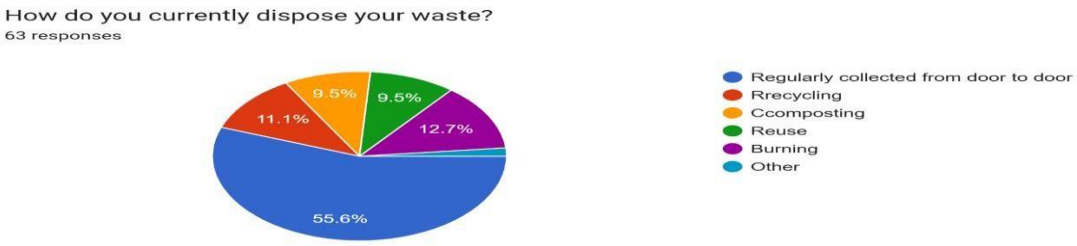
In Figure 4.12 it's noted that the majority of respondents, accounting for 44.4 percent rated their Municipality's efforts in dealing with the garbage issue as good. Less than half, specifically 30.2 percent of respondents, felt that the Municipality's efforts were fair enough regarding garbage issues. Additionally, a portion of respondents, totaling 19 percent believed that the Municipality's efforts were very good in addressing the garbage issue, while a small minority expressed dissatisfaction with the Municipality's efforts in this regard.

Figure 4.13: Type of waste generated in household/workplace



In Figure 4.13 it is stated that the type of waste produced in households and workplaces poses challenges for people. The majority of respondents, accounting for 33.3 percent, perceive plastic waste as problematic, followed by 31.7 percent who identify organic waste as an issue.

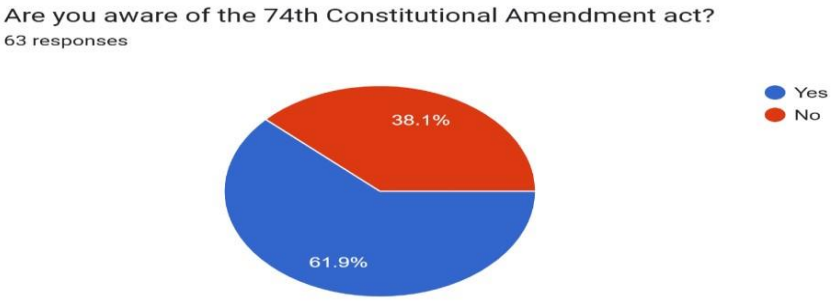
Additionally, 20.6 percent of respondents cite paper cardboard as problematic, while a minority of respondents mention glass and metal as causing problems. Figure 4.14: Disposal of waste



In Fig 4.14 mention that. Approximately 55.6 percent of respondents stated that their waste is regularly collected from their doorstep. Around 11.1 percent mentioned that waste disposal is conducted through recycling. Additionally, about 9.5 percent reported reusing waste through various methods. Meanwhile, 12.7 percent indicated that they dispose of waste by burning it. Figure 4.15: Collection of waste happening

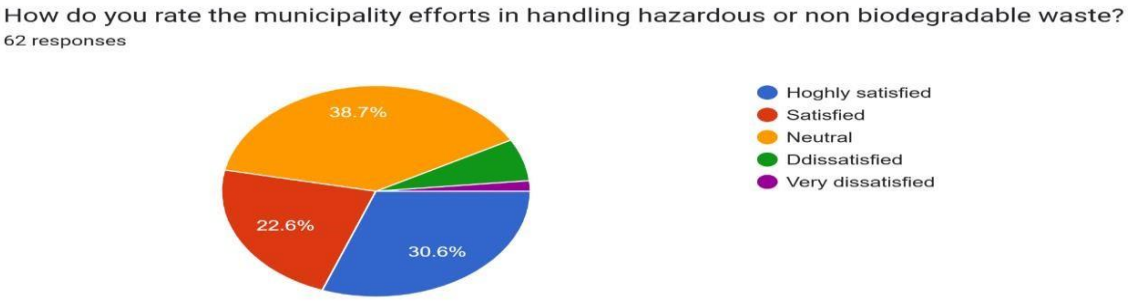
In Figure 4.15 it is noted that there is proper waste collection occurring in the Ponda area, as stated by approximately 84.1 percent of respondents. Conversely, 15.9 percent of respondents expressed dissatisfaction, indicating that waste collection in the Ponda area is not adequate.

