



Short Review Paper

Garbage Pollution: Deonar Dumping Ground

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Abstract

In this article, I have tried to put forward the current issue of Deonar Dumping Ground. The causes, effects and solutions of garbage pollution have been discussed. The aim is to solve the above mentioned problem and to save 'our planet- mother earth'.

Keywords: Pollution, Solid waste, Dumping ground, Harmful effects, Diseases.

Introduction

Introduction of harmful chemical and gases into environment lead to pollution¹. This may cause detrimental effects on health of local population. In recent times management of waste or garbage in cities is a huge problem and is a major concern.

Mismanagement of solid waste or Garbage pollution is mainly caused when garbage is not collected or disposed properly at proper landfill sites. Most people are ignorant about actual effects of garbage pollution, and mostly don't think or care about the waste they dispose. This may lead to outbreak of many diseases, as the garbage sites are breeding ground for mosquitoes, flies, deadly bacteria and viruses etc.

In Mumbai there are three dumping grounds. One is near Mulund, other recently opened in Kajurmarg and the oldest is the Deonar dumping ground which is the largest and Asia's oldest dumping ground^{2,3} managed by Brihanmumbai Municipal Corporation. There is no implementation of solid waste management^{4,6} at the site. The garbage mound at the site is almost 18 storey high⁷.

Sometimes due to un-awareness, this garbage is burnt and no one stops or it is burnt by authorities to create free space or else rag-pickers⁸ burn it so that they can take out metallic waste from it and earn money. Many a times, cause of fire is natural due to internal combustion of methane, generated by tonnes of mixed garbage, rotting in the open.

Regular fires in dumping grounds at Deonar release toxic gases into atmosphere causing air pollution endangering lives of people. Also, harmful chemicals like dioxins are released by burning of garbage which are considered to be carcinogenic.

Recently we have witnessed several incidents of fire in the dumping ground at Deonar. On Jan. 27, 2016 a fire broke out at

the said dumping ground which spread across 326 acres, resulting in smog in the air in neighbouring areas of Chembur, Govandi, Mankhurd, Wadala, Sion and even Ghatkopar. According to reports, this led to a 40% increase in pollution levels. Many residents complained of foul smell and respiratory problems. NASA satellite images showed that the smoke had covered the entire South Mumbai area and had even spread to the Arabian Sea. It was reported by the System of Air Quality and Weather Forecasting and Research (SAFAR) that the Air Quality Index in the vicinity of the dumping ground reached a high level of 341.

In less than two months, on 22nd March 2016, again fire broke out at Mumbai's Deonar dumping ground, and continued for three days. Civic body BMC suspected sabotage behind the second large fire in the city's biggest dumping ground. Near Deonar, the air was thick and toxic and visibility came down to about 50 to 100 metres from the top of buildings. Areas in Central Mumbai like Mulund, Shivaji Nagar and Chembur were the worst affected. The smoke emitted toxic gases which is a matter of great concern.

Effects of Garbage Pollution

The garbage in any area or dumping ground is a good breeding ground for flies, cockroaches, insects and mosquitoes. They can infect people and are considered as the carriers of various diseases. Due to the lack of proper medical care, some people may die from the diseases they catch. When stray animals try to eat food from polythene bags, thrown as garbage, their respiratory system may get choked leading to their death.

Garbage not only causes land pollution but also air pollution by emission of harmful gases, when it is burnt which remains in breathing zone of animals and human beings. Burning garbage may release toxic material, dioxin which is considered to be carcinogenic.

Also, when the garbage is thrown in water bodies like river, oceans etc. deliberately or when it comes with wind or animals, it causes water pollution as well. There is tons of garbage floating on the surface of these water bodies. When aquatic animals accidentally swallow these pieces of garbage thinking it to be fish, their respiratory system may get choked off and they may die. This may lead to a bigger problem of endangering species. The water can infect a huge habitat of animals and human beings. We get everything we need from nature, so when we infect nature, we are infecting ourselves. When a person drinks polluted water, several waterborne illnesses can be transmitted like cholera, dysentery, jaundice, typhoid. Lack of sanitation and unsanitized environment makes it easier to get diseases like typhoid for everyone who lives there. Mosquitoes breed in still water and carry Plasmodium which causes malaria.

Also when this polluted water is used for irrigation, the crops get infected and may die. This would lead to scarcity of food. In this way Garbage pollution also affects agriculture.

Solutions for Garbage Pollution

Proper management of solid waste is the key solution for garbage pollution. We must remember 3 R's i.e. try to reduce, reuse, and recycle waste materials. This can be done if we fully use the things, thus reducing garbage. We can reuse them like if we buy oil in a bottle then after consuming that oil, we can use the bottle to keep any other liquid item in it like liquid soap or dish washer liquid etc. Things which can be reused, can be sorted out of from garbage and recycled to make things like cans, bottles etc. If we all decide and contribute to the management of garbage by doing simple things like separation of dry and wet waste, use of glass bottles for water etc, issue of garbage pollution can be solved effectively.

Conclusion

People residing in the nearby areas want that the Deonar dumping ground should be shut down immediately because there is no mechanism to prevent fires and no system to quickly extinguish the fire. Hence people are suffering from ill effects of pollution. Various diseases are caused by garbage pollution.

Diseases like typhoid, malaria and various infectious diseases are also caused due to it. Mosquitoes and other insects breed in places where there are piles of garbage and ultimately spread various diseases in the area.

The Maharashtra Pollution Control board should take strict action against those who are responsible for causing garbage pollution. Methane gas should be released through pipes to avoid fires. The dumping ground should be shifted to a new site that will not endanger human lives. Scientific and Effective Solid Waste Management process should be adopted to treat the waste at the new site. It is the responsibility of every citizen to save the mother earth, make it clean and green.

References

1. Merriam Webster (2010). Pollution - Definition from the Merriam-Webster Online Dictionary. Merriam-webster.com, 13-08-2010, Retrieved 26-08-2010.
2. Jawdekar P. (2010). Mumbai scam: Rs. 2600 crore for services that are free. NDTV, August 5, (2010), Retrieved March 26, (2012).
3. Baliga L. (2011). Activists withdraw PIL on dumping ground. The Times of India, March 28, (2011).
4. Contreras F., Hanaki K., Aramaki T. and Connors S. (2008). Application of Analytical Hierarchy Process to Analyze Stakeholder's Preferences for Municipal Solid Waste Management Plans, Boston, USA. *Resources, Conservation and Recycling* 52, 979-991.
5. Council BMA. (2005). Population Projection 2010/2030. Boston Region Metropolitan Planning Organization.
6. Hokkanen J. and Salminen P. (1997). Choosing a solid waste management system using multicriteria decision analysis. *Eur. J. Operat. Res.*, 98, 19-37.
7. Purohit K. and Kulkarni P. (2014). Maximum city, maximum garbage. Hindustan Times, December 14, (2014), Retrieved January 1, (2015).
8. Pinto R. (2016). Minor fire at Deonar again. The Times of India, February 11, (2016).