iJRASET
International Journal For Research in Applied Science and Engineering Technology

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 10 **Issue:** V **Month of publication:** May 2022

DOI: https://doi.org/10.22214/ijraset.2022.42480

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 10 Issue V May 2022- Available at www.ijraset.com

Municipal Solid Waste Management and Disposal BMC

Soumya Ranjan Parida[1], Sourav Sahoo[2], Lipsita Behera[3], Sushreesangeeta Dash[4], Dr. Haripriya Mishra[5]
[1, 2, 3, 4]*Student, Civil Engineering, Gandhi institute for technology, Bhubaneswar, Odisha, India*
[5]*Professor, Department of Civil Engineering, Gandhi institute For Technology, Bhubaneswar, Odisha, India*

Abstract: ***Solid waste management is a challenge for the cities authorities in developing countries mainly dueto the increasing generation of waste, the burden posed on the municipal budget as a result of the high costs associated to its management, the lack of understanding over a diversity of factors that affect the different stages of waste management and linkages necessary to enable the entire handling system functioning. Bhubaneswar is one such city of Eastern India, having a moderate and unscientific waste management system. This studies attempts to assess the existing state of municipal solid waste management in Bhubaneswar city with the aim of identifying the main obstacles to its efficiency and the prospects for improvisation of the solid waste management system in the city. The existing solid waste management system in the city is found to be inefficient. This paper systematically assesses the obstacles in the existing solid waste management system in city also ties to assess the potential for its improvisation.***

Keywords: Solid waste management, municipal, developing countries.

I. INTRODUCTION

With rapid population growth and urbanization, annual waste generation is expected to increase by 70% from 2016 levels to 3.40 billions tones in 2050. Compared to those in developed nations, residents in to those in developed nations, residents in developing countries, especially the urbanpoor, are more severely impacted by unsustainable managed waste. Waste isdefined as unwanted and unusable materialsand is regarded as a substance which is of no use. It may no longer useful as it has served its purpose, and at the end of the process have no further use, and is generally discarded. It is often also called trash, garbage, rubbish or junk. It can be solid, liquid or gas, or it can be waste heat.

II. EXPERIMENT DETAILS

We visited **two** dumping yards to know the waste management and disposal process ofBhubaneswar.

1) Sainik School dumping yard
2) Bhuasuni dumping yard

III. PROCEDURE

A. Wet Waste

1) The dry waste and wet waste are separated manually by the BMC employees.

Fig 1.1 BMC Employees separating manually

2) After separation of dry and wet waste the wetwaste is decomposed for 30 days.

3) And after 30 days this is the result.

Fig-1.2 After decomposing wet waste

4) After 30 days of decompose the waste is left to dryfor 14 days to become fertilizer.

Fig-1.3 Fertilizers

5) The fertilizers are again poured on the machine to separate the left over tiny pieces of plastic so that thefertilizer is now ready to be sell on the market.

Fig- 1.4 Waste separator

6) This is the final fertilizer bag “MO KHATA” which is packed and ready to be sell in the market.

5kg-125/-

20kg-445/-

Fig-1.5 MO KHATA

B. Dry Waste

1) Segregation Machine

All the wet waste collected are mixed on this machine.

Fig-1.6 Segregation machine

From here again it will be separated accordingly.

2) Shredding Machine

The dry waste is now poured in themachine to make it into small pieces so that it can be used for further use.

Fig-1.7 Shreddingmachine

Fig-1.8 Shreddedparticles

3) Fatka Machine

All the dry waste contains small drops of water which are made to dry here.

Fig-1.9 Fatka machine

4) Compressor

After drying the plastic bottles and the paper cardboards are made to be compress that they occupy less space.

Fig- 1.10 Fatkamachine

Fig- 1.11 Compressedproducts

IV. RESULT AND DISCUSSION

1) At last we got shredded materials of different plastic waste and compressed plastic.

2) We got well prepared fertilizers from wetwaste

V. CONCLUSION

The waste management system of Bhubaneswar is not so advanced as compared to other cities of India. Bhubaneswar has a moderate and unscientific waste management system.. The whole management process of completely based on government guidelines.

Government now has to work a lot on the waste management process.