Figure 4.16:

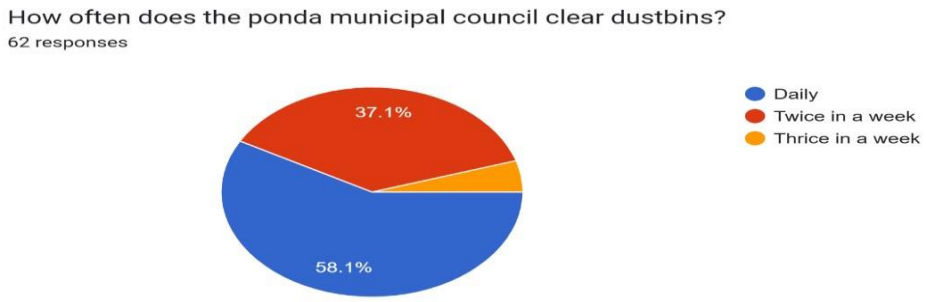


In Figure 4.16, it is noted that 61.9 percent of the respondents were aware of the 74th Constitutional Amendment Act, while 38.1 percent were unaware of it.

Figure 4.17: Rating the municipality efforts

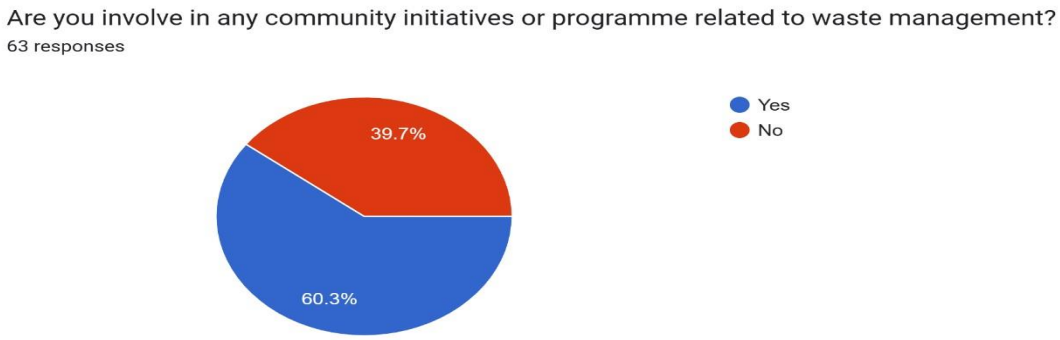


The pie chart depicted in Figure 4.17 indicates that 30.6 percent of the respondents expressed high satisfaction with the municipality, while 22.6 percent reported being satisfied. Additionally, 38.7 percent of respondents indicated varying degrees of satisfaction, while the remaining individuals expressed dissatisfaction or strong dissatisfaction with the municipality's efforts in managing hazardous or non-biodegradable waste. Figure 4.18: clearance of Dustbins



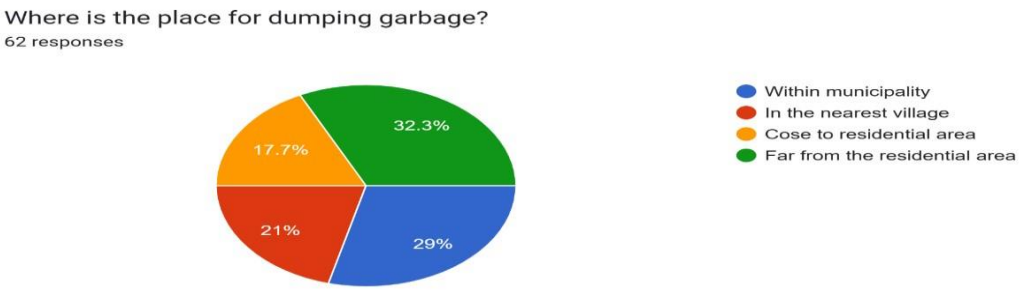
According to Figure 4.18, the Ponda Municipal Council empties the dustbins on a daily basis, twice a week, or thrice a week. The survey reveals that 58.1 percent of the residents believe the council clears the dustbins daily, 37.1 percent stated it's twice a week, while the remaining respondents indicated it's thrice a week.

