

Occupational Health Hazards of Rag Pickers in Saharanpur

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by

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CERTIFICATE

I have the pleasure to certify that **Shri Amal Garg** has pursued his research work and prepared the present dissertation titled as, **Occupational Health Hazards of Rag Pickers in Saharanpur**, under my guidance and supervision. The dissertation is the result of his own Research and to the best of my knowledge, no part of it has earlier comprised in other monograph, dissertation or book.

This is being submitted to the Indian Institute of Public Administration (IIPA), Delhi for degree of Masters Diploma in Public Administration (MDPA) in fulfilment of the requirement of the Advanced Professional Programme in Public Administration (APPPA). I, hereby, recommend that the dissertation of Shri Amal Garg is worthy of consideration for the award of Masters Diploma in Public Administration (MDPA).

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Occupational Health Hazards of Rag Pickers in Saharanpur

Chapter I: Introduction

Background

India is the second most populated country in the world. According to the 2019 revision of the World Population Prospects of Department of Economic and Social affairs of United Nations,¹ the population of the country was 136,64,18,000 which is one-fifth of the population of the entire world. At the present rate of growth, population of India shall be maximum in the world by 2024, surpassing the population of China. Also, by 2030, we will be 151 crore strong, which will further touch 165 crore by 2050.

Ours is a very young country. According to World Fact Book by Central Intelligence Agency, USA ², India has about 44 percent of its population below the age of 25 as of February 2020 and about 84 percent below the age of 55. The average age of an Indian is 29 years, which is much below in comparison to China (37) and Japan (48).

This huge population of the country is a major problem in development because, most of the resources of the country are consumed only for providing basic amenities like food, education, housing etc. There is huge variation in the incomes of people. A large chunk of people are living below poverty line. Only 5 percent of the population files returns of income. Only 15000 individuals file returns paying tax above Rs. 1 crore. Thus, a lot of complexity is lent by the great variation that occurs across this population on social parameters such as income and education.

Slow growth of employment has been a remarkable feature of economic change in India during the post-liberalisation period. Economic

growth over this period has been highly uneven across different sectors and regions. The rate of growth of agriculture and manufacturing sectors has been sluggish for most part of the post liberalisation period. Growth, even in periods during which it increased, was driven primarily by the service sector. It has been primarily located in urban, particularly metropolitan areas. Benefits of economic growth have accrued differently across classes, resulting in a sharp increase in economic inequalities.

On one hand, the average employment growth over this period has been low, and on the other hand, the uneven pattern of growth has resulted in considerable changes in the structure of employment. There has been a considerable contraction in generation of employment in agriculture since the second half of 2000s. The employment in agricultural sector contracted and at the same time it increased in non-agricultural activities. As per the report of Food and Agriculture Organisation of United Nations³, in 2016, 59 percent of total workforce in India was employed in agricultural sector.

As per the report of Niti Aayog's strategy for New India @ 75 released in November 2018⁴, Close to 85 percent of all employed persons in India make a living by working in the informal sector. Stressing that a transition to the formal economy is a condition to realise decent work for all, the report of International Labour Organisation, "Women and Men in the Informal Economy – A Statistical Picture (Third edition)"⁵, said nearly 1.3 billion people – or 68.2 percent of the employed population in Asia-Pacific – were engaged in the informal economy. The study also found a growing number (98.3 percent) of youth aged 15-24 in informal employment in the region compared with 67.1 percent of adult workers (25+).

Formal sectors represent all jobs with specific working hours and regular wages and the worker's job is assured. The workers are employed by the government, state or private sector enterprises. It is a licensed organization and is liable to pay taxes. It includes large-scale operations such as banks and other corporations. Conversely, informal or unorganized sectors are the ones where the employees or the workers do not have regular working hours and wages. A street vendor selling his farm products on the street to generate and earn his daily bread is an example of informal economy. Ragpickers, unorganised moneylenders etc. are considered as a part of an informal economy. It is also described as the grey economy.

Informal sector lacks security both legally and economically. Therefore, there is the greater vulnerability of the workers who are outside the reach of the labour legislation due to worker's absence of social protection and worker's right. The vulnerability increases with women in particular. The 25 percent of the informal sectors constitute the urban employment in India. These comprise of domestic workers, home-based workers, street vendors and waste pickers.

In India, there is a continuous migration of people from rural areas to urban dwellings primarily because of less opportunities to earn livelihood in villages. People migrate to cities and indulge in all types of informal employment like small shops, household work, rag picking etc. As per the census of India 2011, more than 6.5 crore people live in urban slums, which is a large chunk in terms of numbers.

The growth of unplanned urbanisation is primarily due to rapidly increasing population. It has another major problem in terms of rapidly

exhausting scarce resources. In our country, though we have started talking about the same, still sufficient attention has not been paid on such important issues including waste management systems.

Huge amount of waste is generated as a by-product of human activities. Further, fast economic development and urbanization have contributed to increase in the quantity. Not only the quantity, but the type of waste has also changed with changing times. Electronics and chemical wastes are leading examples of the same. When waste is accumulated, it leads to degradation of urban environment and also puts stress on natural resources, in addition to leading to health problems. Solid waste management has cropped up as a major challenge. We see heaps of garbage mounds in metropolitans. Although municipal corporations have been facing the herculean task of solid waste disposal, the same is partly supplemented by waste pickers who are known as rag pickers in common terms. They are at the base of the hierarchy of collection and disposal of waste. Although rag pickers play an important role, but the same remains unrecognised.

Waste dumping grounds are extremely unhygienic. The waste gets rotten and becomes a breeding spot for germs and various diseases. Rag pickers collect garbage from such filthy sites. They move into the heaps of filth, and mounds of rotten and germ rich sites. In the process, they are infected by various diseases of skin, lungs etc. Sometimes, they also suffer from various mental disorders due to the prevailing environment around them. They live in poor habitats and they lack even the basic necessities of life.



A typical garbage dump at Sharda Nagar, Saharanpur

Rag pickers are working in filthy environment. It is one of the most inhuman and dangerous activity. They sift through garbage and don't have access to safety gears

like gloves, etc. At times, they also eat the dirty food trashed by people in the garbage and invite diseases. Since, in India, still segregation of solid waste at source is not done, rag pickers are exposed to all kinds of garbage like medicines, used bottles, syringes, used batteries, condoms and other routine items.

Toxics Link, a New-Delhi based environmental NGO⁶, has classified all waste pickers into four categories:

- i) Those who carry sacks and collect anything of resale value from open drains and bins;
- ii) The *kabadi* or *bhangar* men on bicycles who collect from households and then segregate glass, paper, and bottles from plastics;
- iii) Those who ride tricycles and collect almost 50 kg of waste each day and travel long distances to sell them,
- iv) Those who work for scrap dealers.

Ragpickers actually complement the work of civic bodies. They help clean up a significant proportion of the huge amount of waste generated annually in India. They segregate the waste and pick up the non perishable items from the waste like plastics and glasses. Thus, they are helping the government in prevention of environment hazards due to plastic waste on

one side and also supporting the activity of municipal corporations by segregating the waste.

This study describes the occupational health risks to which rag pickers are exposed in their work and the methods for prevention. The study is limited to Saharanpur city in the state of Uttar Pradesh in India. The study has used a primary database of 100 rag pickers pertaining to two areas of Saharanpur namely Indira Camp Colony and Sharda Nagar dump. The information has been developed through survey questionnaire recorded on the spot and through literature review.

Statement of the Problem

India is population wise second largest country in the world. As per latest estimates, total population is in the vicinity of 1.36 billion. Sufficient employment opportunities are not available to all. Close to 85 percent of the employment is generated in Informal sector. Thus, only a handful of people are covered under the category of formal employment. Further, sufficient opportunities are not developed in rural areas. Hence, there is large scale migration of people from rural areas to urban areas in search of employment. Most of these people are absorbed in informal sector of employment e.g. household work, rickshaw pulling, rag picking and selling fruits and vegetables etc.

Further, the growth of cities in Indian has suffered from poor planning. The population density is much high in comparison to the planned capacity. Even the basic necessities of life are not available to all. The migrants are forced to live in pitiable conditions.

Another alarming issue is solid waste management. The household waste has been increasing day by day in bigger cities due to increase in population but at the same time, the concerned agencies are not able to handle it. There is no system of segregation of waste. Entire mixed waste is dumped at garbage sites.

Rag pickers are an important link in the waste disposal system. They segregate the waste and pick up recyclable items from the same. However, they are not recognised by the society. Since, they spend long hours in the heaps of waste, they suffer from various diseases, which are caused by direct exposure to rags. These include various types of skin diseases, respiratory illnesses and severe headaches etc. Further, they are looked down upon by the society. Also, the places, where they reside are filthy. They seldom get clean water to bathe. Most of them do not have a toilet in their homes. All these factors result into low self- esteem. At times, they are hurt by sharp objects like glass shards or needles.

Research Objectives

- (i) To study the diseases caused to rag pickers due to long exposure to mounds of garbage.
- (ii) To examine how diseases caused to rag pickers due to exposure to garbage may be prevented and the treatments available.
- (iii) To study whether any welfare schemes are run by Central government or State government or any private organization including NGOs for them.

Research Design

The Research design is Quantitative and Exploratory.

Rationale or Justification

Rag pickers are playing a very important role of segregation of waste, which is otherwise the responsibility of the civic agencies. However, they are sitting in the lowest strata of the society. They suffer from various diseases due to long exposure to waste. The results of this research will be helpful to the rag pickers as they would be sensitised about the problems caused to them by exposure to the garbage, so that they would start using safety equipments at the time of waste picking. This would save them from the hazards of picking garbage. The results of this study would also be useful to law makers, as they may contemplate to either bring this sector to formal sector of employment and bring the waste pickers at par with the labour working in factories and all the welfare measures taken for labour shall be applicable to them also. Also, the lawmakers may mandate use of safety gears for them and make proper provision for the same at no additional cost to rag pickers.

The society at large shall be benefitted from this study as it can be sensitised about the relevance of rag pickers for them. The rag pickers should not be looked down upon, as their profession is as important to society as any other profession. The study would be further useful as the garbage generators may be sensitised about the importance of segregating garbage at source.

Research Questions

1. What are the common illnesses present in the rag pickers?
2. What are the ways and means by which, the diseases caused by exposure to garbage may be prevented and/or treated?

3. What are the welfare schemes run for them by the Central Government or State Government or NGOs?

Scope and Limitations

1. The study was limited to common diseases arising out of constant exposure to heaps of garbage. Specific diseases of the rag pickers have not been covered.
2. Some of the respondents were more interested in discussing their specific diseases rather than common ailments. This resulted in non-cooperation from their side when they were requested to fill the questionnaire.
3. The area of study was limited to only two major dumping areas of Saharanpur only namely Indira Camp Colony and Sharda Nagar dump, although this is a nationwide problem.
4. Many respondents were quite hesitant to talk about their work, as it is considered to be a menial job and hence they were not forthcoming.
5. Some respondents, particularly females were hesitant in talking about their problems particularly related to skin diseases.

Literature Review

- The research paper '**Occupational and Environmental Health Hazards (Physical & Mental) among Rag- Pickers in Mumbai Slums: A Cross Sectional Study**' by Balu Natha Mote, Suhas Balasaheb Kadam, Shrikant Kishorerao Kalaskar, Bharat Shivajirao Thakare, Ambadas Suresh Adhav and Thirumugam Muthuvel (2016)⁷ aims to examine the health status, occupational and environmental health hazards among rag pickers working in dumping ground of Shivaji Nagar and Govandi slums of Mumbai, India. The broad objective was to study the physical and mental health issue among rag pickers. Other objectives were (1) to study the morbidity due to common

illnesses among rag pickers, (2) to study the common mental illness (depression and anxiety) among rag pickers, (3) to study the health seeking behavior of rag pickers.

The study population was around the area of dumping ground namely Indira Nagar, Padma Nagar, Shanti nagar and Rafi nagar. The study shows that rag pickers suffer from physical as well as mental ill health. Cut and pinprick injuries are common among rag pickers. Dog bite and rat bite were common. Redness of eyes, headache, backache and accidental injuries are very common amongst rag pickers. There is high prevalence of T.B. Majority of them also stated that they were suffering from mild depression and anxiety. The study found it strange that very few percentage of them were affected by skin diseases, as people of the community used to bathe every alternate day. The study suggested that improving the work lives of these people should address both physical as well as emotional health.

- The research paper ‘**Effects of Occupational Exposure on the health of Rag pickers due to Fungal Contamination at waste dumping sites in Gwalior (India)**’ by Harandra K Sharma, Khursheed Ahmad Wani and Aakash Ahmad Bhat (2016)⁸, has attempted to document the different species of fungi present in the waste generated from different sources in Gwalior and to know the diseases /risk factors of waste handlers /rag pickers due to fungal exposures. The area of study was the main dumping sites in Gwalior i.e. Bada, Kampoo, Lashkar, Morar and Golaykamandir. The study was done on microbial contamination at different dumping sites, as these sites were usually visited by large number of rag pickers.

All the sites were found to be carrying high amount of fungi like Aspergillus, Cladosporium, fusarium, alterneria, mucor etc. These are main factors for causing various diseases like skin infections and lung diseases. The main reasons attributed by study for diseases are unawareness of rag pickers, no proper disposal system of solid waste and not using protective gears by rag pickers.

The paper has not actually studied the target population i.e. rag pickers as to the types of diseases they are suffering from.

- The research paper **‘Problems Confronting Child Rag Pickers in Slums’** by A. N. Singh (1996)⁹, attempted to examine the socio economic conditions of the problems confronting children engaged in rag picking. Their physical outlooks, factors forcing the children to take up the present job and behavioural and other changes noticed after after taking up the present work were the major areas of study.

The universe of study was Kurushetra. There are three main slums in Kurushetra namely Gandhi Nagar, Deha Basti and New Colony. The study revealed a clear trend of significant difference on rag pickers having a different level of health status. 33.33 percent had cuts/injuries and pain in joints and fingers, 25.33 percent suffered from headaches, 20.87 percent had eye aches, 13.33 percent skin infection and rest 7.33 percent stomach pain. The study suggested that income generating programmes should be undertaken to raise their economic back ground, Measures should also be taken to minimize the hazards. Some other suggestions were also made. The study had its limitation as it did not pick the people above 15 years, so it did

not represent the entire cross section of the society. Further, the study was limited to only Kurushetra.

- The research paper **‘Health Profile of Women ragpicker members of a non-governmental organization in Mumbai, India’** by Pallavi A Uplap and Kamaxi Bhate (2005)¹⁰, aimed to observe the Health profile of women rag pickers in Mumbai. Both general and gender specific health needs of this socially and occupationally marginalized group, including health seeking behavior were explored in this study. 168 women rag pickers were selected by systematic random sampling. The study was confined to Deonar, Mumbai’s largest dumping ground. The samples were picked from door to door waste collectors, street side rag pickers and dumpside rag pickers. Majority of participants were in the age group of 21-40 years.

The study concluded that marriage at young age, multiple pregnancies, high addiction were prevalent among them and morbidity was significantly high. The study recommended that unfulfilled health needs of this underprivileged workforce should be who contributes to ecology and economy of the city need to be addressed. The data to examine the socio-economic conditions of the problems confronting children engaged in rag picking. Their physical outlooks, factors forcing the children to take up the present job and behavioural and other changes noticed after taking up the present work were the major areas of study.

- The research paper **‘Occupational risk with social implications- a case study of women rag pickers in an indian metropolitan city’** by Ratnendra R shinde, Swati Iyer and Yashovardhan Kabra¹¹, aimed to assess the socio

demographic and morbidity profile of women rag pickers as well as to assess socio-epidemiological factors correlated with the occupational pattern of rag pickers. The study showed that the target population was suffering diseases, hunger, lack of dignity and inhuman treatment. The study suggested that this sector should be organized and brought under Factory Act and also work safety measures should be promoted and provided. However, the study was limited only to women rag pickers and to one undescribed metropolitan city.

- The research paper **‘Why Ragpickers, unrecognized and unpaid are critical for waste management in India’** by Rajanya Bose and Anirban Bhattacharya (2017)¹², has carried out a study on the rag pickers of colony near Vasant Kunj, close to Delhi airport. The study found that they often cut themselves or develop rashes or infections. They eat rotten food, which makes them sick. Even Government hospitals do not want to treat them. Therefore, they are forced to visit private dispensaries. It is also mentioned in the study that the women ragpickers of that area wanted disposal bins and access to water. Disposal bins would be used for waste leftover from sorting and water is needed for regular bathing as otherwise they have to spend Rs. 1000 to Rs. 2000 per month for buying water from people, who have hand pumps. The study was limited to Delhi only and that too in one area. Further, no written survey questionnaire was filled up. Sample size is also not known. The study is general and does not talk about specific diseases of rag pickers and their prevention.
- The research paper **‘Effectiveness on awareness package on occupational health hazards among rag pickers of New Delhi, India’** (2016)¹³ has

conducted a study to find out the awareness of various occupational and environmental health hazards among rag pickers, to generate awareness among them on environmental and occupational health hazards and to assess the effectiveness of awareness programmes. Significant improvement was observed on awareness of diseases caused by mosquito bites and awareness of infections caused due to not using proper hand hygiene practices after the education program. However, there was no significant difference found between awareness on hand washing practice before each meal before and after the education program.

In the present study, significant increase was observed on awareness of diseases caused due to non-usage of proper hand hygiene practices after the education program. Hand hygiene practices were found to be poor, both before and after the awareness program and the major reason mentioned was non-availability of water. The reason could be that most of these ragpickers belong to migrant population and accessibility to basic necessities such as water and electricity are a concern for them. Significant increase of awareness level was observed after the education program regarding the diseases caused by sharp pricks in our study. Significant increase of awareness level was observed after the education program regarding the diseases caused by vectors. However, the study had limitations as the data were cross-sectional, which limits the ability to determine the directionality of the relations. The small sample size of the analysis was a limitation factor to generalize the findings to all the ragpickers of the country. The data collected from interview of respondents may be subjected to response bias. People tend to provide socially desirable responses and, moreover, there are differences in levels of perception of the questions

asked. Also, post test assessment was only done once and that too after 2 weeks of awareness activity.

Methods applied and Data Sources

The study population was around two major dumping sites of city of Saharanpur, namely Indira Camp Colony and Sharda Nagar. Saharanpur is located in western Uttar Pradesh at 29.97°N and 77.55° E, and about 170 kilometres north-northeast of Delhi. As per Census data 2011, population of Saharanpur was about 7 lakhs. Sample of Rag pickers were chosen from both the dumping sites. Entire cross-section of the population was covered like adult males, adult females, minor boys and girls. Primary data was collected using structured questionnaire and face to face interviews. Entire analysis is done on the primary data.

Ethical Issues

The respondents were informed in advance about the purpose of study. They were also told that their participation in the survey was voluntary and the information provided by them will be kept confidential. Also, that there was no risk involved in the participation in survey. Due permission was taken from each participant and their signatures were obtained. In case of minor respondents, due permission was taken from one of their parents and signatures obtained.

Chapterisation Scheme

Chapter I: Introduction

This chapter provides background about the problem of Rag Pickers. It deals with the Statement of Problem, Research Objectives, Research Design, purpose and Rationale of study, Scope and Research limitations. It also discusses review of Literature.

Chapter II: Socio-Economic Issues Related to Demography

This chapter discusses the problems of enormous population in India and its impact on various social and economic issues like; low per capita income, large dependence of population on agriculture, chronic unemployment, uneven wealth distribution, lack of infrastructure and poor basic amenities.

Chapter III: Unplanned Urbanisation in India

This chapter talks about the population pressure in urban dwelling areas and unplanned development of urban centres in India and related issues. This chapter discusses about rapid urban spread, high population density, poor dwelling facilities, slums, transportation, water, waste disposal, pollution and problems of civic bodies.

Chapter IV: Solid Waste Management in Urban Areas

This chapter deals with the enormity of problem of solid waste management in urban areas of India and other related issues. It discusses the current waste management practices in India and health and environmental impact of the same.

Chapter V: Rag Pickers and Organised Sector of the Economy

This chapter deals with the need to bring the activity of rag picking from unorganized sector to organized sector and efforts made so far by the Government. The chapter also highlights the problems and risks faced by Rag Pickers.

Chapter VI: Data Analysis and Interpretation

This chapter contains detailed analysis of the data collected and various inferences drawn from the data collected as per the objectives of the study.

Chapter VII: Conclusion and Recommendations

This chapter summarises the conclusion arising out of the study and further recommends ways, which can be used by policy makers as well as people at large and also the target population. The recommendations would also be useful for NGOs, who are working in this area.

Chapter II: Socio-Economic Issues Related to Demography

India is placed in an advantageous position mainly due to the macro-economic benefits that accrue to the young population in an ageing world. When the working age population increases, it results in increase in per capita GDP growth. However, demography is not destiny. As a matter of fact, technological innovations have drastically reduced the adverse impact of ageing population in advanced countries. Prosperity can be achieved if the potential of demography can be harnessed.

India is the second most populated country in the world. The population of the country as per 2019 revision of the World Population Prospects of Department of Economic and Social affairs of United Nations¹ was 136,64,18,000 which is one-fifth of the population of the entire world. At the present rate of growth, population of India shall be maximum in the world by 2024, surpassing the population of China. Also, by 2030, we will be 151 crore strong, which will further touch 165 crore by 2050.

As per C. P. Blacker's five stages of population growth (1947)¹⁴, there are five stages through which demography in any country broadly moves. The first stage is marked by high birth and death rates, which leads to stagnant population. In this stage, the country is backward and growth rate of population is very low. The main occupation of people is agriculture and they largely live in rural areas. There are only a few small consumer goods industries. The tertiary sector consisting of transport, commerce, banking and insurance is underdeveloped. This results into low incomes and poverty of the people. People prefer large family sizes, so as to augment the low family income. Children are an asset to the family as all of them contribute to the income of family. There is existence of the joint family system.

More children in a family are also regarded as an insurance against old age by the parents. Since people are illiterate, ignorant and superstitious, they are averse to any method of birth control. The death rate is high due to non-nutritional food with a low caloric value, lack of medical facilities and the lack of any sense of cleanliness. People live in dirty and unhealthy surroundings in ill ventilated small houses. As a result, they are disease-ridden and the absence of proper medical care results in large deaths. The mortality rate is the highest among the children and the next among women of child-bearing age. Thus, the birth rates and death rates remain approximately equal over time so that a static equilibrium with zero population growth prevails. According to Blacker, this stage continued in Western Europe approximately up to 1840 and in India and China till 1900.

Gradually, the death rate starts falling but birth rate remains high. This marks the beginning of second phase of demographic transition characterised by high fertility and high but declining mortality. Thus, there is an increase in dependant population in the form of children between ages 0-14 years. In this stage, the economy enters the phase of economic growth. Agricultural and industrial productivity increases, transportation infrastructure develops. There is greater mobility of labour and expansion in education happens. The incomes of people start increasing. People start getting more and good quality food products. There is substantial improvement in medical and health facilities. All these factors bring down the death rate. But the birth rate is almost stable. People do not have any inclination to reduce the birth of children because with economic growth employment opportunities increase and children are able to add more to the family income.

With improvements in the standard of living and the dietary habits of the people, the life expectancy also increases. People do not make any effort to control the size of family because of the presence of religious dogmas and social taboos towards family planning. Of all the factors in economic growth it is difficult to break with the past social institutions, customs and beliefs. As a result of these factors, the birth rate remains at the previous high level. With the decline in the death rate and no change in the birth rate, population increases at a rapid rate. This leads to Population Explosion.

This is an “Early Expanding” (EE) stage in population development when the population growth curve is rising, with the decline in death rate and no change in birth rate. According to Blacker, 40% of the world population was in this stage up to 1930. Many countries of Africa are still in this stage.

Slowly, education levels improve, which results in declining fertility rates. This leads to third stage, also known as the “late expanding phase”, with declining fertility and declining mortality at an even higher rate than in second stage. In this stage, there is growth in economically active adult population. With better medical facilities, the survival rate of children increases. People are not willing to support large families. The country is burdened with the growing population. People adopt the use of contraceptives so as to limit families. Population growth happens at a diminishing rate. According to Blacker, 20% of the world population was in this stage in 1930.

In the fourth stage, also known as the low stationary phase, there is low fertility rate balanced by equally low mortality rate. In this stage, the average age of the population slowly rises; birth and death rates tend to equalise and the population stabilises. As growth gains momentum and people’s level of

income increases, their standard of living rises. The leading growth sectors expand and lead to an expansion in output in other sectors through technical transformations.

Education expands and permeates the entire society. People discard old customs, dogmas and beliefs, develop individualistic spirit and break with the joint family. Men and women prefer to marry late. People readily adopt family planning devices. Moreover, increased specialisation following rising income levels and the consequent social and economic mobility make it costly and inconvenient to rear a large number of children. All this tends to reduce the birth rate further which along with an already low death rate brings a decline in the growth rate of population. The advanced countries of the world are passing through this “Lower Stationary” (LS) stage of population development. Population growth is curtailed and there is zero population growth.

Finally, in fifth stage, death rate starts exceeding birth rate and population starts declining. A continuing decline in birth rates when it is not possible to lower death rates further in the advanced countries leads to a “declining” stage of population. However, France appears to approach this stage.

As of 2013, India is in later half of the third stage of demographic transition. It is nearly 40 years behind in the demographic transition process compared to Japan and EU. According to World Fact Book by Central Intelligence Agency, USA ², India has about 44 percent of its population below the age of 25 as of February 2020 and about 84 percent below the age

of 55. The average age of an Indian is 29 years , which is much below in comparison to China (37) and Japan (48).

This huge population of the country has resulted in the following socio-economic problems:

Low per capita income

Due to large population, per capita income in India is very low. As per one estimate, in 2014, per capita income in our country was only \$1560. The figure of per capita income in USA was 35 times higher.

Apart from the low per capita income, India also has huge problem of unequal distribution of income. A large chunk of people are living below poverty line. Only 5 percent of the population files income tax returns. Only 15000 individuals file returns paying tax above Rs. 1 crore. Thus, a lot of complexity is lent by the great variation that occurs across this population on parameters like income.

Large dependence of Population on Agriculture

Another important area, which is extremely relevant for the country's backwardness is distribution of occupations in the country. As per the report of Food and Agriculture Organisation of United Nations³, in 2016, 59 percent of total workforce in India was employed in agricultural sector. Unfortunately, it contributed merely 16 percent to the national income implying a low productivity per person in the sector. The expansion of industries failed to attract enough manpower either.

Slow growth of employment has been a remarkable feature of economic change in India during the post-liberalisation period. Economic growth over

this period has been highly uneven across different sectors and regions. The rate of growth of agriculture and manufacturing sectors has been sluggish for most part of the post liberalisation period. Growth, even in periods during which it increased, was driven primarily by the service sector. It has been primarily located in urban, particularly metropolitan areas. Benefits of economic growth have accrued differently across classes, resulting in a sharp increase in economic inequalities.

On one hand, the average employment growth over this period has been low, and on the other hand, the uneven pattern of growth has resulted in considerable changes in the structure of employment. There has been a considerable contraction in generation of employment in agriculture since the second half of 2000s. The employment in agricultural sector contracted and at the same time it increased in non agricultural activities.

Heavy Population Pressure

Another factor, which contributes to our economic problems is huge population pressure. Today, India is the second most-populated country in the world, the first being China. We are passing through the third stage of demographic transition. The working youth has been increasing at a huge pace. In order to maintain the same, Government has to take care of basic needs like food, education, health, shelter etc. Thus, there is always a huge pressure on the limited resources.

Chronic Under-Employment and Unemployment

The problem of unemployment is huge in our country. According to Ministry of Labour and Employment, Government of India¹⁵, as of September 2018, India had 31 million jobless people. According to International Labour Organisation,

unemployment in India has been rising steadily. With about fifty percent of the working population engaged in agriculture, the marginal product of an agricultural worker has become negligible. The problem of the increasing number of educated-unemployed has further added fuel to fire.

The problem of unemployment and under employment is long standing. Indian Labour Force may be broadly classified into three categories as under:

- i) Rural sector including farm labour
- ii) Urban formal sector including factories and industrial labour getting regular salaries as per Indian Labour Laws.
- iii) Urban informal sector including self employed and casual workers on wage.

As per the report of World Bank of 2010, the rural and informal sectors of the Indian labour market accounted for 93 percent of the employment in 2010. As per the report of Niti Aayog's strategy for New India @ 75 released in November 2018⁴, Close to 85 percent of all employed persons in India make a living by working in the informal sector. Stressing that a transition to the formal economy is a condition to realise decent work for all, the report of International Labour Organisation, "Women and Men in the Informal Economy – A Statistical Picture (Third edition)"⁵, said nearly 1.3 billion people – or 68.2 percent of the employed population in Asia-Pacific – were engaged in the informal economy. The study also found a growing number (98.3 percent) of youth aged 15-24 in informal employment in the region compared with 67.1 percent of adult workers (25+).

Formal sectors represent all jobs with specific working hours and regular wages and the worker's job is assured. The workers are employed by the government, state or private sector enterprises. It is a licensed organization and is liable to pay taxes. It includes large-scale operations such as banks and other corporations. Conversely, informal or unorganized sectors are the ones where the employees or the workers do not have regular working hours and wages. A street vendor selling his farm products on the street to generate and earn his daily bread is an example of informal economy. Ragpickers, unorganised moneylenders etc. are considered as a part of an informal economy. It is also described as the grey economy.

Thus, there is an abundance of labour in our country which makes it difficult to provide gainful employment to the entire population. Qualified people are forced to do job of lower standard and thus giving rise to fall in efficiency and productivity.

Slow improvement in Rate of Capital Formation

India always had a deficiency of capital. In recent years, India has experienced a slow growth in capital formation. We experienced a population growth of 1.6 percent during 2000-05 and needed to invest around 6.4 percent to offset the additional burden due to the increased population. The only way to improve the standard of living is to increase the rate of gross capital formation.

Uneven Wealth Distribution

According to Oxfam's 'An economy for the 99 percent' report, (2017) ¹⁶, the gap between the rich and the poor in the world is huge. In the world, eight men own the same wealth as the 3.6 billion people who form the poorest half of humanity.

In India, merely 1 percent of the population has 58 percent of the total Indian wealth. Also, 57 billionaires have the same amount of wealth as the bottom 70 percent of India. Inequal distribution of wealth is certainly one of the major economic issues in India.

Poor Quality of Human Capital

Capital not only includes money, but other resources also. Capital means the use of any resource that enhances the capacity of production. Therefore, the knowledge and training of the population is a form of capital. Hence, the expenditure on education, skill-training, research, and improvement in health are a part of human capital.

Poor Technology

New technologies are being developed every day. However, they are quite expensive and require people with a considerable amount of skill to apply them in production. Any new technology requires capital and trained and skilled personnel. Therefore, the deficiency of human capital and the absence of skilled labour are major hurdles in spreading technology in the economy. Another important issue is that poor farmers cannot even buy essential things like improved seeds, fertilizers, and machines etc. Further, most enterprises in India are micro or small. Hence, they cannot afford modern and more productive technologies.

Poor Basic Amenities

As per 2011 census, only 46.6 percent of households in India have access to drinking water within their premises. Also, only 46.9 percent of households have toilet facilities within the household premises. Although, lot of efforts are being

made by Government to improve these conditions, still we have to go a long way. Poor access to basic amenities results into low efficiency of Indian workers.

Other Demographic characteristics

According to the 2011 Census, India had a population density of 382 per square kilometer as against the world population density of 41 per square kilometer. Further, 29.5 percent was in the age group of 0-14 years, 62.5 percent in the working age group of 15-59 years, and around 8 percent in the age group of 60 years and above. This proves that the dependency burden of our population is very high.

Lack of infrastructure

The lack of infrastructural facilities is a serious problem affecting the Indian economy. These include transportation, communication, electricity generation and distribution, banking and credit facilities, health and educational institutions, etc. Therefore, the potential of different regions of the country remains under-utilized. The main reason is excessive burden of population. Whatever, infrastructure is created, there are more and more users. Thus, the infrastructure has not been developed due to demographic issues.

Chapter III: UNPLANNED URBANISATION IN INDIA

Rapid as well as unplanned urbanization is a common trend in most of the developing countries and India is not an exception. According to UN world urbanization prospects report (2014)¹⁷, the annual growth of urban population in India between 2010 and 2015 was 1.1 percent which was the highest amongst major economies. At this rate, India will add 40 crore people to its urban population between 2014 and 2050. Thus, India is undergoing a phase of fast urbanization.

However, the process of urbanization in India is not at all planned. The constant flow of people to urban centres is not only throwing economic challenges but also giving rise to several social and cultural issues. Marginalisation and ghettoisation are common in Indian urbanization process.

The sheer quantum of the urban population, unplanned growth of urban areas, and severe lack of infrastructure are the main problems. The rapid growth of urban population has put heavy pressure on public utilities like housing, sanitation, transport, water, electricity, health, education and so on.

