



A STUDY ON SOCIO-ECONOMIC CONDITIONS OF WASTE PICKERS IN PONDICHERRY

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Abstract: Waste pickers in Puducherry represent an informal workforce that contributes significantly to urban waste management but remains largely invisible and marginalized. This article attempts to explore the socio-economic conditions, challenges, and aspirations of waste pickers, especially women, in the context of urban development and environmental sustainability. The union territory of Puducherry, like many Indian cities, faces issues related to waste accumulation and inefficient waste management systems. Despite policies and programs aimed at sustainable urban living, the contribution of informal workers such as waste pickers is rarely acknowledged. A qualitative approach was employed, with field visits and interviews, it highlights issues such as poor living conditions, social stigma, gendered exploitation, and lack of policy support. The study argues for greater institutional recognition and inclusive policies to improve their livelihoods and integrate them into formal waste management systems.

I. INTRODUCTION

The World Population Prospects (WPP) 2022 reports, India possesses a population in excess of 1.41 billion, which renders it the first country with the second largest population in the world. Despite being outstanding and significant for the progress of the country as a whole, urban growth has a ripple effect on consumption rates, which promotes waste development as well as the composition of waste. The requirement for food, shelter, and other natural assets are coming under immense pressure owing to the continual expansion of the population. (Srivastava et al, 2014). The amount of garbage generated worldwide has grown exponentially as a result of overpopulation and establishing industrialization. It is becoming realistic for people's everyday existence as a result of globalization. However, if it proceeds promptly, it will end up in disagreements that either directly or indirectly impact people's quality of life and existence. A typical issue is an upsurge in garbage attributed to growth in population. Waste created by humans is further recycled and used to mitigate any adverse impacts on human health. The total quantity of garbage released may vary by nation as a whole state, or even by surrounding area within one particular urban area. (Srivastava et al, 2014). The conception of garbage collection as a service to the public originated in the 19th century, which is wherein the governing building blocks that underlie modern public solid waste management can be traced. Municipal solid trash, in the meantime, is vital for daily existence. Food, paper, plastic, metal debris, and other stuff that are generated by people in their homes, businesses, and corporations are dumped into the environment when no longer demanded by these individuals are commonly referred to as municipal solid waste. If this garbage is not collected appropriately and metabolized, it might result in quite a few health problems. Municipal Solid Waste Management (MSWM), one of the most underestimated services that is provided by the Government of India, was established to address this problem. It entails a sufficient measure which comprises collection, transport, storage, recycling, and burial. In accordance with (Asim et al.2011), recycling has been recognized as a sustainable Municipal solid waste management strategy. The primary objective of this is to uphold housing developments clean and free from hazardous infections.

Waste pickers are imperative in rendering these actions viable. Solid Waste Management (SWM) Rules 2016, that supplanted the Municipal Solid Wastes (Management & Handling) Rules 2000, were issued by the Union Ministry of Environment, Forests, and Climate Change (MOEF & CC). This has significance in detecting and taking into account waste pickers to waste management. Garbage pickers are the visible environmentalists who play an essential function in trash recycling in India, according to the United Nations Development Programme (UNDP). For efficient oversight of plastic garbage, an informal workforce is required to be socially engaged. Scavenging individuals have been categorized into two groups: waste pickers and scavengers who solely gather trash left on the ground in public areas like parks and streets. Another group, designated as collectors, visits residences, companies, and outlets to collect trash (Y. Hayami et al. 2006). A person or group of individuals who are involved in acquiring and retrieving usable and recyclable solid trash from the initial point of waste creation is commonly referred to as a scavenger or rubbish collector. Scavengers are usually the only ones who preserve residential neighborhoods neat and free from danger. Scavengers make an important contribution to resource conservation, garbage reduction, and maintaining the environment, although their services are

frequently not valued (Asim et al. 2011), garbage pickers without frontiers, 2008). Personal Protective Equipment (PPE), notably gloves, masks, and a relevant uniform were not consistently supplied, which has culminated in significant illnesses such as asthma, cardiac issues, and other skin allergies. The waste pickers' monthly salary is not enough to subsidize their fundamental costs and provide an adequate working atmosphere. Despite this, the government keeps on enacting policies and making initiatives towards enhancing the waste management process, thereby benefiting waste pickers. Yet it is controversial if it has been successfully carried out in daily life.

The Pondicherry municipal solid waste management system is addressed in the current article. The volume of municipal solid waste emitted over the past two decades, the primary collection, storage, and transportation structures, socioeconomic backgrounds of waste collectors, that include prejudice from society, education, and health issues, the use of technologies in waste management, and policies for waste collectors are all discussed in detail.

REVIEW OF LITERATURE

SOCIO-ECONOMIC CONDITION OF WASTE PICKERS

The worldwide plastic waste challenge around the circular economy requires government coordination, technological approaches designed to improve waste management systems, cognitive innovation, and natural capital. Top-down methods, as the authors indicate in the example of waste pickers, are inadequate to address the economic circumstances and methods for subsistence of workers in developing countries. This includes organizations cooperating with one another to normalize packaging methods. In a bid to resolve the global waste dilemma, they examine the circular economy, which in addition targets strengthening the most disadvantaged workers and accomplishing sustainable development goals concerning impoverishment racial disparities, and gender inequality. (Buch, Marseille, Williams, Aggarwal, Sharma, 2021).

The article examines the relevance of waste accumulating occupation for marginalized women who reside in urban peripheral areas, emphasizing its function in their uncertain existence. The study employs a thorough strategy to comprehend the priorities and well-being experiences of the workers, considering livelihood activities that span numerous physical and social areas and connect with a variety of roles, liabilities, and constraints encountered by women. The study underlines that social norms, expectations, perspectives, and disruptions have an influence on the choices that are made by women waste pickers as well as to economic need. The authors seek to reveal the critical benefits that are intertwined with their hazardous and precarious livelihood decision-making, characteristics that come at the risk of being dismissed in rapidly advancing waste management business sectors and in political settings that frequently only pay attention to the practical. (Wittmer, 2020).

The study discusses the challenges associated with municipal solid waste management (MSWM) in India, including health and environmental concerns and the inability of urban local bodies (ULBs) to handle the large quantities of waste generated. Limited financial and institutional capabilities, inadequate funds, resources, infrastructure, and strategies for improved waste management contribute to the problem. The main challenges identified include waste segregation, door-to-door waste collection, waste treatment technologies, land resources, and scientific disposal methods. It highlights substantial aspects of the government of India's initiatives to deal with the challenges associated with waste management in the country as a whole. (Mirza, 2020)

The world's plastic waste crisis around the circular economy necessitates integrated government initiatives and technological remedies for better waste management systems, logical innovation, and natural capital. Authors demonstrate how top-down strategies, such as enhancing plastics' capacity to be recycled and organizations collaborating to streamline packaging processes, are inadequate to address the socioeconomic situations and ways to ensure the subsistence that workers face in underdeveloped nations. In order to achieve the targets for sustainable development related to inequality in society, poverty, and gender inequality, they focus on strengthening the most vulnerable employees and evaluating evidence indicating that circular economy models are crucial for addressing the global waste issue. (Buch et al, 2021).

Figueiredo addresses the socioeconomic status of scavengers in his paper Socio- economic situations of garbage pickers in Bahia and an evaluation of a workforce reorganization. Scavengers only make a meager sum that is insufficient for their basic standard of living. Despite the fact that garbage production and population growth are both increasing, it is unclear how waste pickers will be paid. Even though various standards for garbage disposal practices have been established, it still isn't effective. (Figueiredo, 2017).

Waste collectors are important for societal ecological sustainability. By analyzing data from five cities across three different continents (Belo Horizonte, Brazil; Bogota, Colombia; Pune, India), Sonia Maria Das asserts that waste pickers have recently been recognised as an important contributor to urban sustainability, environmental protection, and economic growth (Das, 2016). There are a few solutions that the author offers in the article that are relevant to the organization of waste pickers, as well as the overall assimilation of laws and policies generated by constant social stimulation and efforts to accomplish efficient administration of their administrative arrangement.

In the waste management industry of developing nations, scavengers play an essential part. According to the authors, it points out the importance of scavengers' distinct socioeconomic backgrounds, the participation of men and women, migrants, and minorities in this sector. In light of their analysis of the studies, it has been driven that scavengers are not treated accurately by the government or by society. In the opinion of (Asim, Batool, and Chaudry 2012), the primary barriers are a shortage of assets, notably funds, vehicles, and garbage management abilities. Scavengers possess deteriorating health, harassment, control, and income. The author provides a suggestion which advocates formalizing garbage pickers' employment by municipalities and companies to regulate waste.

According to a study on the socio-economic Status of waste pickers in Andhra Pradesh both genders and all age groups are assigned to the waste-picking occupation. In addition to this profession, some people engage in prostitution and drug and alcohol trafficking, this worsens their health. Due to prejudice based on class and caste, as well as a lack of education, waste pickers are forced into this line of work since they cannot pay the costs of educational institutions. People from underprivileged communities (SC, ST) are more likely to work in this field. (Resource Centre)

The author describes the processes and techniques for gathering waste, storage, and transportation. Additionally, he emphasized the many health dangers related to improper storage container use and blending dry and wet garbage in one bin. He also named a few states, like Chennai, Visakhapatnam, and Pondicherry, that use a house-to-house collection strategy. Where other states follow home to home collection, such as Guwahati, Delhi, Kolkata, etc. are used instead (Kumar et al., 2009).

The authors distinguish between waste pickers and collectors in their article, pickers are individuals who collect garbage from streets and garbage dumps, whereas collectors navigate to residences, companies, and restaurants to buy rubbish. Based on their analysis (Hayami, Dhikshit, Mishra, 2006), migrants from rural areas constitute almost all of the waste pickers and collectors. Thus, they are considered to be inhabitants of chronic poverty because their earnings are inadequate to satisfy their basic requirements, which means they are denied the opportunity to make it to the level of collectors. In the end, it is determined that the provision of greater standard of living is what is required for health and education should be provided to waste pickers and collectors as mentioned in MDGs.

CLEAN DEVELOPMENT MECHANISM

High rates of municipal solid waste creation were caused by high population density and per capita income. In accordance with the authors' overview of the present SWM state of India, the Municipal Solid Waste Rules of 2000 ought to be strictly followed. As an outcome of the study, it promptly describes that waste segregation and waste collection constitute two SWM components requiring immediate attention. Both urban and rural areas ought to utilize SWM therapy. The government and nonprofit organizations should, especially, raise awareness for better disposal of waste as one of the main goals of the most recently revealed "Swachh Bharat Abhiyan" or "clean India Mission" (Nandan., Yadav, Baksi, Bose 2017). More innovation might come from gaining economic and decision-making support from community organizations.

The amount of solid waste is rising after growth in industrialization as a result of excessive resource consumption. By adopting a multi-methodological point of view, the management may be approached in a broader context, stated by the authors of "A Multi-dimensional approach to the Development of Regional Solid Waste Management Systems" (Adamides, Mitropoulos, Giannikos, Mitropoulos, 2017). With the use of the Soft System approach (SSM), this method involves 4 stages. Authors hence embrace the implementation of SSM and system dynamics for system development as well as evaluation in the very beginning phases of SWM with the goal to attain a feasible and sustainable ecological modernity. A bi-objective model that has been developed subsequently could potentially act as an initial basis for the establishment of more regulations pertaining to gathering and treatment technologies.

The authors focus light on the potential of the clean Development mechanism (CDM) for municipal solid waste management in India. Implementing technology to minimize pollution and enhance the production of energy is part of CDM. Contrary to open dumping and landfilling, this article highlights the necessity for CDM actions in India which utilize large- scale technologies like RDF and WTE composting. Methane may be turned into a useful product for cooking or for power production through the use of these technologies. Natural, physical, operational, regulatory, and socioeconomic limitations inhibit the authorities effectively doing their duties (Potdar, Singh, Unnikrishnan, Naik, Nimakr, 2016). Moreover, CDM projects are distributed unevenly across the country as a whole Delhi has numerous projects, being followed by India, with 22 projects, yet only a few of them are utilized in everyday situations. CDM assists in the creation of projects in terms of finances, technology, and sustainable development.

Management of solid waste is a necessity in nations that are developing as well as developed. The contributors clearly clarify the obstacles connected with handling waste as an outcome of growing populations, which also offers up opportunities. Diseases transmitted by water are caused by garbage creators who deposit their rubbish on transportation routes because the drains are clogged. Source segregation, integrated sustainable waste management systems, implementation, designing, and the 4Rs (reduce, reuse, recycle, and recover) have been stated as a component of their research. Financial, technological, social, political, educational in nature, and racial discrimination issues represent just a few of the challenges that have been addressed. If waste management fails to be done properly, it would result in composting/vermicomposting of MSW may be taken as better preference for MSW related to high nutritive value. Also, it boosts health if it isn't dealt with properly. If waste management is not managed in an appropriate manner it would lead to demand in energy and opportunities for employment. (Singh, Singh, Ismail, Srivastava, 2015).

The author investigates the ecological implications of SWM in their research, the impacts on the environment were investigated with the life cycle assessment (CCA) approach. Incineration, gasification, anaerobic digestion, bio-landfills, and composting are SWM processes. Food, yard, plastic, paper, wood and textile wastes have all been composed of MSW. Based on technological modeling which accepts an entire MSW stream, CCA has been created. From their studies, they concluded that energy recovery is the most effective for anaerobically decomposing food and yard wastes, reusing paper, wood and plastics, and igniting textile waste (Arafat, Jijakli, Ahsan, 2015). Composting, which is considered to be beneficial to the environment but fails to yield a useful item, can be utilized to produce in their natural state.

RESEARCH METHODOLOGY:

METHODOLOGY

The purpose of the study is to comprehend the social and economic situation of waste pickers. The study was conducted in Pondicherry. The study used a quantitative methodology-based descriptive research approach. It is a scientific approach to understanding who, what, and where of a problem or target group is a crucial component of successful study. It makes an effort to examine the sample strategy, data sources, and data collection equipment used for the study. The qualitative technique was chosen as the research methodology for this study because it helps the researcher comprehend how individuals see the issue and their experiences with it. Inductive qualitative research is extremely adaptable. The research study's sample frame was created by using the method of purposive sampling. We can locate responders via purposeful sampling since it allows us to do so according to predetermined criteria.

AREA OF THE STUDY

The area of the study is Pondicherry. The Municipality and the allied agencies can be used as the area of the study. The area of the study's location is chosen with consideration for the researcher's communication and travel duration.

ABOUT PONDICHERRY

Pondicherry is one of the Union territories and considered to be one of the populous tourist spots in India. The Pondicherry region's urban area would expand to approximately 155 km² (60 sq mi) of the region's total 292 km² (113 sq mi) by integrating Pondicherry and Oulgaret municipalities, moving the Pondicherry municipality into a "municipal corporation," and upgrading Villianur and Ariyankuppam commune panchayats into municipalities. According to Census 2011, Pondicherry had a population of 2,44,377. (Census of India, 2011)

STATEMENT OF THE PROBLEM

The clean environment has been maintained greatly by the waste pickers. But, the Government as well as the society ignores the contribution of waste pickers. They are not much recognized and honored with the benefits implemented by the Government. Nevertheless, there is always one particular caste who pursue this occupation which affects their whole community and their generations. There have been numerous studies in elaborating the status of waste management, challenges, economic condition of waste pickers and others which have helped and led to a study on the socio-economic condition of waste pickers.

RESEARCH OBJECTIVES AND QUESTIONS:

The research study is conducted with the following aims and objectives:

1. To understand the profile of the Waste Pickers in Pondicherry.
2. To examine the obstacles and constraints of the waste pickers faced in society and in their homes because of the waste picking occupation.
3. To explore what are the reasons behind pursuing this occupation regardless of the challenges.
4. To investigate the impact of waste picking occupation on their living status.
5. To recommend future Prospects for development of waste pickers and recommended action.

SOURCES OF DATA:

The study uses both primary and secondary sources of data to generate research findings.

- Primary sources: The primary sources of data for the study were collected through qualitative means. The data generated is reflected in the analysis. The data was obtained through in-depth interviews and direct observations.
- Secondary sources: Various sets of information regarding waste pickers have been collected from academic journals, websites, books, national and International agencies, organizations, conference papers, thesis.

RESEARCH DESIGN:

The study is conducted to examine the socio-economic condition of waste pickers, where the approach undertaken throughout was evaluative. This study in nature is descriptive research design (It is a scientific method which involves observing and describing the behavior of a subject without influencing it in any way). It uses both methods of qualitative as well as quantitative data and also where the interview was the main research tool.

TOOLS OF PRIMARY DATA COLLECTION

The following tools were employed to collect primary data; namely

- 1) In-depth interview
- 2) Direct observation

Direct observations were made regarding the respondent's actions and body language. Additionally, observations regarding the interview procedures and environments were recorded. The observations have been obtained and they are solely implemented to further improve the analysis of the results. The interviews and discussions are an essential aspect of this research undertaking. The interviews were descriptive based and open-ended questions as the basis for discussion. The researcher was able to gain insight into the respondents' points of view through their narrative. Every interview conducted face-to-face lasted at least 10 to 15 minutes

SAMPLING

Choosing the units from a population that the researcher is interested in examining is the process of sampling. The sample frame for this research study was drawn by employing the purposive sampling technique. The researcher locates responders via purposeful sampling since it allows us to do so according to predetermined criteria. A sample of 20 respondents has been chosen based on the study's requirements and the respondents' availability.

DATA ANALYSIS AND INTERPRETATION

Data gathered from the respondent have been analyzed and interpreted with the semi-structured interview. It is analyzed in accordance with the objective of the study, the profile of the respondents was analyzed and this helped in understanding the characteristics of respondents.

GENERAL CONTRIBUTION:

From 2015, work and processing of waste management has been handed over to a private agency called "Swachata Corporation". It works on a contract basis for a period of 10 years. It has been informed that it will be extended for 19 years in future. Under this, there are around 3000 individuals who work as waste pickers. Corporation has three types of vehicles for waste collection such as tricycle, auto, and compactors. Tricycle consists of 6 bins, divided as 4 bins for wet waste, 2 bins for dry waste. Approximately there are around 18 compactors. Each shift has been allotted around 60 waste pickers, with 1 supervisor in each locality for door-to-door collection. Pondicherry Municipality includes 8 zones, 42 wards, based on the population in the particular area, either tricycle or auto will be used. It has been mentioned by the chief of Swachata Corporation that per day the average amount of wastes will be around 400 ppt tonne. Landfill areas are located in Kurumampet.

OCCUPATION:

According to direct observations, individuals work on shift basis such as morning shift (6am to 2pm), afternoon shift (2pm to 10pm), night shift (10pm to 6pm). Based on the availability and time duration, interviews have been made only to morning shift waste pickers. In the morning, there is a particular place called "Kudimakkal Vasathi Maiyam" waste pickers were instructed to make their attendance every day, by putting signatures or fingerprints under their supervisor. There is a particular vehicle used to drop waste pickers whose area collection is far from this place. The collection of waste will be started around 7:15 am. It has been noticed that 90% of females work as pickers, 10% of males either work as a driver or a helper. It is necessary to wear a particular uniform designed for waste pickers provided by the corporation. Individuals take their concerned tricycle which has been kept near to the waste collecting area. Although the working time is from 6 am to 2pm, it takes around 3pm to complete their job. During waste collection, Since, people don't do segregation of wastes in their homes, it further increases work burden among waste pickers. On the salary basis, the total amount assigned for them is Rs. 6500, including extra charges and PF amount, and the actual amount is Rs. 7000. In a month, 4 days have been assigned as holidays officially by the government, salary will be deducted if the individual takes additional holidays, until then it is a medical emergency. As per the order of ex-Governor Kiran Bedi, a total amount of Rs. 7000, with holidays should be provided to the waste pickers. Perhaps, it has not been followed by the private agency even before and now. Different age groups of people work under this occupation. The age restriction for a waste picker is below 60 years. One of the females aged 60 works with a special request due to various family issues, and it has been warned by the agency that if any health issues happen to a female, they will never overtake any responsibilities. It has been informed that she will complete her job within the year 2023.

