

Sustainability Perspective of Semi-Solid Waste : Economy, Environment and Employment

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Abstract

Waste management from the perspective of healthy environment is for any civilised society. India is gradually coming to the term of good well-being for its people. There are several impediments in building healthy environment and contain the avoidance morality rate. Waste creation itself is the mind-boggling issue in India. For example, each person can't be given right or full contentment to have safe drinking water because water accessibility itself is flawed, rivers are hardly clean undoubtedly and hence water which is either used for human consumption or irrigation is not guaranteed free from contamination and toxicity flowing in the farms which poison the vegetable at least since its creation is under clout at first instance, how one can expect its proper treatment which needs significant cost. Organic waste can be separated with minimum intervention and least cost and hence there is a good amount of success on Bioenergy production. But issues of plastic waste and water waste are still unresolvable in India. The cost due to diseases is also insurmountable in India.

Introduction

Waste is a result of over production and consumption because production is not well calibrated due to application of human resources and their cost. Unlike in developed countries, the production is required to be efficient using technology and minimum number of human resources to make it efficient and cost effective, in developing countries human resources can be paid any amount due to weak law of wages. In the agriculture sector for example the policy is designed in such a manner which considers the internal production, import and export to provide as per the demand to keep the inflation under control. Secondly there are some agricultures produce which have secondary applications for commercial use.

In India we confront with farmers distress too often because they are not paid remunerative prices of their produce. With abundance of agriculture workers and without calibrated production due to nature of weather conditions there is always imbalance in demand and supply leading to glut or shortfall. Inflation is not a very serious concern imports and exports, which can introduce balancing factor is hardly a point of consideration. No doubt the government has got a public stocking system, but it has many shortcomings like grain lying in the open. Poor treatment to sensitive produce in cold storage is also a negative situation. Restrictions on movement of goods from one State to the other also cause the produce to perish. Time taken by logistics to reach the unprocessed produce in rough weather conditions perishes the produce quite often. The food regulatory body has little control on the usage of pesticides and fertilizer so that quality can be ensured. The processing of surplus produce for delayed usage demands the purity of the raw product free from residues of pesticides. The fruits now a days are harvested before they ripen and hence their sale is left to the chance factor whether these will be left to be destroyed or consumed. There are some pockets in India which assure organic farming and hence they are in high demand among the affluent families.

Therefore, in case supply is restricted demand will clear the supply the issue of waste does not arise. But in case of seasonal crops mostly of elective or supplementary nature like potato, onion, tomato, ginger, and some other raw vegetables whose shelf life unless stored in refrigerators is very short these are to be consumed on the day on these are harvested. Multiple cropping in India is done to protect the cost of consumption by their families or instead of leaving the period idle it is better to grow some crop requiring

only few days to mushroom up. No doubt it pays some dividends to growers, but it does not ensure the consumption by the expected by buyers in that situation these are perished in the villages and not taken to the market because of additive transportation cost. In case such produce reaches Mandis by evening these are to be thrown which makes the space foul and affect the environment. It is very common practice in States where multiple cropping including two main crops and one seasonal crop whose demand and supply determination is not well calibrated. The excess supply of any produce whose cost of production is very little, and demand depends on to chance factor is found to be affecting the environment or increasing the cost of disposal.

Ultimately first of all the waste has to be collected by the municipal bodies and taken to land filler where these continue to mount up before any worthwhile action is taken. Biogas is one such product which can be made from biological waste such as plants. But in India the practice of segregating the various type of wastes is lacking because municipal bodies cannot afford to provide bins where these are dumped before these are collected. Recycling of plastics, cardboard and medical items when collected in systematic manner these are recycled provided their original preparation is done through the raw material of good quality. Similarly, the food waste is created out of unusable part of the vegetable and fruit their disposal is systematic in the developed countries and it is never heard that the garbage is dumped in the vicinity in the open and hence foul smell is emanating out of the dumped waste.

In Delhi there was a contest on these issues that garbage has mounted up to sky height how it would be treated to finish off to clean commercial application. Similarly, sewage from households in crowded cities is passing through drains and finally go through the open passage causing foul smell as well as causing harms to people living on the banks and using the water for bath purposes in the neighborhood. The garbage of food waste which can only be converted to biogas and sewage treatment plant which can only clean the sewage and water to be used for further application in the farms require technological cost and it is unaffordable by the civic bodies because of wages to the workers and fixed cost. These problems are caused by the crowding of the cities where drainage is also narrow and sometimes drains choke causing overflow at any point fouling the streets and cities. Before planning for the environment which is being affected make life and livelihood unsustainable there is a need to plan the cities on an equal basis for employment generation. The crowding of the cities with periphery gaining the preference for new habitation in unauthorized manner later become responsible for sewage and garbage to spoil the whole look of the city. The cost of keeping the environment clean becomes too high in this case that there is little fiscal room with the municipalities to clean. There are few cities which are engaged in refurbishing the drains and roads so that the sewage flow can be uninterrupted and for the whole city it is unrealistic. The rules and regulations need to be stringent for settlement beyond the municipality boundary or periphery.

Political restraint is a need to disperse away such settlers which have become huge cause of the environmental vitiation. So long as people without any planned livelihood settle on the periphery, they are bound to cause nuisance in the area in terms of solid and plastic waste besides open defecation all are harmful to human being. No amount of effort can clean the environment polluted by these settlers. The municipalities remain largely dependent on the state government to provide them the funds for keeping the cities clean because they found incapable of recovering the taxes and token from the people so that the revenue can be used for keeping cities clean. This is happening because there is a tendency of tax evasion and underpayment of water charges. Even in BMC during rainy seasons it has been seen that pits become the death toll for the people. Deluges are very common during the peak rainy season. Why despite of the public outcry the situation could not be made acceptable to the common man is that there is paucity of funds or mismanagement. But in smaller cities people keep living without any basic civic facilities up to their living requirement. These pockets have become slums of permanent nature. The working and living standard in these areas is very low. The cost of diseases is rising in slums and the government fails to provide required medical care. Perhaps this is the reason that private clinics are mushrooming in smaller cities where one can doubt the quality of medical services. The filth continues to accumulate in the neighborhood which is a source of vector borne and water borne diseases.

This situation could hardly be checked during the last 40 years because the migrants without any meaningful skill take shelter in such places and their living standard is not defined and hence their eating habits are liable to create filthy environment around them posing the cost to the society.

Despite the launch of Swachh Bharat Abhiyan there is little which could be done to mitigate the issues in sanitation and hygiene and hence the problem is not that awareness will bring improvement. Basically, it is the design of cities, alertness of the city administration and migrants in the crowded cities who develop inferior housing facilities without basic civic facilities start occupying the unauthorized space and become a cause of concern for the environmentalists. The inferior use of goods for eating and packaging along with open drainage is the major cause of environmental pollution and diseases also. The solution to this problem is to check the settlement on the municipal boundaries and beyond. To what extent politically it is possible is an issue which lies outside the ambit of environmental protection. India's mainstay is still agriculture. Roughly 46 percent of people are employed in the agriculture sector and 70 percent are dependent on it for their livelihood.

Agriculture produces in short or in surplus is both harmful for inflation and income of the farmers. Since the policy for the import or export practically operating in a vacuum the prices and income keep swinging. Farmers are not encouraged to produce any crop which can keep them lively. It is happening to small and marginal farmers whose percentage is roughly 85 percent. These farmers live closer to the poverty line criteria. Some public support is always needed to pacify their aggression. During winter season the crops have very short shelf life. Unless these are consumed on the current basis the produce is perished leading to wastage. The bio waste by some rough estimate is around 280 Lakhs tonnes done due to perishing of fruits, vegetables, and horticulture. When these are not consumed, these are not converted to biogas, but these are dumped in the mandis or in villages where these are further accumulated as mould of garbage or keep lying in the open to be eaten by the animals.

Since animal feeding is also necessary there is an excuse that cows should not be killed but these can remain stray on streets. It is the source of different pollution due to eating and defecation. It cannot be addressed scientifically because the decision which is causing animals to remain stray is not logical. Dung is making the roads and streets slippery and filthy and hence its cost is felt by way of an unclean environment in the sub-standard colonies and low productivity of the people living in the substandard areas. But when a whole lot of biomass of unconsumed vegetable is not disposed in a scientific manner it is bound to increase the cost in the form of transportation and filth in

surrounding. The disposal was expected to be difficult because their production was not perceived to entail cost. It has to be avoided at the farm itself. It can be done with the secondary application of the surplus crops. Storing and making commercial products can lead to employment and averting the environmental damage.

