

## Tripura Flood: Plastic and Its Damaging Impact A Review for An Alternative Approach

Mrs. Mousumi Goswami<sup>1</sup>, Mrs. Soma Saha<sup>2</sup>

<sup>1</sup>(Department of Chemistry under Science & Humanities, Women's Polytechnic, India)

<sup>2</sup>(Department of Information Technology, Women's Polytechnic, India)

---

### ABSTRACT:

Flood is a recurring calamity. Urban floods are entirely man made with poorly maintained drains. Throwing of plastic bags in drains contributing accumulation of water on roads after a heavy rain pour. The monsoon is welcomed by everyone, especially farmers.

But for the cities of Tripura, especially the capital of the state Agartala, the monsoon creates a hazardous condition because of water logging, which is mainly due to the random disposal of non bio-degradable poly bags that ends up blockage of sewer. There are many areas in Agartala that go under several feet of water, just after half an hour heavy shower.

Tripura is frequently visited by natural disasters, which play havoc on our economy. 750 sq. km. land area of Tripura is considered flood prone. The damage is particularly severe in Urban areas during flood. The West Tripura and South Tripura district is worst victim of flood. Especially river Howrah and river Gumti had turned immensely destructive during rainy season. Plastic pollutions are boosting the spread of flood around the State after the downpour. Discarded plastic bags severely block the sewer. The plastic bags must be banned and there bio degradable alternatives should be introduced in order to resolve the serious environmental issues. The objectives of this review paper are to realize the cause of flood due to plastic materials and to suggest alternative biodegradable eco friendly materials instead of plastic.

**KEY WORD:** Tripura, Agartala, flood, non-bio degradable, Plastic, Poly bag, pollution

---

Date of Submission: 20-06-2021

Date of Acceptance: 05-07-2021

---

### I. INTRODUCTION:

People use Plastic bags to carry items like food and clothes which are bought from shop, because of its ease, cheapness and convenience to use. Plastic bags are more durable than paper bags. They are less prone to tearing, easier to carry and are far more useful in bad weather. It is reusable as trashcan liners and storage bags. Plastic bags are used for containing and transporting goods such as foods, powders, ice, magazine, chemicals and waste. It is a common form of packaging. Versatile plastics inspire innovations that help make life better. Polythene is one of the widely used plastic types and is made from the polymerisation of ethylene gas.

Contd.P/2

Page-2

They have extensive applications ranging from plastic bags and bottles to certain industrial parts and components. Depending upon the application, the density of plastic is decided. For instance, high density plastics which are absolutely non-permeable are used in making pipes, tanks and so on. On the other hand low density plastic is used to make shopping bags and water bottles and so on. These are categorised as high density, low density and linear low density polythene.

Plastic bags are a major cause of environmental pollution. Plastic as a substance is non-biodegradable and thus plastic bags remain in the environment for hundreds of years polluting it immensely. It has become very essential to ban plastic bags before they ruin our planet completely. Many countries around the globe have either put a ban on the plastic bag or Levi tax on it. However, the problem hasn't been solved completely because the implementation of these measures hasn't been as successful.

Waste plastic bags are the main reason for trapping the drains and sewers, especially during rains. This can result in a flood-like situation and disrupt the normal life of people. Although plastic is becoming a big threat for all of us, still this problem has often been overlooked and underestimated. This is because people do not look at the long term effect of these small, easy to carry bags they use in their everyday life. Besides all of these people keep using bags due to their convenience Although plastic is becoming a big threat for all of us, still this problem has often been overlooked and underestimated. This is because people do not look at the long term effect of these small, easy to carry bags they use in their everyday life.

