

THE RAG PICKERS AND THE URBAN ECONOMY – A CASE STUDY OF SEEMAPURI REGION, DELHI

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Abstract

The race of humanity has made tremendous advancements in terms of the nature and structure of their settlements giving the race all reasons to cheer and flourish. But there lies some serious issues as well. The present human civilization is experiencing the biggest human migration of all times changing the characteristics of their living and behavior. Out of a bunch of issues that the human race is experiencing, the ever increasing rate of waste consumption is among one of the most significant and decisive one. The waste emergency of Naples, Italy is one such example that should be kept in mind by the various governments and authorities involved across the Globe. In India, this concern is even more powerful as a large section of the society is involved in rag picking after looking at the immense possibility in the rising sector. How can the solid waste management system be planned and formulated than integrating the rag pickers community into the whole system in such a situation where eliminating poverty and providing skills to the population are Indian government's key concern? How the community of rag pickers is significant in the entire concerned system? The paper will discuss the various aspects involved in it through various researches performed and policies formulated yet and also by means of collecting data from field study in the form of questionnaire survey highlighting the nature and key issues with the community collecting waste in the region of Seemapuri in Delhi, India. The final section of the paper will discuss an integrated model which can be studied and implemented as per the local prevailing conditions with a few recommendations which may increase the efficiency of the entire system of human settlements especially of those involved in this unidentified occupation.

Keywords: Solid Waste Disposal System, Rag pickers, Waste consumption, Integrated Approach. Human Urban Settlements.

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Introduction

Waste production and consumption is one of the nature's basic law around which the cycle of birth and death of different living beings revolves. The biological wastes forms a basic part of the existence of life on the planet of Earth, but humanly invented waste materials especially in the modern human civilization like plastic, industrial waste and now e-waste is changing the structure of the natural system and its functioning. With the advent of industrial revolution and then rapid advancements in the automobile industry, waste consumption per capita began increasing in an accelerated manner. Why these two factors are responsible for increasing waste consumption in a major sense? Industrial revolution has brought in the fast changes in the rate of advancements being made by the race of humanity and the machines invented after it has built in the products which were getting packed into ready-made products or other things which eventually is helping in the ever increasing waste consumption of the human settlements. The developments in the transportation industry helped in the extension of the size of the cities which increased the mobility of human beings, the human settlements began expanding and thus affecting the rate of waste consumption and the area of human interference. Globalization is itself a consequence of the advent of the industrial revolution and the advancements made in the automobile industry.

In the Indian scenario the so-called waste pickers, who come from highly vulnerable social backgrounds, play a unique role. Waste pickers, scavengers or rag pickers as they are commonly called as, bring out their living by collecting and selling recyclable materials out of municipal solid wastes in the urban counterpart of the human settlements. 'In the process they make a significant contribution to the environmental management in different metropolis over and above rendering a service to the local economy. The estimated urban growth rate has been determined at around 3.1 percent annually' (Sivaramakrishnan and Singh, 2006), however the growth of waste generation is surpassing the urban population growth in Indian cities (Singhal and Pandey 2001).

Rag picking is one of the inferior and unidentified economic activities in the urban sector, of which a larger section is contributed by children below 14 years belonging to weaker sections of the society who are involved in it either for their survival or for supplementing their family

income. These are mainly children of slum dwellers and poor people. Some of them are abandoned or runaway children.

The role played by the ragpickers/wastepickers in managing and recycling the solid waste of the region of Delhi in terms of their share as the recyclers is found to be around 20% of the total solid waste consumption of the region which constitute a number of 150,000 ragpickers approximately (Conserve India Organization). According to a United Nations Development Programme survey of 151 mayors of cities from around the world, the second most serious problem that city dwellers face (after unemployment) is insufficient solid waste disposal (UNDP 1997). According to a survey in 2007, informal sector segregated, dismantled, processed and recycled 95% of e-waste generated in the country in urban slums (GTZMAIT assessment, 2007). As 94% of Indian companies still do not have an e-waste disposal policy, this material has captured the attention of the large, existing network of the informal sector (Syed Mujtaba 2010).

Various policies have positively talked about the significance of the rag pickers in the Indian case especially since The National Environment Policy, 2006 which stated “Give legal recognition to, and strengthen the informal sector systems of collection and recycling of various materials”, but it hasn't come into implementation except in a few cases where municipal bodies have taken initiatives towards it.

Three features are typical in the waste management situation in developing cities; first, the municipalities in developing countries have insufficient means to manage the growing burden of solid waste, second, the informal sector plays an important role in recovering large quantities of solid waste at a zero cost to the public and third, despite the efforts of the formal and informal sectors, significant quantities of waste remain uncollected (Beukering, Schoon and Mani, 1996). Municipal solid waste management is a costly service that consumes between twenty to fifty percent available operational budgets for municipal services, yet services no more than seventy percent of the urban inhabitants (Bartone et al., 1990). The waste material recycling is usually done through rag pickers, small time contractors and municipal bodies; the informal sector is quite significant in overall business model (Singh and Chari). And with the present rapid rate of urbanization in India it is quite an urgent call to develop a more integrated and inter-disciplinary

roadmap to cater the growing consumption and future situation. The management of solid waste is one of the challenges facing any urban area in the World (Zerbock and Candidate, 2003).

