

PROVIDING SOLUTIONS TO THE PROBLEMS RELATED TO MANUAL SCAVENGING IN INDIA

Ar Pavneet Kaur

Designation: Urban Planner & Architect

Co – Author: Ar Silia Grover

Designation: Urban Planner & Architect

ABSTRACT

India is a home of many Social, Economical, Environmental and Institutional problems. Manual Scavenging is one of the disastrous social issues which is continuously ignored by Indian society and government. It is the age old practice done by particular section of society mainly who are extremely poor. It is the subject of shame for the image of India. Numbers of workers are killed every year during the cleaning of sewers. But because of their financial and social condition they are not able to find other suitable jobs for them. Even the officials of the sanitation department are not providing proper safety to these personnel's because of their ignorance. Due to lack of financial assistance, advanced equipments, technology and unawareness the solutions for such issues never came forward and such heinous practice is still continuous inside the Indian Gutters. Being an urban planner we are giving some technical, financial and intuitional solutions with the help of this paper which can help to eradicate the problems of manual scavenging from the society.

Introduction

Manual scavenging means cleaning of faecal matter and filth from sewers, Man holes, gutters, septic tank and dry latrines by humans itself with their own hands. Cleaning the railway tracks by humans is also counted as manual scavenging. Indian railways have the biggest employer of manual scavengers. Manual scavengers are appointed by ULB's, private contractors and in small towns & villages they are self employed also (in such cases their ancestors were doing same work also therefore it is passed from generation to generation). According to 2018-2019 annual report of ministry of social justice and empowerment there are 49354 manual scavengers were identified in the National survey up to 31.03.2019. According to one ground level documentary it was concluded that there are 30 thousand manual scavengers working in the Mumbai city. The other civil societies such as Jan sahas and Safayi Karamchari Andholan claims that there are 1.2 million manual scavengers working in all over India. Different sources claims different estimation about the number of workers indulges in manual scavenging therefore it is difficult to find the actual number of people working in this field. According to 2011 census there are 2.7 million dry toilets in India. The only way had been adopted in Indian society to clean these 2.7 million dry toilets is manual scavenging since today. Therefore it is crystal clear from the data that the number of manual scavengers is way more as per the data available in various sources.



Image courtesy: www.erewise.com

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Problems related to Manual Scavenging

Manual scavenging, no doubt is like a plague to society. But practicing manual scavenging is a source of creating many other subsequent issues which needs to be addressed so that concrete solutions can be find for them. Followings are the issues faced by workers and official authorities in the task of manual scavenging:

1. Deaths of Workers:

Irony is this, in most of the cases these workers went inside the sewer lines, man holes, septic tanks, drains etc with their bare body and clean the night soil and other garbage matter with their bare hands without putting even mask on their mouth. These dark holes under the earth surface not only contain human excreta but plastic bags, broken glasses, used syringes, wooden pieces, sanitary napkins, etc and imagine how

deleterious it is to enter in these holes without any safety kit with bare body. Because of these negligence there were number of deaths occurred in past years. According to annual report of National commission for Safayi Karamcharis, one person died in every five days during cleaning process. Since 2017 there are 123 persons who lost their lives due to hazardous gases inside the dark holes during cleaning. According to their estimation 612 deaths were occurred since 1993. Man holes are the most deadliest ones as most of the death cases were happened in these man holes. Due to the decomposition of faecal matter and garbage inside the sewer lines the level of methane, carbon monoxide, hydrogen sulphide and ammonia is increased which reduces the oxygen level and cause hypoxia which eventually leads to death of a person who enters in it. The life span of these workers is not more than 60 years. These workers also suffered from various chronic diseases such as cholera, malaria, etc.

2. Lack of Technical and Financial Assistance in ULB's:

The other issue is municipalities don't provide adequate safety gears to the workers. ULB's don't have adequate stock for the workers indulge in sanitation work. It is the condition of every municipality whether it is of small town or large city. Because of ignorance, unawareness and lack of finances these urban local bodies don't have equipments, safety kits, desludging tanks, etc for their workers. In one documentary of Mumbai city it is shown that 5 persons are doing the cleaning work at one location but they have safety kit for only two persons which includes rubber gloves, rubber shoes, rope and helmet only. Interestingly they only wear safety kit when inspector came on the site otherwise they don't use it.