Figure 4.19: Involvement of Community initiatives



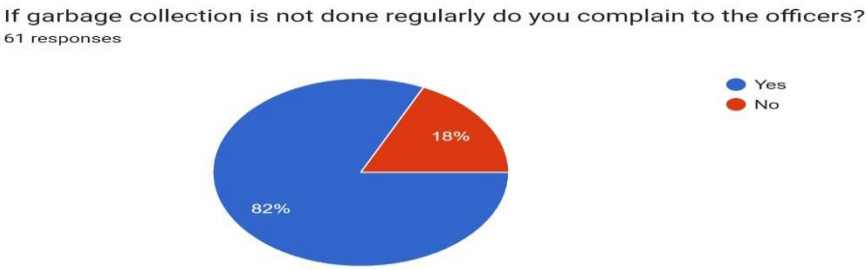
In Figure 4.19 it is noted that 60.3 percent of the individuals surveyed participated in various community initiatives or programs pertaining to waste management. Conversely, 39.7 percent stated that they were not engaged in any such activities.

Figure 4.20: Place for Dumping Garbage



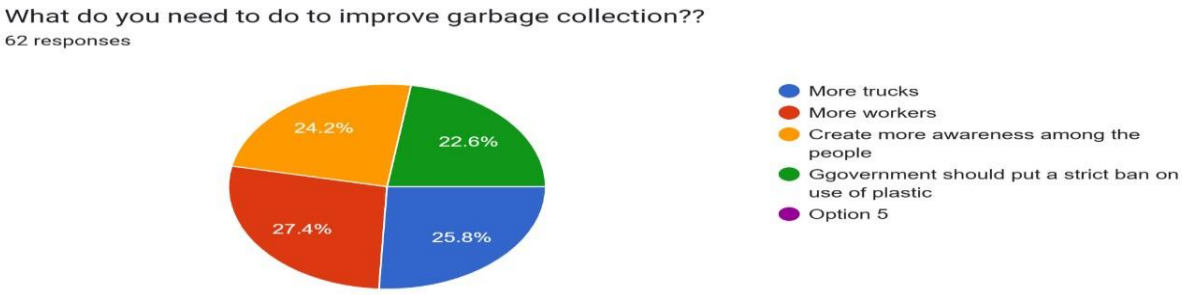
In Figure 4.20 it is noted that 29 percent of respondents indicated that garbage was disposed of within the municipality. Additionally, 21 percent stated that it was dumped in the nearest village, while 17.7 percent reported it being disposed of close to residential areas. The remaining 32.3 percent mentioned that it was far from residential areas.

Figure 4.21



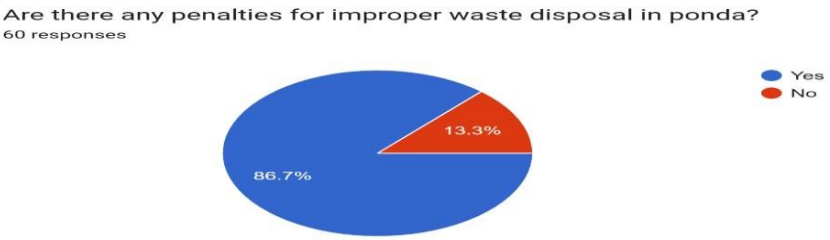
In Figure 4.21 mention about if garbage collection is not done regularly do you complain to the officers 82 percent of respondents indicated that they would lodge a complaint with authorities if garbage collection wasn't conducted regularly, while the remaining 18 percent stated they wouldn't do so.

