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Urban Waste Management in Namchi Under Namchi Municipal Corporation

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ABSTRACT:-

Municipal solid waste (MSW) is one of the major areas of concern all over the world. In developing country like India, there is rapid increase in municipal solid waste due to urbanization and population growth. Composition of waste varies with different factors like living standard, climatic condition, socio-economic factor etc. Namchi is a one of the important tourist place in the south gangt ok. It becomes very popular to the tourists, almost one lakhs tourist are coming here in every year. With increasing its popularity and due to urbanization the people in Namchi have faced a various problems, among them increasing amount of solid waste disposal is a major problem. This paper gives current scenario of solid waste quantity, quality and its management with the special reference in Namchi. And also it discussed on the various solid waste management system through Namchi municipal corporation .

KEY WORDS:-E-waste, Recycling, Waste management, Re-use, waste management, smart city.

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INTRODUCTION:-

The Urban growth rate in India is faster than the average growth rate in this country. The proportion of population residing in urban areas has increased from 27.8% in 2001 to 31.80% in 2011. And likely to reach 50% by 2030. The no of towns have increased from 5161 to 7935. Due to the rapid urbanization the sanitization condition and drainage system become very poor. It is estimated that urban India generates about 1.5 lakhs ton waste material per day. The per capita waste generation in major cities ranges from 0.20kg to 0.60 kg. Generally the collection and disposal of municipal solid waste is one of the important problems of city life in India. This waste material not only disturbs the environmental balance but also hampers the human life. So this solid waste should be managed in scientific way. So, here I have been discussed on the solid waste management in Sikkim.

AREA OF THE STUDY:-

For this field study I have chosen Namchi, the capital of South Sikkim. Namchi is located at 22.17 degree north and 88.35 degree east. It has an average elevation of 1,315 metres (4,314 ft). Namchi is situated at an altitude of 1,675 m (5500 feet) above sea level. It is situated at a distance of 78 kilometres (48 mi) from the state capital Gangtok and 100 kilometres (62 mi) from the town of Siliguri. As of 2011 India census, Namchi has a population of 12194. Males constitute 52% of the population and females 48%. Namchi has an average literacy rate of 78%.



Fig-1 Location of Namchi In Sikkim

OBJECTIVE OF THE STUDY :-

- To identify the different source of solid waste disposal and its spatio temporal variation in Namchi.
- Find out the different problems, which occurs due to the solid waste disposal.
- How does the Namchi Municipal corporation has managed this solid waste materials.
- And finally discuss the present problems, which are create for this solid waste disposal and give its practical solution.

METHODOLOGY OF THE STUDY:-

- Data Collection:-All the required data which have been used to give a structure to this paper are being collected from the Head office of Namchi Municipal Corporation, Census of India, NATMO and primary data are collected by Household survey in different roads.
- Data Analysis and Presentation: - To analyze the data in this paper some general software and GIS software have been used. The collected data are presented by different cartographic and statistical analysis.

RESULTS AND ANALYSIS:-

Namchi is the capital of South Sikkim and only a smart city in sikkim. Until recently there was no effective urban planning mechanism. Due to the scope of employment and tourism development many peoples migrate here from their living place. With growing the population main problem is increasing solid waste materials. Sikkim government has taken an initiative step for solid waste management.

➤ **MAIN SOURCES OF SOLID WASTE IN NMC_ _**

different sources of solid waste materials are-

- Municipal sources Waste :- Waste from household, different organization, school colleges, other institutions, restaurant and other public places.
Eg. Excess foods, used plastic bottles, polythene bags, old cloths, broken furniture and used paper
- Medical sources of Waste:- Waste from different health care institute like hospitals, nursing homes
The produces Waste materials are expired medicine, used needles and syringes, blood, used bandage etc.
- Waste from automobiles:- The various waste materials produced from this sectors are old broken vehicles, and different parts of car.

- Construction sources :- Main produced waste materials from the construction of roads and buildings are concrete waste, plastic bags of building materials and cement etc.
- Electronic sources of waste :- Different electronics waste are computer, broken t.v, and damaged electronics parts etc.
- Tourism linkage- Almost one lakhs tourist come to this place in every year from the various parts of india. As a result a huge amount of a solid waste are generated.
- Transport Linkage;- Namchi is one of the important hill station in south sikkim. Which is the junction point between North and South sikkim.

➤ **SPATIO-TEMPORAL VARIATION OF THE SOLID WASTE GENERATION IN NAMCHI-**

Namchi municipal council area is divided into 7 wards. But the amount of solid waste is not same in everywhere. There are spatial differentiation in case of solid waste generation. This solid waste generation rate is higher in the ward no 1, 4, 5, 6 due to the rapid urbanization and the concentration of different economic activities like shop, vegetables market, fish market park, hotel, bus stand and educational institutions etc.

