

# Impact Assessment on Air Quality around Integrated Municipal Solid Waste Management Plant in Hyderabad

**Dr. R. Premsudha<sup>1</sup>, A. Vasareddy<sup>2</sup>, B. Saiteja<sup>3</sup>, B. Sreeja<sup>4</sup>, G. Chandana<sup>5</sup>**

Professor<sup>1</sup>, UG Students<sup>2,3,4</sup>, Assistant Professor<sup>5</sup>, Department of Civil Engineering  
TKR College of Engineering and Technology, Hyderabad, India  
rpremsudha@gmail.com

**Abstract:** *The menace of environmental pollution due to improper municipal solid waste management (MSWM) has been enduring the human world still it is growing due to enormous growth of industries in the developing countries. Currently 2.0 billion tonnes per year of MSW is generating. Solid Waste Management process includes the collection, conveyance, segregation, treatment and disposal. Various municipal Solid waste treatment (landfilling, incineration, open burning) processes which emits the hazardous Greenhouse gases & affects Environment and Human health. This study has made an attempt on collection of data about various process involved in treatment of Hyderabad Integrated Municipal Solid Waste Management (HIMSWM) done by Ramky group PvtLtd and its impact on air. During 2018 national cleanliness survey was conducted in that Hyderabad ranked first out of 4,203 cities in Solid Waste Management. GHMC, the Greater Hyderabad Municipal Corporation, is responsible for the city's Solid Waste Management function. Hyderabad ranks among the top 5 cities in India in Solid Waste generation. In these processes Landfilling is one of the major municipal solid wastes (MSW) disposal methods practiced all over the world. Although it is considered as the most cost-effective means of waste disposal, but there are poor management practices specially in developing countries like India are the major causes of environmental pollution. Recently several studies has been carried out for the better understanding of the effects of landfill pollution on human health as well on the environment. Toxic gas emissions from landfills like Methane, NO<sub>x</sub>, SO<sub>2</sub>, VOC's, CO<sub>2</sub>, PM, HC, pose a serious threat to both the environment and human health. Some studies has shown that the toxic gases released from landfill sites are even responsible for the lung and heart diseases in humans beings. Landfills also generate a toxic soup known as leachate, formed when the waste is subjected to biological and physiochemical transformation process. Leachate is highly toxic and causes the land and groundwater pollution. This study focus the impact on air due to landfills, and the challenges faced in the current scenario, and the possible measures that can be taken to deal with the problem of municipal solid waste management treatment.*

**Keywords:** Greater Hyderabad Municipal Corporation, Hyderabad Integrated Municipal Solid Waste Management, landfilling, incineration

## REFERENCES

- [1]. S.A.Edgerton,X.Bian,J.D.Fast,J.M.Hubbe,E.L.Malone,W.J.Shaw,C.D.Whiteman,S.Zhong,J.L.Arriaga,E.Ortiz ,M.Ruiz,G.Sosa,E.Vega,Particulate Air pollution in Mexico city:A collaborative Research Project, Journal of the Air and waste management Association,ISSN:1096-2247.
- [2]. Giovanis, Eletherios, 2015, Relationship between recycling rate and air pollution: Waste management in the state of Massachusetts, Department of Economics, Royal Holloway university of London, Egham, England, United kingdom, 192-203, ISSN 0956-053X.
- [3]. B. Abraham Lingham, G.Poyyamoli, and U. Jagadeesh Chandira Boss, 2014, Assessment of Air pollution and its impacts near municipal solid waste dumping site Kammiyampet, Cuddalore, India, Department of ecology and environmental sciences, Pondicherry university, Pondicherry, International Journal of innovative Research in science, Engineering and Technology, Vol 2319-8753.

- [4]. Mohamed F.Hamod,02 march 2007, Air pollutants Emissions from waste treatment and disposal facilities,Journal of Environmental sciences and Health part-A, Toxic/Hazardous substances and Environmental Engineering, vol ISSN:1093-4529; Online ‘(1532-4117).
- [5]. Pramod Kumar and C.P. Singh, 1999, Managing Solid Waste: A case study of Ghazipur City, Department of Environmental sciences, Technical Education and Research institute(T.E.R.I),post graduate college,Ravindrapuri,India,Vol:231-234(1999).
- [6]. Sukesh Narayana Sinha,2018,Air pollution from solid fuels, National Institute of Nutrition (ICMR), Hyderabad, Air pollution Tolerance Index, Indoor air pollution from solid fuels,Ambient Air pollution from solid fuels, Earth systems and Environmental sciences,Vol-11266-7.
- [7]. Pervez Alam & Kafeel Ahmade,2013,Impact of solid waste on Health and the Environment,Department of civil engineering, COET,BGSB,University,Rajouri,J&K, India,special issue of international journal of sustainable Development and Green Economics, ISSN No:2315-4721,V-2,I-1,2.
- [8]. N.Alba,S.Gasso,T.Lacorte&J.M Baldasono,1998,Characterisation of municipal solid waste incineration Residues from facilities with different Air pollution control systems,Resources conservation &recycling,Arun kansal Academia Accelerating the worlds research,vol-3,4.
- [9]. Shuchi Gupta, Krishna Mohan, Rajkumar Prasad, Sujata Gupta, Arun Kansal,10 may 1998,Solid waste management in India:Options and opportunities,Tata energy research institute,India Habitat Centre, Lodi road, New Delhi, Resources, conservation and recycling 24(1998)137-154.
- [10]. Md Senaul Haque and R.B.Singh,Accepted:22 september,;Published:12 october 2017,Air pollution and Human health in Kolkata,India:A case study,Department of Geography, Delhi school of economics, university of Delhi ,climate 2017,5,77.
- [11]. R.PremSudha, Dr.R.N.Uma, Dr.Meiaraj, 2014-Assessment of Soil Characteristics around Municipal Solidwaste Disposal site in sulur block- Coimbatore Town Panchayats- Tamilnadu, India -International Journal of Scientific & Engineering Research, Volume 5, Issue 4, pp 240 -244. ISSN 2229-5518.- 2014
- [12]. R.PremSudha, Dr.R.N.Uma, DrMeiaraj, 2014 –“Impact assessment of soil characteristics in and around Vellalore dumpyard in Coimbatore City, Tamilnadu”Ecology Environment & Conservation. Volume 20, Issue 3, pp. 330-337,- 2014 EM International, ISSN 0971–765X.
- [13]. Dr.R.N.Uma, Dr.Meiaraj, 2015 ,” Adverse impact on Soil and Groundwater due to solidwaste open dump in Coimbatore Town panchayats ”International Journal of Chemical Sciences Volume 13, Issue 1, pp. 376-388. ISSN 0972-768X- Annexure-II -
- [14]. N Uma and K Murali- 2015, “Hydro Chemical Characterization of Groundwater Quality due to Municipal Solidwaste Dumping at Vellalore in Coimbatore, Tamil Nadu, India”, International Journal of Earth Sciences and Engineering. Volume 08, Issue 4 PP. 1791-1798 , ISSN 0974-5904, Annexure-II.