

# Economic Impact of Flash Floods on the People of Assam: - An Analysis

Sanjeevan Bhuyan

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## ABSTRACT

Floods in themselves are a big problem in India, but in this article, we are going to specifically talk about the Northeastern state of Assam which is hit with floods every year around this time and the economic loss is tremendous. This article talks about how the lack of economic aid by the center and the pococurante nature of other people in the country outside the state, can lead to loss of life plus damages to public infrastructures such as roads, bridges, and railway tracks. The article also seeks to throw light on faulty flood control measures and skewed development strategies generating unfulfillment of economic goals.

### Keywords:-

1. Floods
2. Assam
3. Economic loss
4. The center
5. The state
6. Developmental strategies
7. Unfulfillment of economic goals

## I. INTRODUCTION

Assam's economy is fundamentally based on agriculture. The agricultural sector continues to support more than 75 percent of the State directly or indirectly employing more than 53 percent of the total workforce.<sup>1</sup> Assam is even known for its tea production, but the flash floods have a huge impact on agricultural production and the loss of livelihood. Currently, Assam has 15 of India's 25 districts most vulnerable to climate change. In this paper, the main point of discussion will be about, the economic impacts of the flash floods in Assam and how it's plunging people's source of income.

<sup>1</sup> <https://des.assam.gov.in/portlets/state-income>

## OBJECTIVES

This current work is aiming to find out the substance of the following concepts and to create a certain amount of awareness, regarding the topic. For this, the author has taken into consideration journals, books, research, news clips, government data, records, etc. The objectives of this study are to explicate the content of;

1. Effects of flash floods on local vendors in Assam.
2. Effects of flash floods on infrastructure development in Assam.

## EXPLANATION OF CONCEPTS OF THE TOPIC.

Flash floods: A sudden local flood, typically due to heavy rain. Assam which is called the gateway of the northeast is crisscrossed by many major rivers, the rising Brahmaputra and Barak rivers are one of the major reasons leading to unprecedented flash floods in Assam, but the lack of flood storage means and heavy rainfall is the principal reason. Assam is particularly different from other states according to the extent and duration of flooding and magnitude of erosion is concerned and is probably the most acute and unique in the country. The flood-prone area of the state as assessed by the Rashtriya Barh Ayog (RBA) is 31.05 Lakh Hectares against the total area of the state of 78.523 Lakh Hectares i.e. about 39.58 % of the total land area of Assam. This is about 9.40% of the total flood-prone area of the country. Records show that the average annual area affected by the flood is 9.31 Lakh Hectares. The flood-prone area of the country as a whole stands at about 10.2 % of the total area of the country, but the flood-prone area of Assam is 39.58 % of the area of the state. It signifies that the flood-prone area of Assam is four times the national mark of the flood-prone area of the country.<sup>2</sup> Since more

<sup>2</sup> [http://sdmassam.nic.in/project\\_flood.html](http://sdmassam.nic.in/project_flood.html)

than 40 percent of Assam's area is flood-prone the water logging problem is rather acute. The floods are so sudden and unexpected, that people don't get time to make arrangements for their property, livestock, crops, and fisheries. Which leads to the atrophy of personal possessions and belongings. It pushes the localities and especially the vendors into a state of penury.

**Flood storage:-** Those floodplain areas where the storage of floodwater has been taken into. Flood storage often provides amenity improvement and can be linked to the green infrastructure network.

**Personal property:-** Belonging to a particular individual, that can be either tangible or intangible. Personal property is a class of property that can include any asset other than real estate.

**Local vendors:-** A small local party in the supply chain that makes goods and services available to consumers.

#### Topic Relationship With Microeconomics.

To comprehend the relationship between microeconomics and the topic of discussion, a proper interpretation of the subject matter of microeconomics is exceedingly necessary. Microeconomics is the study of what is likely to happen (tendencies) when individuals make choices in response to changes in incentives, prices, resources, and methods of production. Individual actors are often grouped into microeconomic subgroups, such as buyers, sellers, and business owners.

Now, the flash floods which are taken into consideration as natural disasters and out of human control have an inimical consequence in Assam on prices, resources, and methods of production.

**How flash floods, in Assam, have an impact on the price:-** Flash floods lead to disruption in the supply of commodities, especially the prices of agricultural goods increase in an unstable manner.

**How flash floods, in Assam, have an impact on the resources:-** Flash floods lead to the wreckage of public and private property.

**How flash floods, in Assam, have an impact on the methods of production:-** Assam's production is fundamentally based on agriculture. Flash floods submerge the crops underwater for long periods, which leads to the deterioration of the harvest, and production is greatly depreciated.

#### EFFECTS OF FLASH FLOODS ON LOCAL VENDORS IN ASSAM.

When floods transpire, it is not at all unusual for thousands of inhabitants to be displaced for an extended period. Similarly, numerous businesses in the path of these storms may be shuttered for days, weeks, or even months. There's an effect, called the ripple effect: A ripple effect occurs when an initial disturbance to a system propagates outward to disturb an increasingly larger portion of the system, like ripples expanding across the water when an object is dropped into it. The ripple effects from shutdowns due to floods may be felt for a long time to come and, in some cases, may be impossible to recover from.

In some cases, it isn't the actual flood that inflicts damage, as businesses located out of the water's path may still encounter power surges as a result of activity going on in the actual flood zone. These power surges may cause damage to a business' electrical systems or fry their computers as a result, all without ever being exposed to a drop of water.

The capital loss and damages due to the floods are massive, "The scale of flooding and landslides this year in Assam has been almost unprecedented. We are still tabulating the losses suffered across the state, but it could be anywhere around ₹10,000 crores," said GD Tripathi, CEO of Assam State Disaster Management Authority (ASDMA). The large IT business or chain markets may be able to handle the losses, but the local vendors are hurled into a bleak future due to the losses accumulated during the flash floods.

While not all businesses will have to shut their doors while repairs are taking place, the vast majority of them will, which means that there may be several days of lost revenue until the point where the business can reopen. And even then, there may be an additional period where production has to ramp back up to normal output, resulting in more lost business. Add to that the recovery from inventory that was lost in the flood and you have a financial situation that may take months or even years to recover from.

For more information regarding flash floods and business loss:-

<https://osf.io/r7y89/download/?format=pdf>

More information about the enterprises in Assam:-

<https://industriescom.assam.gov.in/portlet-sub-innerpage/starting-a-business-industry>

### Effects Of Flash Floods On Infrastructure Development In Assam.

What's infrastructure development:-

1. Infrastructure has been used as an umbrella term for many activities. The development of a country's infrastructure is vital to the growth of its sectors and the overall economy. The infrastructure sector primarily comprises electricity, roads, telecommunications, railways, irrigation, water supply and sanitation, ports and airports, storage facilities, and oil and gas pipelines.
2. Infrastructure is considered to be the key to promoting sustainable and inclusive economic growth. So a great deal of policy emphasis has been placed on infrastructure development for augmenting the growth, productivity, and quality of life of the citizens of the developing country.

Guwahati city, the capital city of Assam and the gateway to the northeast, has witnessed increased landslides due to an increase in urbanization and house construction in hilly areas. Some of the regions of the city used to be submerged and those areas were under flash flood water for several days in 3 to 4 waves damaging the prevailing infrastructure including the govt and public properties. The city of Guwahati experiences intermittent flood inundation and overwhelming water logging in the occurrence of storm events and especially during the rainy season, it has become a public grievance. Assam and especially Guwahati city is trying to engage in rapid urbanization, but with rapid urbanization comes increased housing and construction activities in the city leading to an increase in several buildings, streets, and other impervious hard surfaces ushering to a decrease in the number of inland wetland pockets and clogging of drainage systems which led to indiscriminate flooding.

Moreover, the unplanned expansion of the city to accumulate an increasing population has led to severe encroachment in the wetlands, low-lying areas, hills, and shrinkage of forest cover. These denuded hills and loss of wetlands thus leading to artificial floods and water logging. Immediately after every downpour, the city drains get filled up with silts coming with stormwater running down the hills resulting in flooding the streets, houses, etc. <sup>3</sup>The urban development has trapped the city in a planning disaster of its own making.