The scale of the problem is quite large for the urban areas of India with the ever increasing waste consumption per capita of its population and also with increase in dense living patterns of human settlements of present times. A balanced and more integrated approach of solid waste disposal system is needed to be formulated of which the integration of the ragpickers themselves as a part of the country's identified workforce is one such thing which will benefit the whole urban development from multiple sides if looked on from wider aspects. One, it'll raise the living standards of the community (both in terms of their identity and in terms of economic affairs) which will enhance the urban design and structure as a whole of any city with no proper management of the sector. Two, ragpickers are well skilled in segregation of the waste materials and that can be utilized in the whole process of solid waste disposal system in an effective manner, for instance – their methods of segregating the waste material is one such useful one. Three, problems of future slum like condition may get less frequent if work opportunities to the poor and those living in slum conditions are given in a streamlined manner. Other beneficial aspects of it are discussed in the later part of the paper.

Site Analysis – East Delhi

The District of East - Delhi is located on the other side of River Yamuna or in the Trans-Yamuna area. It is bounded by the border of Uttar Pradesh comprising of Noida and Ghaziabad. It has an elevation of 239 mtrs above sea level. The Planning Zone-E (as per notified by the master plan of Delhi) comprises of an area of 8797 Ha (Zonal Development Plan 2021, East Delhi).

This Zone has been developing since pre independence era and through the MPD-1962, MPD 2001 and now MPD 2021. As such the zone has heterogeneous character where the unplanned areas and planned areas developed under the norms of various plans co-exist.

The area saw major transitions after the economic reforms of 1991 in both activities and its population. In present times, the area can be seen dominating with those who migrated from the states of Uttar Pradesh and Bihar who found it easy and accessible then in the early 90's. Those

who weren't able to find any employment or due to some other reasons got some vacant lands and started living in '*Jhuggi Jhopris*' or squatter settlements. Many find their living in the freely available option of ragpicking and hence they are in huge numbers actively working in this part of Delhi with ragpickers also coming from the boundaries of Uttar Pradesh as well who finds it easy to collect the waste product in this one of most densest urban spaces of the country. The site chosen for conducting the survey was the sub-region of Seemapuri and area within its boundary.



Image 1. – A Waste Collection Site in a residential zone.



Image 2. – A teenager burning the waste material for segregating the waste material.

From old women to young children, ragpicking is attractive for those who are left isolated in the process of human development somehow and in the absence of other employment opportunities; it is found to be an activity with an easy entrance with no security guards. While surveying the site, various methods of collection of waste material and their segregation were found; this can be termed as a skill attached to the community. A long iron rod with a magnet attached to it is one such technique to collect the all the metals from the roads, marketplaces, etc, or the collection point sources. The teenager burning the waste material in Image 2, is another such example to segregate the metallic content from the waste material. This method produces a lot of smoke and other toxic pollutants however and if the community is integrated with the whole process, then they can be trained to avoid such methods of segregation. One such occurrence of a truck nearly left blasted with an outcome of such activity when the ragpickers left the fire burning after their work got finished and the fire got active then in the whole waste collection site. Trucks were standing in line aside it and one truck's type was blasted when police came on the scene. Some people were found only interested in collecting plastic and they had huge bags on their shoulders to carry the collected material.



Image 3. A waste collection site on a vacant plot in a residential zone.

Many sites were found within the residential zones on some vacant plots which has eventually degraded the life of the inhabitants of the zone as well. In the absence of proper attention, such instances are commonly seen in Indian cities. There was a school in its close proximity and few children from the weaker section from the same school were found to be engaged in ragpicking for part time of around 1-2 hours to meet their daily expenses. This is not the good signs as the youth is the future of any society. Many of them due to lack of proper attention given to them by their parents and family and also the public bodies are found addicted of drugs and other things which eventually is a matter of serious concern for the government. Image 4 below is a picture of such two children who does ragpicking to meet their daily expenses for whom a daily collection of worth 20-30 Rupees is pretty sufficient for collecting the waste material for couple of hours.

While performing the survey, another instance of a drug addict is worth mentioning. It was 19 year old guy, while questioning when he was asked the question ‘ does he do anything besides ragpicking as well?’ He was quick in his reply then that he also is an addict of drugs and injections which are prepared in chemical laboratories and are pretty harmful not for the same person but also for his generations to come. He then told his story of getting the addiction which made it clear that if he would have given some work or education opportunity, then he may not have got addicted for it. Anyhow, the above scene is just to depict the issues concerned with the lives of the ragpickers communities which are needed an urgent action in an era when the

concept of building the smart cities of future is one of the most discussed ones.



Image 4. Two school going children engaged in ragpicking to meet their daily expenses working as part-time.



Image 5. Waste collected on the road itself degrading the living conditions of the inhabitants.



Image 6. The cities of differences.

