# A Study on the Awareness Status of Health Insurance Schemes: Among the Waste Collectors in Poonamallee, A Municipal Corporation in Thiruvallur District, Tamil Nadu.

Dr. J. Jesu Arul Christella.

M.A., M.Phil., B.Ed., SET. , Ph.D. , Assistant Professor of Economics, Guru Nanak College Velachery Chennai Tamil Nadu, India

## Abstract

Economic growth is fuelled in proportion to the stances of Liberalisation, Globalization and Privatization. Waste accumulation made India a "POOL OF WASTE" or Waste generation is a major problem in a city like GREATER CHENNAI. The urban population is on increase, the waste collectors and their helping hand in making capital cities clean "CLEAN INDIA" is indispensable. Growth in the number of waste pickers helps in waste management. Waste collectors are different from Rag pickers. Waste collection is a type of informal work that provides survival to large number of poverty-stricken people in India. They are exposed to toxins and the working environment also lacks protection. There is no health insurance policy exclusively for waste pickers and the available schemes are also not accessed by them. Waste Collectors from Poonamalleee municipality, Thiruvallure District, Tamil Nadu are most vulnerable socially, economically and also on health ground. Socially they are subject to harassment and sexual abuse- Health needs of these people are not met due to poor awareness and accessibility. The migrant workers are worse affected and the fruits of Government Health Insurance Schemes do not reach them. Government initiation is essential to make this Informal Waste Collecting group to enjoy the fruits of Government Health Insurance Schemes and Policy.

Key Words: Pool of Waste –Clean India –Waste Collectors – Informal Workers-Migrants- - Active Young Labour - Pasumai Thayagam - Health Issues - Health Insurance Schemes.

# Introduction

India is a highly populated country where economic growth is advocated by virtue of prevalent phenomena of Liberalisation, Globalization and Privatization. On the path of growth while Modernization, Urbanization and Industrialization play major roles the house hold sector also joins in generating waste. Waste accumulation makes India a "POOL OF WASTE". The advancement of technology is necessary for fostering pace of development. At the same time a lack of proper measure for waste disposal in cities and adjacent districts coupled with accumulation of waste makes waste management an essential task of the modern state. The reuse of waste in various forms can help better management of waste. In this process, self-employment is created and self-earned income provides a means of survival to a large number of people particularly the waste pickers and collectors. Waste generation is a major problem in the city like GREATER CHENNAI which includes three districts namely Chennai, Kancheepuram and Thiruvallure and it is acute in this industrial town. In spite of street sweeping, the roads remain dirty, spoiling the aesthetic beauty of city and town.1

Management of Municipal Solid Waste is a form of function of all Urban Local Bodies, with the launch of the flagship program by the government of India "SWACHH BHARAT MISION " in 2013 that aimed to provide basic infrastructure and service delivery with respect to sanitation facilities. Swachh Bharat Mission, National Water Mission and Waste to Wealth Mission are government of India's large scale initiation which are the measures of waste management and pollution control. As urban population is on increase the per capita waste generation tends to increase, the role of waste collectors and their helping hands in making capital cities clean "CLEAN INDIA" is indispensable.

Waste picker is one who sewages reusable materials thrown away by the people of the society and sell or reuse for personal consumption. Waste picking can be termed as "RAG PICKING" otherwise focusing on the outcome of the professional activity it can also be termed as "Informal sector recycling". Waste picking took its roots during industrialization in the 19 th century. The First World Conference termed them" WASTE PICKERS".

According to NSSO data on Rag Pickers in India, there is massive reserve of rag pickers in India. Their population forms a major part of the country, estimated between 1.5M and 4 M. They sustain themselves by collecting, sorting and segregating waste by means of trade it. And expected waste crisis is set to spiral 450M tones by 2050. Over 40 L waste pickers in India help in waste management. According to UNDP report 7 in 10 waste pickers earn less than Rs 10,000.2Their activities are unorganised and their needs are not highlighted. Though their role is critical for the waste management in India their health requirements are not met. The rag pickers start scrounging for waste material around the street and in the public places and collect the leftovers, plastic papers, bottles, wraps and so on. It is estimated that nearly 62 M tonnes of waste are generated in and around India annually. India is a country of 140 million population but waste management and disposal system is still at a debatable one.