<sup>3</sup><https://reliefweb.int/report/india/situation-report-assam-floods-22-jun-2022>

The rapid and unsustainable infrastructural transformation of the region is a major driver of such disasters being catastrophic. There is hardly any learning from the disasters that have happened given that governments are rapidly pushing the growth of oil palms which is going to be another Climate Change risk that has the potential to further change rainfall patterns over time and exacerbate the misery of local communities across the entire region. We have little data to be able to predict the outcomes and less capacity to implement mitigation strategies on the ground. The concept of sustainable development and liveable cities exemplify the massive visionary ideas for urban planning and balanced development but the implementation of these popular visions can confront a host of conflicts due to a range of interests and stakeholders involved. The process of achieving balanced urban development may require learning from past successes and mistakes to identify what makes good practices for balanced urban development and guide local governments, planning agencies, and developers to plan and design future cities that are highly livable.

### II. DATA REPRESENTATION

Assam represents a highly flood-prone region characterized by severe hazards of floods:-

Table: Flood Hazard Classification

Sl.No	Flood Hazard Classification	Number of Areas (years the area was subjected to flood inundation during 1986-2001)
1	Very Low	1 (2 Areas)
2	Low	2 (2 Areas)
3	Medium	16 (2 Areas)
4	High	7 (8 Areas)
5	Very High	672 (Unassessable areas only)

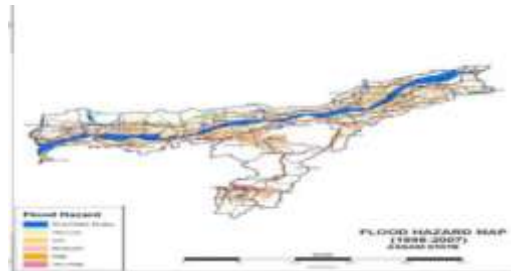
[http://sdmassam.nic.in/project\\_flood.html](http://sdmassam.nic.in/project_flood.html)

Assam on Indian GDP representation:-



<https://www.ibef.org/states/assam-presentation>

Flood hazard map



<https://waterresources.assam.gov.in/portlets/flood-management>

### III. LITERATURE REVIEW

Books:-

1. Microeconomics made simple by Austin Frakt
2. Microeconomics theory and applications by D.N.Dwivedi

Articles:-

1. <https://m.economictimes.com/news/assam-floods/amp>
2. <https://indianexpress.com/about/assam-floods/>
3. <https://m.timesofindia.com/topic/assam-floods/ampdefault>

Government Data:-

1. <https://waterresources.assam.gov.in/portlets/flood-management>
2. <https://assam.gov.in/>

### ANALYSIS

Assam, a low-lying state with the Himalayas flanking its northern stretch, has always been susceptible to floods.

However, the current situation shows that climate change, and more specifically, extreme weather events are at play and simultaneously unfolding within a week.

What caused such incessant rainfall spells which, in turn, caused flooding across Assam? DTE had earlier reported how global warming is causing monsoon winds — heading from the Bay of Bengal — to carry more moisture than ever before.

Roxy Mathew Koll, the climate scientist with the Indian Institute of Tropical Meteorology, has said the oft-occurring phenomenon of extremely heavy rainfall is due to climate change.

The Union Ministry of Science and Technology has stated that Assam is the most climate-vulnerable state in India, with 11 of the country's 16 most climate-vulnerable districts being located in it.

One of the biggest reasons for this prevalent flood problem is poor flood management. When it comes to flood management, at a global level, technocratic solutions like raising embankments are the sole focus. But embankments can only be a stop-gap at best," Nanu Saikia, executive director of SATRA foundation, a non-profit focused on disaster mitigation in villages of Assam, had told DTE earlier.

The economic loss due to these floods is rather tremendous, Assam suffers an average loss of Rs 200 crore every year due to devastating floods with nearly 40 percent of the state's total land declared as flood-prone by the government.

According to the Economic Survey, Assam for 2013-14 tabled in the Assembly during the ongoing Budget session, the average annual loss due to flood in Assam is to the tune of Rs 200 crore and in 1998, the loss suffered was about Rs 500 crore.

### IV. CONCLUSION

This article, about the economic loss and the ongoing flash floods problem in the northeastern state of Assam, was trying to focus mainly on the infrastructure-led raptures and poor government management, but looking at the bright side Union Home Minister Amit Shah assured the people of Assam that the government would make the state 'flood-free' in the next five years.

The way ahead compels the harmonization of these three types of connectivity, with physical infrastructure imitating and working with the natural geography of the region and incorporating civil society and traditional knowledge systems in urban planning processes. The borderland cities of north-eastern India are well-positioned to learn these lessons and impede the unsustainable development trajectory of megacities in other regions of India, particularly Assam.