Unemployment and under employment among the rural immigrants to urban centres has led to beggary, thefts, dacoities, burglaries and other social evils. Urban spread is rapidly encroaching the precious agricultural land. As per Census data of 2011, there were about 10 lakh homeless people in urban

areas of India, while 17 percent of urban population amounting to 6.5 crores lived in slums. A sizeable chunk of urban population is made up of migrant people from rural areas. The ever growing cities of the country are emerging as big poverty centres. Very few households in slum area have access to the sanitation facilities. Problems related to unplanned urbanization in India are highlighted as under:

Urban Spread

Rapid Urban expansion of Indian cities in terms of population and geographical areas is the root cause of all urban problems. In most cities, the economic conditions are not capable of dealing with the problems of fast urbanisation. Massive immigration from rural areas as well as from small towns into big cities has taken place almost consistently and has added to the size of cities.

Usually, large cities act as magnets and attract large number of immigrants by virtue of their employment opportunities and modern way of life. This phenomenon leads to such sizes of cities, which defy imagination. Delhi, Mumbai, Kolkata, Chennai, Bangalore, etc. are examples of urban spreads due to large scale migration of people from the surrounding areas.

High Population Density

High population density leads to overcrowding. Overcrowding is a situation in which too many people live in too little space. Since, the Indian cities are overcrowded, quality of living is also impacted. According to UN data of 2013, Indian cities are most densely populated in world. Population density (people per square kilometer) for Mumbai stood at 31,700, which was only

5200 for Beijing. Metropolitan cities of India are overcrowded both in 'absolute' and 'relative' terms. Absolute, because these cities have a real high density of population and relative in the sense that even if the densities are not very high the problem of providing services and other facilities to the city dwellers makes it so.

Poor Dwelling Facilities

High density and Overcrowding also lead to the problem of shortage of houses in urban areas. This problem is specifically more severe in those urban areas, where there is large influx of unemployed or underemployed immigrants, who have no place to live when they enter cities from the surrounding areas.

Moreover, the current rate of housing construction is very slow which makes the problem further complicated. Indian cities require annually about 2.5 million new dwellings, but less than 15 per cent of the requirement is being constructed.

As per the Census of India 2001, there are about six persons for each house. Thirty-nine per cent of all married couples in India (about 86 million) do not have an independent room to themselves. As many as 35 per cent (18.9 million) urban families live in one-room houses. For about a third of urban Indian families, a house does not include a kitchen, a bathroom, a toilet. Only 79 per cent (42.6 million) urban household live in permanent (pucca) houses. 67 per cent (36 million) of the urban houses are owned by the households while 29 per cent (15 million) are rented.

Unemployment and Underemployment

The problem of unemployment and underemployment is also very severe in urban clusters. In our country, Urban unemployment is estimated at 15 to 25 per cent of the labour force. Amongst educated people, this percentage is even higher. It is estimated that about half of all educated urban unemployed are concentrated in four metropolitan cities (Delhi, Mumbai, Kolkata, and Chennai). Furthermore, although urban incomes are higher than the rural incomes, they are alarmingly low in view of high cost of living in urban areas.

One of the major causes of urban unemployment is the large scale migration of people from rural to urban areas. The high poverty levels among the rural people pushes them out to urban areas to migrate in search of livelihood and in the hope of a better life. But the growth of economic opportunities have failed to keep to keep pace with the large scale migration. The limited capacity in urban areas could not cater to ever growing need of incoming population.

Problem of Slums

The natural consequence of uninterrupted and unplanned urbanisation is the growth and spread of slums, which has become a permanent and striking feature of Indian cities. In spite of several efforts by the Central and State Governments to contain the number of slum dwellers, their growth has been increasing sharply exerting tremendous pressure on the existing civic amenities and social infrastructure.

The biggest social problem of slums is that slums tend to be isolated from the rest of the urban society and exhibit various social problems like drug abuse, alcoholism, crime, vandalism etc. The lack of integration of slum inhabitants

into urban life reflects both, the lack of ability and cultural barriers. In India, slums are one or two-room hutments mostly occupying government and public lands. The houses in slums are built in mud or brick walls, low roofs mostly covered with corrugated sheets, tins, bamboos, gunny bags and thatches, devoid of windows and ventilators and public utility services.

Slums have extremely poor hygienic conditions. They have lavatories in the form of dug shallow pits in between three or four huts and with sackcloth as a curtain, hanging in front. When the pit overflows excreta gets overflowed and causes all kinds of diseases. Slums do not have any drains and are marked by cesspools. Usually piped water is not available to slum dwellers and they mainly depend upon shallow hand-pumps for water supply.

The data on slums was for the first time published by Census of India 2001. According to that, 607 towns and cities in 26 states/union territories have reported slum population. No slum population has been reported in the remaining nine states/union territories at the time of Census 2001. Andhra Pradesh has the largest number of 76 towns reporting slum population. This is followed by Uttar Pradesh (65), Tamil Nadu (63), Maharashtra (62), West Bengal (51), Madhya Pradesh (42) and Karnataka (35). Figure 14.6 gives the distribution of towns with slum population.

The largest slum population of 10.6 million has been reported from Maharashtra; followed by Andhra Pradesh (5.1 million), Uttar Pradesh (4.1 million), West Bengal (3.8 million), Tamil Nadu (2.5 million), Madhya Pradesh (2.4 million) and Delhi (2.0 million). The largest concentration of slum population is found in four major cities of Mumbai, Delhi, Kolkata and Chennai.

Transport

Since, population pressure is so high in urban centres, there is an associated problem of traffic congestion in almost all the cities of India. Most Indian cities are having huge vehicular population. Although, vehicles per capita in India is low, but number of vehicles plying is very high due to sheer size of population. This not only gives nightmarish experience to the people, but also causes lot of pollution including sound pollution and air pollution.

Water

Water is one of the most essential elements of nature to sustain life. However, as the size of the cities started growing, the water resources could not be multiplied to that extent. As on day, none of the Indian cities gets sufficient water to meet the demands of the residents. The quality of water is also not good. Only few localities get water, which can be directly consumed. The quality of water is such that it can not be directly consumed from tap. The same needs to be filtered and cleaned. Nowadays, various devices are available in market for cleaning of water. In fact, the Reverse Osmosis process, used in many devices leads to huge wastage of water, which puts extra burden on already scarce commodity. It shall not be out of place to mention here that in many countries of the Globe, tap water can be directly consumed by humans.

Poor state of affairs of Urban Local Bodies

Constitutional status was granted to Urban Local Bodies by the 74th Amendment to the Constitution. The areas like urban planning, sanitation, solid waste management, water supply were brought under the purview of Urban Local Bodies under Schedule 12 of the Constitution of India. However, the state of most of our civic bodies is pathetic. The share of Property Tax, which is the main source of earning for Urban Local Bodies is much lower in India. As per working paper XV, Oxfam India and CBGA¹⁸, in India, it was only 0.48 percent of GDP as of FY 2009-10 in comparison to 4.21 percent in UK and 3.15 percent in USA. Since, Urban Local Bodies are not self sufficient, they depend heavily on the state governments. Similarly, the expenditure of Indian Urban Local Bodies is way below there counterparts abroad. As per data of Finance Ministry of China, in 2009, the share of expenditure of local bodies in overall government expenditure was 8.66 percent. However as per 13th Finance Commission's Report of India, share of expenditure by Urban Local Bodies in total expenditure was only 1.54 percent in 2007-08.

Poor Sewage facilities

In all urban centres, the sewage facilities are either insufficient or poorly managed. There is not even a single city, which can boast of complete sewerage system. Local bodies don't have sufficient resources to provide end to end solution to this problem.

In our country, only 35-40 per cent of the urban population has the privilege of sewage system. The sewerage lines are old and dilapidated, they are not looked after properly. Often, they overflow causing dirty conditions.

Further, sewerage waste is not properly treated at most places and it is directly drained into rivers causing water pollution and other problems.

Waste Disposal

As our cities are becoming larger, they are also producing huge quantities of garbage. Most of the cities in our country do not have proper arrangements for waste disposal. Various landfills have been causing serious health issues. Recently, in Ghazipur, Delhi, few people died and many injured, when the trash came down falling on the vehicles plying on road. These landfills also contaminate ground water. People who live near the rotting garbage and raw sewage fall easy victims to several diseases like dysentery, malaria, plague, jaundice, diarrhoea, typhoid, etc.

Environmental Pollution

As urbanisation is happening rapidly, associated things like industrialisation and transport systems are also growing. These are primarily responsible for environmental pollution in cities. The mounds of garbage pose a huge threat in the form of water and air pollution. Thus, the pollution has been increasing at an alarming rate in India.

Chapter IV: Solid waste management in Urban Areas

Waste is a by-product of human activities. When accumulated, it results into degradation of urban environment, causes stress on natural resources and also creates health problems. Waste is a habitat for various micro-organisms. Solid waste management has become a big issue in India. With the ever growing population, our country has been facing major challenges in connection with waste generation and inadequate systems related to waste collection, transport, treatment and disposal. We are presently not equipped to cope with the amount of waste generated by huge urban population. This has also made an impact on environment and public health. As per the estimates of Central Pollution Control Board and Ministry of Urban Development, presently, we are generating 64-72 million tonnes of waste, which will increase to 125 million tonnes by 2031. Untreated waste, which is a mixture of biodegradable (wet) waste and non-biodegradable waste, lies at dumpsites for months.

Although, significant developments have taken place in social, economic and environmental areas, still Solid Waste Management systems in India have remained relatively unchanged. The current Waste Management Systems are not efficient. Waste has a negative impact on public health, environment and the economy. In India, first time, Municipal Solid Waste Management Rules were framed in 2000. In 2016, improvement was done and new rules were laid down. We have to move to an era where, these written rules are fully converted into practice.

- **Solid Waste Scenario in India**

Indian population is growing at a very fast rate. It is the second most populous state in the world behind China. India is the second most populated country in the world. According to the 2019 revision of the World Population Prospects of Department of Economic and Social affairs of United Nations,¹ the population of the country was 136,64,18,000 which is one-fifth of the population of the entire world. At the present rate of growth, population of India shall be maximum in the world by 2024, surpassing the population of China. Also, by 2030, we will be 151 crore strong, which will further touch 165 crore by 2050. This growth in population is a major contributor to increasing solid waste in India. Municipal solid waste is defined to include household waste, commercial waste, institutional waste, horticultural waste like gardens, waste from cleaning of roads, biomedical waste. There is another kind of waste known as Construction and Demolition (C&D) waste.

Earlier, it used to be defined as part of municipal solid waste, but as per Solid Waste Management Rules 2016, it has been taken out of that definition. Now, the C&D Waste Management Rules 2016 have been separately notified. With increasing construction activity due to huge population pressure, C&D waste is likely to grow rapidly. As per the data of Central Pollution Control Board and the Ministry of Urban Development, Government of India total estimated waste generation was 52 million tonnes for period 2014-15. However, report of the Task Force on Waste to Energy of the Planning Commission in 2014 estimated total waste generation of 62 million tonnes in 2013-14. The infrastructure related to management of waste plays an important role in delivering sustainable development. Rapid population growth in India has resulted in depletion of natural resources. Wastes are potential resources from which energy can be developed or it can

be used for beautification, and therefore, effective waste management is very important. The process of value extraction from waste not only gives us resources but also provides a source of livelihood. So, we need to invest a lot into waste management systems as this can provide us resources.

Type of waste depends on local economy. High income groups in large cities use more packaged products. This results in higher volumes of plastics, paper, glass and metals. The waste management practices are substantially influenced based on waste composition. The Solid waste in cities may also contain hazardous material like pesticides, paints, used medicine and batteries. Healthcare waste may contain syringes, sanitary pads etc. The type of waste also varies from city to city.

- **Current Waste Management Practices in India**

In India, first time, Municipal Solid Waste Management Rules were framed in 2000. In 2016, improvement was done and new rules were laid down. Municipal bodies are responsible for implementing these rules and developing infrastructure for collection, storage, segregation, transportation, processing and disposal of solid waste. We have already discussed the functioning of Municipal bodies in the earlier paragraphs. The picture for our country is not very rosy.

Besides municipalities, the informal sector also plays an important role in segregation and collection of waste. The informal sector comprises of small-scale, labour-intensive, largely unregulated and unregistered low-technology manufacturing. Rag pickers collect household or commercial and industrial waste. A large number waste pickers in India depend on waste for earning their livelihood. In the process, they face associated health and social issues.

For a significant number of rag pickers, it is the only source of income for families. Thus, they provide a livelihood for significant numbers of urban poor and also usable material to other enterprises. Waste pickers significantly contribute in keeping the cities clean.

The essential elements of Solid waste management are collection of waste, storage and transportation and disposal. These activities pose major challenges. Municipalities usually provide bins for biodegradable and inert waste. Still, often, mixed waste is dumped. Open burning is a common practice. If, the practices of waste collection and transportation are improved and better infrastructure is created, then more jobs shall be created and it will improve public health and increase tourism.

Final disposal of solid waste is most important activity. In India, we have a dire need to develop facilities to treat and dispose of increasing amounts of solid waste. As per an estimate, more than 90 percent of waste in India is believed to be dumped in an unsatisfactory manner. If waste is properly disposed, it will protect public health and preserve important environmental resources like ground and surface water, soil and air.

- **Health and Environmental Impacts of Waste Dumping**

Waste dumps causes serious impacts on health and environment. Open garbage dumps release methane gas from decomposition of biodegradable waste, which causes fire. It is a major contributor in global warming. There is another issue of foul odour, particularly during the summer season, when average temperatures touch 45°C. They are breeding grounds for mosquitoes, thus increasing the risk of diseases such as malaria, dengue etc. Uncontrolled burning of waste at dump sites due to release of methane gas releases fine

particles, which cause air pollution and are major reason for various respiratory diseases.

- **What is the Way Ahead**

The reason for current status of solid waste management being so poor in our country is because the best practices of waste collection to disposal are not being implemented. There is non availability of qualified waste management professionals is limited. Also, in the system, there is lack of accountability. Municipal bodies are responsible for managing solid waste India but they do not have sufficient budgets to cover the costs associated with developing proper system of waste collection, storage, treatment and disposal. Further, these bodies are not manned by trained professionals. Public attitudes towards waste management is also a major barrier to improving solid waste management practices.

Chapter V: Rag Pickers and the Organised Sector of Economy

Rag picking is one of the most dehumanising and dangerous activity. The term rag picker is used for someone who makes a living by rummaging through refuse in the streets to collect material of salvage. They work in extremely dirty environment, they are surrounded by dogs and have to wade through the garbage without even the basic safety devices like Gloves and Mask. They suffer from many diseases like skin ailments, respiratory diseases and cuts and wounds. They live at the bottom of economic pyramid. Most of the Rag pickers in India are children. In our society, the existence of child labour is a major social evil. It is not only inhuman but against all ethics. The practice of child labour has existed since ancient times. However, due to general apathy in society, no attention was paid to the plight of deprived people. The problem of child labour is very high in under developed and developing countries. In India, this problem has assumed alarming proportions. The existence of child labour is result of social poverty. The tall ideas embodied in the Constitution of India like Fundamental Rights and other welfare provisions have no meaning to them. Rag picking is severest and worst form of child labour. This is the most unhygienic, dangerous job. The children of poor people and slum dwellers are engaged in such activities. The glass, metal, iron pieces usually injure their bare feet. They have to do this dirty work for earning their bread and butter. They are exposed to waste for long hours and this leads to various diseases. All this has debilitating effect on their lives and ultimately abridges their life spans considerably. Even adult rag pickers have to face all these issues day in and day out.

Government has been doing its efforts to do away with child labour as well as unorganised labour, but very little work has been done in the area of rag pickers and particularly child rag pickers. After independence, the framers of the constitution provided for the prohibition of child labour. Despite the provisions of Constitution, provisions of child labour act and other efforts by government, nothing much has happened on the ground.

In India, there are insufficient employment opportunities in rural areas and small towns. That's why there is large scale migration happening from small cities and villages to bigger cities and metropolitan cities. However, in India urbanisation has also not happened the way it should have taken place. When people migrate to bigger places, they do not get very lucrative jobs. Few get jobs like a peon or watchman in a society, but most of them get a work in unorganised sector like household work. Some open their own small shops. Many are forced to pick garbage. Needless to say, they do not get a proper place to stay in cities. Thus, ghettoization takes place and slums develop in cities. Most of these are unauthorised and thus do not have proper sanitation facilities. Thus, the rag pickers live in dirty conditions. They don't have basic amenities in life. In one household as many as 8-10 members stay together. Their dwelling units are completely cramped. If one gets some disease, others are also infected. Thus, both working conditions and living conditions are poor.

As the population of cities is growing, more and more garbage is being generated. Thus, solid waste management has become a big challenge for the municipal bodies. However, there is an opportunity for earning for rag pickers in this garbage. Further, no qualification is needed to do this work. Also,

usually., all the family members are collectively doing this work to increase their earning. Thus it comes to them as the easiest option for livelihood.

