

The Prevention of Dumping Wastes in Taungthaman Lake

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Abstract

The inflow of industrial waste water has killed hundreds of fish in Taungthaman Lake in Amarapura Township, Mandalay. The investigators found that the deaths of fish were caused by lower levels of dissolved oxygen. Water pollution destroys the marine life in lake such as the fiber of the fishes gills. Thousands of fish in the lake are lost by dumping of waste water from industrial factories. The lake water had to be cleaned up because of dumping the wastewater from the industrial zones and human activities of throwing rubbish and white pollution. So, Taungthaman Lake and environmental area should be protected for the marine life. Therefore dumping of waste water and throwing rubbish into the lake need to be prevented and people should cooperate with the government to keep the beauty of the Taungthaman Lake as before.

Introduction

Today the constant increase of industrial and agricultural waste has become a major concern. The problem of wastes changed and increased with the industrial age and the growth and concentration of human populations. In pre-industrial societies, there was little waste product, other than human wastes. Domestic animals consumed some waste, another part was used as agricultural fertilizer, and most metal was recycled. It is a well-known fact that nearly 70 percent of the earth is filled with water in the form of different kinds of water bodies such as oceans, lakes and rivers etc. Pollution of rivers, lakes, coastal water and soil is resulting from toxic industrial wastes dumped by industries.

Definition of Wastes

Waste, a natural part of the life cycle, occurs when any organism returns substances to the environment.

Under the Environmental Conservation Law, 2012, waste includes solid, liquid, or vapor and also includes anything which is classified as waste in accord with this Law including radioactive substance which is discharged, emitted or deposited in the environment in such volume, constituency or any manner which causes environmental pollution.¹

Waste is defined as unwanted and unusable materials and is regarded as a substance which is no use. Waste can be seen that is so known as garbage. Garbage is mainly considered as a solid waste that includes wastes from houses (domestic waste), wastes from schools, offices and wastes from industries and factories (industrial wastes). The industries wastes are wastes created in factories and industries. Most industries dump their waste in rivers and seas which causes a lot of pollution. The different household wastes which are collected during household activities like cooking, cleaning are known as domestic wastes.²

In the international sphere, the Waste Framework Directive of the European Commission defines wastes as any substance or object which the holder discards or intends or is required to discard. Similarly, the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (the Basel Convention) defines waste as

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¹ Section 29(H) Of the Environmental Conservation Law, 2012

² <https://wikipedia.org>

substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provision of national law.³

Waste can be designated by generator type, i.e. the source or industry that generate the waste stream. Some major classes of waste include;

- a) Municipal
- b) Hazardous
- c) Industrial
- d) Medical
- e) Universal
- f) Construction and demolition
- g) Radioactive
- h) Mining and
- i) Agricultural waste⁴

Therefore, people need to reduce and control the wastes that are harmful to human beings and the environment.

Pollution in Lake

High level of overall waste production studies indicate that a higher level of overall waste production is distinctly correlated with the increasing rates of illegal dumping of waste and the increasing number of illegal dumping spots. The increase in overall waste production is tandem with riches, rapid change of preferences, and the ever growing population throughout the world. Additionally, people are becoming more and more consumer oriented these days than in the past.

Pollution means any direct or indirect alteration, effect of the physical, thermal, chemical or biological properties of any part of the environment including land, water and atmosphere by discharging, emitting or depositing environmental hazardous substances, pollutants or wastes so as to affect the beneficial use of environment or to affect public health, safety or welfare, or animals and plants or to contravene any condition, limitation or prohibition contained in the prior permission issued under the Environmental Conservation Law, 2012.⁵

Water pollution can be defined as the contamination of a stream, river, lake, ocean, or any other stretch of water, depleting water quality and making it toxic for the environment and humans. Water pollution is caused due to several reasons. A few major causes of water pollution are sewage and waste water, dumping and industrial waste, oil pollution, acid rain and global warming.⁶

Dumping of solid wastes and litters in water bodies causes huge problems. Litters include glass, plastic, aluminum, Styrofoam and so on. Industrial waste contains pollutants like asbestos, lead, mercury and petrochemicals which are extremely harmful both people and environment. Industrial waste is discharged into lakes and rivers by using fresh water making the water contaminated.⁷

Water pollution is very harmful to human, animals and water life. The effects can be catastrophic, depending on the kind of chemical, concentrations of the pollutants and where there is pollution. The main problem caused by the water pollution is that it kills organisms

³John Pichtel, WASTE MANAGEMENT PRACTICES, Municipal, Hazardous and Industrial, 2005, p-7

⁴Ilona Cheyne, Journal Article , the Definition of Waste in EC Law, vol-14,2002, p-67