India has been producing roughly 344GW of biomass. Over the years the crops utilization of sugarcane and paddy in the production of ethanol has curtailed the adverse impact on the environment and brought excess residues under control.

Sewage discharge in NCR regions	744 Million Gallons per day
Sewage Treatment Plants in NCR region	2330 Million Litter Per Day.
Medical waste produced	5900 Tonnes per annum
Production of single use plastics not worth recycling	26000 Tonnes
Major Slums and their population in India	6.54 Crores
Bulging of industrial cities due to migration in search of employment	5.91Cr in UP, 5.73 in Maharastra,3.33 Cr in West Bengal
Littered rags collected from big cities	755TPD
Sewage treatment plants and their capacity in Big cities	1.7 Cr per million ltr per day

The other menace causing environmental damage is the waste from single use plastics which primarily is the result of loose sale of commodities to be consumed instantly. The cost of packaged commodities is harsh as felt by the low-income group and their limited accessibility to the big stores or ordering online. Therefore, the day long they keep buying from the local shops and vendors several commodities which are supplied in the low-cost polythene. To match the demand for these products the industries are running without alacrity and fear of the administration. Such polythene is hazardous at the first point because the material used in it is contaminated and harmful but when these are thrown after being used are littered or at the most when collected by the van these could neither be segregated nor can be incinerated because of toxic fumes coming out of them. The best which is being done is that these are dumped in one place and used for carpeting the local roads. Segregation is necessary because other material has to be treated differently in case some other good use is possible. The damage caused at the time of production, during consumption and waste cannot be reversed by any means. In any case its production has to be stopped. The government continues to enact laws banning production, but the demand side is more compulsive as the people who are living on the margin will be forced to remain deprived from the use of the commodities which are very essential for their survival. It means the excess migration which has been taking place dotting the cities is the cause of the damage to the environment of this nature.

Basically, migration is harmful to the cities which exist due to their fixed size. In India the rate of urbanization is very slow and hence the extension of municipal limit must be at the cost of acquiring agriculture land from the farmers whose general economic conditions is not praiseworthy. The master plan to acquire land is made once in long many years. Since the farming activity is the compulsion of the small and marginal farmers for their livelihood, they do not want to give up the land so easily. The experience in Haryana says that land acquisition can be done at much higher compensatory prices which is unaffordable for the industries to own the plot because the cost increases phenomenally, which can be hardly paid as promoter contribution. This is one of the reasons MSMEs are discouraged from coming up strongly to run the business. The manufacturing clusters are normally created by the government in various States by the government. Such clusters are not very penetrating in India, the reason for it is that farmers do not sell off their land so easily.

The manufacturing sector continue to remain close ended is caused due to this reason. As the manufacturing sector is restricted to a narrow range, it is enough to conclude that skill development is going on at a very slow pace and formal skill development cannot be thought to be proceeding so easily. It is the informal skill development which is very common in India and therefore thinking of export of manufacturing goods to bounce sounds hollow. The informally trained or unskilled workers from the States

like Bihar, UP, MP, Orissa, West Bengal, Jharkhand are migrating to little better prosperous States and these families engage in the low paid occupation and live in unclassified manner which has become a source of pollution and waste production in Indian selective cities. The availability of low paid workers much less than the minimum wages is a proof that education in the rural areas is not up to the mark and farming sector is not very remunerative and also cannot accommodate the ever-increasing population into the farms to pay to them to make their decent livelihood. It means to tackle pollution and waste; it is imperative to reform the farm sector first as has been done in any progressive country.