Figure 4.22



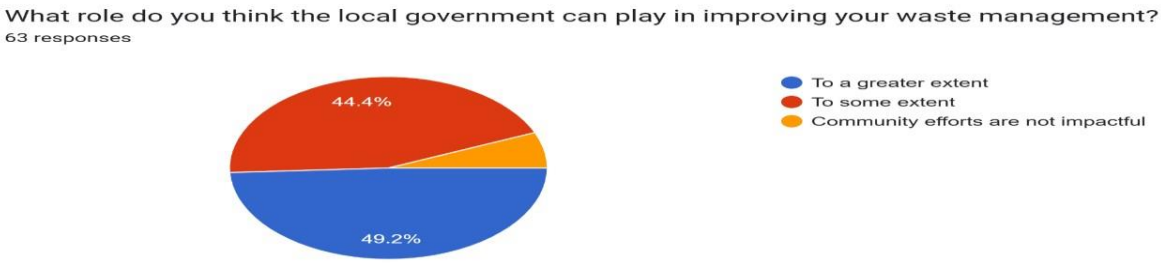
.In Figure 4.22, it is noted that improving garbage collection requires certain actions. Approximately 25.8 percent of Ponda's population emphasized the necessity for additional trucks to enhance garbage collection. Another 27.4 percent suggested an increase in the number of workers for this purpose. Moreover, 24.2 percent highlighted the importance of raising awareness among citizens to improve garbage disposal. Additionally, 22.6 percent recommended that the government implement a strict ban on plastic usage to address the issue effectively.

Figure 4.23



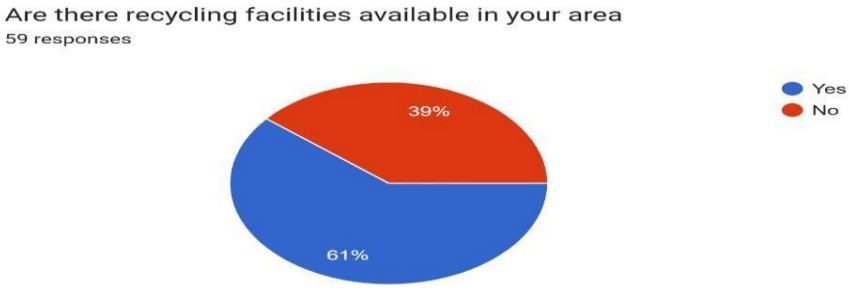
In Figure 4.23, it is noted that 86.7 percent of respondents from Ponda indicated the existence of penalties for improper waste disposal in the city. Conversely, 13.3 percent of respondents stated that there were no penalties for such actions.

Figure 4.24



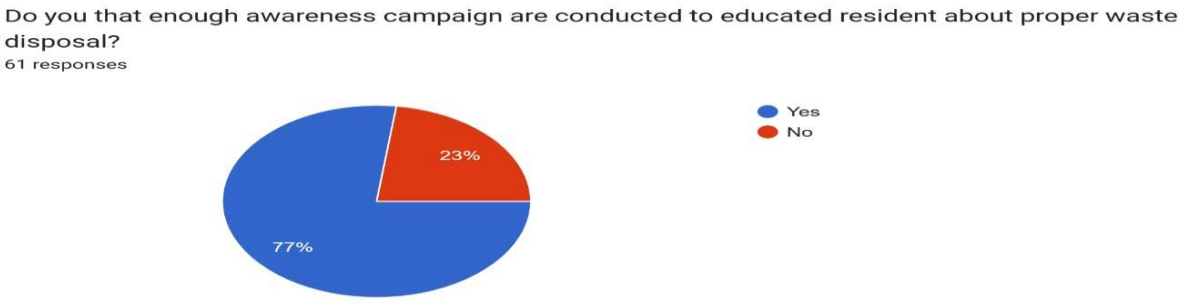
In Figure 4.24 the discussion revolves around the role that the local government can play in enhancing waste management. According to residents of Ponda, half of the population 49.2 percent believes that the local government can significantly contribute to improving waste management. A majority of respondents 44.4 percent stated that the local government can play a role in waste management to some extent. Only a small percentage of people mentioned that the efforts of the local government are not effective in managing waste.