⁵ Section 2 (e) of the Environmental Conservation Law, 2012

⁶www.commonfloor.com>guide

⁷ www.commonfloor.com>guide

that depend on these water bodies. In addition, it can be disruption of food-chains, diseases and destruction of ecosystems.⁸

In the past, Taungthaman Lake was a natural reservoir that would fill during monsoon season along with the Irrawaddy River's rising water levels, and sea waters recede in the summer months. The lake has been used for commercial fishing since 1989, but over the years untreated wastewater from a nearby industrial zone has increased water pollution to the detriment of its fish stocks and the broader ecosystem. Twelve factories in Mandalay's Industrial Zone-2 are being sued by the Department of Fisheries for violating wastewater management regulations and polluting Taungthaman Lake.⁹

Human activity is primarily responsible for water pollution, even if natural phenomenon such as landslides and floods can also contribute to degrading the water quality.

Prevention of Pollution in Taungthaman Lake

The throwing out of old devices and used home appliances has thus led to the increase of waste dumping. There are officially designated areas with proper integrated waste management systems which should be used for dumping.

Waste minimization is a set of processes and practices intended to reduce the amount of waste produced. By reducing the generation of harmful and persistent wastes, waste minimization supports efforts to promote a more sustainable society. Waste minimization involves redesigning products and process and changing societal patterns of consumption and production. In industry, using more efficient manufacturing processes and better materials generally reduces the production of waste.¹⁰

Ministry of Industry in Myanmar supplied a list of 63 factories that were dumping wastewater into surroundings waterways, though the total number may be for higher. Conservationists hope that a government decision to designate Mandalay's Taungthaman Lake an environmental conservation area could protect the marine life there. The decision follows a series of massive die-offs that have killed tens of thousands of fish in the lake, which is fringed by factories.¹¹

According to Waste Management Rule,2014;

“The Ministry shall specify categories and classes of hazardous wastes generated from the production and use of chemicals or other hazardous substances in carrying out industry, agricultural, mineral production, livestock and fisheries, waste disposal and other activities in coordination with the relevant Government department and Government organization.”¹²

In addition, the Environmental Conservation Law, 2012

“ The Ministry, to enable to promote the establishment of necessary facilities or centers for the treatment of solid waste and gas emissions which contain poisonous and hazardous substances, shall cooperate with relevant government departments, government organizations and experts;

(a) May cause certain categories of business which release solid waste, liquid waste and gas emission containing prescribed amount of poisonous and hazardous substances to carry out treatment by establishing its own waste treatment factory or waste treatment station, or combined waste treatment factory or waste treatment station,

(b) May determine the period for the business, which were established before the issue of these rules and are responsible to establish its own waste treatment factory or waste treatment

⁸ www.eschooltoday.com/pollution>effects.org

⁹ Myanmar Times

¹⁰ www.en.m.wikipedia.org>wiki>waste.

¹¹ Myanmar Times

¹² According to Section 41 of Waste Management Rule,2014;

station, or combined waste treatment factory or waste treatment station, to establish factories and stations for waste treatment.”¹³

According to the Constitution 2008, the Union protect and conserve natural environment.¹⁴

Under the Constitution 2008, every citizen has the duty to assist the Union in carrying out the following matters;

- Preservation and safeguarding of cultural heritage
- Environmental conservation
- Striving for development of human resources
- Protection and preservation of public property.¹⁵

The pollution was caused in the Taungthaman Lake in 2015. Thus, the auctioning of fishing licenses for the Lake ended at the beginning of the 2016 -2017 fiscal year, with the aim of beautifying the Lake and its landmark U Bein Bridge.¹⁶

Therefore, the best means to control wastes is the reduction of the quantity of wastes produced. Those that are produced can be eliminated by means of different methods. The Taungthaman Lake should be protected in accordance with the laws and regulations passed by the government. In addition, people should cooperate with the government to maintain the beauty of the Taungthaman Lake as before.

Conclusion

Pollution of rivers, lakes, costal water and soil results from toxic industrial wastes dumped by industries. Major Pollutant matters are carbon monoxide, nitrogen oxide, sulfur dioxide, and lead. Fishes die in Taungthaman Lake due to industrial waste water pollution. UNEP estimates that more than 400 million tons of hazardous waste is generated annually throughout the world, representing about 16 percent of total industrial waste. Factories that can afford to set up their own waste treatment facilities are preparing to use them. Now, Myanmar has passed the Environmental Conservation Law, 2012 and Rules, 2014. Thus, it is not too late to start, but if nothing is done in time the situation will continue to get worse.

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¹ [www.en.m.wikipedia.org>wiki>waste](http://www.en.m.wikipedia.org/wiki/waste).

¹³ Section 13(b) of Environmental Conservation Law, 2012

¹⁴ Section 45 of the Constitution of the Union of Myanmar, 2008

¹⁵ Section 390 , Ibid

¹⁶ Myanmar Times