3. Lack of Awareness among General Public and Workers itself:

The general public hire private manual scavengers for cleaning their septic tanks. According to one sample survey conducted by us in Nawanshahar and Muktsar town of Punjab, India during our Post graduation thesis number of factor came forward related to the awareness of public. In Nawanshahar town 100% of general public is not aware about the policies and prohibition act for manual scavengers. About 3% of the households in Nawanshahar town depends upon manual scavengers for cleaning their septic tanks and pits which comes out to be 340 households. Some of the manual scavengers reside in the town itself belong to the extremely poor social strata. Some are hired by private contractors. Same in the case of Muktsar also 100% of households are not aware that manual scavenging is strictly prohibited. About 18% of the households depend upon manual scavengers for cleaning their septic tanks and pits which comes out to be 1370 households. In other cities of India also only those who are educated in the field of law, environment or social sciences are aware about the problems of manual scavenging. The others are the government officials or NGO's who work in the field of sanitation is aware. Even the workers itself have no idea about the rights, prohibition, compensation, adequate safety gear and rehabilitation policy provision to them under Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 because they are poor and illiterate.

4. Inaccessible Roads for Sludge Cleaning Tankers:

The inner core of urban areas in Indian cities and Towns has mostly narrow streets. In some cases of walled cities of Indian cities such as Amritsar, Jaipur, Ahmadabad, Delhi the streets are of only 1'-6" wide. Every single minute the sewer is blocking in many corners of the Indian cities. But the ULB's don't have equipments to clean the blocked sewer lines located in these area congested areas. The private desludging tankers are not accessible in these areas first. In these cases they use long pipes more than 300 feet length but in most of the cases these pipes are not available with them. Therefore the only option left for them is manual cleaning of the manholes, septic tanks & pit latrines.

According to one article written in Down to Earth magazine it is mentioned that the design of septic tanks is very poor. There is some engineering issue in construction therefore after sometime a machine cannot clean it. It becomes mandatory to clean the human excreta manually because no other option had left.



Narrow lanes of Amritsar Walled city

5. Social Injustice

It is the issue of untouchability and racial discrimination for the people who indulge in this work. This occupation of manual scavenging is transferred from generation to generation. Other people of society don't respect them. It hampers the growth of these people. Mentally they are disturbed. They are not allowed to enter in religious places in some cases. Even the children of these workers face discrimination in school and other social gathering. Imagine the mental condition of a child who is neglected by teachers and students just because his father or mother works as a manual scavenger. This behaviour of other people makes them utterly miserable and they never had a confident to change their profession and always remain under the burden of societal pressure of discrimination. All of the manual scavengers drink alcohol every night. They say alcohol helps them to forget about the shit they clean every day.

Initiative taken by Indian Government to Stop Manual Scavenging

In 1993, the first act came "the employment of manual scavengers and construction of dry latrines (Prohibition) Act, 1993. The basic aim of this act was to protect and restore the dignity of manual scavengers. Main objective was to prohibit employment of manual scavengers and construction of dry latrines and maintenance of water-seal latrines. But this was a weak law as it was not able to ban manual scavenging. There was no provision of penalty also in this act. In 2013, after 20 years this act again revised as Prohibition of employment of Manual scavengers and their Rehabilitation Act, 2013. Under this act the construction of dry toilets and manual scavenging is banned. It said it is the duty of ULB's to maintain records of scavengers. Penalty is imposed. Rehabilitation of workers is done means the workers will be shifted to other jobs. Apart from this many other rehabilitation measures taken by government such as integrated low-cost sanitation scheme, self employment scheme for rehabilitation of manual scavengers.

These all acts and policies talks about the rehabilitation and banning of manual scavenging but they never focused on this part if there is no manual scavengers in country like India where there is least machinery available for cleaning the sewer or septic tanks then who is going to clean these blocked sewer lines and inaccessible septic tanks and pits. They never focused on the solutions and measures of cleaning which seriously needs to be taken into account for the problems of blocking and chocking of sewer lines. A manual scavenger is only taking Rs 150 for cleaning the manholes whereas the least construction cost of one cleaning machine is Rs 6 lacs which can goes upto 3 crore. Therefore there is need of strong institutional setup which helps to eradicate the problem of manual scavenging from routes and provide sound economical and technical solutions to solve the problem of blocked sewer lines and to clean the sludge from septic tanks and pit latrines. A special focus needs to be given on the railway tracks which are India's longest and biggest open latrines because in this sector huge number of manual scavengers employed who clean the night soil of people from the tracks daily.