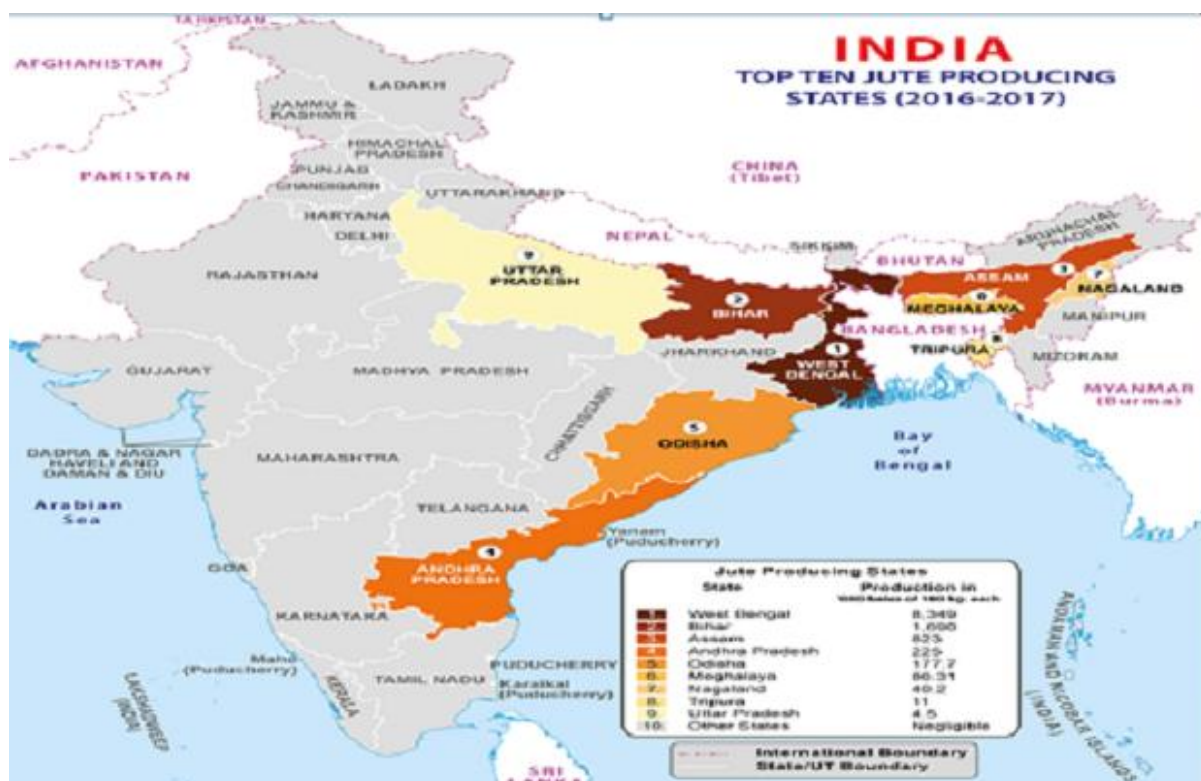


Picture : scenario of flooded area submerged due to rainfall in different parts of South and West Tripura District Tripura Government constituted an expert team to find out the remedial measures to manage water logging and flash flood situation in Agartala even with moderate rainfall. It was observed that parts of Agartala city, South of river Howra were severely heat by flood water. House in North of Kathakhal Canal were inundated by the flood besides to other sewerage canals due to blockades of plastic waste and other non-biodegradable item. Moreover, because of weak solid waste management, the people and small traders disposing wastes in the storm water drains that have been preventing flow of sewerage ultimately inundated some low lying areas of the City. Activists in Tripura, raise alarm over rising plastic pollution (source The Indian Express). When cleanup activities were done in Agartala, the state capital of Tripura, it was found 25 kg of plastic wastes was collected within a Kilometre radius near Ujjayanta Palace.

It is very unfortunate that although plastic bag have been seen to produce flood in Tripura, there has been little significant awareness raising to undertake proper effective and pro active action. Indeed various scientific investigations have been made by Govt. of Tripura, Pollution Control Board of Tripura and various NGOs, still plastic bags are used in the same manner due to the mass production of non bio-degradable materials. This paper mainly recommended for producing non bio-degradable materials in a large scale to get rid of frequent flood during monsoon.

## **II. RECOMMENDATION:**

1. Plastic bag should be prohibited and there bio degradable equivalent should be implemented to reduce the harmful effects of Plastics. Eco friendly materials are used in Tripura, but the production are not up to the mark. Since Tripura weather is favourable for Jute cultivation, so Jute bags should be used. So, proper importance should be given for Jute production. Jute, the golden fibre meets all the standards for safe packaging in view of being a natural renewable bio-degradable and eco friendly product.



Map showing top 10 jute producing states of India

Contd.P/4

So, we must give a good emphasis on the production of Jute as an alternative of plastic and polythene in the State of Tripura.

2. Fine should be imposed to plastic user.
3. Recycling of wastes from plastic bags is strongly recommended.

### III. CONCLUSION:

The effect of plastic on environment is very much evident by maximum reviewers. The Govt. of Tripura has taken so many initiatives to reduce plastic wastes. The Tripura Govt., Pollution Control Board and Health authorities should take more drastic steps for use and disposal of plastic. In a first of its kind initiative, the Tripura Government, under the Agartala Small City Limited (ASCL) Project, has constructed its first ever Plastic road by using non recyclable plastic wastes. Bitumen and Plastic at the ratio 40:60 was used to construct this road. According to Sentinel report (A leading newspaper in N. E. Circle), the Agartala Municipal Corporation almost generates 19 tonnes of plastic daily and so such initiative are expected to help the authority in better managing the plastic waste. There is a need to reduce plastic use to reduce plastic waste to stop flood in Tripura. Once plastic should be banned, our streets will be cleaned and the environment would be better without any plastic pollution.

### REFERENCES :

- [1]. Ram Prasad, Tapos Karmakar, Md. Saiful Islam, Mohammad Asadul Haque, Md. Mahfuzur Rahman, Md. Mahabubur Rahman Mithu. Toxic effects of plastic on human health and environment: A consequences of health risk assessment in Bangladesh.
- [2]. E carpenter, K Smith, "Plastics on the Sargasso Sea surface", 1972, Science 175:1240-1241
- [3]. <https://www.mapsofindia.com/top-ten/india-crops/jute.html>

Mrs. Mousumi Goswami, et. al, "Tripura Flood: Plastic and Its Damaging Impact A Review for An Alternative Approach." *International Journal of Engineering Science Invention (IJESI)*, Vol. 10(07), 2021, PP 07-09. Journal DOI- 10.35629/6734