Growth in the number of waste pickers in the modern, urbanized, industrial set up aids in waste management, better utilization of scraps more productively and protects the environment on one side and economy on the other side by creating self-employment to eradicate poverty eventually. There is a growth in the number of waste collectors in the liberalized era in the urban cities such as Greater Chennai which becomes an important issue from health and nutrients as it involves in more physical labour ,thus the present study gains momentum.

Waste collectors are different from Rag pickers otherwise known as waste pickers. They are largely demonstrated as a phenomenon especially in urban segment and urban poverty. They are also known to the society by rag picker declaimer, informal resource recovery, recycler, poacher, salvager, scavenger and waste picker. They lack safety equipments during their works. There is no space for storage of waste and the transportation issues, harassment from authorities and infection risk and so on still more cripple their lives. This study considers waste collectors who work on contract basis and the collected waste is used for land filling or incinerator, not necessarily for recycling.

According to Toxics link, the NGO in New Delhi, there are rag pickers who collect actively anything of resale value in a sack from public places, streets and waste bin. Another type of undertaken is with the help of bicycle or tri-cycle collect waste from house hold and then segregate .And another type is that of a work for scrap dealings. Waste collectors who are termed " as Waste Pickers", in the NSSO, in general collect waste such as Plastics, glass, metal and other electronic and e-waste, segregate and sell in the local market and earn for their survival. Waste pickers spend their entire time and labour in collecting, classifying and disposing it in the local market. In this process they undergo strain irrespective of whether condition hot or cold. They get affected for which there is no health security. Their income is also uncertain and no income security for this segment as it is purely informal. At this juncture their health need has to be addressed by the researchers which is the need of the hour with the multipronged agenda.

Waste collection is a type of informal work in which the workers involve in hazardous and unsafe working environment that cause health issues on the waste collectors. As Waste-collection is a kind of informal work that provides survival to large number of poverty-stricken people in India. Government is also not enforcing any hard rules on the waste collectors during the process of waste management. Waste collecting community relies on this kind of work otherwise remains openly unemployed. Those who have no other viable employment option opt for waste collection as a source of employment and livelihood. At the same time, the health related need of the waste pickers is ignored and unexplored. The most significance of this section is that it offers social and ecological benefits such as job creation, public health sanitation, self-reliance and Municipal waste management and so on. Informal sector in India is basically characterized by low productivity, indisputably and it provides survival to a large number of ignorant, illiterate and unemployed waste pickers. It is a distressed phenomenon particularly in urban domain which, gains momentum when it becomes a case of self-employed segment of the economy such as waste collectors

The glory of any nation rests upon the welfare measures that firm up the sovereignty of the citizens, the potent seeds and the initiators of progress to up build the social structure of the country. A splendid state of a democratic nation never lies in the mere, seeming spike in the structural amenities of the machine age but what promotes the potent healthy human resources to be the mighty pillars of the society on which the ideals of democracy ground deeply. In this context health is a major concern of every one currently. Health significantly contributes to the well-being and productivity of humankind. The illness, disease, accidents create suffering and financial ruin. Government takes initiative and introduces a number of new schemes on health insurance such as Pradhan Mantri Suraksha Bima, Pradhan Mantri Jan Aarogya Yojana, Rashtrya Swasthya Bima Yojana (RSBY), Awaz Health Insurance for Migrant workers, Universal Health Insurance Scheme (UHIS) which will be helpful for the people who belong to poorer segment of the society, average middle-class people and marginalized in the society in particular. These health insurance schemes play a significant role in the determination of health status of all kinds of informal workers, marginalised people in particular. The main aim behind the government health insurance schemes is to minimise the burden of financial cost on the poorer section and also to ensure access to health care and to encourage poor people access these health insurance schemes.