AGE GROUP OF THE RESPONDENTS

In the study, it was discovered that there were more female participants than male. A total of 20 samples, 2 females, 1 male are between the ages of 30 to 39. The number of people between the ages of 40 and 49 is next highest (9 females, 2 males). There are 5 people in the 50-59 age range, with 1 men and 4 women. There is only one female in the age range of 60 to 69. Details are shown in table

Table 1

Age of the respondents

S. NO	Age	Female	Male	Total
1	30 to 39	2	1	3
2	40 to 49	9	2	11
3	50 to 59	4	1	5
4	60 to 69	1	-	1
Total		16	4	20

Source : Primary Data 2023

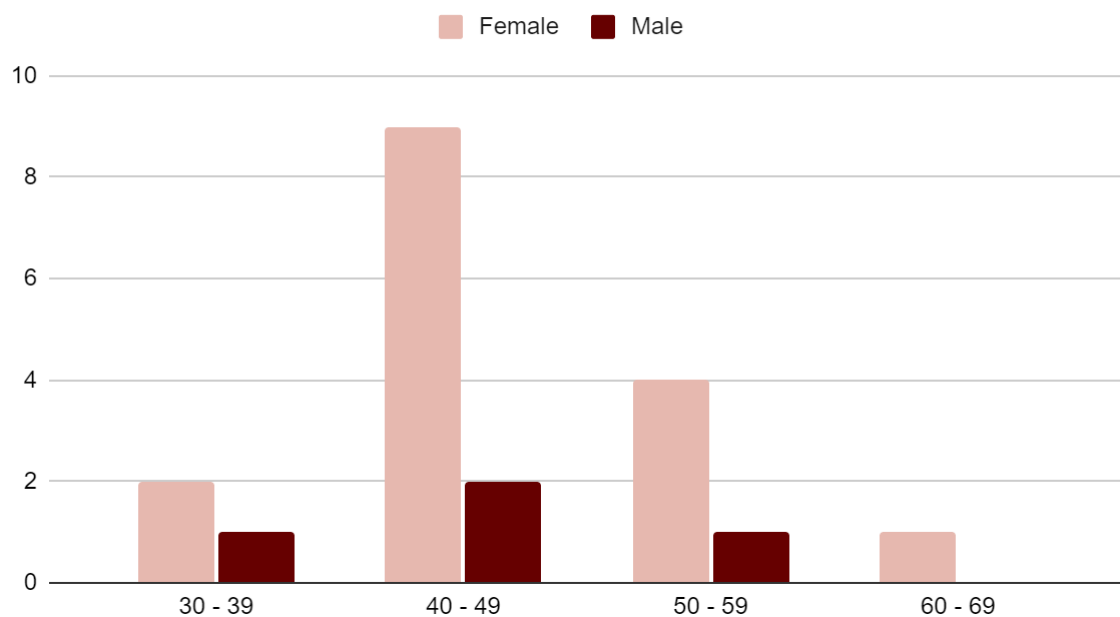
Age groups

Figure 1

Source: Primary Data 2023

The graph given above, represents the age group of the respondents. The table shows that the majority of the respondents belong to the age group of 40-49 which was around 56.3%, and the age group of 30-39 were 12.5%, 50-59 were 25% respectively. People at the age of more than 60 were the lowest at 6.3%. This clearly shows that people from the age group of 40-49 plays a vital role in the waste picking occupation.

RELIGION

The table shows that Hinduism is practiced by 15 individuals, 5 identified as Christian.