Problems and Risks of Rag pickers

Usually rag pickers have to face the following problems:

- i) Their living conditions are highly pathetic. They work in unsafe surroundings and dingy places, which is severe health hazard. They get regular injuries from glass and metals.
- ii) They do not get sumptuous meal, which is required for healthy living. Important vitamins and proteins are missing from their diet.
- iii) They get very poor money in comparison to the amount of work put up by them. They are exploited by middlemen.
- iv) They get various diseases from the waste, which they handle. They do not have access to good doctors due to poverty. The clusters where they live make it more severe as various infections spread vary fast.
- v) Sometimes, the waste contains hazardous material like used syringes, dressings, discarded medicines etc. This is quite harmful for them. Syringes can cause piercing which, in turn, may lead to tetanus or other infections.
- vi) They carry heavy loads on their back. This may at times cause muscular/skeletal problems.
- vii) Dog bites are quite common in rag pickers.

Actually speaking, rag pickers are friends of the society. They are informal partners of civic agencies as they are doing the work for these agencies free of cost. They are also saving the environment from getting

polluted as they pick up non-perishable items from waste, which is recycled. We know that in today's time there are three thumb rules of saving environment namely Recycle, Reuse and Reduce. They help in recycling of solid waste, thus conserving environment. Also, when this type of waste flows to drains, it has the potential of clogging them. Sometimes animals eat plastic with food waste and die due to suffocation. Thus, rag pickers help the society in prevention of these things.

There is an urgent need to integrate these rag pickers into mainstream, if we really want to help them. They are very important component of the society. As per the Municipal Solid Waste Manual, Part II, issued by Ministry of Urban Development (2016)¹⁹, the informal sector (kabadi system and waste pickers) is the backbone of Municipal Solid Waste Management (MSWM) value chain in India recovering nearly 50 percent of recyclables generated by households.

Municipal Solid Waste Manual, Part II, issued by Ministry of Urban development (2016)¹⁹ has mooted the idea of bringing them into formal sector. It is mentioned in the manual that in India, the informal sector, comprising of the kabadi system and waste pickers, plays a significant role in collection and processing of recyclable material. There is a significant thrust in various National and State level policies to recognise, identify, and integrate informal sector workers into formal waste management processes and initiatives. Creation of livelihoods, social acceptance, and security for informal sector workers and regularising the recycling sector are all benefits of integrating the informal sector. This may be done effectively by organising them into self-

help groups (SHGs) or cooperatives, to capacitate them to work as entrepreneurs in a business entity. In the future, they may own small recycling facilities which are managed scientifically and hygienically. However, ground reality is completely different. So far, no such benefits have been given to the rag pickers.

Welfare Schemes

As such, Government of India does not run any welfare schemes specifically for rag pickers. Further, during the course of survey, it was found that the respondents were not knowing anything about any government welfare scheme for them except for the welfare initiatives taken by some NGOs.

Vide his reply dated 1/8/2016 in Lok Sabha²⁰, The Minister of Labour and Employment mentioned that no specific data for rehabilitation of rag pickers was available. It was further stated by him that the Government had enacted “Unorganised Workers’ Social Security Act, 2008” for the welfare of unorganised workers and the Rag Pickers were covered there under. The Act provides for formulation of suitable welfare schemes for unorganised workers on matters relating to: (i) life and disability cover, (ii) health and maternity benefits, (iii) old age protection and (iv) any other benefit as may be determined by the Central Government through the National Social Security Board. In addition to the above, the Rag Pickers have also been extended scholarship benefits under the scheme namely “Pre-matric scholarship for children of those engaged in occupations involving cleaning and prone to health hazards”. Under the Scheme there is a provision of scholarship of Rs. 750/- per annum to the students who are day scholars

studying in classes I to X and Rs. 1000/- per annum to hostellers studying in classes III to X.

Thus, effectively, there are no substantive schemes for rag pickers by Government of India or State Governments. Although, Ministry of Urban Development plans to integrate them with the main stream, but as such, there is nothing on ground.

Chapter VI: Data Analysis and Interpretation

Data Analysis

The purpose of this study is to know about the diseases happening to rag pickers due to long exposure to garbage and ways and means of their prevention and treatment. The study also aims to find out the details of welfare schemes for rag pickers, whether run by the Central Government or the State Governments or by NGOs. For this purpose, a questionnaire was prepared containing 22 questions. The responses were recorded through face to face interviews. The study was conducted on 100 respondents. The respondents were picked up from two major localities of Saharanpur; the first being Indira Camp Colony and the other being Sharda Nagar dump. Among these 100 respondents, 89 were males and rest 11 females.

Table No. 6. 1

Genderwise Bifurcation of Participants interviewed in Field Surveys

Area	Number of male respondents	Number of female respondents	Total
Indira Colony Camp	41	11	52
Sharda Nagar	48	0	48
Total	89	11	100



Statements of Rag pickers being recorded at Indira Camp Colony, Saharanpur

Total 52 rag pickers from Indira Colony camp were interviewed and rest 48 from Sharda Nagar. Total number of households in Indira Camp Colony are about 250. Total population of the area is about 1500. Earlier, almost all of them used to collect garbage from the nearby dumps. However, now, many of them have left this work and picked up some other activity like making of artefacts or selling of utensils. In this area, two NGOs namely Ashray Foundation and Crazygreen are running welfare activities for them, like proving education to them and carrying out health camps at regular



Statements of Rag pickers being recorded at Sharda Nagar, Saharanpur

intervals. In Sharda Nagar dump, about 100 garbage pickers are working. They have their residences at different different places. They also pick

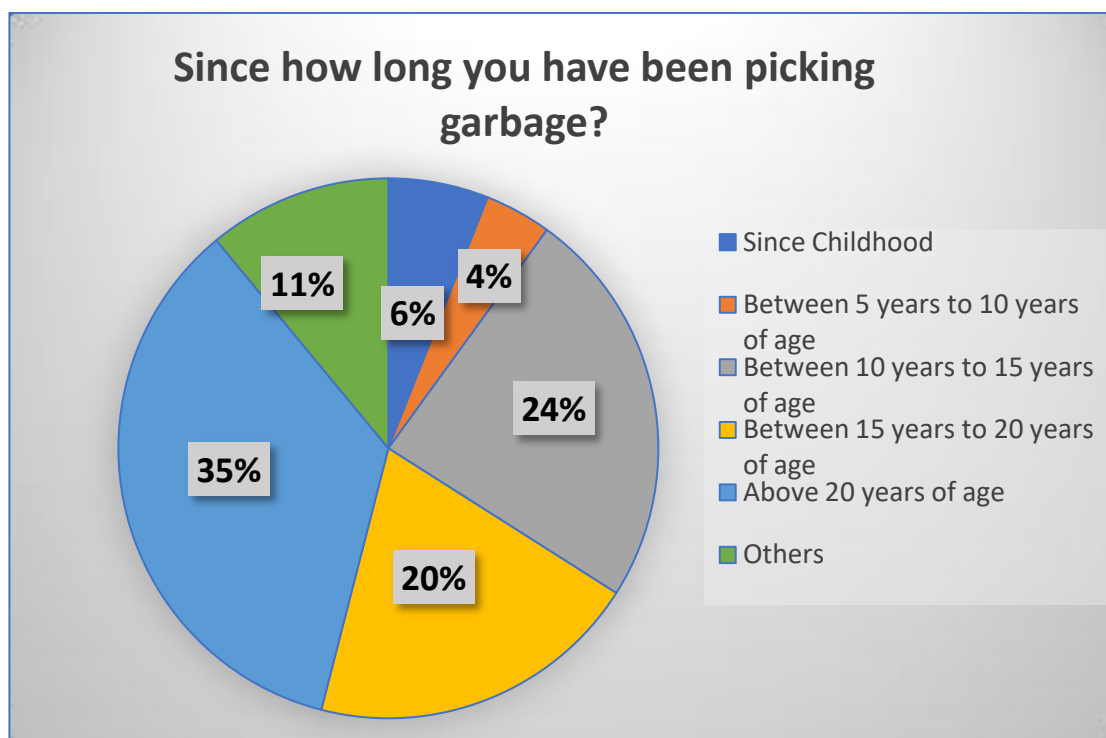
up household garbage and they are getting the welfare scheme of ITC known as “Sunahra Kal”. Under this scheme, they have been given a cycle rickshaw, a mask and a pair of hand gloves each by ITC. ITC has been carrying out this mission under CSR initiative with the help of two NGOs known as Force Seva samiti and Umang Seva samiti.



Cycle-Rickshaw provided by Force Seva Samiti to a Rag picker at Sharda Nagar, Saharanpur

Out of 100 respondents, 35 stated (Figure 6.1) that they were picking garbage after attaining the age of 20 years, while 24 of them were into this act since age bracket 10 to 15 years, 20 from 15 to 20 years of age, 4 from 5 to 10 years of age and 6 from childhood. Thus 6 percent of them were doing the activity of rag picking since childhood. 11 respondents did not fall in any of the above categories as they opted for others. They were the people, who did the act of rag picking only for some time (few months or years), but left it later on. On the date of interview, these respondents were not into this activity and doing some other work like selling utensils etc.

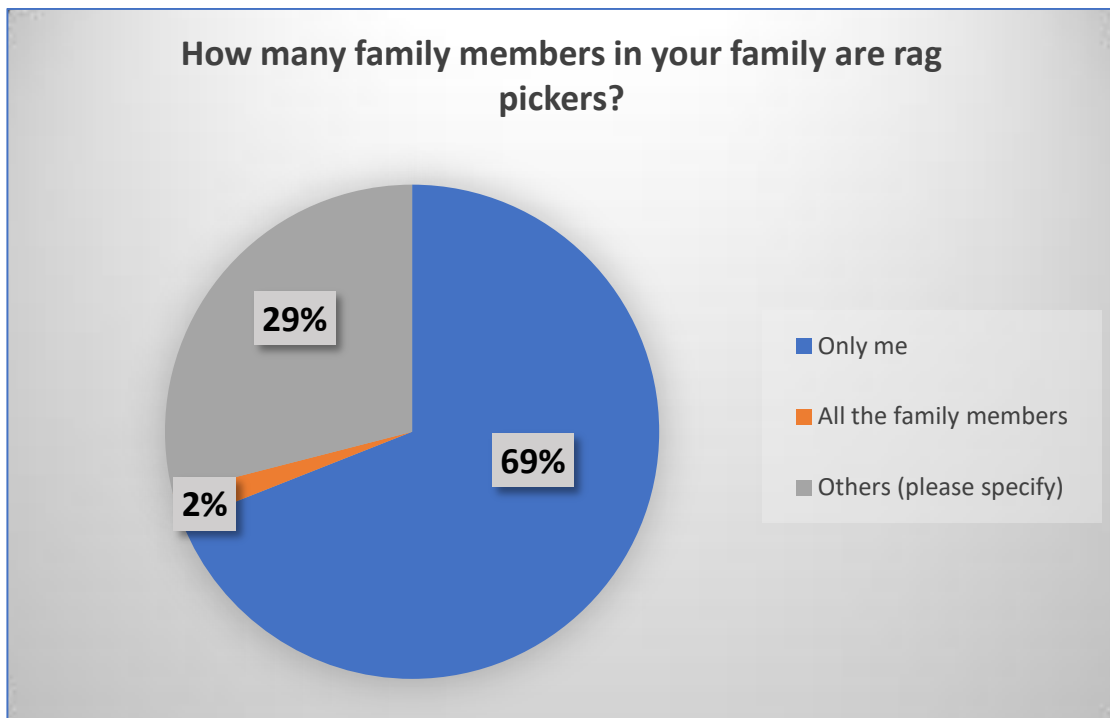
Figure 6. 1



Source: Field Survey, APPPA

69 percent respondents (Figure 6.2) stated that in their household, only they were doing the activity of garbage picking. Other members of the family were not doing this work. Only 2 percent stated that in their house, all the family members were doing this work. 29 percent stated that more than one family members were doing this work.

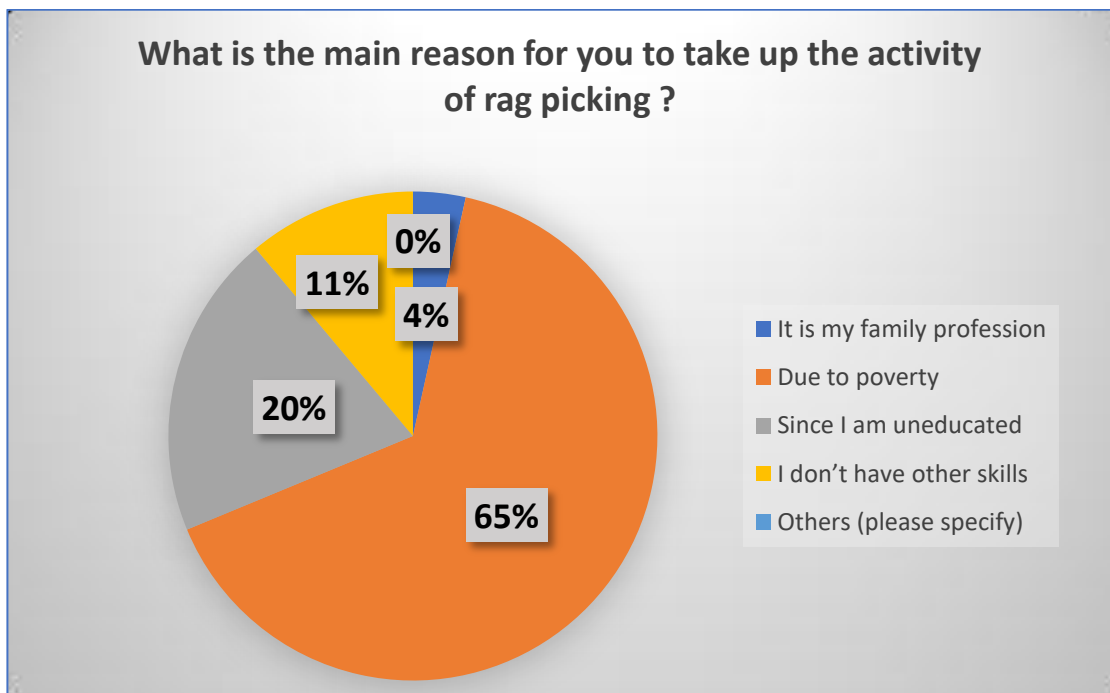
Figure 6. 2



Source: Field Survey, APPPA

On being asked about the main reason for picking up this work, 65 percent

Figure 6. 3

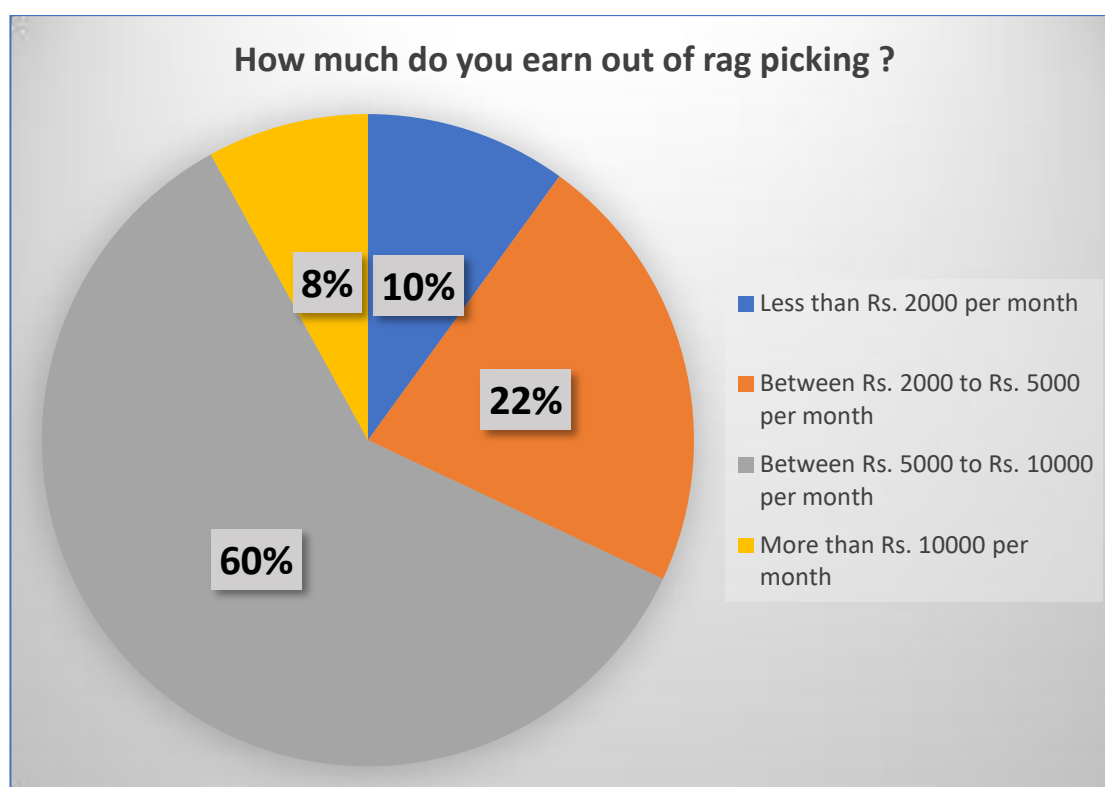


Source: Field Survey, APPPA

respondents stated (Figure 6.3) that it was due to poverty. Education stood as second cause with 20 percent responses followed by lack of other skills (11 percent) and it being a family profession (4 percent). In, this category, they were allowed to choose more than one options.