The sectors of the economy should be capable of producing the output which can justify the income of the people engaged in them. India poverty is attributed to excess engagement in farm sector. It is disturbing the fiscal health of the government, but it has been continuing for a long time. The balance of demand and supply of material or intangible services and also the demand and supply of the manpower both are crucial for keeping the poverty under check. The excess farm workers need to be shifted to manufacturing, but the irony is that they are shifted to low paid personal services which for a moment might not be causing poverty but surely responsible for creating low standard settlement colonies where water waste, food waste and material waste is hazardous in many ways and absolutely it cannot be managed but is being tolerated to the peril. The waste management in the core areas of the cities is not problematic because the RWAs or the natives are alert to the waste and their disposal but when the peripheries take ugly shape then entire city begins to get clumsy due to littering of material and other food waste. Water spoilage is very common even in the posh areas of Delhi. The supply of clean water requires expenditure on chlorination and bleaching and when the demand is far in excess to the supply there is a pressure on the civic bodies to supply unclean water at short notice and it cause water borne diseases and accumulation of water on shallow places. There are several water borne diseases attacking poorly nourished settlers in low standard colonies.

In nutshell migration is one of the potent causes of the production of waste and its poor management. The farm sector to begin with has to be vibrant, capable of providing decent income to the people dependent on them. It is possible by increasing the productivity of the farm sector due to several reasons relating to input cost, rainfall, logistics, and small sizes of the farm. Even the agriculture waste and animal waste are yet to be properly treated and managed to fruition. This is suggested by the biomass production in the country and its management with biogas plants which are not very popular in the States. The animal excreta could be used for conversion in compost which is cost saving in organic farming and hut making and it could be a potential opportunity for employment. The intervention of the government in such type of waste management is unavoidable but barring Chhattisgarh no other government has taken initiative to make the waste management effective.

Basically, why waste management is stressed upon is understood from the fact that the organic compounds should go through a cycle in order to sustain the existing situation. Excess use of fuel has been causing global warming and also depletion of the reserve in the earth. Global warming is responsible for hot weather conditions, draughts and floods which impact agriculture, life along the coastline and hence it can deprive the people living on the margin because food shortages and desertion is obvious. Solid waste which is the result of inferior use of material cannot be reconverted to useful product is bound to harm the environment. The biological waste has to be properly converted into useful products to generate employment and keep the environment clean. The water which mixes in it the waste from the kitchen and drains has to flow down in the rivers or seep through the surface which in both cases cause harm to environment as well as to human and animals and hence creating doubt on sustainability.

The application of technology is possible by the government when the whole public is consuming resources. The resource origin goes to one end from there it should restart and goes through cycle then sustainability is ensured; environment is protected, and management can conserve the resources.

The fertility of the soil is affected when imbalanced use of fertilizer is done with cost consideration. The agriculture is unviable to small and marginal farmers because they cannot apply the balanced fertilizer due to their unaffordability and hence the demand and supply imbalance of the produce cause the wastage of the produce because of the unplanned production by the farmers out of compulsion. The inorganic waste remains sticking to the soil and hence causing damage to the soil leading to less income and hence low employment. The micro solid waste from kitchen is just pushed in the drainage making the water be cleaned at sewage treatment plant but the piped water just go through the pipes and lands into rivers polluting

them and making unfit for washing purposes adding to the cost of washing by the washer men. The water is not fit for drinking and hence has to be cleaned with proper and costly technological processes which generally cannot be done because of the poor financial health of civic bodies. There is one fundamental rule to learn waste management on the lines of USA.

Whether it is possible to keep three to four bins at short distance so that the different type of waste can be put in them to be collected by the van separately and taken to the reprocessing unit and in the process providing the employment in the chain from collecting and disposing. The littering of any type is fined. The plants residues are collected on timely basis so that these could be converted to useful products. Kitchen wastewater and washroom wastewater flow through the same drainage and hence making the water cleaning difficult. The quality of the soap used for washing also matter as some soaps are very inferior and hence harden the water and make the cleaning difficult. The standardization of the products used in cleansing is extremely important but different income class people are buying different types of cleaning soaps and hence adding to the problem. In case it cannot be enforced then the financial health of civic bodies can be achieved with the help of collection of genuine taxes from all households so that proper employment technology can ensure the cleaning of water at the check points before these passes through to the rivers. Inferior packaging material should not be allowed to be used and the producers be punished severely. The households must follow the rule of separation of different type of wastes and the van should have different compartments in it so that segregation at aggregation point is not difficult.