Table 2

Religion

S. NO.	Religion	No. of individuals
1	Hinduism	15
2	Christianity	5
Total		20

Source : Primary data 2023

The data are represented diagrammatically:-

Religion

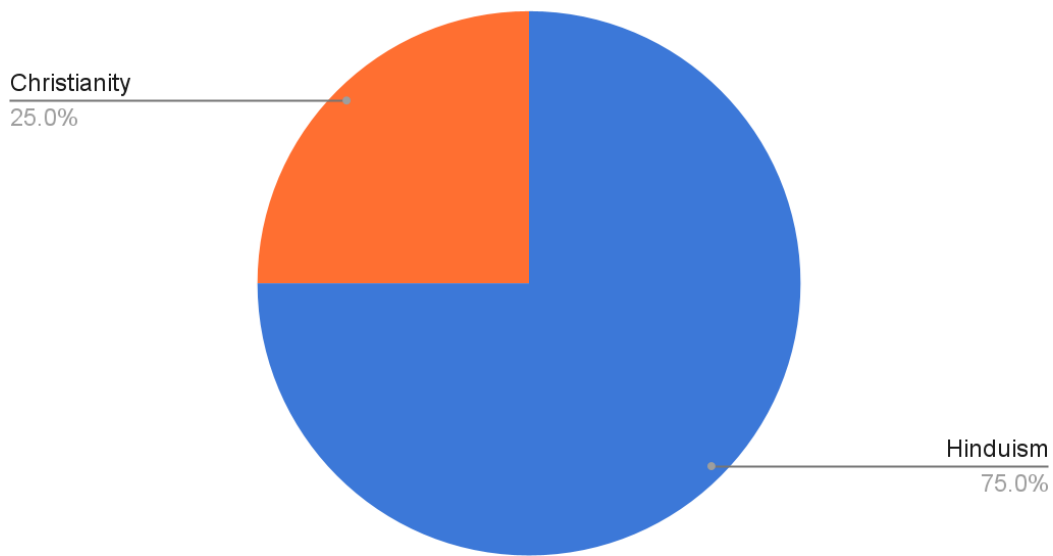


Figure 2

Source : Primary Data 2023

NATIVE WORKERS AND MIGRATED WORKERS

The table below shows number of native workers and own state workers,

Table 3

S. NO.	Migrated workers	Native workers
1	3	17

Source : Primary data 2023

Native workers and Migrated workers

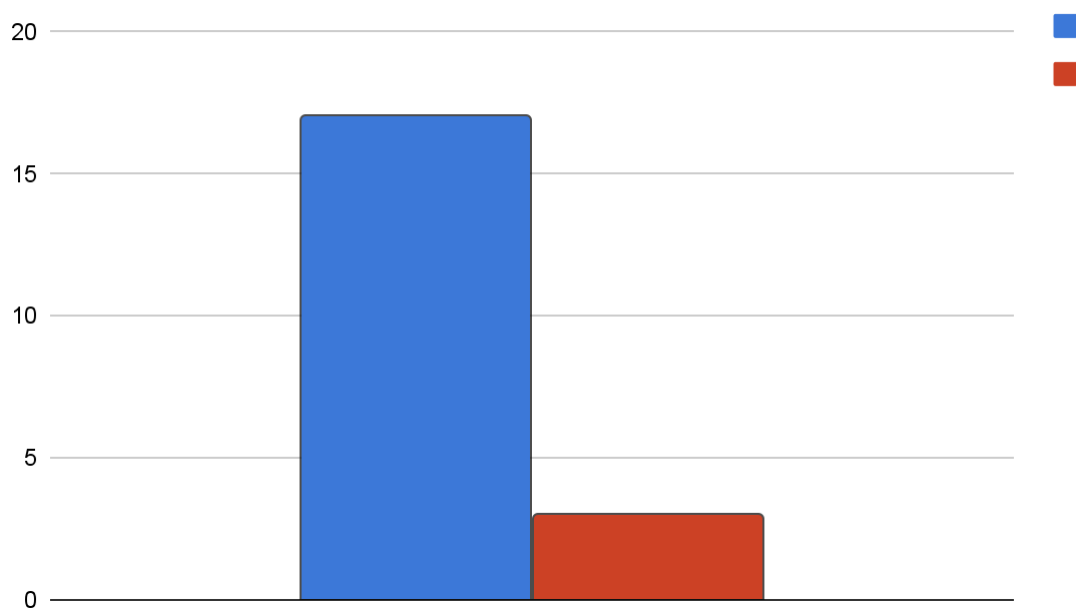


Figure 3

Source: Primary data 2023

The above table illustrates that the majority of the respondents belong to native workers were 85% and 15% belong to migrated workers.

ADDITIONAL EARNINGS:

Apart from waste picking or driver occupation, 5 females undergo tailoring, embroidery business in their house, 3 females work as a maid in her locality, 1 male works as welding laborer.

FAMILY STATUS:

Table 4

Marital Status

S. NO.	Marital Status	No. of respondents
1	Married	16
2	Separated	1
3	Widow	3

Source : Primary data 2023

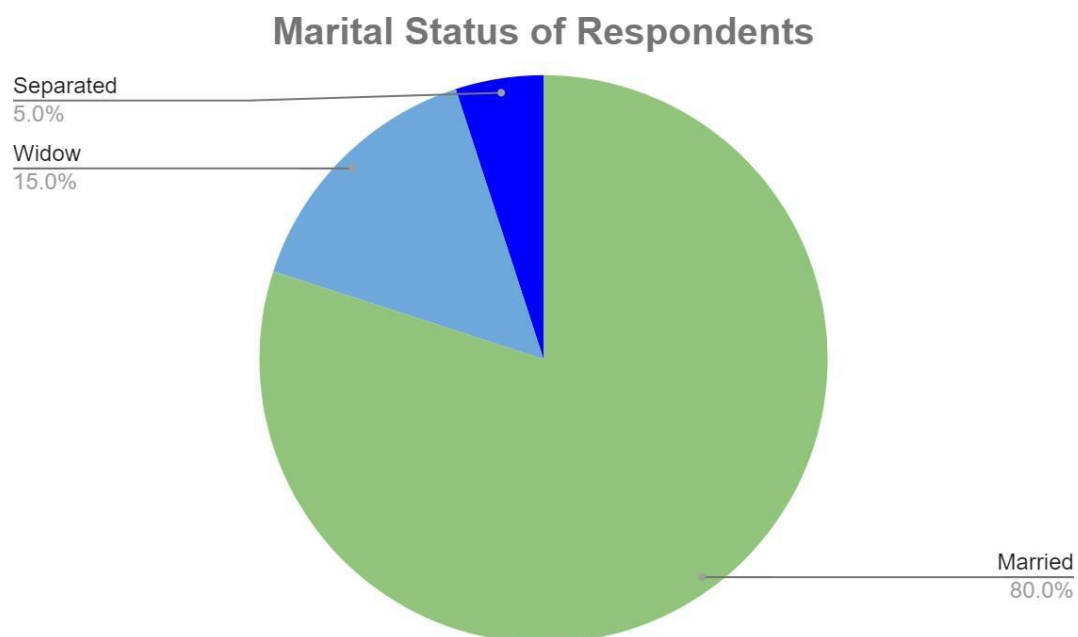


Figure 4

Source: Primary data 2023

Table 4, explains the marital status of the respondents. Total number of samples is 20 where the table depicts that 80% individuals are married, 15% are widows, 5% of which are divorced, this shows that the waste pickers are mostly married.

HOME DESIGN

As per the data, 17 families live in a cement made house, under this, 10 families reside in their own houses, 7 families in rental houses and 3 families live in a hut.

Details are shown in the below table;

Home Design

Table 5

S. NO.	Own house	Rental house	Hut	Total
1	10	7	3	20

EDUCATION

Table 6

Educational status

Educational Qualifications	No. of respondents
Lower Primary	1
Upper Primary	2
High School	2
Higher Secondary	1
Graduation/above	0
Uneducated	14

Educational Status

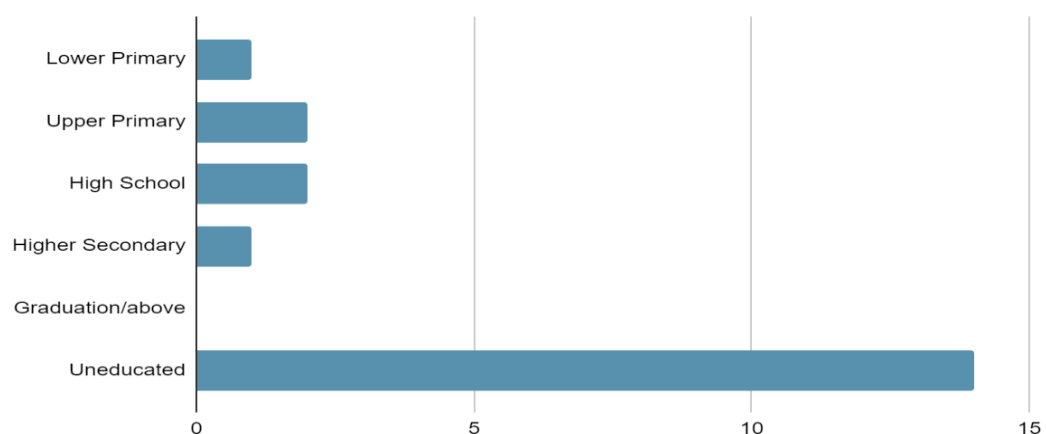


Figure 5

Table 6, highlights the educational qualifications of the respondents. Majority of the respondents are uneducated which is 70%, 5% of the respondents have completed up to lower primary, 10% have completed upper primary, 10% have completed up to high school 5% of respondents have completed up to higher secondary and 0% in graduation/above. This shows that most of the participants are illiterate, due to lack of opportunities in other fields they have chosen waste picking as their occupation.