So far as earning is concerned, 60 percent of them stated (Figure 6.4) that their monthly incomes were between Rs. 5000 to Rs 10000. 22 percent stated that they earn somewhere between Rs. 2000 to Rs. 5000 per month. While 10 percent earn less than Rs 2000 per month and 8 percent earn more than Rs. 10000 per month.

Figure 6.4



Source: Field Survey, APPPA

89 respondents out of 100 stated (Figure 6.5) that they were dissatisfied with this work, while 11 of them stated that were satisfied with this work.

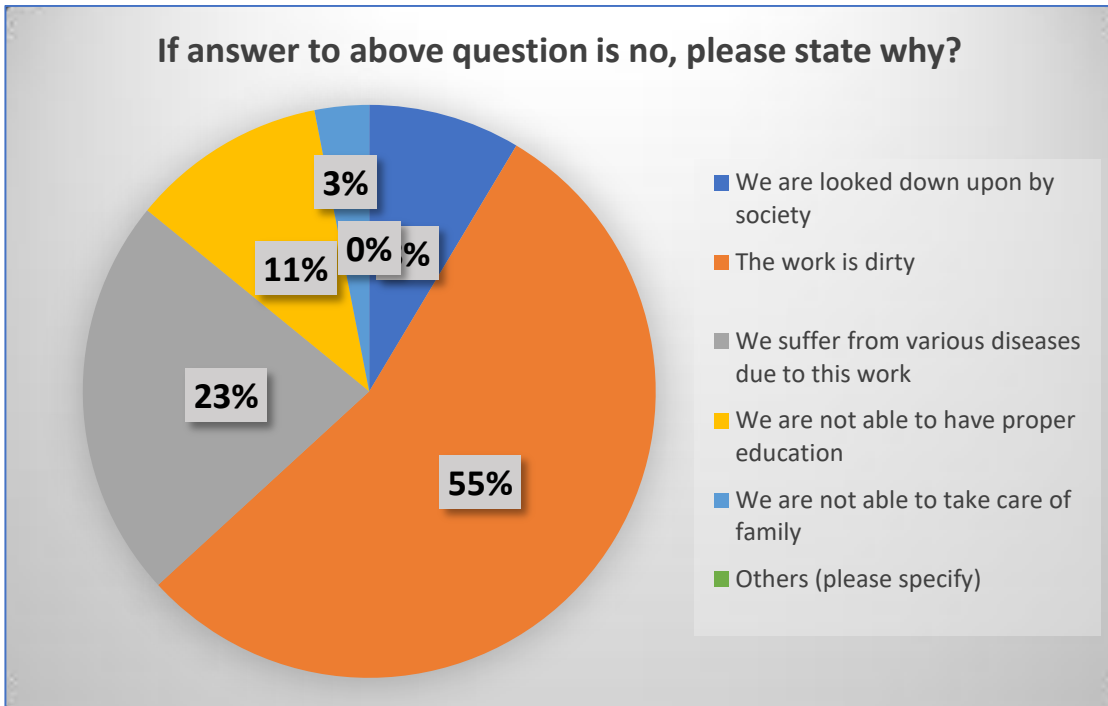
Figure 6.5



Source: Field Survey, APPPA

The reasons for not being happy were asked from the 89 respondents, who had mentioned that they were not happy with their work. They were allowed to pick more than one reason for the same. All 89 respondents (Figure 6.6) chose the option "The work is dirty" as one of the reasons for their unhappiness. 37 respondents also blamed diseases related to profession as other reason. 18 of them also stated that due to this work they are not able to get good education. 14 said that they were looked down upon by the society and 5 also stated that in this work, they did not earn sufficient to take care of their family.

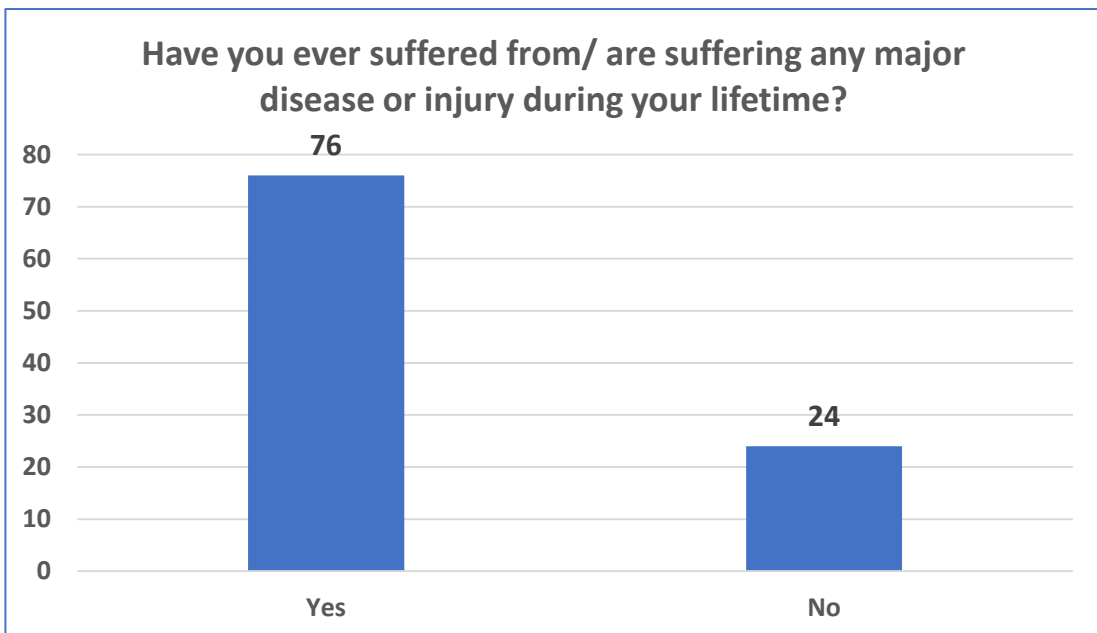
Figure 6. 6



Source: Field Survey, APPPA

They were asked whether they have suffered from any serious disease or grave injury in their life. Majority of them, 76 respondents (Figure 6.7), stated that they had suffered from disease or injury. Rest 24 stated that they never had any such problem in their life.

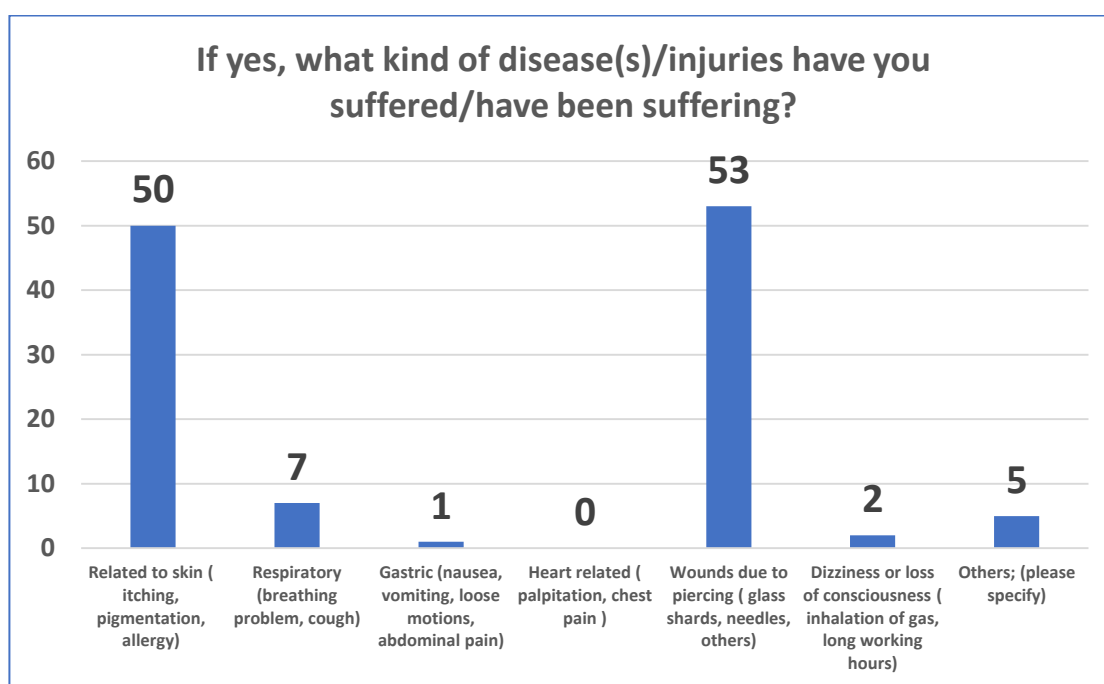
Figure 6. 7



Source: Field Survey, APPPA

Those 76, who stated yes to the above question were asked about the kind of disease or wound suffered by them. Again, they were allowed to give more than one answers. 53 of them i.e. about 70 percent, (Figure 6.8) have had a serious injury in the form of piercing of glass or metals etc. 50 had skin related problem like itching, allergy and other reactions. This was about 65 percent of total number of respondents. Only few of them suffered from other diseases; like 7 suffered from respiratory diseases, 2 had problem of dizziness

Figure 6. 8

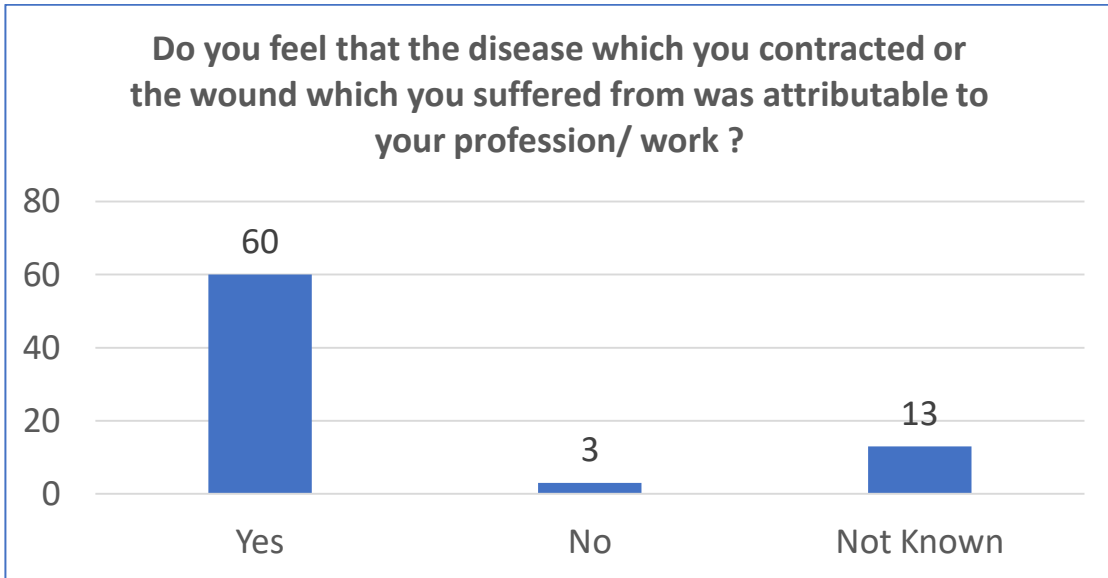


Source: Field Survey, APPPA

and one had gastric problem. Some of them had more than one problem. 5 of them had some other issues like hurt when driving rickshaw.

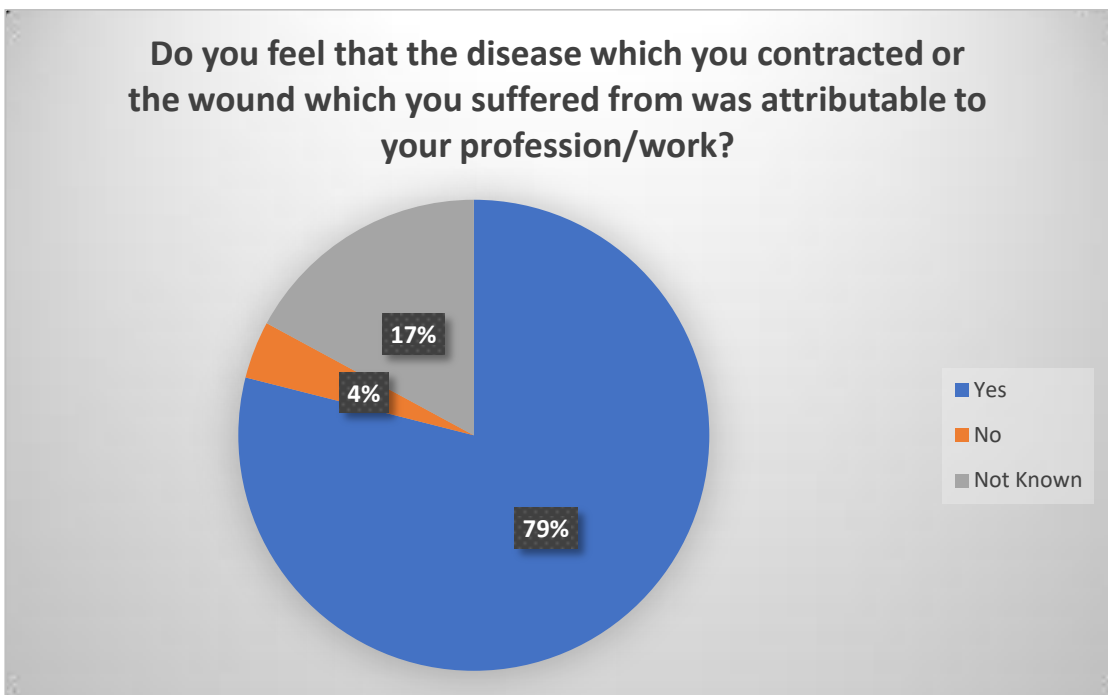
Out of the 76 respondents, 60 admitted (Figure 6.9) that the disease or wound suffered by them was attributable to their work. Only 3 stated that it was not related to their work and 13 expressed ignorance.

Figure 6. 9



Source: Field Survey, APPPA

Figure 6. 10

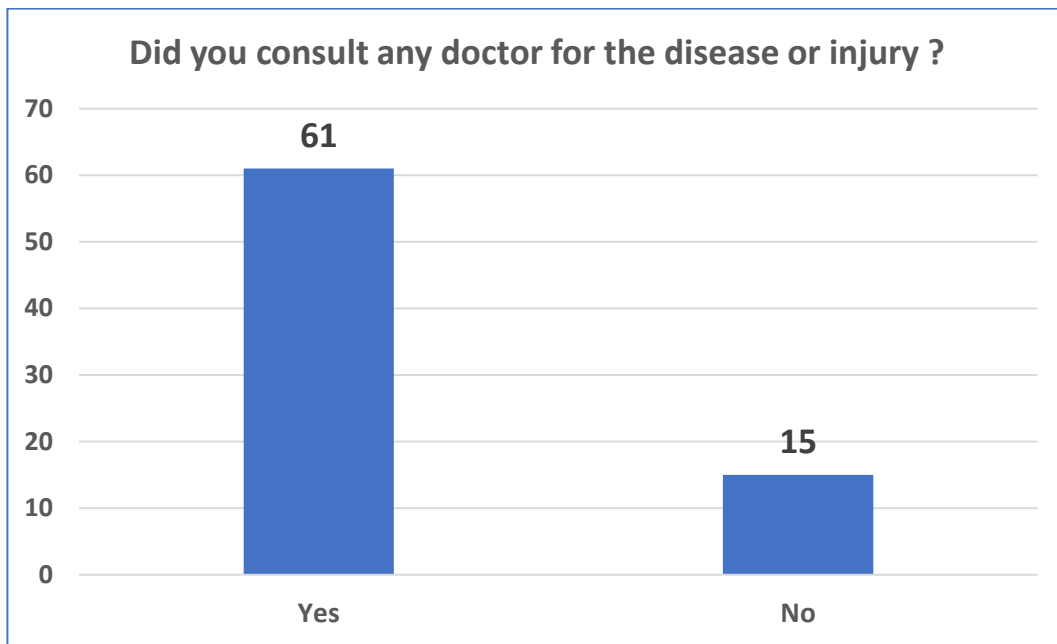


Source: Field Survey, APPPA

Thus 79 percent (Figure 6.10) of the respondents said that the disease or the wound suffered by them was a result of their profession or work.