Slaughtering in the open has to be punished because the waste from the slaughtering, though it is organic in nature it is allowed to remain deposited in the vicinity for longer period of time and hence its impact on environment has to be considered. The sale of animals for slaughtering should be legalized and marketplace should be developed. Biologically degradable material should be enforced for carrying bags so that it could either be extinguished easily or can be reconverted. Valuable production accompanies employment and sustainability. Sub-standard production employs low paid labor and done under the veils.

Therefore, law would be enacted so that policemen have not chance of indulging in gratification. In so far as well-off community usage of products is concerned the taxes can be recovered from them on the packaging material which could be increased in value terms, and this can subsidize the industries engaged in the low-density packaging material of slightly better quality being used by low-income group. Similarly, substandard soap solutions packed by the unregistered firms should be checked and only registered firms be allowed to pack such material to ensure the quality so that waste does not become a problem at a later stage. In India economic cost is enjoyed by every person even though he can afford for higher cost.

Literature review

1. In **November 2022**, "**Theoretical framework of solid waste management**" **Sailesh kumar and Akshat Jaiswal**, concluded that there is different type of solid waste such as plastic waste, medical waste and paper waste that become degradable which can convert easily, but the environment become more dangerous when the solid waste is not degradable like e-waste and polythene waste etc. And there should be a mechanism (of 3 type dustbins) from municipal corporation to recycle and reduce where the waste management procedure should help to maintain and sustain the environment ecofriendly.
2. **March 2021**, "**Plastic Waste Management**", **Prabha Singh and Lily Trivedi**", concluded in her research paper that plastic is the most harmful substance and waste plastic which is not disposable is highly reversible that cause disease. So, in this research paper the researcher worked upon certain revision in methodologies. The government should take strict action upon the society and public of not trampling plastic waste on roadside or not to reuse for household purposes.
3. In **April 2021**, "**Sahil Sanjeev Salvi and Premchand Patil**," **IJCRT**, stated in his research paper that Sewage treatment process is to ensure that it complies with the several regulatory guidelines that help in removing the solids, organic salts, metals etc. in effective and efficient way so that it can help in irrigation and less polluted water can only mix into rivers, so that it can be easily coverable into fresh drinking water.
4. According to **Satpal Singh, November 2020**, stated in his studies that the citizen participation is the utmost important drive towards SWM in India. There should be active and prompt action against source segregation and treatment process. The policy should be strictly followed against wastage and littering management. Community awareness in terms of people's perception, attitude towards proper disposable of household and industrial waste must be assured.

5. In 2019, “A research paper on Solid Waste Management” Shweta Choudhary, stated that landfilling is the most dangerous approach. The air quality index become worse due to unhygienic and dangerous gas released. The statistical data gathered related to refused foods and vegetable scraps. Through a study framework the rule of environmental protection is based (reduction, reuse, recycle and recovery). Solid waste is the major issue and certain strategies are made and mentioned in annual reports which should be successfully implemented.

6. According to **Energy and resource Institute by RRN Bhattacharya 2018** state that the rising average incomes are attributed to problems facing Solid Waste Management in India and government took initiative to control the problem through certain interventions, schemes, and surveys etc.

7. According to the **CPCB estimates**, “Urban India generates close to 62 million tonnes of municipal solid waste (MSW) annually with the organic fraction in the range of 40%–60%.²⁹ Plastic waste forms close to 8% of the generated solid waste in the country.³⁰ The per capita waste generation has seen a steady rise from 0.44 kg/day in 2001 to 0.5 kg/day and has been estimated to be growing at a rate of 1.33% per annum.³¹”.

8. A study conducted by the **CIPET- CPCB on the “Assessment and Characterization of Plastic Waste in 60 Major Indian cities”** observes a few important findings as has been mentioned below: □ 94% of plastic waste generated is recyclable and belongs to the thermoplastic’s family, while the rest 6% are non-recyclable thermoset plastics. □ 67% of the plastic waste belonged to the HDPE/ LDPE, 10% to PP, and 8.66% to PET amongst others.

After giving thorough background of the waste generation and their basic reasons and how theoretically waste management is possible to serve the economics, employment, and environment, we are providing here how the waste is being dealt to make the process circular to the advantage of economics, employment, and environment.