Slum conditions are pretty common in today's urban world of India. These are generally built on vacant sites and plots in the close proximity of their area of work which in most of the times is found enclosed with high standards of living in high rise buildings with different kinds of luxuries attached. These situations results into a society of superior complex and the society with an inferior complex which may eventually result in criminal or other unwanted activities. These can't just be regularized and authorized after a certain time period of their existence; rather steps which could eradicate the whole occurrence of such places should be given attention on. It also degrades the urban aesthetics and design of an urban settlement.

The life can be seen at one of its worse seeing small children working hard in the bulk of waste and rubbish and then selling them off to serve their needs or the family in general. They all had issues with their life but satisfaction also seemed to be pouring out of their eyes somehow. They have complaints but they said there's no one to hear for their voice. While performing the survey, the surveyor got aside with some real 'survival of the fittest' kind of stories usually seen on some television channel or in some movies.

Survey Analysis

Since the secondary data can't be found much for the topic related with this study, questionnaire dealing with questions related with the factors of turning in to ragpickers, their income pattern, types of waste collection, methods of segregation and collection and their role in an urban economy was prepared. Though the study was being done on individual level, the limitations to perform a survey at higher sample size were attached. The survey was performed on 120 ragpickers selected 30 each from the categories – children below 15, female ragpickers, male ragpickers (excluding children below 15) and the aged section i.e. persons above 60 years. It was performed at various sites which were in multiple successions in Seemapuri sub region of East Delhi.

Survey Analysis

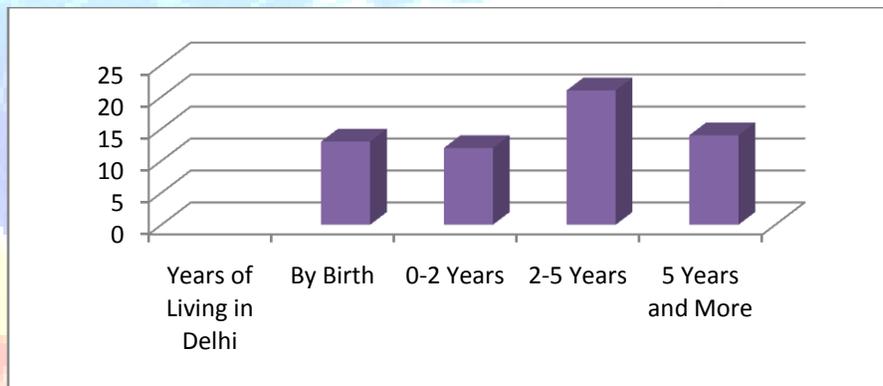


Figure 3. Column chart showing years of living in Delhi.

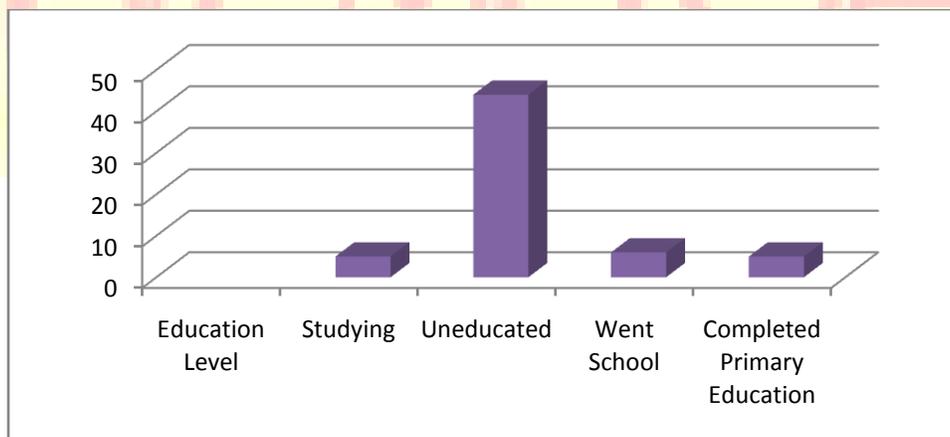


Figure 4. Column chart showing education level.

Figure 3 suggests that those involved in ragpicking, majority of them are recently migrated, most of whose families came in search of occupation and employment opportunities, but in the absence of proper meals, they were forced to enter into the free and self employment of ragpicking and collection of waste material. Figure 4 highlights the education level amongst this weaker section of the society and over 80 percent were found uneducated. A small percentage of the sample performed came from the school going children who are collecting and selling the waste material as a part-time work to attain and complete their daily needs and a very small percentage was of those who either went to the school or completed their primary education and then in the absence of credits and finances or due to any other social problems, they had to leave their education to work as an earning hand for their family.