Out of 76 respondents, who stated that they had either suffered from a serious disease or wound, 61 stated (Figure 6.11) that they had consulted a doctor for their disease/wound. 15 said that they did not visit any doctor for their problem.

Figure 6. 11

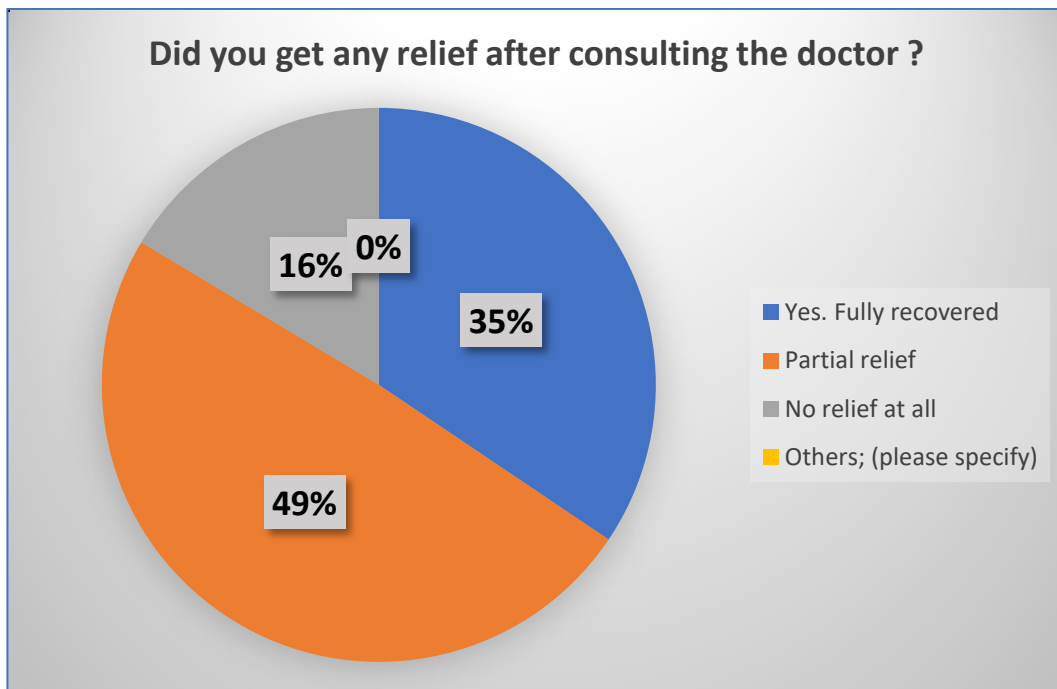


Source: Field Survey, APPPA

Out of these 61 patients (Figure 6.12), who visited doctors for their ailments, 21 got full relief, 30 of them had only partial relief and 10 did not get any relief at all.

Thus, 16 percent did not get any relief at all and 35 percent were fully recovered.

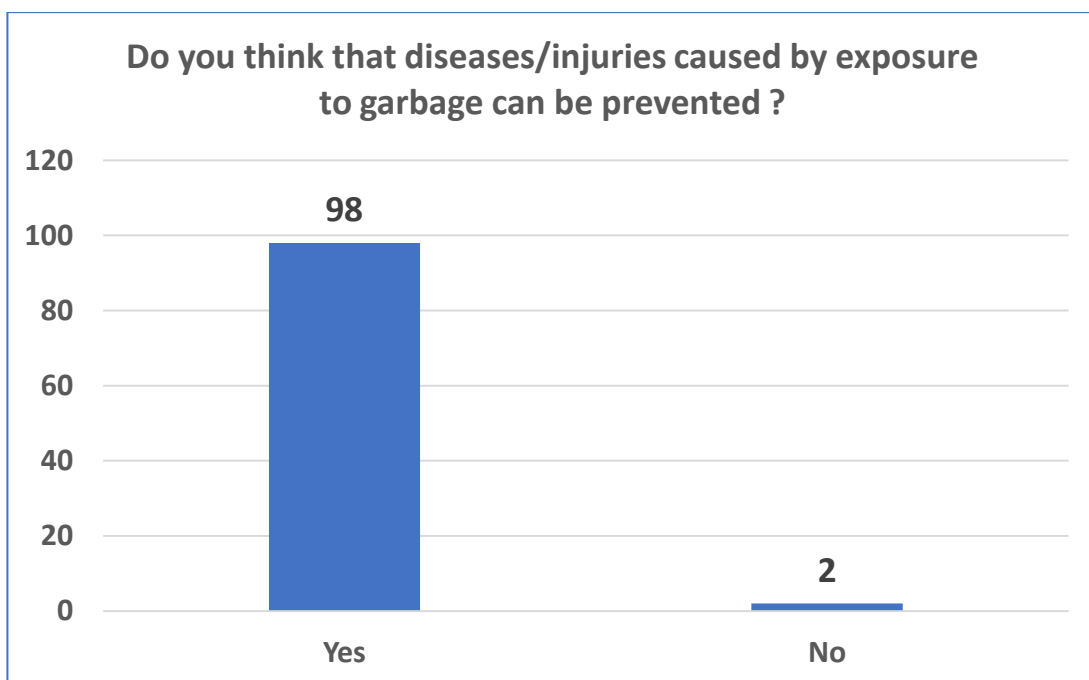
Figure 6. 12



Source: Field Survey, APPPA

The respondents were also asked whether the diseases or injuries caused during the

Figure 6. 13

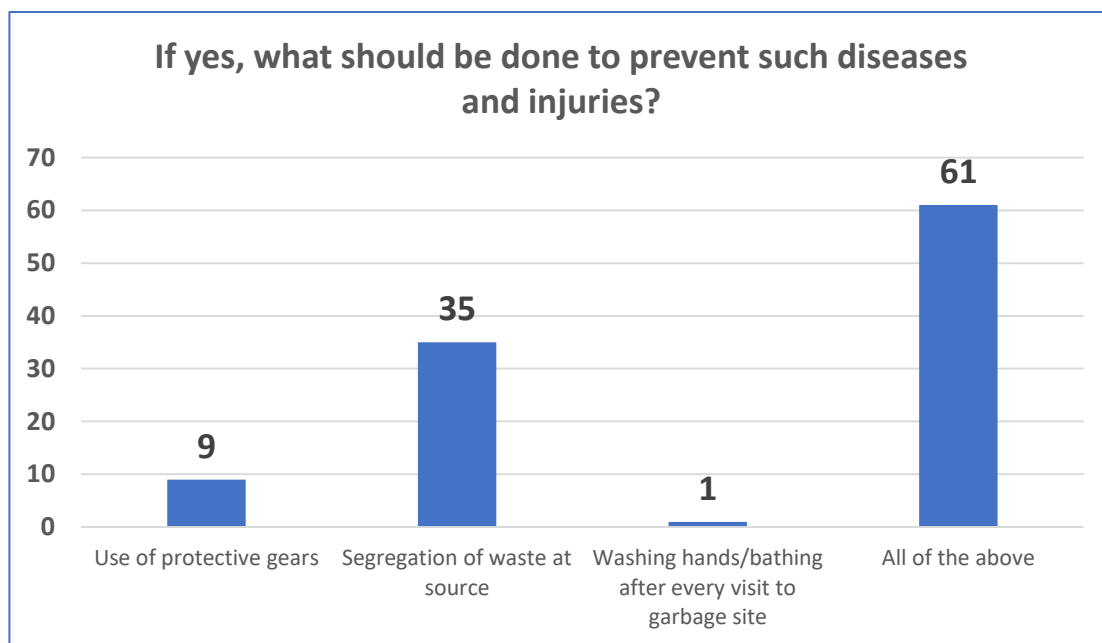


Source: Field Survey, APPPA

process of rag picking could be avoided? 98 of them (Figure 6.13) said 'Yes' and only 2 stated 'No'. Thus 98 percent were of the opinion that the diseases or wounds caused are preventable.

Those, who answered in affirmative to the above question were asked how diseases and injuries caused in their profession can be prevented. More than one answer were allowed to be responded. 35 responses (Figure 6.14) were given in favour of

Figure 6. 14

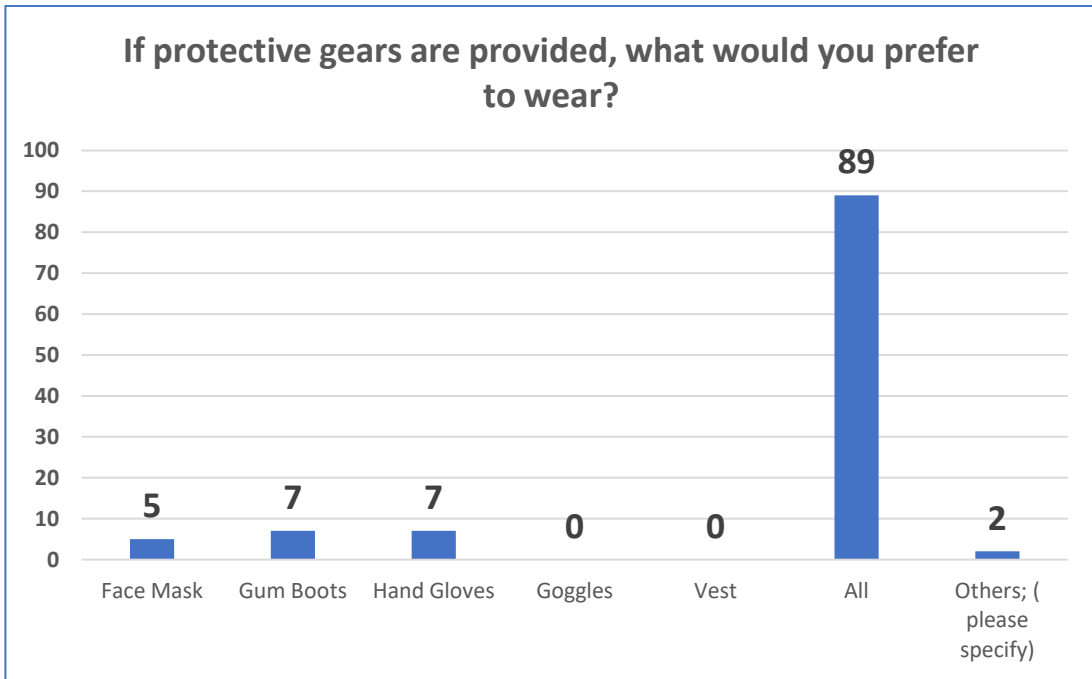


Source: Field Survey, APPPA

“segregation of waste at source”. 9 responses were also in favour of “use of protective gears”. However, majority 61 of them stated that all the measures should be adopted.

They were further asked what type of safety devices would they prefer. 89 respondents said (Figure 6.15) that all the safety gears should be provided i.e. mask, rubber boots, hand gloves, plain glasses and apron (vest). Some respondents also gave a combination of safety devices like mask and gloves etc. 2 respondents opined that in addition, they should be given a stick to scare away dogs, as often they become victims of dog bites.

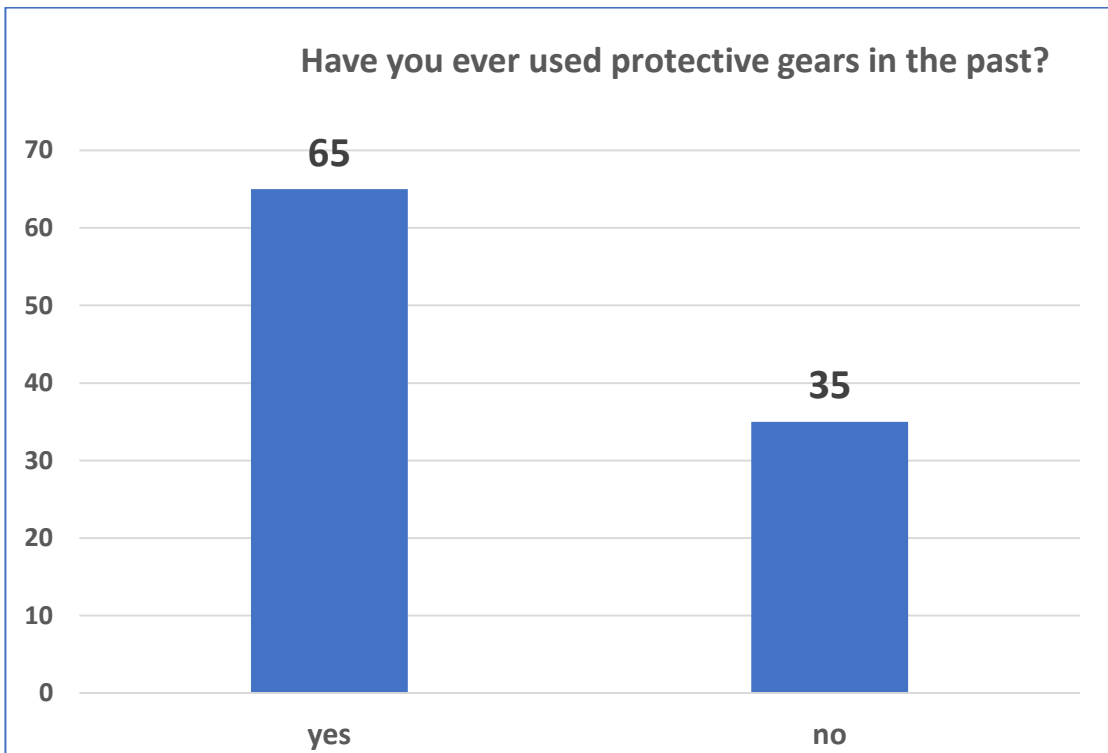
Figure 6. 15



Source: Field Survey, APPPA

65 respondents out of 100 stated (Figure 6.16) that they had used protective gears in the past, while 35 of the respondents said that they never used protective gears in the past.

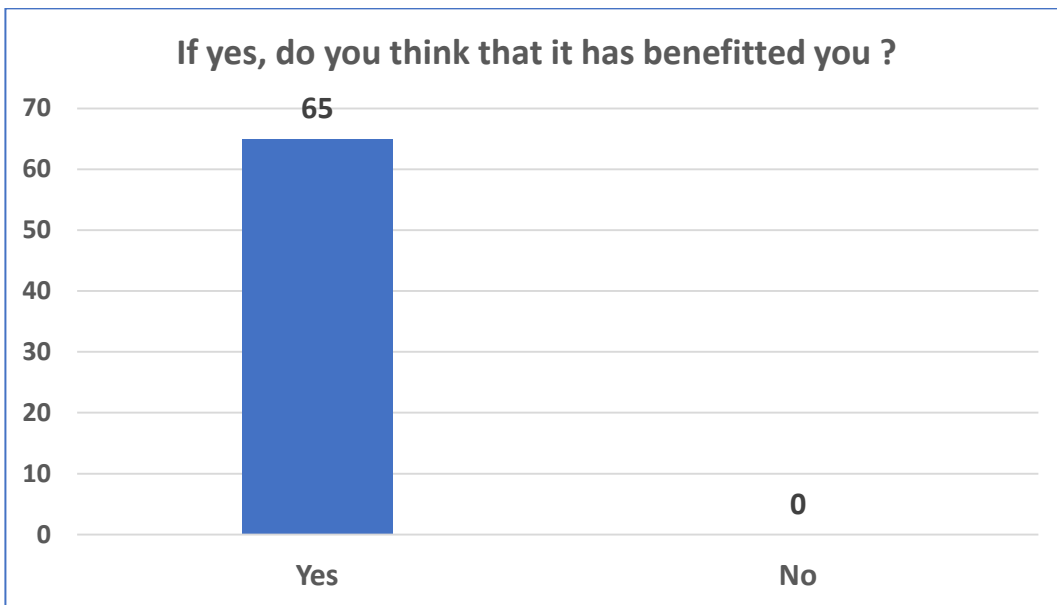
Figure 6. 16



Source: Field Survey, APPPA

All 65 of them stated (Figure 6.17) that using protective gears had benefitted them in one way or the other.