In ward no 01 and 06, the main source of solid waste generation is tourism industry, because most of the hotels are situated here.

04 no ward has taken an important role for waste material generation, and the main source is the Namchi sadar hospital.

Through out the year huge tourists are come to visit this hill station. As it is one of the important tourists spot in south Sikkim. But the rate of the generation of this solid waste is not same through out the year. In the month of october to december huge tourists come here, as a result the amount of solid waste generation become very high. As an example the amount of solid waste in Namchi are generally 4-5 trucks per day, which will be increased to 7-8 trucks per day in the peak season.

SOLID WASTE MANAGEMENT SYSTEM IN NAMCHI:-

- Collection of garbage & transportation system -Door to door collection of waste from households accessible by the waste pick up vans. collection of waste from the inaccessible areas by backpackers manually.
- Recycling & systems -A compost plant at Martam 18 Kms from the Gangtok city is designed to handle waste amounting 50 MT/day which covers the entire segregated organic waste generated in Gangtok and the neighboring areas.

- Public and Private participation -Currently the public and private partnership has been an important role to waste management in Namchi. NGO's and local communities have been encouraged by the organization to collect the waste from the households and transfer it to the transfer station. Currently two such NGO's (1. Watson Committee 2. Golden Circe) are engaged in collection of household waste in the designated areas.
- Disposal of waste – This is process for burning the waste at a very high temperature. Incineration requires high calorific value of the waste which could burn without any external fuels.

OTHER INITIATIVE:-

Sikkim Government has taken a adifferent initiaive for solid waste management in Namchi.The government has conduct A Saccha Bharat Abhiyaan Programme for cleaning the Namchi.Other sensitization and awareness programme conducted for school children. The Corporation has established e-waste collection centre at GMC office where all electronic waste will be collected and disposed disposed off as per procedures.Namchi Municipal Corporation has collected the garbage in namchi and others surrounding areas by the truck ringing the bell.And the corporation imposition of fine on people caught throwing garbage in jhoras or drains Rs.5000/- fine. The sikkim government has taken a different awarness programme to increase the awarness about cleanliness among the people in Namchi.

A day long State level workshop on solid and liquid waste management in rural areas of sikkim was held in the capital on june 8,2018.The workshop organized by the rural management and development Department (RMDD).

SOLID WASTE MANAGEMENT AND THEIR NEGATIVE IMPACT:-

- Open dumping in market place and street are providing food and shelter for disease creatingunhygienic condition and smell.
- This dispersion of garbage disposal is the main cause of drainage problems,which occures the flash flood.

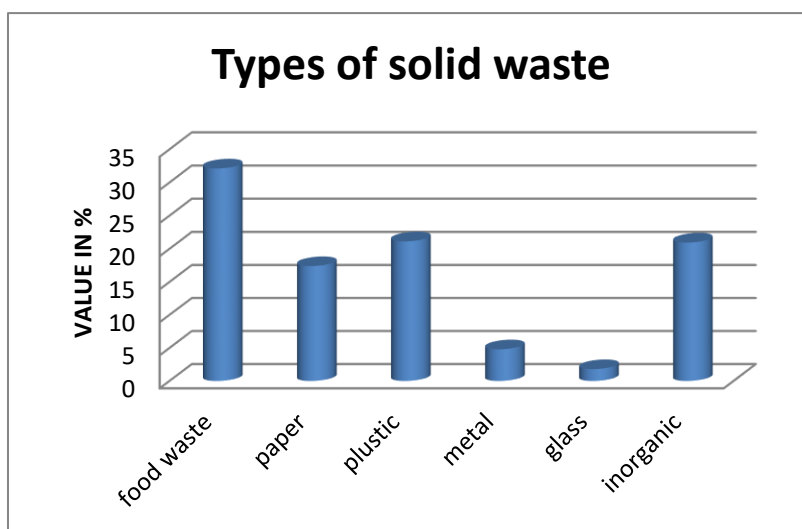


Fig-2 Amount Of Different Types Of Solid Waste

SUGGESTION FOR PROPER SOLID WASTE MANAGEMENT:-

- Deficiency of staff, vehicles and machinery must be recovered.
- Large and small trucks are used for transportation of solid waste out side the city.
- Without burning this material, it should be recycle.
- People awarness programme and training should be initiated to special consciousness for proper waste management.
- The waste material should be used for land filling in any low land area.

CONCLUSION-

Overall scenario of urban waste management in Namchi municipal council area is better in respect of different hill town in india. It is clean city with good waste management in north east india. Although there are some problems are ocured for increasing the urban waste materials. But it can be undoubtly said that, if the municipal council will be active to management this solid waste by proper scientific way, then it will be a one of the clean and smart city in india.

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