Three components of waste are separately dealt here.

Biomass: the market of biomass is being recognized by the government which is pushed by the government schemes and the interest of global green energy companies. The market is expected to reach Rs 32000 crores by 2030-31. The biomass, the waste which is produced in the rural areas will see the small biogas plants increasing from their original level. There is an overwhelming response of the global green energy companies in biogas generation. The overall objective which is given credence is that for sustainability the waste should be recycled to generate different useful products on a commercial basis. The biogas plants generate supply of clean and reliable power to business in India and biomass is a good source of energy in the subject. The power demand when it would be met in the rural area’s employment scenario in the rural areas would be better. At present there is an installed capacity of 10.2 GW. The target set for another 8 years will help in making climate smart decisions and move the world closer to the goal of net zero carbon emission. Sustainability can be felt when biomass energy ecosystem will satisfy environment-friendly choices to consumers.

Wastewater management: India is one of the most water stressed country in the world with roughly 60 crore Indians are facing acute water scarcity. It is estimated demand by 2030 would just be doubled the supply in 2030 when water scarcity will be insurmountable, and country will suffer a GDP loss of 6 percent. Therefore, it is imperative to understand the importance of managing needs and resources more efficiently. Here again the circular economy is required to be invoked so that sustainability can be ensured. Every high-income country treats roughly 70 percent of the wastewater. This ratio is 38 percent in upper middle-income countries and 28 percent in the lower middle-income countries. It is hardly 8 percent in low-income countries. In terms of global population, the total treatment of wastewater is barely 20 percent.

The wastewater emanated from raw sewage dumped into water body which can be cleaned in natural process. But the way the population has been increasing accompanied by increase in the urbanization the sewage discharge will be much higher than its capacity of natural purification and hence when it goes into water body the water quality is tarnished because it contains extra nutrients. Alternatively, when untreated water is used for crop irrigation the results are horrifying. 65 percent of the irrigated area if it is included in 40 km of urban centers roughly 89 crores people suffer from serious health risk and 86 percent of the land

irrigated with untreated water falls in China, India, Pakistan, Mexico, Iran. Despite its nutrient richness the people consuming vegetables are exposed to the risk of infection with ascaris, amoeba and tapeworm.

There is no policy mandate at central level for wastewater management. Therefore, water resources mismanagement is discernible. Untreated sewage waste is one of the major causes of surface water and ground water pollution in India. Roughly 33000 million liters per day is the sewage water discharged in water bodies of which 7000 MLD could be collected and treated the remaining could not be treated because sewage treatment plants are not functional.

Single Use Plastics: Single use plastic items which have low utility and high littering potential become plastic waste ended up in landfills or dumped. Plastic pollution poses environmental, social, economic, and health risks by contributing to climate crisis, ecosystem degradation and resource use. When items made up of single use plastics are furnished with thickness of 120 micron, these can be reused and there is increase in the collection efficiency. A year ban strict ban was declared. The ban triggered the development of innovative eco- alternatives, new business models, and an increase in the manufacturing capacity. The introduction and use of alternatives to banned items led to creation of new employment opportunities in sustainable green ventures.

Fig. 1: Theoretical Framework of Biomass Waste Management



Fig 2: Theoretical Framework of Sewage Treatment Plants

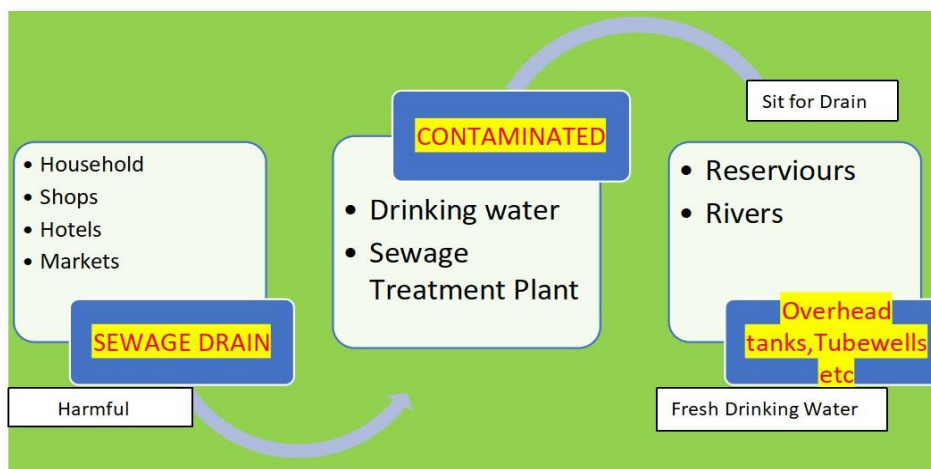
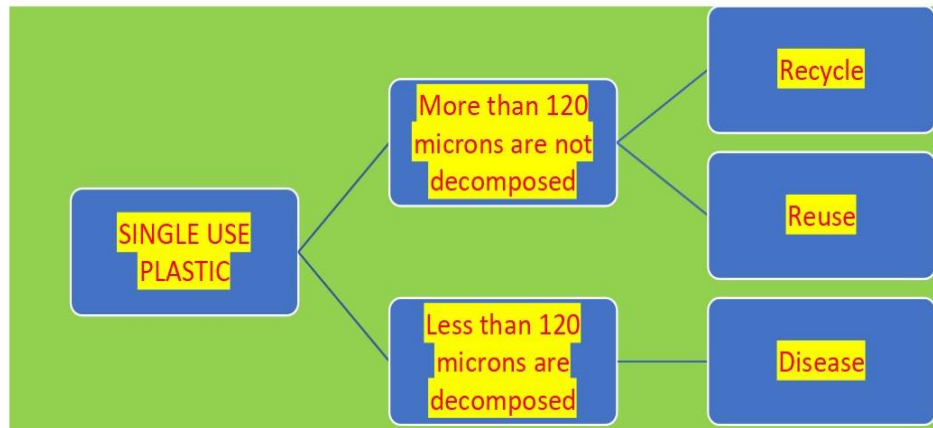


Fig 3: Theoretical Framework of Single use plastic waste management

The cost is the most important factor in disposing of the waste, whereas income is the determinant for creation of waste. The burden on cities is very apparent and civic laws are hardly enforceable because these depend on the country and town planning and also reckless selection of living on the periphery. The standard of living is determined by the occupation and possession of living space through proper channel. Both these situations are ridiculous in the industrial cities, where people come in search of jobs.

Wastewater badly contaminated with sludge is the biggest challenge in the big cities. Drainage is developed casually, and flow of wastewater is circuitous because municipal bodies lack funds to install costly treatment plants. The water borne disease in unauthorized colonies is very common. The scarcity of drinking water is an unresolvable issue for roughly 60% of the population.

Before waste management, it is important to ensure the quality of waste bring generation. The literature review and common understanding points to the fact that waste management on cumulative basis is unresolvable problem in India because waste quality is debatable issue.

Conclusion

The waste generation in popular countries is dependent upon the economic condition of the country and it is different from the developed countries where effort is made to sell the products in packaging to ensure that adulteration is not possible. But selling the products in loose form is very common in India and hence the littering is also routine. The use of substandard goods and packaging is quite common. The rules are framed for production of packing material but are flouted mainly because unemployment is so bad that people break the rules and indulge in substandard production. The rules are framed for sewage discharge but still the people evade the rules and sewage discharge is done in canal before it could have been taken to sewage treatment plant whose functioning is very costly. Therefore, untreated water supplied to farms contaminates the vegetable whose consumption is causing life threatening diseases. The biomass waste is extremely high in India because of the perishing of vegetables when their production is involuntary.

There is an awareness of making best use of biomass to convert this to biogas to use it in the rural areas for small businesses. Migration is disturbing the balance of waste production in the cities and hence municipalities are stressed to handle extra waste. Their financial health not so good, the waste management is tardy and hence economy is burdened due to diseases, unhygienic and pollution. The scarcity of space and dumping in the surrounding area scares away the builders and officers, leading to economic losses. Vast stretches of land is left idle for land fill or dumping. Housing and offices are not possible in close to distant spaces causing economic losses. There is no permanent solution to waste management because of latitudinal reasons including low income, high population, adulteration, laws flouting, political patronage.

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