CHILDREN OF WASTE PICKER'S EDUCATIONAL STATUS

Although the income level is low, respondents have made their children to pursue education with the maximum of higher secondary education. Some children have been dropped out from school because of the family's low financial situation and were made to send for daily wages occupation. Perhaps, certain homes may not have understood the value of education. In this case, one of the respondents, has a female child who was made to marry at the early age of 18. She stated that "Educating the boy is more necessary than the girl child. If the female child gets educated, she will not give much importance to the family, and make decisions on her own". From their perspective, they said that "parent's responsibilities should be completed as early as possible so that they can focus on the next child". On the other hand, since most of the children pursue from Government schools, they are unable to learn English. Due to this, some parents borrow money as debt and plan to get an educational loan for their future studies. After COVID-19, they are unable to afford education fees. This causes many children to drop out of school, if it is a female child they have been married to, if it is male child, they have been sent for a job.

HEALTH:

About all the observations and interviews, respondents stated that Personal Protective Equipment (PPE) like gloves, masks, and sanitizer has been provided regularly by private agencies only during the pandemic period. Gloves with less quality material which cannot be used even for a month. At present, this equipment has been provided during January 2023, it is not replaced with a new one. This causes waste pickers to get injured in their hands. One of the respondents stated that "there are only two sets of uniform which also contain less quality material, and tears after a particular period so it seems to be uncomfortable for them while collecting waste. Most of the respondents face health issues like allergy, body pain. Due to lack of basic sanitation facilities in each area, either they use paid toilets or hidden roadside areas for littering. Since most of the participants have diabetes, they always feel dizzy and dehydrated especially during the summer season. During COVID-19 period, waste pickers work as regular time, but the PPE which has been provided hasn't been changed even after 3 months. Most of the waste pickers stayed alone in a room and old age persons stayed in the outside sitting area of the house to avoid direct contact with their children.

"Due to god's grace no one has affected with COVID-19 virus even after collecting waste from the covid affected family"

The above statement was made by one of the participants. Apart from this, some households have provided half-spoiled fruits, biscuits and others which lead to diarrhea, vomit etc.

DISCRIMINATIONS IN SOCIETY:

Although literacy rate increases in society, discrimination based on caste, gender never decreases. As education gives broader mind and broader thinking some individuals still consider some castes as lower castes. This especially occurs among the workplaces, the same has been faced by the waste pickers during the collection of wastes in some houses.

Community

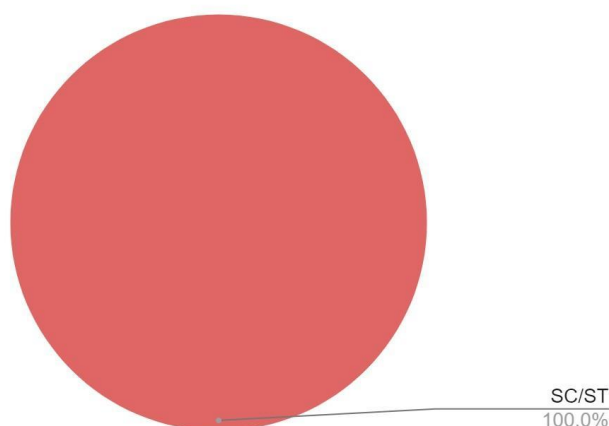


Figure 6

Source : Primary Data 2023

Approximately, most of the respondents belong to SC caste, since the society has separate myth or belief among this caste. It further increases the discrimination against them. During the door-to-door collection some people may provide tea, food only in the utensils which have been kept separately for them and they never utilize those utensils for their home needs. Even the water has been provided only in the bottle they have, separate bottle or glass. In this case, regularly after collection of waste from one particular house, they wash the place where waste pickers placed their foot in or near to the house. It has been questioned and asked the reason behind this by one of the waste pickers, "They belong to the very orthodox family and you are marginalized people" has been stated

by that household. It has been questioned by the researcher “Why do you pursue this job even after facing so many difficulties?” Since they get income regularly of (Rs. 6500) and after completing their work in morning shift it is very comfortable for them to take care of their family. All because of this they don’t want to drop this job. And so, few have stated “As we are cleaning our home, we are cleaning the environment”. Perhaps, they have worked as waste pickers, most of the companies, home resists to assign a job. So there is no way of altering this job. Few may yell, if the waste picker mistakenly touches an individual. Some people said to the waste pickers while moving to any good occasions or works, it is better if they didn’t come in front of them”, they believe that if they face them, the occasion or other works will get spoiled or never succeed.

From the perspective of a waste picker’s family, they never support this occupation. In accordance with this, this job never gains any status, prestige either among society or relatives. Some of the son/daughter marriages ceased or kept on postponing because of their parent’s occupation.

ECONOMIC CONDITION:

The transition of shift from Government to private agency in waste management affected waste pickers in a severe manner. When it has been under the government control, waste pickers are provided with various benefits such as sufficient salary with holidays, educational loans for children whose poverty level is very low. In 2015, government has handed over their responsibility to “Swachata Corporation” it has been mentioned by the waste pickers they have worked with previous private agency called “PM’s and Tactor” before 2015.

In the current scenario, the salary gained by the waste pickers is approximately Rs. 6500, if any additional holidays undergone by a waste picker salary can be deducted, but the actual salary is Rs. 7000. Apart from this, during festival period, particularly only in Diwali they receive their full salary with bonus, they will never gain any bonus in other festival period like Pongal. Since most of the families run only with a single-household salary it is not possible to satisfy their basic needs. Due to poverty some respondents may eat only once or twice in a day, just because they have to provide food to their children. Some families utilize bread as their intake for breakfast and dinner. In some families, the father's income may be spent only on alcohol and others. On the other hand, only less income has been gained by the father which doesn’t suffice for their daily needs. Also, due to absence of protective equipment various health issues arise among waste pickers. Therefore, it paves the way for high medical expenses. One of the respondents says that “their children get a fever if they are infected with some other diseases”. Nearly 7 respondents reside in rental houses. Some have planned to move either to a hut or a very small house in an outer area which is very far from the center of Pondicherry. One of the respondents stated that due to less income they have been postponing marriage for their daughter. Other than this, sufficient dowry has not been provided by the bride’s family to the groom's side. This made her other daughter stay in the home rather than living with her husband. During the pandemic period, they have not received any high salary or bonus. Also, it is very difficult for them to buy at least one smartphone for children to attend online classes. In some families, it leads children to drop from school.