The main objective of health insurance schemes in India is to reach marginalised group and help them avail modern medicines and treatment. The movement of public health started during British period. Health security of the people emerges as a major issue in the absence of the same in informal sector. In view of the survival with minimum health it is worth to study the health issues and related insurance schemes, their awareness and accessibility among the workers of informal sector, waste collectors in particular. This study has thrown more light on the waste collectors of Poonamallee, a municipality in Thiruvallure district, Tamil Nadu.

The present study dwells upon the means of livelihood of waste collectors from Poonamallee a Municipal Corporation in Thiruvallure District, Tamil Nadu, who work under contract basis. These waste collectors start scavenging the waste from the assigned area from dawn to dusk and handover to the Municipality. The nature of work involves in waste collection is door-to-door collection of waste such as plastic, e-waste, etc by motor fixed four-wheeler. More over this informal work involves family labour. They generally suffer from respiratory problem, eye problems, dermatological problems, and injuries due to various hazards. Any state government taking the responsibility to ensure its citizen a minimum standard of welfare in terms of health should have concern over their health issues.

Waste collectors in Thiruvallur district carry out their routine using a motor fixed four-wheeler vehicle with which they can carry the waste, go around the assigned areas and collect waste. Such routine work involves in more labour that is physical. They need more energy and good health to meet the target every day. Failing which they will lose their income on that day which in turn affect their economic need. From health dimension they are highly exposed to infection, cuts, respiratory diseases, tuberculosis and so on. They are exposed to toxin and the working environment also lacks protection. Green force is a social impact organisation that works with waste collectors to ensure a life with dignity. Despite their Socio-economic and health deprivation they help the society by their tireless services.

Health Insurance schemes are necessary in India as many cannot afford the treatment in private hospitals. The share of casual employment has increased marginally out of the total informal workforce. More than 90 percent of work force in India depends on informal sector either self-employed or casual. 50 percent of national income has been generated from this sector. Since the liberalization period, growth of informal sector in India has helped in reducing the century old unemployment problem by promoting self-employment. It has opened a new avenue to overcome the problems of unemployment and poverty. Informal type of work is unsafe for the people involved in that particularly waste collectors in close contact with hazardous working environment which is unsafe for health. Waste collecting kind of informal work provides survival to large number of people in Poonamallee a Municipal Corporation in Thiruvallur district, Tamil Nadu. This segment of informal waste collection provides means of survival to a large number of people who have no option other than to remain openly unemployed. Those who have no other viable employment option take up this work. At the same time the health related need of the waste collectors is unmet and unexplored.

# **Review of Literature**

Madhishree Sekar (2004), investigated on the inadequate municipal services, unscientific disposal system of waste, lack of civic awareness, waste management leading to unsegregated waste generation and disposal. He opined that the existence of extensive informal network is driven mainly by market forces. Functioning at subsistence level, insufficient capacity for waste processing, particularly organic waste which is abundant as there is small market for recycling waste products and poor marketing of these products are identified by this study.3

Pandian Ramanathan and Rawat (2010), observed that growing waste generation is mainly due to population growth, economic development and changing life style.4

Kumar Vekata and Rao (2013), opined that Municipal Solid Waste is collected, transported and dumped without treatment. Open dumping of garbage facilities breading of diseases, animals eat the waste and carry various diseases.5

According to Nandi (2014), the Impoverishes Rag Pickers comprise a Social group that resorts to Waste Picking for meager incomes and some merely for every day survival. Without them Waste (rubbish) would not be collected, sorted or recycled. The Rag pickers spend their days sorting the endless thrash collection, as most recyclables have been removed by other waste collectors who pick up the bags directly from the houses.6

Bhaskar Majunder & G. Rajvanshi (2017) opined that most of the rag picker's children live in dilapidated houses in the slum of Allahabad. They are illiterate helping their parents in earning through rag picking. They are self-employed. The rag picking community remains silent in the public domain for their inability to emerge as strong political entity, due to in capability to accumulate private resources and uncertain access to public resources. This study also has recommended long term measures such as rehabilitation, directed them to boarding school and so on. The rehabilitation Fund was incorporated in 2016 Act may cover the cost of education and food of the rescued and rehabilitated children.7

Indira Aiyavoo (2018), in an article on "Urban Poverty: Rag Pickers in Chennai City" has studied the Socio-Economic profile of the waste pickers including their working condition, and their health problems and expectations from the society, NGOs and SHGs and government side. This paper has attempted to portray clearly all their problems. According to this study, waste pickers are scattered by nature and extremely unorganised. Hence it is difficult to give an accurate estimate of the population of waste pickers, a rough estimate gives the number of waste pickers in Chennai as ranging between 80,000 and 10,000. Delhi, Chennai, Mumbai and Calcutta are hot spot areas of Rag pickers in India. More than 1 M population are found in the major developing cities. Urban population creates slum and paves way for the increase in the population of rag pickers in the cities.8

According to Jayaendra Sankar.P (2018), who studied "Effectiveness of Municipal Solid Waste Management in Tamil Nadu With special reference to Thiruvallure District", a rapid growth of Population and the increasing per capita income has resulted in the generation of enormous Solid Waste which poses a serious threat to human health and quality of environment as well. He also opined that the public is irresponsible for disposing the waste segregated. The administrative body of Thiruvallure District is unable to solve the mounting problems of throw away and hygiene within available infrastructure facilities with added negligence. Tiruvallure District is undergoing a phase of rapid Urbanization.9

According to Sai Rohit et al (2018), Urbanisation is spreading rapidly and so Production of Waste is on increase. Waste management is a crucial issue in the current scenario to be dealt with. Accumulation of garbage has been a big menace in the cities. Often one can witness the pictures of garbage piling up. Therefore, waste collection and management may become a major challenge for the municipal corporation of a city. The garbage waste is collected normally by the corporation van and sometimes faced huge challenge to manage the entire city. In order to ensure a clean Chennai profile the state government objective of clean city is made mandatory and the payment for garbage collection on monthly basis along with property tax is arranged. All the owners of the commercial establishments will have to spend extra money to removing garbage from the city corporation.10

It is inferred from the previous studies that the problems of informal workers are beyond unsettled question. Rapid Urbanization, poor waste management system, clubbed with Urban Poverty are resorted to Waste collecting community for meager income. Again the health issues of waste collectors and treatment of diseases have been given an insight into the redressal mechanism through a research on the "Awareness status of health insurance schemes among the waste collectors in Poonamallee a Municipal Corporation in Thiruvallure District, Tamil Nadu".

# Need of the Study

Marginalised segments in general are unaware of the health insurance and related policies and waste collecting community in particular. Private health insurance policies have no relevance with waste collectors as they are poor and marginalised. More over they can not afford to pay private health insurance policies. Health schemes like Ayushman Bharat Yojana (ABY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), Aam Aadmi Bima Yojana(AABY), Central Government Health Scheme(CGHIS), Employment State Insurance Scheme (ESIS), Janshree Bima Yojana (JBY) are some of Government health schemes exclusively available for poorer section. However, these policies provide assurance of health for the poor and marginalized of the society.

Health insurance policy is an available solution with a robust frame work to any health related need of the masses. But many

can't afford to avail insurance policy in private companies. So, government has implemented these health schemes to provide access to the poorer people. Again awareness, availability and accessibly of health insurance policy among the marginalised community particularly Waste collectors have to be addressed. This study highlights the awareness, availability and accessibility status of government health insurance policies among the waste collecting community in the study area of Poonamallee, a municipal Corporation in Thiruvallure district, Tamil Nadu. Metro train work project is in completing stage in the study area of poonamallee in Thiruvallure district, Tamil Nadu Many investors further create way for growth and subsequent need for waste management is the need of the hour. At this juncture health issues of waste pickers are to be highlighted.

## **Statement of Problem**

Waste management is an essential task in the forefront of Development goal. Clean state and lucrative waste management on one side and health security of informal waste collators on the other side pressurise the welfare government whether it is budget friendly or socially ethical. When government takes the responsibility to clean up and revenue out of waste management, again it is a question of health of the waste collectors. There is no health insurance policy exclusively for waste pickers and the available schemes are also not accessed by them.

#### Objectives

- To study the Socio-Economic condition of the waste collectors in Poonamallee, a Municipal Corporation in Thiruvallur district, Tamil Nadu.
- To assess the health issues and the need of medical assistance among the waste collectors in Poonamallee, a Municipal Corporation in Thiruvallur district, Tamil Nadu.
- To assess the status of awareness of government health insurance schemes among waste collectors in the study area Poonamallee, a Municipal corporation in Thiruvallur district, Tamil Nadu.

## Methodology

This study is an empirical work attempted to examine the "Awareness status of health insurance schemes among the waste collectors in Poonamallee a Municipal Corporation in Thiruvallure District, Tamil Nadu". Both primary and secondary data are used to realize the objectives of this paper with some limitations. The secondary data collected are according to the need of the study. Journals, research papers, records of previous researches are some of the secondary sources used in this study.

A structured questionnaire was prepared to collect information on the demography of the respondents, family type, sources of income, monthly expenditure for health, nature of health issues and the type of health insurance policy availed by the respondents. This study has used random sampling with which 50 vehicles each comprising two respondents one male and a female from Poonamallee a Municipal Corporation in Thiruvallure District of Tamil Nadu were interviewed. Information given by the waste collectors was tabulated and a simple statistical tool was used to interpret the variables. Data presented in the tabulated form were analyzed and inferences were made. Thiruvallur district is a fastest developing district in Tamil Nadu in terms of industrial development. As there are more industries coming up, many areas have attracted people to settle in this district in large number and turned into residential area. Hence, the accumulation of waste and subsequent waste management are required in this district. This made many waste collectors to settle in Thiruvallur district. As metro train work project is in completing stage in the study area which gives impetus to many investors further create way for growth and subsequent need for waste management which is the need of the hour. Thus, Poonamallee a Municipal Corporation in Thiruvallur district is chosen as the study area.

## **Data Analysis and Interpretation**

Demographic particulars such as age, gender, and marital status, level of education, family type and size of family of waste pickers are essential variables in an empirical study of this kind. Among the sample respondents 98 percent of the respondents are below the age 30 and only 2 percent of the respondents are in the age group between 30-35. It is observed that young aged people are involved in the waste collecting work as self-employed which implies active young labor in India. Self-employment is a good sign of "ACTIVE-YOUNG-LABOUR" in India.

Gender is an essential tool to study the demographic aspect of "WASTE COLLECTORS" while researching their health status. Among the sample respondents both male and female are equally involved in waste collection in the study area. They move in a vehicle accompanied by a male and a female. Among the respondents 88 percent of them move in a vehicle as husband and wife which implies the collective responsibility of women and men in familial life.

Regarding the marital status all the respondents are married which shows the collective responsibility of partners in engaging in gainful economic activity for survival. Level of education is the root cause of involving in Waste collection. All the respondents are illiterates. Among the respondents 91 percent of them never stepped into school and 9 percent of them are school dropout at primary level. At the same time they all have an interest to make their children learned.

Regarding the type of family and size of family they live in a part of the study area Poonamallee, Tiruvallure District, Tamil Nadu as a community shoulder the responsibility of their community and depend on one another for a social cause. This is because they are migrants from other states. They either carry their young ones with them in the same vehicle or leave in their native. Among the respondents 60 percent of them carry their young ones with them without minding that the environment will affect the health of their young ones.

While researching the health status, economic conditions of waste collectors is an essential factor to be studied. From economic dimension the income of the waste collector is important which determines the health requisites. The activities of these waste collectors are systematic as they scavenge from one locality to another. By doing so they help in cleaning the street and keep the environment neat and tidy. There are more than 150 garbage cleaners under contract bases. They are provided with a motor fixed vehicle with which they go around the allotted area approach every house hold and collect the waste in segregated form. One man and a woman accompany every vehicle. Man rides the vehicle and a Woman collects the garbage. Mostly they move as pair. All

the respondents receive monthly Rs 9000 earlier it was Rs 8000 on contract basis. Beside they get tips of Rs 20, 50 or 100 from each house hold. It implies that the majority of the waste collectors receive very less amount of monthly income through this work which helps them in daily survival but insufficient to meet their other expenses especially medical needs. Each vehicle in which they travel carry a Slogan "PASUMAI THAYAGAM".

Health is an important determinant on which the thrust of this study falls. Health issues are very common among the employees of informal sector and this is more likely among waste collectors as they are closely in contact with hazardous waste. Health related issues, nature of treatment, monthly expenditure, and awareness of various health insurance programs and related policy both government and private, accessibility and difficulties involved in availing the insurance policy of waste pickers are the subjects of importance.

A very less percentage of (99 percent) Waste collectors from the sample face common health issues of lung problem, heart problem and a majority of 41 percent of the sample respondents face the health issues such as Skin disease (18 percent), eye irritation (20 percent), and ulcer (2percent). They spend a major part of their income to treat these health issues. They approach local government hospital or health center to treat their health problems. It is inferred that waste collectors are in close contact with hazardous waste, do not drink water in needed quantity, poor intake of nutrients are the reasons for the above health issues.

Regarding the status of availability and the nature of availing health insurance, 90 percent of the respondents are not aware of any health insurance schemes or policy and related information. Only 10 percent of the respondents are aware of the health insurance schemes. Those respondents have awareness also don't want to avail for the reason that they find very difficult to approach the right person and the avenue available to avail the policy is also not known to them. Again they lack permanent address as they are migrant laborers. Their permanent residential address is an essential document needed to avail the health insurance schemes. Besides, they do not want to avail any of such health schemes of government nor private. Thus, it is inferred that both government and private health insurance schemes and policies are equally ineffective among the waste collectors from the study area.

## Summary

It is observed from the above data analysis that middle aged men and women as couple in large number are involved in waste collection in the study area Poonamallee a Municipal Corporation of Thiruvallure District, Tamil Nadu. They are migrants; illiterates, with no economic background have adopted themselves in this informal waste collection activity for their survival. They earn a meagre income through this activity which is insufficient to meet their medical expenses beside other family needs.

Waste pickers from the study area Poonamallee municipality are most vulnerable raised from poverty stricken background, migrants from neighbouring State of Andhra Predeesh. Many of such families of waste collectors are living in the outskirt of Poonamallee municipality and earn a living. Both husband and wife involve in this work. They leave their children in their native place or carry them in the vehicle if they are kids. They are also exposed to the toxin and most vulnerable are their kids of the age three to ten. These waste collectors report for work 6 am and scour the road and regularly collect garbage from selected house hold. Both male and female are collectively involved in the collection of garbage from the municipal limit. They move in the vehicle afford by the municipality either as family of husband and wife or as per allotment by the supervisor. These works are beyond their ability to endure the suffering. Though they collect garbage for survival they like to live in a clean environment. They significantly contribute to prevent waste pollution by collecting, recycling and reusing materials that would otherwise end up in the environmental distortion.

They face health issues of varied kinds as exposed to hazardous waste and spend a major part of their hard earned income as medical expense. Moreover they are unaware of health schemes and policies of both private and Government though Government health schemes are exclusively functioning for marginalised group of same kind. A very few of them have little knowledge about the health schemes and policies of Government. Moreover they do not want to avail the same for the reason that could not afford to pay for the health insurance policy and also unable to access it due to strict procedures such as residential proof and so on.

The administrative body of Thiruvallure District is unable to solve the mounting problems of throw away and hygiene within available infrastructure facilities with added negligence. More over Thiruvallure District is undergoing a phase of rapid Urbanization. Again Metro rail phase IV is on the completing stage attracts many residents and investors. At this juncture the role of waste collectors is indispensible. Their contribution to the area under study Poonamallee , under Thiruvallur Municipality remains unrewarded and unacknowledged. They receive extremely low economic returns and are victims of harassment from the environment where they work and survive. On one side they live with silent hunger and poverty. They seldom save. Other side they are addicted to alcohol, illicit liquor, Tobacco and other narcotics.

It is inferred that Waste Collectors from Poonammalleee municipality, Thiruvallure District, Tamil Nadu are most vulnerable socially, economically and also on health ground. Socially they are subject to harassment and sexual abuse. Health needs of these people are not met due to poor awareness and accessibility. As they are migrant workers worse affected and the fruits of Government Health Insurance Schemes did not reach them. Thus, Government initiation is essential to make this Informal Waste Collecting group to enjoy the fruits of Government Health Insurance Schemes and Policy.

# Conclusion

This study entitled, "Awareness status of health insurance schemes among the waste collectors in Poonamallee, a Municipal Corporation in Thiruvallure District, Tamil Nadu", brings out the glimpses of ugly reality in beautiful things on the strategic approaches to nurture and strengthen the life sustainability of the waste collectors. This study explores the imperative principles of the state government in cultivating the positive work force and social commitments of the waste collectors who have big roles in creating an environment by virtue of clearing the waste and curbing the menace. The schemes of health insurance undertaken by the government must register the internal turmoil of the workers with the concern over the exploited people. The major determinants to promote a conducive work force of waste collectors are the assured periodical health check up, health insurance, social guarantee ensuring connectivity to work place and to move to better future.

# Reference

- Ahuluvalia, Kanbur and Mohanlay. "Urbanization in India challenges, Opportunities all the way forwarded", New Delhi, India, Sage Pub, 2014.
- [2] https//m.times of india.com
- [3] Maddishree Sekar."Keeping Our Cities Clean: Urban Sewage waste management in Karnataka", Journal of Social and Economic Development, Vol 6, No 2, 9July – Dec 2004, pp 159-175.
- [4] Pandian B.M.A.L., Ramanathan & M. Rawat. "MSWME in selected Metropolitan cities in India", in J. Sigh & A.L Ramanathan (eds), 'Solid Waste Management present and future challenges', New Delhi, India, 2010, pp 195-204.
- [5] Kumar J.S, S.K. Venkata and P.V.V.P Rao."Management of Municipal Solid Waste

management by Vermicomposting", A Case study of Eluru in S.A Rao (eds), 'Sustainable Solid Waste Management', Toronto, Canada, Apple Academic, 2013,pp 47-56.

- [6] Nandi J, " Capital Dumps a fortune at Landfills", TOI, April.2016.
- [7] Bhaskar Majunder & G. Rajvanshi." Migrating to Rag Picking: Unfolding some facts about child rag pickers in the city of Allahabad", UP Man Power Journal, Vol 11, No14, 2017, pp 22-41.
- [8] Indira Aiyavoo ."Urban poverty Rag Pickers in Chennai City, International referred journal of research, PESQVISA-Vol 3, Issue 2, 2018, pp 78-98..
- [9] Jayaendra Sakar.P. "Effectiveness of Municipal Solid Waste Management in Tamil Nadu with special reference to Thiruvallure District", International Review of Business and economics, 2018, ISSN 2474-5146.
- [10] TOI,24/01/2020.