Figure 4.25



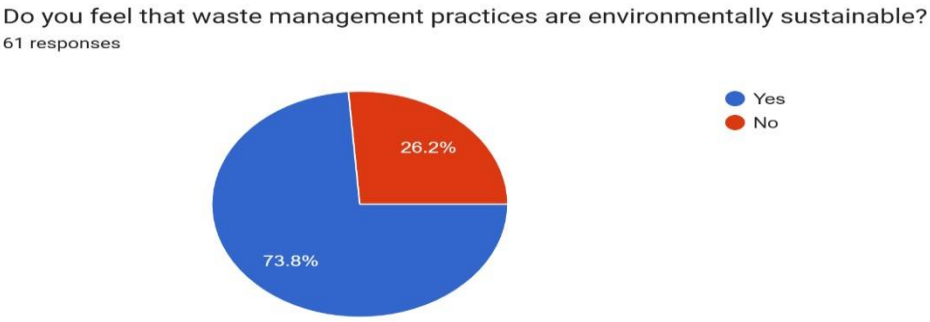
In Figure 4.25 it is mentioned that there are recycling facilities available in your area. Around 61 percent of the people from Ponda stated that they knew about these facilities, while the remaining 39 percent said they were unaware of them and believed there were no such facilities.

Figure 4.26



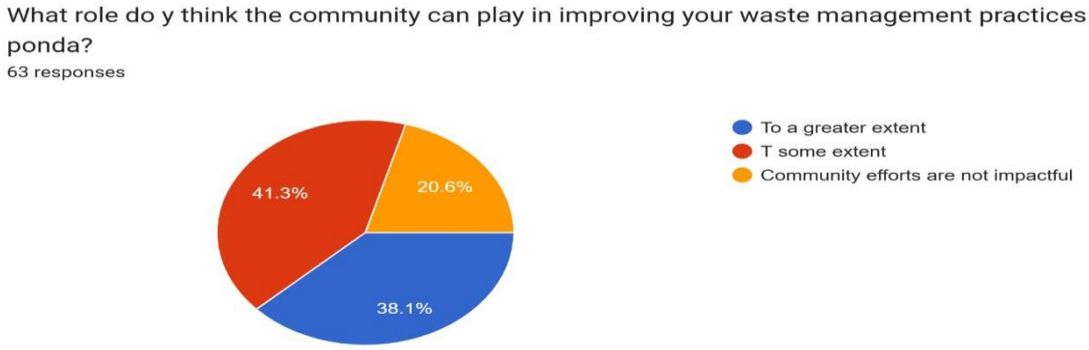
In Figure 4.26 The majority of respondents, 77 percent indicated awareness of the campaigns aimed at educating Ponda city residents about proper waste disposal. Conversely, 23 percent of the population expressed being unaware of these campaigns.

Figure 4.27



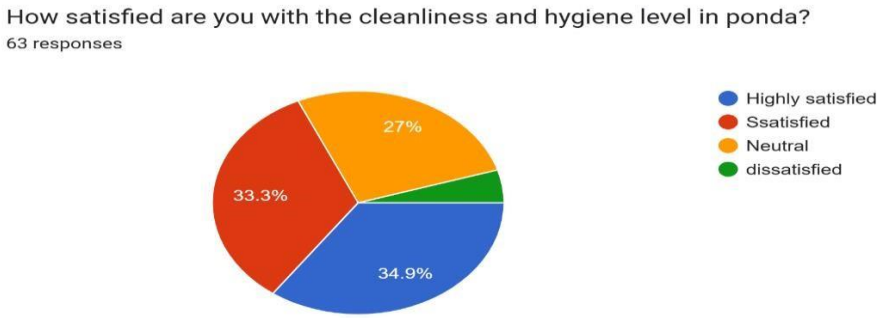
In Figure 4.27, it is noted that 73.8 percent of respondents believe that waste management practices are environmentally sustainable, which they view as positive. Conversely, 28.2 percent express doubt regarding its environmental sustainability.

Figure 4.28



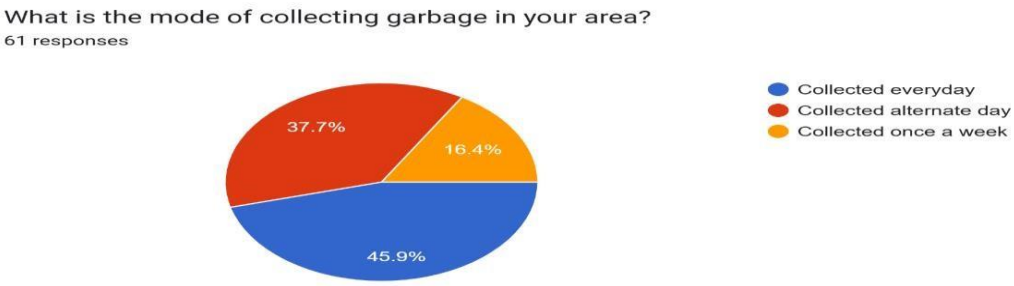
In Figure 4.28, the community has a significant role in enhancing waste management practices in Ponda. A majority of respondents, 38.1 percent, strongly support this notion. Additionally, 41.3 percent of respondents moderately support it, while 20.6 percent feel that community efforts are not very impactful.

Figure 4.29



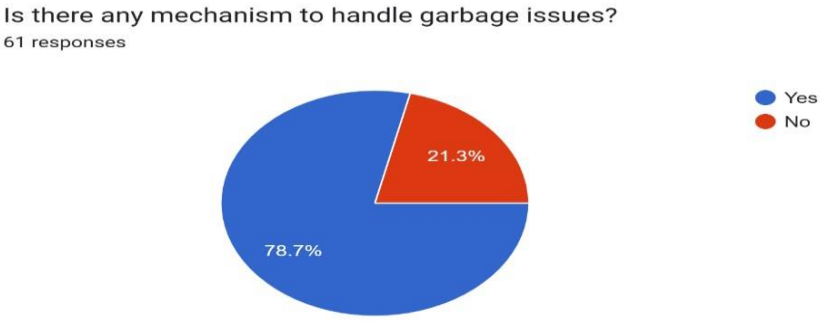
In Figure 4.29 The satisfaction with the cleanliness and hygiene level in Ponda is notable. A majority of respondent 34.9 percent reported being highly satisfied, while 33.3 percent indicated satisfaction. Additionally, 27 percent remained neutral, and minority expressed dissatisfaction. Figure

4.30



In Figure 4.30 the mode of garbage collection in the area is determined by the responses of the participants. The majority, accounting for 45.9 percent of respondents, Favor daily garbage collection. Alternatively, 38.7 percent of participants support collection every other day, while 18.4 percent advocate for a weekly collection schedule.

Figure 4.31



In Figure 4.31 indicates that there is a mechanism to address the garbage issue, with 78.7 percent of respondents supporting it, while only 21.3 percent oppose it Figure 4.32

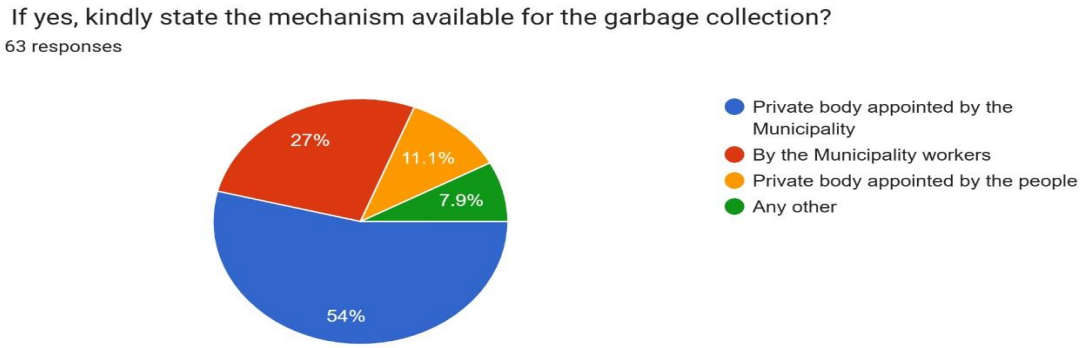


Figure 4.32, the garbage collection mechanism is stated. 54 percent of the respondents favoured a private body appointed by the municipality, while 27 percent supported municipal workers. Additionally, 11.1 percent supported a private body appointed by the people, and 7.9 percent favoured any other method.

Figure 4.33

In Figure 4.33, the majority of respondents, 42.9 percent believe citizens are responsible for waste management in the municipality. Meanwhile, 33.3 percent of respondents support private contractors, 13.7 percent support the panchayat, and 11.1 percent support the municipal government for waste management.