SUGGESTIONS MADE BY WASTE PICKERS TOWARDS THE GOVERNMENT:

- It is better to have control of waste management under the Government.
- Tricycle which has been provided can be enlarged with additional bins for collection of wastes. Tricycles should be looked after once in two weeks; own expenses have to be spent if it struck in mid of the work.
- Since it is difficult to manage their daily needs, salary can be hiked at least to Rs.11,000.
- Three sets of uniform with good material quality can be provided if one gets damaged and the other two can be utilized.
- Basic sanitation facilities can be arranged or toilets in particular localities should be used without paying.
- Like the Tamil Nadu Government, extra benefits can be provided to waste pickers.

MAJOR FINDINGS:

The major findings and discussions of the study are given below based on analysis and interpretation of data collected from the field.

Profile of the respondents:

- The study reveals that the respondents belong to the Hindu community.
- It is intriguing to reveal that 90% of the families run on a single household salary.
- On the basis of the data collection, it was understood that 100% of individuals who work as waste pickers belong to SC/ST caste.
- It also noted that 80% of the respondents are married, 15% participants are widows and 5% are separated from the family.
- 50% of waste pickers reside in their own house, 35% live in a rental house, 15% live in a hut.

The obstacles and constraints faced by the waste pickers:

- It is proactive to note that pursuing waste picking as an occupation individuals face discrimination in society as well as in family.
- It clearly explains that due to lack of Protective Personal Equipment (PPE) they face various health issues like allergies. Nevertheless, they proceed with this occupation for more than 5 years.
- The study shows that the waste pickers face major financial problems since the salary is unstable. Due to this, they borrow debt, for their children's education or others. This further increases the burden among them. It is interesting to find **(Figureido, 2017)** explains similar findings in their study that waste pickers earn an insufficient amount which doesn't satisfy their basic needs. The salary provided to them is uncertain and not a stable one.
- It is thought provoking to note that there is not a good interaction between individuals but it was interesting to find that even in the changing times some hostile behavior regarding the discrimination through caste, community are still existing.
- It is to be noted that there is no schemes or insurance for their occupation, the only scheme which has been utilized by them is Widow Pension Scheme
- It is surprising to find that even migrated workers pursue with native workers without any issue either from the government or from the worker's side.
- It is fascinating that some individuals who have an additional skill of tailoring, embroidery try to begin a separate shop for further development in their business. On this basis, women were trying to borrow a loan from the bank.
- Since they earn insufficient salary, it is difficult to afford education fees for their children. It also shows that there is gender inequality in education.
- Private agencies which work under municipal waste management, tries to recycle the waste materials into benches, chairs which has been placed in public places like parks and in the kudimakkal Vasathi Maiyam
- Over years, it has been noted and communicated by the respondents that the waste picking occupation doesn't provide any recognized status to an individual. Discrimination occurs not only in society but also within the family and among their relatives.
- It was astonishing for the researcher to find that even though women were practicing minimal jobs where they are discriminated in the society didn't face any sexual harassment. But it was eye opening for the researcher that women face domestic violence from their spouse.
- Advanced technologies such as Web-based GIS, are not installed by private agencies for the process of waste management. Vermicomposting and composting are the basic technologies which have been practiced in the waste management system. It is also to be noted that due to lack of financial resources, and lack of government cooperation with private agencies the latest technologies haven't been installed. These were also elaborated in the studies made by **(Mirza, 2020)** where the scholar highlights the challenges faced by the government such as inadequate funds for advanced technologies, proper scientific disposal methods, and improper segregation and collection.
- Lack of segregation has been followed among homes, it further increases the waste pickers to have direct contact with wastes without any PPE.

Reasons to pursue this job regardless of the challenges:

- It is found that due to poor economic conditions, it is impossible to alter or drop the job. Even in the case of changing to another job, it is difficult to get at least a sufficient salary as in the waste picking occupation.
- It is thought provoking that waste pickers do not take any concern about discrimination. They only emphasize on their income and also the comfortability in pursuing waste picking occupation.
- In order to enhance the educational status for children, economic status of the family, marriage arrangements for their concerned son/daughter they were unable to flatten from this occupation.

- It clearly explains that income earned on a regular basis by waste pickers doesn't satisfy the basic needs for the individuals.
- If women were given various opportunities either in other companies or self-investing (tailoring, embroidery) there will be an increase in the status of economic conditions.
- Waste pickers lack access to schemes, insurance and government support for their occupation. The lack of financial resources and government cooperation hampers the adoption of advanced waste management technologies, further affecting their work environment and overall quality of life.
- It is found that due to lack of Personal Protective Equipment (PPE) and other sanitation facilities they face various health issues, which leads to spending more on medical expenses.
- Waste pickers face discrimination not only in society but also with their families and communities. It highlights that caste and community-based discrimination persist, indicating the ongoing social hurdles waste pickers encounter. This discrimination can contribute to their marginalized status, limited access to resources and restricted opportunities for social mobility.
- Despite challenges they face, some waste pickers demonstrate resilience and resourcefulness. Participants with additional skills such as tailoring embroidery try to establish separate shops for business development. Women in particular, seek loans from banks to pursue entrepreneurial endeavors, these initiatives showcase their determination to improve their economic status and living conditions.

Recommendations to future prospects for the development of waste pickers:

- Knowledge about segregation of wastes, also the contribution of waste pickers towards society, can be discussed to the public through proper awareness programs which minimizes the discrimination on them in society.
- Recognized status should be given to the waste pickers who pursue waste picking as their occupation.
- Choices on shifting careers should be encouraged so that there is freedom in selecting their job opportunities.
- Government should insist that private agencies provide PPE in good quality material to the waste pickers regularly and it should be changed after a particular period of time.
- Tricycle, compactor, auto rickshaw should be adequately maintained and should be fixed after a specific amount of time.
- Awareness should also be given to waste pickers regarding PPE also on schemes, acts to raise their voice against violence, dowry.
- Fair compensation must be offered. During the period of occasions, other than Diwali bonus can be contributed to the festival of Pongal.
- To enhance the waste pickers children's education, separate loans should be allotted with their acknowledgement.
- To further inflate the recycling process it is better to install the latest technologies in waste management.
- The additional salary which has not been handed over to waste pickers during pandemic can be compensated with the monthly salary.
- Waste pickers ought to receive their entire wage without being deducted for holidays.
- The signature place for waste pickers can be shifted to the center area of Pondicherry which can be comfortable and saves the traveling time of those who come from distant places.
- Skill development programs should be implemented especially for waste pickers to begin their own start-up.