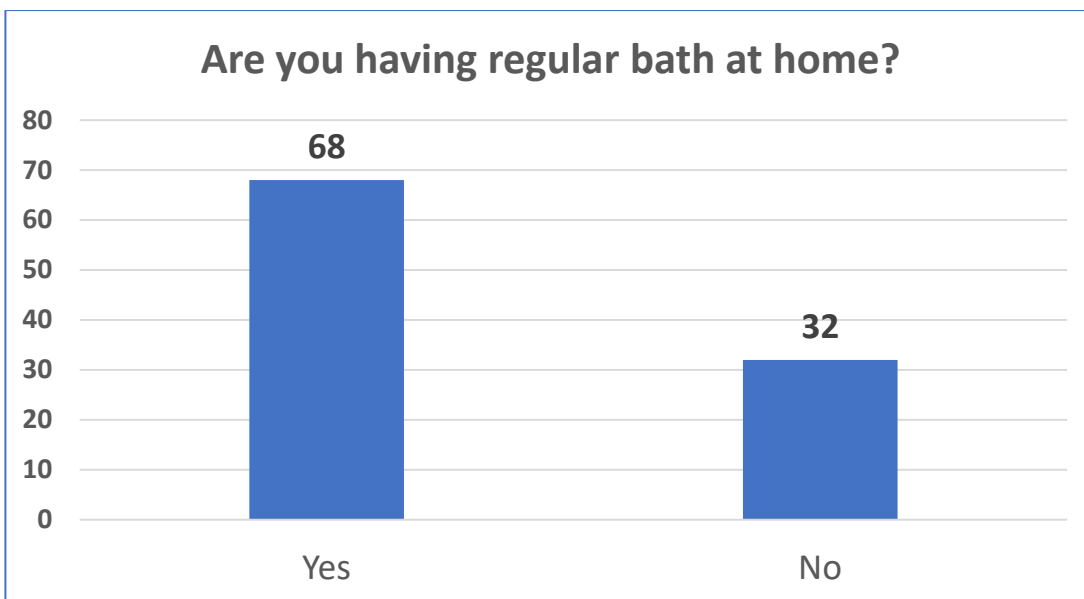
Figure 6. 17



Source: Field Survey, APPPA

Out of 100 respondents, 68 stated (Figure 6.18) that they were taking regular bath at home. Further, even a bigger number 82 stated (Figure 6.19) that they were washing their hands regularly after each visit to garbage dump.

Figure 6. 18



Source: Field Survey, APPPA

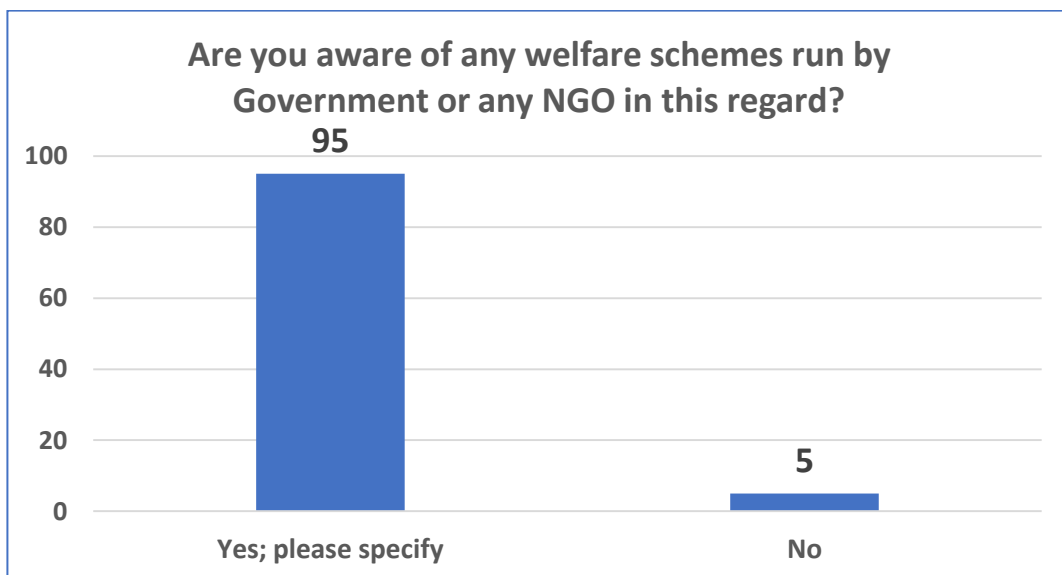
Figure 6. 19



Source: Field Survey, APPPA

95 of the respondents stated (Figure 6.20) that they were aware of some welfare schemes being run for them by NGOs. The NGOs which were named by them are Crazy green, Ashray Foundation, Force Seva Samiti and Umang Seva Samiti.

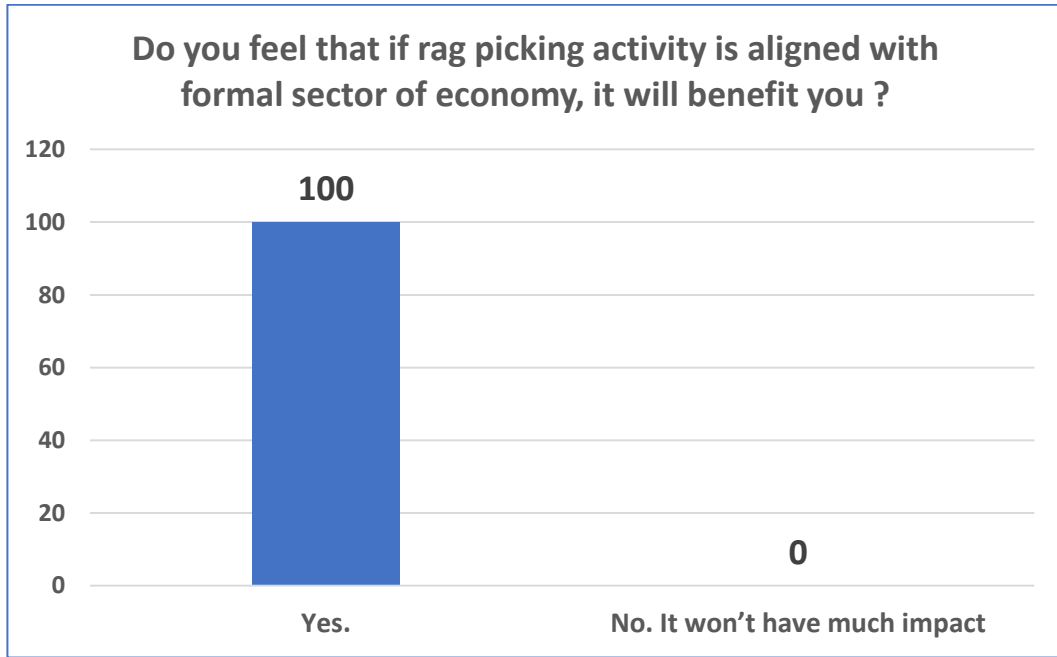
Figure 6. 20



Source: Field Survey, APPPA

All 100 respondents were of the opinion (Figure 6.21) that if their work is aligned with main stream, it will benefit them.

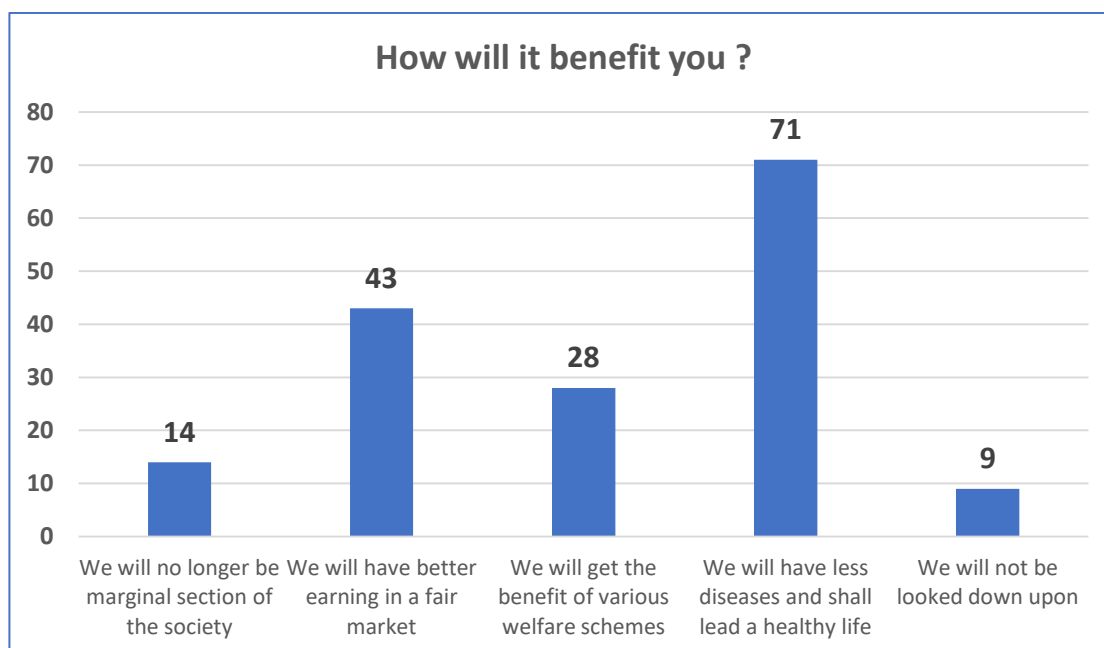
Figure 6. 21



Source: Field Survey, APPPA

On being asked, how it will benefit them, 71 opined (Figure 6.22) that they will have less diseases, 43 said their earnings will improve, 28 opined that they will get benefit of all government schemes. 14 said that they will not be anymore marginalised and 9 also said that they will not be looked down upon by society.

Figure 6. 22



Source: Field Survey, APPPA

Interpretation

The main factor, which has forced the respondents into this activity is poverty with 94 respondents out of 100 assigning it as one of the reasons. The other major reason is lack of education.

It is observed that usually they are drifting towards other activities. Many of them mentioned that they have left this work after doing it for several years and now doing something else. Further, 69 respondents out of 100 stated that they are the only members in the household, who are now picking garbage. Other members have either shifted to some other activity or are in the process of doing the same. Only 2 respondents stated that their entire family was involved in this activity.

One more interesting observation is that very small kids were not into this activity, neither did they start it from childhood days. In fact 35 percent respondents stated that they started this activity after attaining the age of 20 years. 79 percent started this work after attaining the age of 10 years. Only 10 percent started before 10 years of age and only 6 percent have been doing it since

childhood. It is further seen that all 11 female respondents out of total respondents have left this work and right now, they are doing some other activity or just taking care of their children at home.

The average earning of most of the ragpickers is between Rs. 5000 to Rs. 10000 per month. 60 respondents lie in this range. 22 earn an income of Rs. 2000 to Rs 5000 per month. Thus 82 percent earn between Rs. 2000 to Rs. 10000 per month. Thus, only a meagre amount is earned by majority. Only 8 percent earn above Rs. 10000 per month.

Amongst females, the situation is still worse. Out of 11 females, 4 earned less than Rs 2000 per month and 5 earned between Rs. 2000 to Rs. 5000. Thus, 10 out of 11 women i.e. 91 percent earned less than Rs 5000 per month. The same ratio for the entire sample is only 32 percent.



Rag pickers suffering from various skin diseases at India Camp Colony, Saharanpur

Majority of them i.e. 89 were unhappy with this work. The main reason for not liking this work was that “It is a dirty activity”. Another important reason for not liking this work was that they were getting various diseases out of this activity. Majority of them (76 out of 100) admitted that they have suffered from either a serious disease or injury in their life. In fact, as many as 50 out of 76 (66 percent) stated that they were suffering from various skin diseases and 53 out of 76 (70 percent) have had a serious injury at least once during working hours. Thus a majority of the population suffers from either a serious disease or injury. In fact, during the course of survey, it was observed that in the Indira Camp Colony, most of the residents were suffering from scabies or some other fungal skin infection.

Many of them told that they were not able to sleep peacefully during night due to this problem. Further, since the disease is communicable, it was spreading in the colony very rapidly. The characteristic symptoms of a scabies infection include



Hand Gloves being provided to Rag pickers at Sharda Nagar, Saharanpur

intense itching and superficial burrows. Typically, a delay of four to six weeks occurs between the onset of infestation and the onset of itching. In the classic scenario, the itch is made worse by warmth, and is usually experienced as being worse at night. The superficial burrows of scabies usually

occur in the area of the finger webs, feet, ventral wrists, elbows, back, buttocks, and external genitals. Except in infants and the immunosuppressed, infection generally does not occur in the skin of the face or scalp. The burrows are created by excavation of the adult mite in the epidermis. Scabies is contagious disease and can be contracted through prolonged physical contact with an infected person. Scabies is a treatable disease and can be cured by one time application of medicine.



Skin Camp organized at Indira Camp colony, Saharanpur on 23rd Feb, 2020

In fact, after meeting few people and doctors in Saharanpur to find out a solution for this problem, fortunately, one skin specialist showed interest and agreed to carry out a skin camp in



Pictures showing happy faces post recovery from various skin diseases

Indira Camp Colony. The camp was organised on 23rd February 2020 successfully.

Free medicines were given by the doctor to about 250 patients suffering from various skin infections, particularly scabies. Many patients have reported recently that they have now fully recovered. It was further observed that proportion of other diseases was quite less in comparison to skin problems and physical injury. For example, 7 out of 76 complained of respiratory diseases, only 2 persons suffered from dizziness and 1 from gastric issues. 5 persons complained of some other issues like dog bite or injury while plying cycle rickshaw.

It was observed that out of total respondents 76, 50 suffered from skin diseases. Thus, the ratio of people suffering from skin diseases was 66 percent. Also, 32 respondents stated that they don't take regular bath. Out of them 24 suffered from skin diseases, thus making it as 75 percent. In reply to the question number 19, 18 respondents stated that they don't not wash hands regularly after each visit to garbage mound. 15 of them reported to be suffering from skin diseases, which makes it 83 percent.

Table No. 6. 2

Table showing comparison between number of victims due to maintenance and non-maintenance of hygiene

Total Number of respondents	Total suffering from skin diseases	Ratio of people suffering from skin diseases out of total respondents	Total respondents not taking regular bath	Total out of (4) suffering from skin diseases	Ratio of column (5) to column (4)	Total respondents not washing hands regularly after each visit to garbage dump	Total out of column 7 suffering from skin diseases	Ratio of column 8 to column 7
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
100	50	50%	32	24	75%	18	15	83%

From this data, it is clearly understood that, skin disease is clearly related to hygiene maintained by the rag pickers. Those, who do not bathe regularly or don't wash their hands after visit to garbage mound face more problems related to skin and this is substantially high at 75 percent and 83 percent in comparison to sample average of 66 percent.

60 out of 76, who had stated that they have had some serious disease or injury were of the opinion that the reason for their injury or disease was their occupation. Rest were either not clear or did not consider it as reason.

One good observation is that out of 76 people, who stated that they have suffered from some disease or injury, 61 visited doctor. It shows a good level of awareness. For cut through pricking of glass and metals, they have been immediately visiting doctor and taking tetanus injections. Out of these 61 respondents, 21 stated that they got full relief and 30 got partial relief from their problem.

98 out of 100 respondents were of the view that the diseases from which they suffer and the injuries which are caused to them, may be prohibited/avoided. 61 respondents out of 98 mentioned that it can be achieved if all the things mentioned below are exercised:

- i) Washing hands after every visit to garbage dump and regular bathing
- ii) By using safety gears
- iii) Segregating the garbage at source

Maximum emphasis was on use of safety gears. 65 respondents out of 100 mentioned that they have used or have been using safety gears. All 65 admitted that this has really benefitted them. Out of 65 who have used or are using protective gears, 25 suffered from skin diseases and 32 had some injuries; which makes it 38

percent and 49 percent. Against this, 25 respondents had skin diseases and 21 suffered injuries out of 35, who did not use any protective gears. This converts into 71 percent and 60 percent respectively. Thus, it can be observed that there is sufficient protection from diseases and injuries, if protective gears are used. Majority of the respondents also agreed that for their protection, all the protective instruments are needed like; mask, rubber boots, hand gloves, plain glasses, apron and one stick.

95 respondents out of 100 mentioned that they were aware of the welfare schemes run for them by NGOs. In fact, In Indira Camp Colony, two NGOs namely Ashray Foundation and Crazy green have been working for their welfare for last ten years or so. A small school by the name “Udaan” has been set up by these NGOs in the locality itself to impart free education to rag pickers. These NGOs are also organising health camps for them. A small dispensary by the name ‘Udaan Charitable Dispensary’ is being run by them, which is providing basic medical facilities to the inhabitants of Indira Camp Colony. The respondents at Sharda Nagar dump mentioned about Umang Seva Samiti and Force Seva Samiti, both of whom were partners of ITC in its CSR programme known as “Sunahra Kal”. Under this scheme, they were provided masks and gloves. However, the respondents were not aware of any government schemes for their welfare.

All the respondents opined that aligning them with main stream will be beneficial for them mainly because, they will get all the facilities and thus they will not suffer from various diseases. Their incomes shall increase and they will get the benefit of all welfare schemes run by the government.