Solutions

Manual scavenging needs adequate solutions at various level of planning, technical, financial and Institutional. India is a country of 130 crore population which produces tons of sewerage every day (approximate 62,000 million litres per day sewage is generated in urban areas only) and this sewerage get mixed with tons of solid waste every day and mostly the existing sewer network is now outdated in the country. Therefore every bit of a second somewhere sewer is getting clogged, some one's septic tank or dry pit latrine is getting filled. Who will clean this blocked sewer, completely filled septic tanks and pit latrines until the every single municipality of India don't have machines which do the same work that manual scavengers are doing. Therefore the solutions can be both long term and short term. Long term solution focused on the providing financial assistance and creating market for the construction of machines and short term solutions focused on eradicating current problems faced by the manual scavengers by providing training to them, general public and ULB's. This is the only way from which significant solutions can be given which actually helps in solving the issue. Followings are solutions and recommendations which can help in eradicating the manual scavenging.

1. Long Term Strategies:

These are those solutions which are time taking and need lots of efforts and funds to actually make them happen on ground. They can only survive if government take the responsibility and done reforms in existing structure with the help of law, enforcement and rules & regulations. Following are the long term solutions can be followed to achieve the objective of eradicating problems related to manual scavenging:

Institutional Framework for the Mechanising the whole Cleaning Process:

A better institutional setup can help to provide a platform where the whole idea of mechanisation will flourish and leak proof. For this purpose the various fields of sciences, social sciences, engineering and environmentalists needs to do collaboration first. Bottom up approach should be followed. The extent of problem at grass root level needs to be calculated such as total number of manual scavengers actual working on ground with their age and sex ratio, marking the areas which suffer frequent problem of blockage so that prioritization done on the basis of area wise, mark those zones which has higher cases of deaths during cleaning, conducting a survey in every city or town to find out the actual number of households having septic tanks, sewer connection, pit latrines and mark those critical areas where desludging tankers are not accessible for cleaning septic tanks. Preparing a draft plan and detailed project report for every city to find out the total financial needs and time taken for conducting survey and also find out types and number of machines required for cleaning man holes, septic tanks and pit latrines for whole India. Not only this but also earmarked those societal groups who are extremely poor can't afford to clean their septic tanks with the help of sucker tanks as it cost upto Rs 3000 to 4500 for cleaning one septic tanks. For this purpose government should tie up with academic students and provide them financial assistance to carry out the ground level survey so that they can help in collecting data together. Technical engineering students help in making new machines like it was already done by kerala engineers Genrobotics invent bandicoot robot to clean the sewer. This robot can clean 400 manholes in a month. It takes 45 minutes to clean the manhole. The weight it can lift upto 200 kg in one go. The latest version of machine Bandicoot 2.0 can detect hazardous gases like methane, hydrogen sulphate, etc. The cost of one machine is in between Rs 25 to 35 Lacs.

Once all the requirements will calculate such as number of machines needed to build and their financial requirements next step is to find out the financial and technical resources. For this purpose a statutory body needs to be designated who will provide funds for making the robots and catalyst the process further. Finance Commission, Foreign Direct Investment, Public Private Partnership are some options which can be used for generating funds. This should also be the part of budget of India.

Developing a Commercial Market for Making of Machines

There is only one firm in India Genrobotics who is working on making robots till today. But to clean every corner of India there is a need of lakhs of machines. They are receiving funds from some private investors. To make this process faster the Indian Government should take the initiatives. For this purpose they should help in building a commercial market for setting up industries of machine making. Subsidy will be given to private entrepreneurs who want a start up in this field. With the help of media and internet a social platform will created where researchers and engineers are invited so that whole scenario will be discuss with them. Once these robots, machines and equipments are on mass production ultimately the price of the machines will be low down. On one side it will help in solving the problems of manual scavenging on other side it will create more jobs. Employment opportunities will be increased for young engineers and will boost up the Indian economy also.

Capacity Building Programmes for Workers

Once the machines will take the place of manual scavenger then what next for manual scavenger how they will earn their livelihood once their job will over. Lakhs of workers depends on manual scavenging for their livelihood. It is their bread and butter. It is very unfair to snatch food from their hands. Therefore these workers can rehabilitate to operating machines during cleaning task. In the previous steps during survey the exact numbers of manual scavengers already been identified. Now give them training of operating the machines. For this purpose free training camps, skill development programmes should be conducted in every city and town. Officials and technical staff should be hiring in local bodies who are able to give exclusive training to these workers. Training centres need to be developed in every city. But there should not be any fees charged from workers for their training otherwise they will discourage themselves of taking training. All these initiatives need time, funds, efforts, administrative and planning reforms only then it can be implemented on ground properly.

2. Short Term Strategies

Until that time, this whole process of cleaning is not getting mechanised in India there is a need to provide short term solutions along with the long term strategies also such as capacity building programmes for ULB's, general and workers and providing financial assistance to the ULB's so that they can safeguard the

life of a manual scavengers. Followings are some recommendations which can provide instant relief to the manual scavengers:

Financial Assistance to Local Bodies for Provision of Safety Gear to the Workers:

If we took the example of Hongkong city the workers are given training of two years before commencing the work of cleaning sewer lines. They wear space suit kind of body suit shown in the figure having personal oxygen attached to the suit while entering into the sewer. If it can happen in Hongkong, then this will also be executable in India. The process of mechanisation will take approximately 5 to 10 years to cover the full India. Therefore there is a need to provide financial assistance to ULB's so that they can buy these equipments for every single person working manually for cleaning the manholes. Proper Body suites with fixed oxygen cylinders should be designed for the workers. The size of the cylinder should be small so that it can easily go inside the manholes. Elimination of manual scavenging is a component of Swachh Bharat Mission also therefore the funds for making these safety gears can be provided under the SBM. The fabric of body suit is such that the dirty water should not enter into it. The helmet should cover the full face. Strict enforcement should be done by government on ULB's and workers so that they can actual use the safety gear while working.



Image courtesy: AFP

The safety gear workers wear in case of cleaning sewer in Hongkong

Generating Awareness among General Public to Eradicate Social Injustice

Racial discrimination is one heinous act which acts as a hammer and breaks the self respect of these workers. To safeguard the interest of them there is a need to make other public understand that how these workers play an important role in every individual's life. They clear the shit created by everyone. Imagine how the situation is turn into hell if no one is available to clean the mess which we humans are producing every single minute. If no one is there to clean then the sewers will block forever, septic tanks will overflow with sludge and Indian railways will float with foul smell of human excreta. The dream of 'Swachh Bharat' (Clean India) will never come true. They deserve huge respect and love from other members of the society. Therefore, it is the responsibility of everyone to uplift them morally in their lives and support them so that they don't feel that they are bearing a punishment of being poor or socially backward while cleaning the human shit from sewers, septic tanks, pits, railway lines etc. Media, Social Platform, News Paper articles, Research article, etc can help in changing the mind set of society. It will boost the self confidence of workers as they are also one of us.

Strict Enforcement to check on mixing Solid Waste into Sewer Lines and Drains

The main reason of choking of sewers is due to the plastic bags, garbage, solid waste get mixed into it. Who mixed it? None other than us, the so called humans. Can't we just stop ourselves throwing the garbage into open? Because they ultimately went into the drains and they choked the entire network. This thing can be done not even spending a single penny into it. Just normal human behaviour change is needed. But we are so much poor in our etiquettes that we can't do it unless law enforces us. With the help of law, police and security cameras strict actions should be taken whosoever found guilty littering in the open or in drains heavily fines should be imposed and imprisonment is done. This will bring significant reduction in the blocking of sewer lines.

Changes in the Structure of Indian Railways

Indian railway is the biggest culprit where most of the manual scavengers work for cleaning the railway tracks. The toilets that are inbuilt inside the trains are drop chute toilets which drop waste on the tracks. They are needed to be connected to holding tanks. The system of vacuum flushing should be used which eliminates almost all the waste with a minimal use of blue chemical solution. There should be law passed regarding changing the existing train toilets into vacuum flushing as soon as possible.

Conclusion

Manual scavengers are the pillar for sustaining the urban areas. If they don't do what they are doing then within no time the whole system will get collapse. They put their life in danger to clean every one's mess and still they struggle for their whole life to fit in the society. They lost their lives because of the negligence of government officials. Many workers are getting killed every year as there is no availability of the safety gear while cleaning the manholes and septic tanks. There is no awareness among the workers about the right safety kit they need to use while cleaning the dark holes. Full mechanisation of the whole process needs time, technical, financial and administrative resources and reforms. It will not be done over night. The path is full of hurdles but can be crossed if everyone on board be together and help each other fighting with the problems and find best possible solutions for the eradication of manual scavenging and rehabilitating the workers into the drivers of the machines.

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