CHAPTER V

Conclusion

Local government in India, particularly through municipalities like Ponda Municipal Council, plays a crucial role in administering urban areas and managing solid waste. The Department of Urban Development oversees these municipalities, providing grants for essential services like solid waste management. However, the increasing urbanization poses challenges, particularly in waste management, with hazardous materials posing health and environmental risks. India has policies at various levels to address these challenges, including the Solid Waste Management Rules, Swachh Bharat Mission, and National Urban Sanitation Policy. These policies aim to improve public health and environmental quality through effective waste management system.

India's urban governance framework comprises various levels, from urban municipalities to city governments, governed by elected representatives. The decentralization of decisionmaking power has enabled municipalities to provide essential civic services, manage finances, and

promote local development. Parish Committees increase public participation, while financial mechanisms like subsidies and decentralization of funds ensure municipalities' autonomy. Additionally, accountability measures like audits and the role of District Planning Commissions contribute to effective governance and local development. Overall, India's urban governance structure aims to empower local authorities, enhance service delivery, and

foster community engagement for sustainable urban development. convey the evolution and the tumultuous but inspiring journey of India's tertiary, India's local governance has evolved significantly, particularly through institutions like Urban Local Bodies (ULBs) and Panchayati Raj Institutions (PRIs). These decentralized structures have empowered communities and played a vital role in India's journey as the world's largest democracy. Despite challenges like rapid urbanization and population growth, municipalities and local bodies continue to adapt and address the diverse needs of their citizens. With a growing emphasis on grassroots participation and female representation, India's decentralized governance model offers hope amid global democratic challenges. The Ponda Municipal Council operates with a hierarchical structure, comprising a chairman, vice chairperson, councilors, and various sections under the chief officer. The councilors are elected directly by residents in 15 wards. The chief officer holds executive powers and is responsible for executing duties conferred by the 74th Amendment Act, serving as the custodian of all council records.

The hypothesis is proved that inefficient waste management is caused by a lack of garbage disposal units in ponda municipal area and improper waste in the locality is caused by the lack of awareness about the people.

Various laws has been enacted and many provisions have been made for managing the Solid waste at Various levels from central to state and the local urban bodies. But still the problem kf solid waste management persists. Solid waste cannot be managed only with single individual participation or only by government interference,it is a broad issue and needs broad

participation of both government and the people. The problem of solid waste should be managed through collective participation. Though governments formulates and implements various policies and schemes for solid waste management it cannot be a successful process unless and until there is pubilc participantion. This is because waste is created by public through household and commercial purposes, and so there is need of public participation to cope up with the problem of solid waste management.

Major findings

There is less awareness among the people about the management of waste. People do not bother to maintain their waste.

The garbage treatment plant is functioning properly and proper functioning of the same

The worker in the municipality is being taken care by the Ponda Municipality by giving proper health care facilities.

There is no segregation at source. Only few people segregate their waste There

is lack of community participation in management of solid waste.

The system adopted for solid waste management is quite good and satisfactory.

Suggestions for waste management in Ponda

There should be people's participation for better waste management in ponda. The municipality can only implement the policies, but it is the duty and responsibility of the citizens to parctice the policies. People should segregate their waste at source itself. Besides this, while disposing their waste in dustbins,proper care should taken that they do not dispose ot outside the dustbins.

People should also be aware of status of Government facilities and complain immediately if the government facilities are not functioning properly. People should also complain to the authorities if the dustbins are overflowing or if there are no dustbins installed. There are certain instance where government cannot by themselves solve the issue and in such situations, public participation is very much necessary.

People should be educated to realise the importance of source segregation at generation points as biodegradable, and recyclable material for proper waste management

Clear guidelines relating to the kind kd storage recepacles, segregation of waste should be issued and offenders should be penalised.

All the domestic hazardous waste,electronic equipment waste should be stored in bags or sacks and should be disposed in notified safe areas.

Possibly, decentralized composting plants should be installed to reduce the load on municipalities for collection an transportation of solid waste, which subsequently culminates in reduction of pressure exerted on landfills .

The waste should be treated as resource, and formal recycling sector or industries should be developed for recycling non biodegradable recyclable component from the waste thereby providing employment to the rag pickers and absorb them in mainstream.

Manufacturing and use of non- biodegradable polythene bags should be banned and Research should be initiated to develop biodegradable polythene.