Chapter VII: Conclusion and Recommendations

From the above discussion, it can be seen that the rag pickers are in fact leading a marginalised life even after doing a very important task of making the entire society pollution free. However, their contribution to the society has largely remained unrecognised. They suffer so many problems in the process like physical ailments, wounds and injuries and many more. From the study, following conclusions may be drawn:

Conclusions

From the study, it can be concluded that Ragpickers are marginalized section of the society. They don't have access to even the basic protective gears like hand gloves, mask, rubber boots, apron etc. They get injured very regularly as glass shards or metal pieces often pierce them. Since, they work in dirty conditions, they also contract various diseases; particularly skin diseases. In this study, it was found that they were having two major occupational problems; first one skin diseases like scabies and second one regular physical injuries from glass pieces, needles etc., in addition to few other problems like dog bites, respiratory and other problems.

The study also revealed that most of these problems may be prevented or substantially reduced by use of protective equipments. The study also highlights their desire to become part of formal economy, so that they also get rid of their problems like physical injuries and diseases.

There are few NGOs, who are doing good work for their welfare. Unfortunately, no government schemes are being run for their welfare in the area of the study. Based on the above, the Research Questions are answered as under:

What are the common illnesses present in the rag pickers?

The most common illness, which rag pickers of Indira Camp Colony and Sharda Nagar dump are suffering are skin diseases like scabies and other fungal infections. Besides, some had other issues also like respiratory problems. Further, another major problem for them is physical injuries caused by glass shards and needles. Some of them also suffered from dog bites.

What are the ways and means by which, the diseases caused by exposure to garbage may be prevented and/or treated?

For prevention of these diseases and injuries, a combination of factors are important, which are as under:

- i) Taking regular bath on daily basis.
- ii) Washing hands and feet after each visit to garbage dump.
- iii) Ensuring that they do not contract such diseases from other family members, as most of skin diseases are communicable.
- iv) Use of protective gears like gloves, mask, boots, plain glasses, apron and stick.
- v) If garbage is segregated at source by the user himself.

So far as treatment is concerned, main disease namely scabies, which is rampant in them is completely treatable. One skin camp was organised in Indira Camp colony on 23 February 2020. About 250 patients suffering from scabies were treated. Now many of them have recovered. Similarly, for the injuries caused, they should immediately see a doctor and take injections of tetanus.

What are the welfare schemes run for them by central government or state government or NGOs?

As such, it was found that no welfare schemes were run by the central or state government for them. However, it was observed that few NGOs are doing praiseworthy work for the welfare of the rag pickers in the area of study. In Indira Camp Colony, two NGOs namely Ashray Foundation and Crazygreen are providing free education to slum kids. They are also arranging health camps for them at regular intervals besides running a dispensary. In Sharda Nagar area, Umang and Force are working to promote Sunahra Kal scheme of ITC under CSR initiative.

Recommendations

Rag pickers are very important components of the society. They indirectly assist the municipal corporations by carrying out segregation of waste. The municipal bodies in India are not able to cope up with the work of solid waste management. They are fund starved, do not have skilled manpower and suffer from all kinds of inefficiencies. Rag pickers have been playing a very important role. They help the society in ensuring a cleaner environment. It is we, the citizens, who are generators of waste and not the ragpickers. Following recommendations are made based on the study conducted:

Alignment with Formal economy:

It would be a good idea to bring their work into the ambit of formal economy. They can be made employees of Municipal corporations. By doing so, municipal corporations will get more manpower. At the same time, the ragpickers will get their due. They will get the same benefits as other employees of the corporations are getting. At least minimum wages would be assured to them.

Further, they will also get all the protective instruments. Also, they will get all the facilities of special hospitals like ESIC hospitals etc. Special desks can be set up for them, as they suffer some particular health hazards related to their work. They will not be forced to send their children for rag picking and instead their

children can study in good schools. This will help the government in preventing child labour in this field.

Supply of Protective Equipments:

Till the time, it becomes a reality that ragpicking activity is aligned with formal sector of the economy, Government should launch a nationwide plan to mitigate their existing problems. As observed during the course of surveys, most of them suffer from frequent injuries or diseases, particularly skin diseases, due to dirty conditions, they should be provided with protective gears and they should be sensitised to use them whenever they are on the job. The protective gears include a mask, gum boots, hand gloves, apron, plain glass and a stick. Stick will help them to shoo away dogs, who often bite them. Wherever possible, a cycle rickshaw should also be provided to them, so that they can collect the garbage in the rickshaw rather than burdening their back. There are large numbers of child labour involved in this activity. Government should run welfare programme for them. They should be given free education in good schools. Vocational courses should also be organised for them as they have lot of skilled manpower within themselves.

Special Awareness Programmes:

Special awareness programmes should also be run by Government and NGOs for them highlighting the importance of keeping hygiene. During the course of survey, it was found that they suffer from skin diseases, which can easily spread as they are communicable diseases. Since, they live in clusters and average household size is 6-8 persons, it is quite likely that the disease would spread sporadically. As a matter of fact, hygiene kits should be distributed, containing soap, tooth paste, tooth brush, comb etc, so that they use it in a routine manner. Once, it goes into their blood, it will become a regular practice for them.

Organisation of Health Camps:

Government and NGOs should organise health camps for them. Regular check ups are required to be done. The diseases, with which they are suffering, should be treated immediately, so that it does not spread further in the clusters. There should be a permanent dispensary, which can take care of other regular problems like cuts and injuries from syringes and glass shards, when immediate medical attention is required. They should be given a shot of tetanus also by government as per prescribed standards.

Policies for Poverty Alleviation:

When poverty alleviation policies are formulated, care should be taken to cover a large chunk of poor families, whose economic conditions are the main reason for compelling their children to join rag picking. The improved economic conditions shall certainly help the parents to rethink the placement of their children in the dangerous activity of rag picking.

Awareness Programmes for Citizens:

Government should sensitise and run awareness programmes for waste generators that they should do segregation of waste at source itself. This will not only make the work of rag pickers easy but also ensure that they do not get injuries while picking waste.

It is extremely important for Government to pay immediate attention to the plight of rag pickers. Basic humane conditions should be provided to them. The objective should be to bring them at par with the main society, so that they can also

enjoy the basic privileges of a citizen and enjoy their work. At the same time, the society should also stop looking at them with contempt.

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QUESTIONNAIRE**Name:****Age:****Gender:****Address:****Size of family:**

Please spare a few minutes to fill the following simple questionnaire. There may be more than one correct responses. Kindly tick all the correct responses:

1. Since how long you have been picking garbage ?

- a) Since childhood
- b) Between 5 years to 10 years of age
- c) Between 10 years to 15 years of age
- d) Between 15 years to 20 years of age
- e) Above 20 years of age
- f) Others (please specify)

2. How many family members in your family are rag pickers?

- a) Only me
- b) All the family members
- c) Others (please specify)

3. What is the main reason for you to take up the activity of rag picking ?

- a) It is my family profession
- b) Due to poverty
- c) Since I am uneducated
- d) I don't have other skills
- e) Others (please specify)

4. How much do you earn out of rag picking ?

- a) Less than Rs. 2000 per month
- b) Between Rs. 2000 to Rs. 5000 per month
- c) Between Rs. 5000 to Rs. 10000 per month
- d) More than Rs. 10000 per month

5. Are you happy with the work, you have been doing?

- a) Yes
- b) No

6. If answer to above question is no, please state why?

- a) We are looked down upon by society
- b) The work is dirty
- c) We suffer from various diseases due to this work
- d) We are not able to have proper education
- e) We are not able to take care of family
- f) Others (please specify)

7. Have you ever suffered from/ are suffering any major disease or injury during your lifetime?

- a) yes
- b) no

8. If yes, what kind of disease(s)/injuries have you suffered/have been suffering?

- a) Related to skin (itching, pigmentation, allergy)
- b) Respiratory (breathing problem, cough)
- c) Gastric (nausea, vomiting, loose motions, abdominal pain)
- d) Heart related (palpitation, chest pain)
- e) Wounds due to piercing (glass shards, needles, others)
- f) Dizziness or loss of consciousness (inhalation of gas, long working hours)
- g) Others; (please specify)

9. Do you feel that the disease which you contracted or the wound which you suffered from was attributable to your profession/ work ?

- a) Yes
- b) No

10. If no, then where did you pick up this disease ?

- a) Contracted from a family member, who is rag picker
- b) others (please specify)

11. Did you consult any doctor for the disease or injury ?

- a) Yes
- b) No

12. Did you get any relief after consulting the doctor ?

- a) Yes. Fully recovered
- b) No
- c) Partial relief
- d) Others; (please specify)

13. Do you think that diseases/injuries caused by exposure to garbage can be prevented ?

- a) Yes
- b) No

14. If yes, what should be done to prevent such diseases and injuries?

- a) Use of protective gears
- b) Segregation of waste at source
- c) Washing hands/bathing after every visit to garbage site
- d) All of the above

15. If protective gears are provided, what would you prefer to wear?

- a) Face Mask
- b) Gum Boots
- c) Hand Gloves
- d) Goggles
- e) Vest
- f) All
- g) Others; (please specify)

16. Have you ever used protective gears in the past?

- a) Yes
- b) No

17. If yes, do you think that it has benefitted you ?

- a) Yes

b) No

18. Are you having regular bath at home?

a) Yes

b) No

19. Do you regularly wash your hands particularly after visiting the pile of garbage?

a) Yes

b) No

20. Are you aware of any welfare schemes run by Government or any NGO in this regard?

a) Yes; please specify

b) No

21. Do you feel that if rag picking activity is aligned with formal sector of economy, it will benefit you ?

a) Yes.

b) No. It won't have much impact

22. How will it benefit you ?

a) We will no longer be marginal section of the society

b) We will have better earning in a fair market

c) We will get the benefit of various welfare schemes

d) We will have less diseases and shall lead a healthy life

e) We will not be looked down upon

23. Suggestions; if any ?

सर्वेक्षण प्रश्नावली

नाम: आयु:

लिंग: फोन:

पूरा पता:

परिवार में लोग (संख्या):

सही उत्तर पर निशान लगाए। एक से ज्यादा उत्तर भी सही हो सकते हैं।

1. कब से कूड़ा बीनने का काम कर रहे हो ?

- बचपन से
- 10- 5वर्ष की आयु से
- 15-10वर्ष की आयु से
- 20-15वर्ष की आयु से
- 20वर्ष से ऊपर
- अन्य) स्पष्ट कीजिए(

2. आपके परिवार में कितने लोग कूड़ा बीनने का काम करते हैं ?

- केवल आप
- सारे सदस्य
- अन्य) स्पष्ट कीजिए(

3. कूड़ा बीनने का मुख्य कारण क्या है ?

- यह मेरा परिवारिक काम है
- गरीबी के कारण
- क्योंकि मैं अशिक्षित हूँ
- मेरे पास अन्य कौशल नहीं है
- अन्य) स्पष्ट कीजिए(

4. कूड़ा बीनने से कितना कमा लेते हो ?

- 2000रु प्रति महिना से कम
- 5000-2000रु प्रति महिना
- 10000-5000रु प्रति महिना

- 10000रु प्रति महिना से ज्यादा
5. **क्या आप इस काम को करके खुश हो ?**
 - हाँ
 - नहीं
 6. **यदि उपरोक्त प्रश्न का उत्तर नहीं है तो, कारण बताए ?**
 - हमे समाज में आदर की निगाहों से नहीं देखा जाता है
 - काम गंदा है
 - इस काम के कारण हम बीमारियों के शिकार हो जाते है
 - हम उचित शिक्षा नहीं ले पा रहे है
 - हम अपने परिवार की देखभाल करने में असक्षम है
 - अन्य) स्पष्ट कीजिए(
 7. **कभी आपको कोई गंभीर चोट लगी हो या कोई बड़ी बीमारी हुई है ?**
 - हाँ
 - नहीं
 8. **यदि हाँ , तो किस बीमारी या चोट से आप ग्रसित हुए हो ?**
 - त्वचा से संबंधित) खुजली, त्वचा का रंग उड़ना, एलर्जी(
 - सांस से संबंधित) सांस लेने में परेशानी, खाँसी(
 - पेट से संबंधित) उल्टी, दस्त, पेट दर्द(
 - दिल से संबंधित) दिल की धड़कन बढ़ना, छाती का दर्द(
 - किसी चीज के चुभने से घाव होना) टूटे हुए काँच, सूई, अन्य(
 - चक्कर आना या बेहोशी की हालत) गैस को सूँघने से, ज्यादा लंबे समय काम करने से(
 - अन्य) स्पष्ट कीजिए(
 9. **क्या आप जो बीमारी या चोट के शिकार हुए वो आपको अपने रोज़मर्रा के काम करने से हुई ?**
 - हाँ
 - नहीं
 10. **यदि नहीं, तो आप इस बीमारी के शिकार कैसे हुए ?**
 - परिवार के कूड़ा बीनने वाले सदस्य से संक्रमित हुई
 - अन्य) स्पष्ट कीजिए(
 11. **क्या आप किसी डॉक्टर के पास चेक-अप कराने गए ?**
 - हाँ

- नहीं
12. डॉक्टर के इलाज से आपको कितना आराम पड़ा ?
- हाँ पूरी तरह ठीक
 - थोड़ा बहुत आराम
 - बिल्कुल नहीं
 - अन्य) स्पष्ट कीजिए(
13. क्या आपको लगता है की ये चोट या बीमारी जो कूदे के संपर्क में आने से हुई है उससे बचा जा सकता है ?
- हाँ
 - नहीं
14. यदि हाँ, तो हम कैसे इन बीमारियों या चोट से बच सकते हैं ?
- हर बार काम करने के बाद हाथों को अच्छे से धोकर या नहाकर
 - सुरक्षा उपकरणों का उपयोग करके
 - श्रोत पर कूड़े को अलग करके
 - उपर्युक्त सभी सही
15. अगर आपको सुरक्षा उपकरण दिए जाते हैं तो आप कौन सा लेना पसंद करेंगे ?
- चेहरे का नकाब
 - रबर बूट
 - हाथों के दस्ताने
 - चश्मे
 - एप्रन
 - सभी
 - अन्य) स्पष्ट कीजिए(
16. क्या आपने पहले कभी किसी सुरक्षा उपकरण का उपयोग किया है ?
- हाँ
 - नहीं
17. यदि हाँ तो क्या आपको उसके उपयोग से लाभ हुआ ?
- हाँ
 - नहीं
18. क्या आप रोजाना स्नान करते हैं ?

- हाँ
 - नहीं
19. क्या आप हमेशा काम से आने के बाद अपने हाथों को अच्छे से साफ करते है या स्नान करते है ?
- हाँ
 - नहीं
20. क्या आप इस संबंध में सरकार या गैर सरकारी संगठन द्वारा संचालित किसी कल्याणकारी योजना से अवगत है ?
- हाँ) नाम बताओ(
 - नहीं
21. क्या आपको लगता है की अगर कूड़ा बीनने के कार्य को अर्थव्यवस्था के औपचारिक क्षेत्र से जोड़ दिया जाता है तो ये लाभकारी होगा ?
- हाँ
 - नहीं
22. आपको इससे क्या लाभ होगा ?
- हमारा वर्ग समाज में हाशिए पर नहीं रहेगा
 - हमारी आमदनी बढ़ जाएगी
 - हुमे सरकार की समस्त कल्याणकारी योजना का फायदा मिलेगा
 - हम बीमारियों से बच सकेंगे और एक स्वस्थ जीवन व्यतीत कर पाएंगे
 - समाज हुमे अनादर की दृष्टि से नहीं देखेगा
23. अन्य कोई सुझाव ।

CONSENT FORM

I,,
understand that I/my ward is being asked to participate in a survey/ questionnaire activity that forms part of dissertation work of Shri Amal Garg for Indian Institute of Public Administration (IIPA), Delhi, for the course Advance Professional Programme in Public Administration (APPPA). I understand that my participation in this is voluntary and the information provided by me will be kept confidential. I also understand that there is no risk involved in participation in the above activity.

Name of the participant/guardian:

Relationship with the participant:

Date:

Signature:

सहमति पत्र

मैं समझता हूँ कि मुझे / मेरे वार्ड को एक सर्वेक्षण / प्रश्नावली गतिविधि में भाग लेने के लिए कहा जा रहा है, जो भारतीय लोक प्रशासन संस्थान (IIPA), दिल्ली के लिए श्री अमल गर्ग के शोध कार्य का हिस्सा है, पाठ्यक्रम के लिए लोक प्रशासन में व्यावसायिक कार्यक्रम (APPPA)। मैं समझता हूँ कि इसमें मेरी भागीदारी स्वैच्छिक है और मेरे द्वारा दी गई जानकारी को गोपनीय रखा जाएगा। मैं यह भी समझता हूँ कि उपरोक्त गतिविधि में भाग लेने में कोई जोखिम नहीं है।

प्रतिभागी / अभिभावक का नाम:

प्रतिभागी के साथ संबंध:

तिथि:

हस्ताक्षर: