

How garbage dumps affect the Urban environment: a case study of Prayagraj District

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Abstract

This study draws the attention of readers to the unorganized debris and wastage in densely populated area of Prayagraj District. This study work is how many locality in the study area where debris are find out and it create land, water and air pollution. The present Study is focused on Prayagraj District urban area respondent. My research work is finding out the people and houses who have affected by water lodging and flood during rainy season. Which need to be warned to control unnecessary dump of wastage near the living areas? In the study, proper disposal of waste has been studied in the urban environment. Some plastic waste is neither recyclable nor disposed of properly. This waste is dumped at various empty places in the city, which flows along with the monsoon rains and gets into the rivers which later get into the sea. This garbage includes plastic packets, bottles, spoons, nylon sacks and polythene bags etc. so, maintain the ecology, we also studied the pollution coming out of the garbage.

Key words- *Garbage, Ecology, plastic waste, Pollution, Urban area.*

Introduction-

Due to the increasing population in the world, many types of problems have started arising. In which increasing urban expansion and the problem that has arisen is the pile of garbage everywhere. In many observations, it has been found that during the urban expansion, the dump of garbage is increasing from inside the city to outside. The study of water pollution shows that this harmful element of garbage is getting mixed in the drinking water in some way or the other. People gather in Prayagraj due to religious importance. A pile of garbage is visible on the river bank. Industrial waste contributes to water pollution. But the work related in different parts of the district, where there is a pile of garbage, there is a crowd of milch animals. These animals also eat polythene and paper along with manure in this garbage. Causing great harm to the health of these animals and milk that comes out is unhealthy too.(Sharma N.K.et.at 2017) Identification of garbage places and some information will be taken from the sanitation workers. Water pollution, land pollution and air pollution are generated by the accumulated garbage. Pollution causes various diseases in humans and other animals.

Objective-

- To study the increasing level of garbage in Urban areas due to urbanization.
- To study the impact of the increasing problem of garbage on the surroundings.
- To study the negative impact on human and animals due to dumping of garbage.

A review of Literature-

This research describes the current status of MSWM, and its authors, Mufeed Sharholly, Kafeel Ahmad, R.C. Vaishya, and R.D. Gupta (2006), analyse it in their article, "Municipal solid waste characteristics and management in Allahabad, India." This will assist raise people's knowledge of the issue. The necessary data is

retrieved, updated, and shown thanks to the MSWM data gleaned from ArcGIS maps. The information about the current MSWM system that can be gleaned from the generated maps is crucial for the advancement of the current system and for future planning on the part of AMC, environmental engineers, and decision makers. The study's goals are to generate GIS maps of the city of Allahabad and to ascertain the quantitative and qualitative features of MSW, as well as to ascertain fundamental facts. The properties of MSW have been determined by the analysis of the samples, which were gathered at random from different sites.

Whereas, "Determination of Suitable Site for Solid Waste Disposal using Remote Sensing and GIS Techniques in Allahabad Municipality Area," by Jamal Mohamed Salih Irhoumah, V.C. Agarwal, Deepak Lal, and Mukesh K. (2014), explains that urban solid waste management is one of the most serious environmental problems facing municipal authorities in developing countries. The most up-to-date land use information research that aims to address environmental concerns has benefited from the use of RS and GIS technology as an information tool. Data on land use, land cover, geomorphology, lithology, slope, road, rail, drainage, and other features was extracted using these methods. In this study, we use geographic information system (GIS) methods to the problem of finding a place to dump trash from the regions around Allahabad. (Sharma N.K.et.at 2019)

Also, this research made use of remote sensing and GIS in order to locate an appropriate landfill. Similar findings were found in a 2017 article by Nitin Kamboj and Neeraj Pandey titled "Spatial distribution of solid waste disposal sites in Allahabad city, Uttar Pradesh, India using GIS approach," which found that maps of land use cover/land use change/satellite imageries and the GIS tool were helpful in characterising appropriate plans and methodologies for an effective solid waste management plan in metropolitan cities. In this study, we use GIS, AHP, and remote detecting techniques to locate suitable transfer sites for Allahabad's robust trash. For the purpose of deciding where to dump garbage, GIS technologies are necessary. The findings of the current research helped characterize viable strategies for efficient solid waste management in major urban centres. Because of this, it is important to take into account GIS tools, satellite imageries, and maps when putting into practise plans for managing solid waste.

In his work "Integrated Solid Waste Management System: An Overview of Allahabad City," Pawan Kumar Bhaskar and V. K. Kumra (2019) describe the various value chains involved in the city of Allahabad's solid waste management. Rapid economic expansion, an improved quality of life, and a shift in food patterns are the primary causes of this increase in solid waste. Different solid waste management techniques have led to varying post-disposal values in this approach for the Allahabad area. Allahabad may benefit from the three MSWM options now available: (a) incineration, (b) sanitary landfills, and (c) waste separation and recycling. Finally, the study reveals that the three cheapest alternatives are incineration, recycling, and disposal.

In this context, the most recent published work is "Pattern and distribution of solid waste collection locations in Magh Mela region Allahabad 2018 using geospatial technology" by Pawan Kumar Jha, Atul Srivastava, Prashant Narayan, and Shahbaz Siddiqui(2019). Using buffer and average nearest neighbour analysis, this article aims to investigate the structure and distribution of Magh Mela area solid waste collection stations. The research area's solid waste collection stations' coordinates (latitude and longitude) were obtained using GPS after gathering information about them from the Magh male authority of Allahabad, the Allahabad development authority (ADA), and a field survey. There has to be additional collection stations in the Mela region, according to the study, and population should also be included as a criterion for bin distribution and trash management. Furthermore, geospatial technology should be institutionalized for application in waste management.

The problem of Garbage and it's disposal in Prayagraj Urban area-

The increases of population in the cities day by day, urban expansion has started increasing rapidly. With the expansion of the city, the accumulation of garbage has also started seeing everywhere. Debris can be seen accumulating on many parts of the city which are lying vacant. Apart from this, most of old ponds, wells, pits etc were available outside the city, today they have been filled with garbage. Drainage gets blocked due to accumulation of garbage. The condition of water logging occurs in these areas during the rainy season and flood situation arises. In Prayagraj district, where there is a lot of garbage in different areas, these areas have to be identified. There is a plant in the Basawat area of Prayagraj, where the city's waste is disposed. The exercise of construction of material Recovery facility centre has started in Niani and Jhusi area for solid waste management. Waste disposal of Prayagraj is sent to the waste disposal plant in Baswar. Some percentage of this waste is used for making R.D.F.. This R.D.F. is used for fuel in power and cement plants. Some waste is used to make organic manure. Bio-fuel is made from plastic waste which is used in the construction of roads. Much wastage is left which are not used, are used for filling pits. Construction of M.R.F. centre is proposed at Jhansi, Naini, Phaphamau in Prayagraj. The construction work of making bricks from rubble will also start in Baswar village of the City. Kumbh Mela is organized every year in Prayagraj and thousands of tons of solid waste is generated from this fair. Baswar village has the only solid waste treatment plant in the city, but that is closed mostly and the waste is lying in the open. A huge mountain of garbage is visible near the Baswar plant. Private firm set up by Prayagraj Municipality Corporation to treat waste is Hari-Bhari. Due to the dumping of garbage near Baswar village plant, people of nearby villages like Simta, Mohabbatganj, Thakuri Purwa, Bongi are troubled by this garbage and dirtiness. Flies and mosquitoes are more prevalent in this area due to this garbage dump. Many types of diseases are seen here, like skin-rashes, stomach pain, headache etc. Here the Yamuna river is nearby, due to which this waste comes into the Ganges through Yamuna. Most of the sewage treatment plants in Prayagraj are overflowing and are being discharged into the Ganges, for example Rajapur, Ganganagar, Lotcharan, Arail, Daraganj, Salori, Naini, kodara etc. areas comes under. Fecal chloroform is found in human feces, which is harmful to the health of humans and animals. Therefore, the Ganga water of the Prayagraj area is found to be contaminated because the sewage flowing from the drain gets mixed with the water of the Ganges. The level of BOD and oxygen level of the river water is reduced to a great extent. There are more than 80 drains in Prayagraj, in which 4-5 are attached in GeoTube technology. GeoTube filters that prevents drain waste from entering the river directly. The type of waste is also to be ascertained during the field observation. The sanitation workers give some information about the disposal of garbage. Various types of waste are found whose Plastic waste, Electronic waste, Food waste, Medical waste etc. The sanitation workers of the Municipal Corporation said that how they dispose of the garbage and where they collect it outside the city. During the field observation, get some information by the people of those areas which are always troubled by the piles of garbage. They said where they dispose of their domestic garbage. During the study, we spread awareness about cleanliness among the people, so that a clean and healthy city will be made aware of neat and clean society. Many times the environment is harmed by throwing the dead animals on the heap. Throwing garbage on illegal land is a common problem, Empty plots, slum areas, open drains and barrages are also included in this. Those areas will have to be studied from where the waste reaches the river and that waste damages the ecosystem of the river.

Environmental and Ecology damages due to increasing Garbage dumps-

These wastes contain more harmful elements such as plastic, bottle, leather, and cloths etc. which do not get destroyed for eternity and spread pollution by staying in the environment. These wastes are reaching the sea through river channels, in which macro-plastics are more. Which is helpful in destroying the marine ecosystem? This macro plastic organism entangles strangles and kills marine livings. Macro-plastics floating on the surface of the ocean can also affect surface temperature and water properties, and through them can cause unpredictable climate change effects. Plastic is not easily saved by the environment. This plastic not only harms

the environment but also harms animals and birds. Many times animals can be seen on the garbage dumps. Cows, bull, pigs, dogs etc. keep roaming on these wastages and these animals swallow paper and plastic along with food material which is very harmful for their health. Plastic pollution emits excessive carbon dioxide into the environment. Many times the waste of the urban area is thrown directly into the river drains. During the rainy season, the plastic waste of the cities reaches the rivers flowing through the drains. Micro plastics have become incorporated into our drinking water, vegetables and other edible food materials today. Due to this, mental problems, disability, deformity, heart disease, cancer etc. have increased more in human beings. Many living organisms are becoming extinct due to these harmful polluted garbage, while new mosquito species have started emerging day by day. Many types of pollution problems arise due to the spread of garbage. The accumulations of this harmful garbage create land pollution, water pollution and also air pollution. In which land pollution and water pollution are prominent. These piles of garbage emit foul smell which mixes in the environment and contaminates them.

The garbage and filth have to be observed in the settlements on the banks of the rivers of Prayagraj because the garbage keeps reaching the rivers from this area itself. All the areas along the river come under the flood prone area. In which the problem of water logging occurs for many days due to the rise in the water level of the river during the rainy season. Ganga Nagar, Rajapur, Salori, Daraganj, Allahpur, Prayag station, Chhota Baghara etc. are such densely populated areas where such problems arise due to the filling of plastic, bottles, cloths and papers in the drains. After the water logging in these areas every year, social and economic losses come and it also causes loss of life and property. After the removal of the flood, various types of diseases arise in these areas.

What the responsibility of the Society toward this?

- Since some time, proper efforts are being made by the Municipal Corporation for proper disposal of garbage in the urban areas of Prayagraj. Garbage pickup van named Hari-Bhari is engaged in door-to-door of garbage collection.
- There is also a provision of fine for throwing garbage in the open in some very posh areas of Prayagraj District like civies near Highcourt and other places.
- The subject of environmental studies has been made some times compulsory in school, college and university education. So more efforts should be made to expand this subject that the responsibility of keeping the environment clean in the students becomes their habit.
- Through campaigns like Swachh Bharat, Swasth Bharat by the prime minister, awareness is being spread among the people.
- Many times Cleanliness demonstration is performed by NSS and NCC cadets in school colleges in Prayagraj District. By which every common citizen can be made aware about the cleanliness of his house, locality, society etc.

Conclusion-

With rapid urbanization the country is facing a massive waste management challenge. A law has been enacted under the 1986 Act to regulate the manner of disposal of increased waste generation. Cleaning of rivers, drains is very important during the rainy season. Efforts should be made that, The roads and drains of urban areas should be kept clean so that material like plastic and unnecessary things does not reach the ocean through rivers. We can clean and protect our environment and ecology.

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