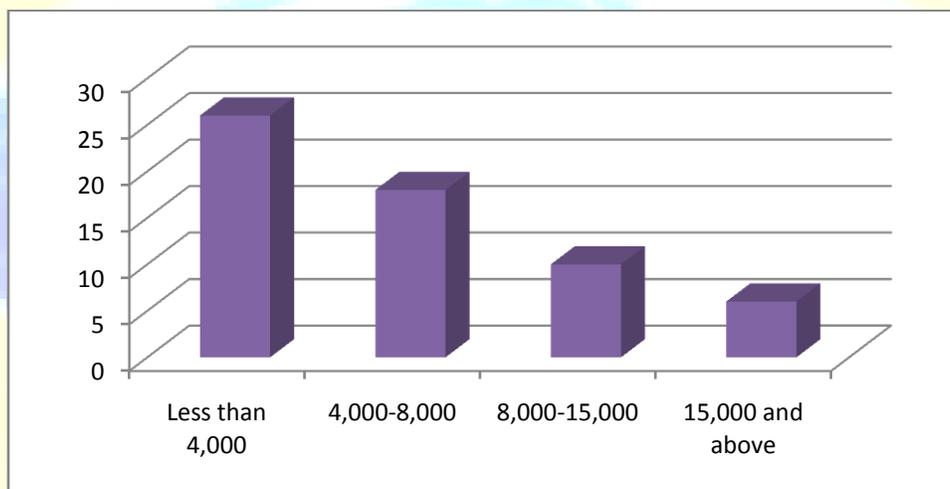


Figure 5. Column chart showing income pattern.

The income pattern of the sample collected by the survey suggests that around 50 percent of them have their monthly income of less than 4,000 Rupees as their family income and they tend to live in worst living conditions. A very small percentage has their family income of over 15,000 where more than one member is working full time in a family. Sometimes, the working hands were found to be five-six as well where the smallest working hand was about 7 years old and all the family members are involved in earning money for their livelihood.

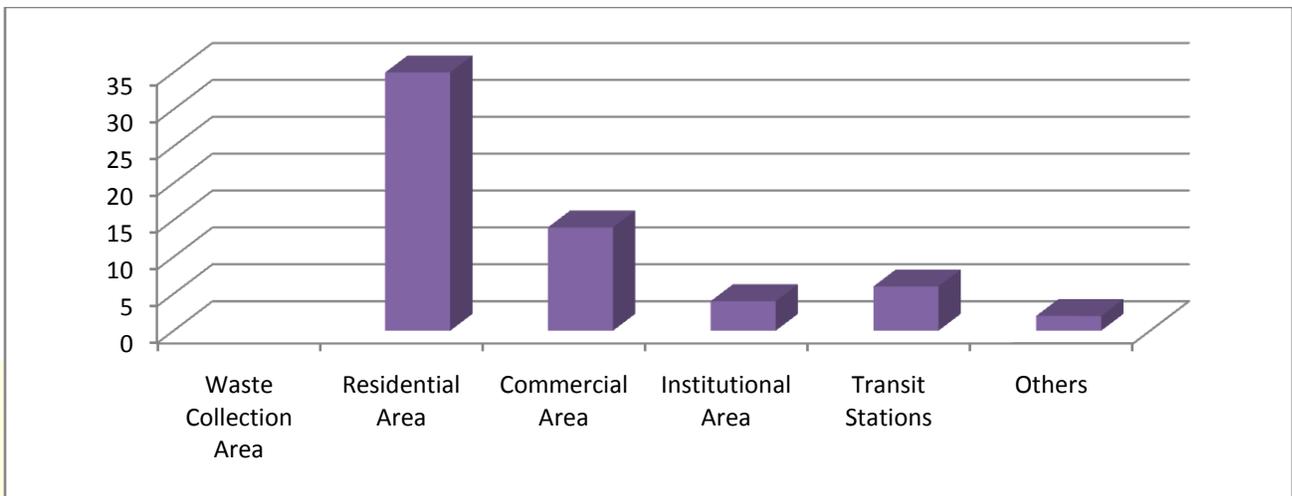


Figure 6. Column chart showing Different Waste collection areas.

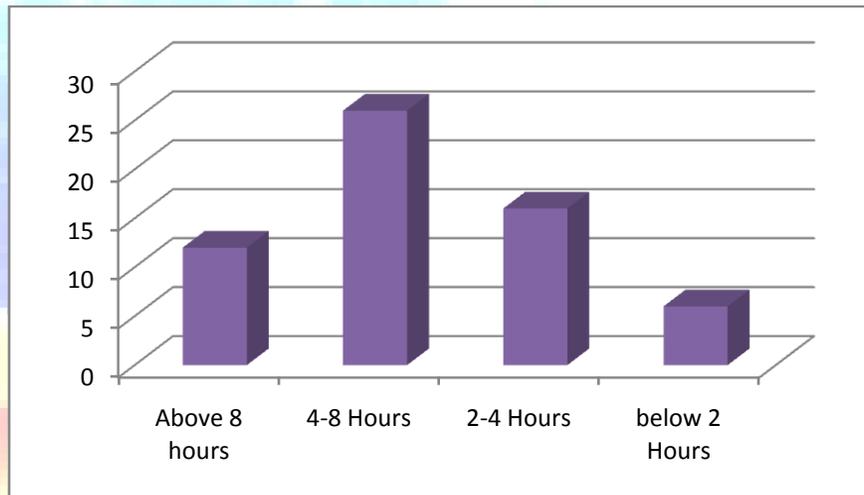


Figure 7. Column chart showing number of hours working

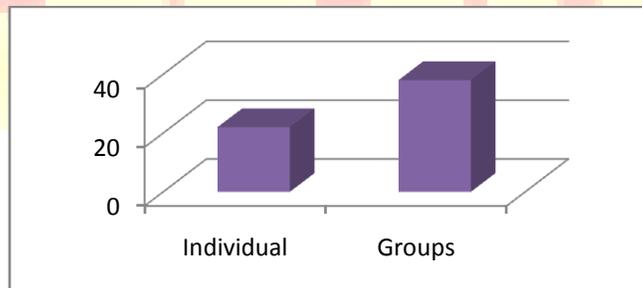


Figure 8. Column chart showing mode of collection of waste material.

The favourite areas for the ragpickers were found from such collection points in the residential zones itself where the middle class or higher middle class throw things which were considered unfit for usage by them but holds an economic opportunities for the ragpickers to make money out of it. It was found that on festive seasons like Diwali and Eid, when various rituals and customs are performed by different sections of the society are the bet time to pick the waste material and earn some good amount of money. Metals like Bronze and Brass is found after festivals like Diwali which sells at a relatively bigger amount than its counterparts. Figure 7 suggests the general waste collection areas looked for picking and collecting the waste material and residential and commercial activities holds the majority's choice.

Since ragpicking is also a kind of employment activity for the weaker sections which also holds economic and social well being of the society in general, the amount of time spent per day on an average by the ragpickers to meet their daily requirements varies with the nature of responsibility and nature of work involved. However, it was found and is depicted in Figure 8 that above 40 percent of them are involved in the activity in time ranging from 4 hours to 8 hours with an average of 4-6 hours daily workforce included. Over 20 percent of the section of population surveyed did it for their entire day for over eight hours as it being the main source of putting the meals of the day for their family and hence they have to work hard throughout the day to meet their family's daily requirements. A small percentage of people also are engaged in it for part time basis to give an extra hand or support for their other mode of earning income in their free or extra hours. Figure 10 suggests that around 80 percent are engaged in ragpicking as their full time employment activity with no other activity supporting as the means for livelihood. Just over 20 percent are those who have took ragpicking as a part time activity owing to different reasons like insufficient family support or lack of finances to put daily requirements and hence they have to look for other easily available options like ragpicking.

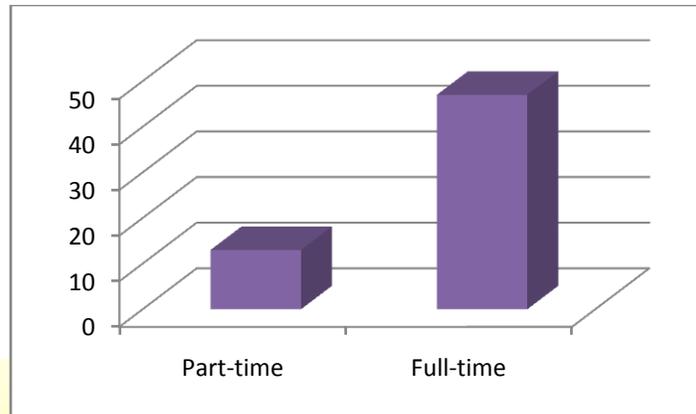


Figure 09. Column chart showing nature of work involved.

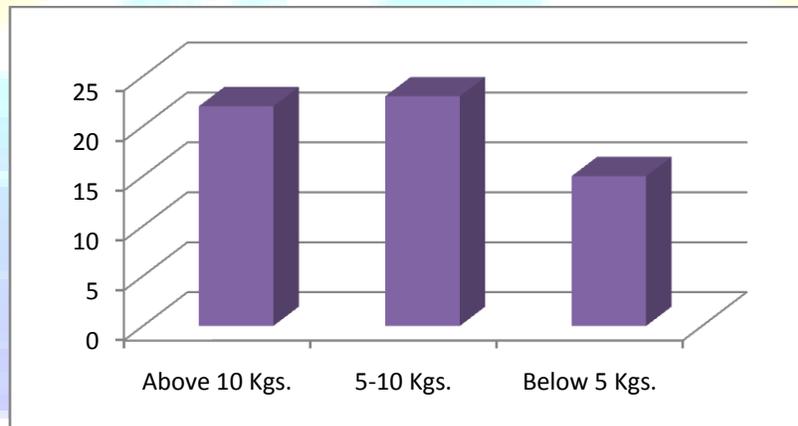


Figure 10. Column chart showing waste collected per day in kgs.

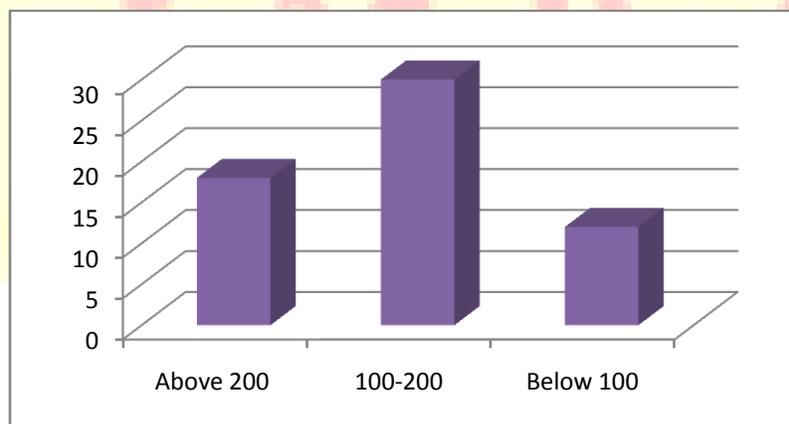


Figure 11. Column chart showing average daily collection worth in Rupees.

The amount of waste collected on an average per day is shown in Figure 11 which suggests that a single ragpicker generally collects over 5 kgs. per day on an average with over 40 percent of them collecting over 10 kgs. per day. For those interested in metallic components generally carries small bags or polythenes, etc, while those interested in plastic and polythene scrap material holds big bags in the form of cement bags stitched one after another sometimes. They sometimes sell it more than once i.e. they collect a specific amount of material and sell it to the 'kabadis' or the contractor and then again starts collecting the material during a single day. The daily worth collection of around 75 percent is more than 100 Rupees with around 35 percent of them are able to manage above 200 Rupees per day from their activity of ragpicking. For those working as a part time or those who dedicates less amount of time can be seen in around 25 percent of the sample surveyed.

The ragpickers are often found working in groups and are found more socially strong and active with a sense of community living for one another. Usually ragpickers can be found in groups of two or more people who make their general visit of around 7-8 kms. per day from their living place to the waste site and then from one waste site to another in the search of their desirable scrap material. Majority of them travel the distance on their foot, however a small section of women and children who comes from the boundaries of the adjoining state of Uttar Pradesh were seen travelling from the local public transport options where the fare was around 5 Rupees per trip.

The most favourite rag picking was found to be that of the metals which requires less space to collect and also gives higher returns followed by the plastic which is found in bulk and nearly in every waste site and is an easy option without much segregation activity involved in collecting plastic scrap material but it generally requires large storage to be carried alongside. No-one was found to use precautionary measures like wearing gloves or using anti-septic or any oil yet their area of work is related with inhumane conditions of working in the bulk of rubbish under their shoes. Not all have worn the shoes even and hence they are undoubtedly one of the biggest vulnerable sections of the society as far as various diseases and their occurrences are concerned. The public attitude was found non-cordial by nearly all of the respondents of the questionnaire and they remain the untouchable sections of the society even decades after the independence of the country and the formulation of the Constitution.

Proposed Model

The main work which is generally done by the municipal bodies is the establishment of waste collection sites and their management. Yet, the issue of the ragpickers is dominantly active in the developing countries; the rapid growth of urbanization in them may only worsen the situation looking at the population growth rate of them. There have been various policies formulated by the Indian government calling for an integrated approach towards the whole process of solid waste management system identifying the community of ragpickers as recyclers and a linking chain to prepare an easy and effective mode of waste collection, segregation and disposal system, but a very little has so far been conceived and implemented.

There have been few such initiatives by authorities and municipal bodies in recent past in India with the city of Pune becoming the pioneer for it. It has identified the role of the ragpickers and an integrated approach was formulated by providing them identity cards and ration cards making them eligible to take benefits of various government schemes for the weaker section of the society which were left in separation and segregation earlier. The municipal body has identified their role and methods of collection and segregation of the waste material and has prepared an Action plan. The plan included door-to-door collection of the waste material and thereby segregation of it accordingly by the ragpickers. They were to be given One Rupee per day per household and hence they have been given a chance to attain and get involved in an identified self-employment. The attempt by the city is quite a worthy step for various goods in it. Firstly, it provides a living identity for the community; secondly, they have been provided with work and paid employment and hence it will raise the living standards and pattern of them; thirdly, it'll scrap the waste segregation cost and will be done by the ragpickers themselves in their own efficient ways and methods for a major share. The city has done a tremendous job by initiating such a thing but it is needed to get framed by the Indian government or the state governments in a much more integrated manner especially in an era where urbanization is and will be the dominating factor for the coming decades and hence the increase in the waste consumption per capita.

The deeper understanding about the significance & contribution of the ragpickers in an urban economy is far more needed in India especially when per capita consumption of waste is set to rise in the coming decades with the rising level of urbanization. A business model is being

proposed here which can be followed by the concerned authorities for better functioning of its solid waste management system and also for raising the status of living for a larger section of the depressed human society. The model which is presented here is based on primary and secondary data collected, observations of an urban system and the natural system as whole, inter-disciplinary relationships of the factors involved and other things. Since the urbanization is a process not concentrated to just one small region or state, it is rather a continuous activity which can be seen in small pockets evenly distributed generally. Hence, the business model starts with the legal and institutional framework as the process may get fasten up with the government's intervention into the subject.

The following section will discuss the various aspects which need an intervention while preparing and formulating any plans for integrating the role of the ragpickers in the process of solid waste management system and economic development in general.

Legal and Institutional Framework

It has been seen that in the absence of proper institutional framework and legal clauses for the ragpickers, they are often left isolated in the whole process of human development and they are generally left seen living a degraded life. Indian Constitution has called for equality and liberty for citizens of the country, but the government's interventions in this dynamically active world of economic development has failed to give its direction in this relation. The municipal bodies should adopt a inter-disciplinary strategy to cater the rising level waste consumption and also the increasing occurrences of slum like conditions.

The community of the ragpickers should be given a formal recognition integrating them with their available skills and methods of collecting and segregating waste material. They have been an active and important part in the chain of solid waste disposal system, but their work hasn't identified yet as a kind of employment and their status has degraded more on the negative side. Recognising their work and status of living by the government will boost up their confidence and also their efficiency and productivity. It is also significant from economic point of view as according to a study around 40 percent of a municipal's waste is collected and segregated by these ragpickers which speaks volumes in itself. If they weren't be there, then this one of the biggest challenges of a municipal body would have become far more several times a bigger

challenge and this fact should be well understood and the significance behind it should be realized in the best efficient manner.

Like the Indian government has prepared various action plans and policies for manual scavenging and open defecating, this issue is also needed to be looked and a more streamlined institutional framework is needed to get formulated and prepared in as early as possible to prepare a sustainable future for the Indian human settlements.

Health and Education Facilities

The ragpickers work in an environment which is considered inhumane sometimes by the major section of the society and they are easily affected by the occurrences of diseases and other illness. Out of not being recognized by the local body they are very often left ignored and hence affecting the economic development as a whole. Municipal activities in relation with spreading public awareness programs for the common people and initiatives like training and different other programs related with spreading awareness of health and educational facilities are needed to be carried out simultaneously if the integration process is to be made a successful and beneficial one based on long-term perspective.

Make it work on Public-Private-Community partnership

As all the work can't be managed by the government institutions and bodies, the participation of private organizations, non-government organizations and that of the community is of utmost importance in the whole process of the integration of the ragpickers to the process of solid waste management system. Proper co-ordination of the works done by the public bodies and other private companies and different NGOs should be carried out and proper division of the work should be done to meet the desirable outcomes. The inclusion of the community is also a crucial step for the overall success.

Provision of training programs

Since the skills of the ragpickers can be utilized to much extent in the process of collection and segregation of waste materials, if they are provided with some efficient training schedules may be monthly or weekly, then their efficiency and productivity can be raised to higher levels adding to the economic factors for the whole process. A separate wing for making innovations and new

strategies as per the demands of time can also be build up for supporting and providing sustainable alternatives to the solid waste disposal system.

Current living conditions and providing them with precautionary options like gloves, creams, etc.

In a country where the Constitution calls for equality for all, this section of society is one the most weakest sections of the human society and hence proper attention is needed to them to raise their living standards and quality of life eventually. The mode of redevelopment will vary as per the prevailing local conditions and in-situ and self mode of carrying renovation and redevelopment measures at the community level should be encouraged with proper government schemes of providing concessions in interest rates and availability of credits and finances. Also, they should be provided with precautionary things like gloves looking at th nature of environment their work is based on.

The above discussed factors are pretty important before carrying out any integration of the ragpickers as a part of the mainstream workforce and also boosting the process and efficiency of the system of solid waste disposal system. The following section will discuss the steps involved in the proposed model for carrying out successful integration of the ragpickers community into the waste management system as a recycler and as a worker of it by contributing towards it being a recognized part of the said system.

The model is based on the starting point of forming a legal framework by forming an institution or organization or dedicated department to look after the ever increasing waste consumption per capita with increasing urbanization to the dynamic process of making shifts in its functioning and style as per the call of different times and situations that arises. The model can be divided into nine steps which are as follows:-

1. **Forming the legal & institutional framework** – Further strengthen and streamline the various policies formulated by the Indian government in relation with the rag pickers & solid waste disposal department. Providing subsidies and affordable housing to the poor

is good, but providing them with employment and recognition is what will really serve the purpose of inclusive and sustainable development.

2. **Identification of Ragpickers and Affluent families** - Identification of Rag pickers and Affluent Families should be done favorably following bottom-up approach i.e. preparing and collecting data at local levels and then formulating the data together to come out with a synthesized form for the national level and then the action plan should be formulated likewise. Formulation of the data may be made mandatory for the municipal bodies to carry out within a specific period of time.
3. **Provide with the identity cards and formal recognition to them** - Every household at least one person shall be given an attachment with the organization/institution at some level and all the ragpickers should be given a formal recognition as a part of the total workforce and economic activities. Providing them with identity cards and other certifications as per the requirement and prevailing conditions which will allow them to use the benefits from various government schemes and policies which at present times are generally not available to the ragpickers community.

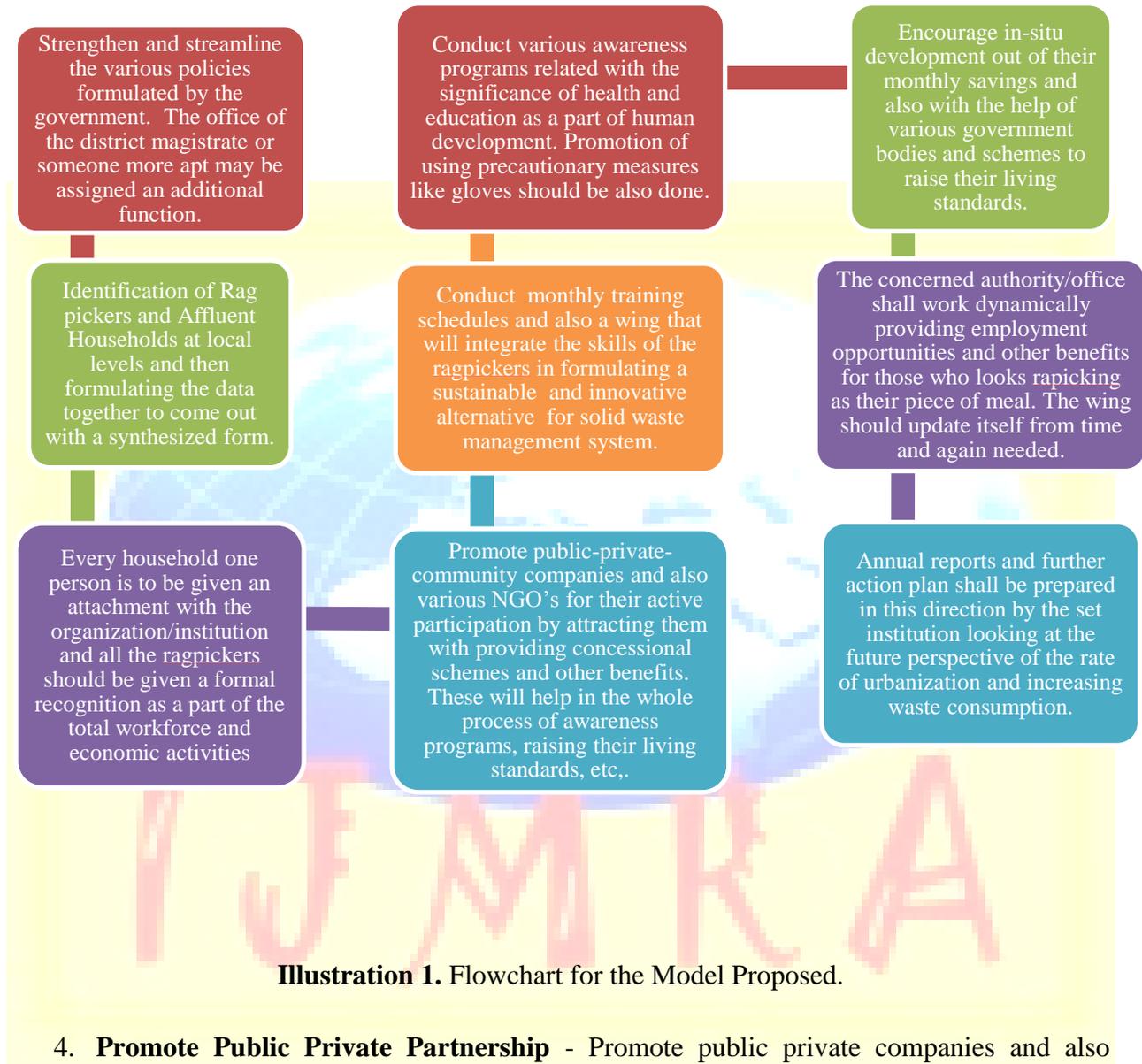


Illustration 1. Flowchart for the Model Proposed.

4. **Promote Public Private Partnership** - Promote public private companies and also various NGO's for their active participation by attracting them with providing concessional schemes and other benefits. These will help in the whole process of awareness programs, raising their living standards, etc.
5. **Conduct Training Schedules** - Conduct monthly/weekly training schedules as per the prevailing conditions and also a wing that will integrate the skills of the ragpickers in

formulating sustainable and innovative alternatives for solid waste management system for a sustainable future.

6. **Conduct various Awareness programs** - Conduct various awareness programs related with the significance of health and education as a part of human development. Promotion of using precautionary measures like gloves should be also done. Awareness programs are of quite much importance in raising the social structure on sustainable basis on long-term aspects.
7. **Promote in-situ and self-renovation schemes** - Encourage in-situ development and self-renovation schemes both at individual level and at community level with the help of various government bodies and schemes to raise their living standards with least disturbances in their lives and activities.
8. **Dynamic working of the set framework** - The concerned authority shall work dynamically providing employment opportunities and other benefits for those who looks rapicking as their piece of meal. The wing should update itself from time and again needed.
9. **Preparation of Annual reports and further Action Plan** - Annual reports and further action plan shall be prepared in this direction by the set institution looking at the future perspective of the rate of urbanization and increasing waste consumption after studying the total contribution by the ragpicking community and the future scope of utilizing their service for effectively catering the rising waste consumption per capita of the society as a whole.

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