CONCLUSION:

In conclusion, the profile of waste pickers belonging to the Hindu community reveals several challenges and obstacles they face in their occupation. Despite the discrimination they encounter both in society and within their families, waste pickers continue with this job due to poor economic conditions and a lack of alternative opportunities that provide a sufficient salary. The study highlights the financial instability of waste picking as a major problem, leading to increased debt and financial burdens among the respondents. Additionally, the absence of protective personal equipment (PPE) exposes waste pickers to health issues and medical expenses. The impact of waste picking on their living status is evident, as the income earned falls short of meeting their basic needs. Women waste pickers face domestic violence, further exacerbating their already marginalized position. Lack of access to schemes, insurance, and government support hinders their progress, and the absence of advanced waste management technologies limits their efficiency and work environment. Despite these challenges, waste pickers demonstrate resilience and resourcefulness. Some leverage additional skills, such as tailoring and embroidery, to establish separate businesses, while others seek loans to improve their economic status. However, it is essential to address the discrimination faced by waste pickers, provide them with recognized status, and create opportunities for career shifts. To promote the **Sustainable Development Goal of Decent work and Economic Growth**, several recommendations can be made. Awareness programs should be conducted to educate the public about waste segregation and the valuable contribution of waste pickers to society, aiming to reduce discrimination. Waste pickers should receive recognized status, fair compensation, and access to PPE regularly. The government should ensure the maintenance and replacement of necessary equipment, such as tricycles and auto-rickshaws. Knowledge about schemes, acts, and resources available to waste pickers, including support against violence and dowry, should be disseminated. Investing in the latest waste management technologies would enhance the recycling process and improve waste pickers' work environment. Adequate compensation, including bonuses on festive occasions, can contribute to their economic well-being. Accessible loans should be provided to support waste picker's children's education. Skill development programs and support for entrepreneurship can empower waste pickers to start their own businesses. By implementing these recommendations, we can work towards achieving **Sustainable Development Goal 8: Decent Work and Economic Growth**, ensuring that waste pickers have access to fair and dignified employment opportunities and improving their overall quality of life.

BIBLIOGRAPHY:

- Adamides, E. D., Mitropoulos P., Giamikos I., & Mitropoulos P. (2017). A Multi- methodological approach to the development of regional solid waste management systems. *The operational research society*, 60, 758-770.
- Anagal, Vaishali & Nanavate, D. B. (2014). Sustainable urban solid waste management - a case study of Pune. *Research Gate*.
- Arafat, H. A., Kenan Jijakli, & Amimul Ahsan. (2015). Environmental Performance and Energy Recovery potential of five processes for municipal solid waste treatment. *Elsevier*, 105, 233-240.
- Buch Rajesh, Marseille Alicia, Matthew Williams, Rimjhim Aggarwal, & Aparna Sharma. (2021). From Waste pickers to producers: an inclusive circular economy solution through development of cooperatives in waste management. *Sustainability*, 13.
- Dasgupta Betty, Yadav, V. L., & Mondal, M. K. (2013). Seasonal characterization and present status of municipal solid waste management in Varanasi, India. 2, 51-60.
- Dias Sonia. (2011). Integrating informal workers into selective waste collection: The case of Belo horizonte, Brazil, Weigo policy brief (urban policies). 4.
- Das, Subasish., Lee, S. H., Kumar, Pawan Kim, K. H., Lee, S. S., & Bhattacharya, S. S. (2019). Solid Waste Management: Scope and Challenges of Sustainability. *Elsevier*, 228, 658-678.
- Figueiredo, P. S. (2017). The Socioeconomic conditions of waste pickers in Bahia, and an Evaluation of a Workforce Restructuring. *Research Gate*, 11, 02 - 20.
- Gupta, N., Yadav, K. K., & Kumar, V. (2015). A review on current status of municipal waste management of India. *Elsevier*, 37, 206-217.
- Josie, Wittmer (2020). "We live and we do this work" : women waste pickers experiences of wellbeing in Ahmedabad, India. *Elsevier*.
- King, M. F., & Jutta Gutberlet. (2013). Contribution of cooperative sector recycling to greenhouse emissions reduction: a case study of ribeirao pires, Brazil. *Elsevier*, 33, 2771- 2780.
- Kumar, S., Bhattacharyya, J. K., Vaidya, A. N., Chakrabati, T., Devotta, S., & Akolkar, A. B. (2009). Assessment of Status of MSW in Metro cities.
- Mahajan Niyati. (2015). A comparative study of municipal solid waste management in India and Japan. 25, 48-61.
- Mirza Shireen. (2020). Politics of waste and social inequalities in Indian cities. *Elsevier*.

Muhammad Asim, Batool, S. A., & Chaudhry, M. N. (2012). Scavengers and their role in the recycling of waste in southwestern Lahore. *Elsevier*, 58, 152-162.

Mufeed Sharholy, Kafeel Ahmad, Gauhar Mahmood, & Trivedi, R. C. (2008). Municipal Solid Waste Management in Indian Cities: A review. *Elsevier*, 28, 459-467.

Nandan Abishek, Yadav, B. P., Baksi, Soumyadeep & Bose, Debajyoti (2017). Recent scenario of solid waste management in India. *World Scientific News*, 66, 56-74.

Sarkar. Papiya., (2003). Solid waste management in Delhi - A Social vulnerability study. 451- 464.(webpage)

Potdar, Aditee., Singh, Anju., Unnikrishnan, Seema., Naik, Neelima Naik, Mayuri & Nimkar, Indrayani., (2016). Innovation in Solid Waste Management through clean development mechanisms in India and other countries. *Elsevier*, 101, 160-169.

Patnaik, Swati & Reddy, M. V. (2010). Assessment of municipal solid waste management in Puducherry, India. *Elsevier*, 54, 512-520

Ray, M. R., Choudhury, S. R., Mukerjee, G., Roy, S., & Lahiri, T. (2005). Respiratory and General Health Impairments of workers employed in a municipal solid waste disposal at an open landfill site in Delhi. *Elsevier*, 10.1016.

Singh Satpal. (2020). Decentralized solid waste management in India: A perspective technological option. *National Institute of urban affairs*, 290-304.

Srivastava, Vaibhav Ismail, S. A., Pooja Singh, & Singh, R. P. (2015). Urban Solid Waste Management in the developing world with emphasis on India: Challenges and Opportunities. *Springer*, 14, 317-377.

Talyan, Vikash Dahiya, R. P., & Sreekrishnan, T. R. (2008). State of municipal solid waste management in Delhi: Capital of India. *elsevier*, 28, 1276-1287.