Often concentrated wastes are mingled with diluted wastes wither for treatment or disposal. The concentrated waste may be segregated from other streams of diluted waste, so that there is substantial reduction in pollution load and the diluted waste after minor treatment may be utilised for irrigation or for disposal water cources.

There sholud be street sweeping at least twice a day, so that the waste from the street do not enter the drainage. Also drainages should be cleaned in alternate days.

In order to reduce waste at dumping site, incinerator, composting units can be set up.

Both ,the government and the private sector should jointly take initiative for managing the waste.

The municipal authority should be trained in solid waste management. There should be well planned and effective training policy. Technical training should be provided at all levels that is general public to state level, which forms the backbone of successful waste management programme.

Involvement of self help group, youth groups and small entrepreneurs in solid waste management should be encouraged. A large number of self help groups are being operated in ponda , and take them into consideration to manage waste at the ward level.

The Chairperson of the Municipality being the first citizen should take initiatives for the betterment of the society.

There should be proper planning for managing the waste, and also proper planning for utilisation of resources.

Recycling should be practiced at this stage itself, so that the increasing recyclable waste do not create problems in the long run.

There should be creation of awareness among the manufacturers, entrepreneurs, people and municipal authority on the issue of solid waste .

Municipality should install dustbins at various public places like schools, college, and higher secondary. Dustbins should be provided on the kadamba bus stand of ponda where there are

no dustbins, only sweepers are engaged to sweep. If dustbins are placed , than there will be no littering of garbage.

There should be ban in plastic bags especially on the weekly market of Ponda on sunday.

Challenges faced by Ponda Municipal Council For Management of waste

In every house door to door collection of waste is being done. There is lack of people's participation. Managing the waste at source is the best option. Besides this people should be very much concerned about the garbage. They should dispose their garbage at the proper place that is the dustbins, and not outside the dustbins or in some river and barren lands. The waste is thrown in nearby vacant areas, government vacant lands, drains streets and so on, because of waste thrown on streets the environment becomes urgly and unhygienic, so even in case of regular cleaning, the market and other busy places like church compound, bus stand cannot be kept clean for more than 2-3 hours. In case if open drains passing across the roads, people throw waste and these drains are clogged, width of large drains are reduced because of continuous dumping. People generally do not take the waste to the designated points, they carry it to nearby roads, railways tracks, and open plots and so on and generally people avoid walking to the designated disposal points. And when wind blows the heap of solid waste get carried away by wind and spread in large areas and at the time of rains the problem get aggravated.

Conclusion

In order to meet the challenges of municipal waste management, there is a need of technological advancements, community awareness and implementation of good waste management practices at both central and state level. Increasing public awareness about public

health and environment is becoming a cause of concern for society. It is putting more pressure on central and state level governing bodies to find sustainable solutions to the problem of municipal waste management. There is a need to address the problem at grass root level to find lasting solutions. Current laws and regulations are unable to obtain sound environment . Providing municipal services and clean environment is the primary responsibility of urban local bodies and state authorities. The problem of waste has been seen as one of the cleaning and disposing as rubbish. But currently and future scenario reveals that waste needs to be treated holistically. Waste can be wealth which has tremendous potential not only for generating livelihoods for urban poor but can also enrich the earth through composting and recycling rather than spreading pollution. Increasing urban migration and high density of population will make waste management a different issue to handle in the long run, if a new paradigm for approaching it is not created. All research on solid waste management direct the need of private sector participation for management of solid waste.But various scholars have also highlighted the risks of private sector participation which include lack of transparency, a commercial failure that would than lead to disturbance of public service or low cooperation between stakeholders.

There has been variety of responses to the problem of waste management in Ponda. Recycling of waste is the most economically possible option available both in terms of employment gene

Waste management, including inadequate waste segregation, environmental risks from incorrect disposal, and landfill sustainability issues. The municipality generates 13 tons of municipal solid waste daily, highlighting the urgency for efficient waste management practices. Initiatives like the Swachh Bharat Mission have made strides in sanitation and hygiene, but there's still room for improvement in waste management awareness and education, especially considering the literacy rate. The proposed sewerage treatment plant offers a promising solution, aiming to treat sewage and produce environmentally-safe liquid and solid waste.

Proper waste sorting and segregation, along with community participation, are essential for sustainable waste management in Ponda.

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