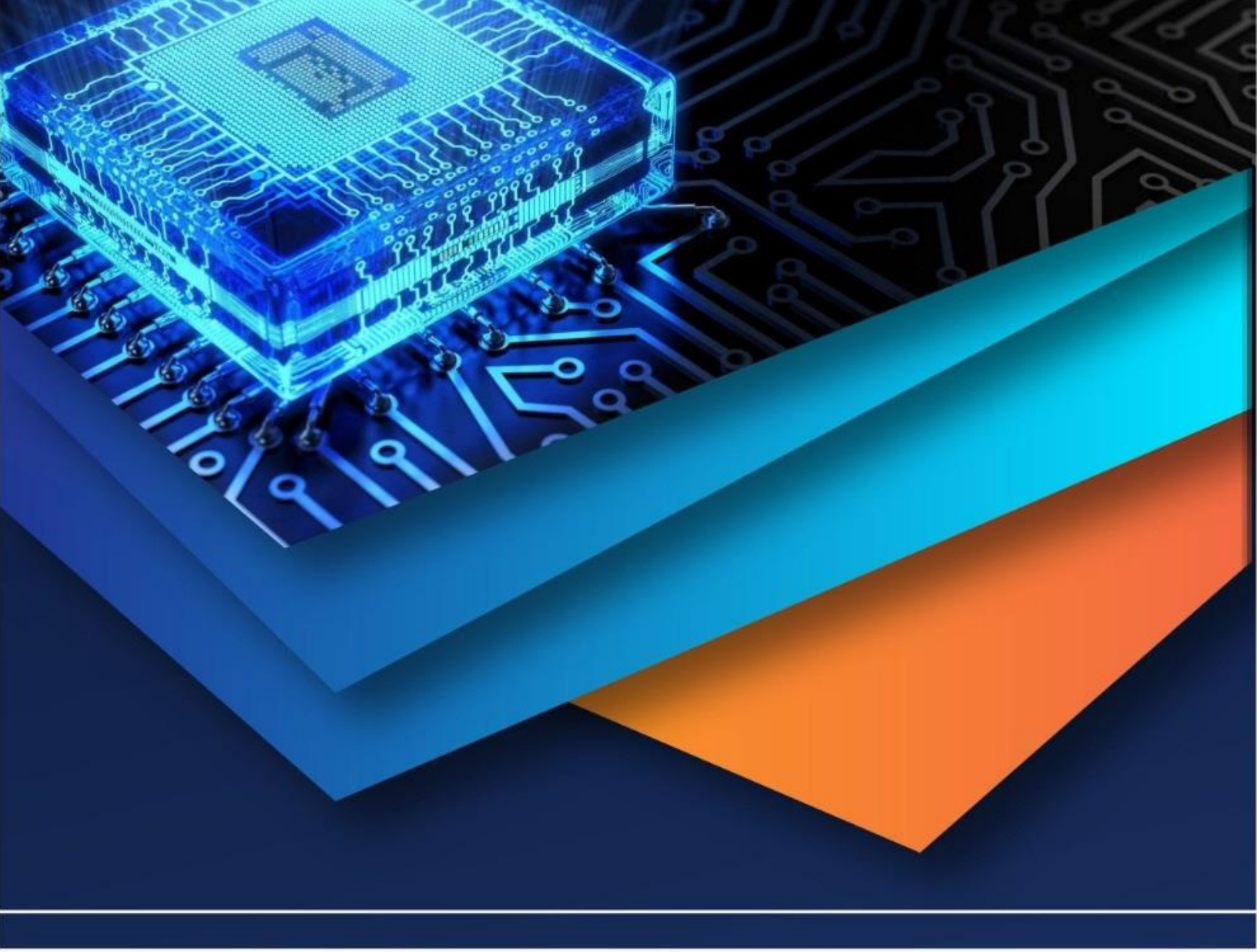
REFERENCES

[1] Lavee, A., Vievek,: Is municipal solid waste recycling economically efficient.

[2] Environ. Manag. 40, 926–943 (2009) Asnani, P.U.: United States Asia Environmental Partnership Report, United States Agency for International Development, Centre for Environmental Planning and Technology, Ahmedabad (2004)

[3] Bhoyar, R.V., Titus, S.K., Bhide, A.D., Khanna, P.:Municipal and industrial solid waste management in India. J. IAEM 23, 53–64 (1996)

[4] Rajput, R., Prasad, G., Chopra, A.K.: Scenario of solid waste management in present Indian context. Caspian J. Environ. Sci. 7(1), 45–53 (2009)



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY