

# Natural hazards reshape the map of Majuli

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## Introduction

For more than six decades, Majuli, the largest freshwater riverine island in the world has witnessed disappearance of its land as severe bank erosion and recurring floods of the mighty river Brahmaputra worsens. Key cause of severe bank erosion attributes to the extreme braided nature of the river Brahmaputra, the average-braiding index is 1.3.

In his *Account of Assam* compiled in between 1807 and 1814, Francis Buchanan Hamilton calculated the area of Majuli as 3369 sq. km and 5044 sq. km respectively. According to a cadastral survey, which was carried out in 1891, the area of Majuli was estimated at 1256.36 sq. km, which was however reported by the 1901 census as 1255 sq. km. Inhabited by about 1,67,245 people, Majuli, located in the north of Jorhat town ( $93^{\circ} 30'$  -  $94^{\circ} 35'$  E and  $26^{\circ}50'$ -  $27^{\circ} 10'$  N) is a subdivision of Jorhat district, Assam. It approximately extends for about 80 kms along east west and 10-15 kms along north-south directions.

## Background

Historical records suggest that Majuli once extended between places called Banfang or Lakhu in the west (near present Koliabor in Nagaon district) and Bengmora (a place near Dibrugarh) in the east. Referred to as *Majali* in ancient history meaning a piece of land situated in between two adjacent and parallel rivers, where the river Brahmaputra used to flow in the north and the Burhidihing used to flow in the south, until they met at Lakhu. Literatures reflect that erosion in this region was not severe prior to the 1950 earthquake, which was of the magnitude of 8.6 richter scale but became active thereafter and took serious dimension after the 1954 flood. These literatures further reflect that in between 1661-1696, the region witnessed a series of earthquakes accompanied by severe floods. Consequent upon, the river Brahmaputra traversed its course southwards to join the lower part of the river Dihing. As a result of the severe bank erosion coupled with silt and sand strata, the area of the island has been reduced from 706.14 sq. km in 1966-1975 to 578.38 sq. km in 1998 through to 484.34 sq. km in 2008. The following table shows the rate of erosion and deposition (area added) of Majuli by the mighty river.

<b>Rate of Erosion and Deposition</b>	
Area in 1966-1975 = 706.14 sq. km	Area in 1998 = 578.38 sq. km
Erosion (66-75 to 98) = 171.91 sq. km	Erosion (98-08) = 115.58 sq.km
Deposition (66-75 to 98) = 44.15 sq.km	Deposition (98-08) = 21.54 sq.km
Area in 1998 = (706.14-171.91) + 44.15 = 578.38 sq.km	Area in 2008 = (578.38-115.58) + 21.54 = 484.34 sq.km
Source: Dutta, M. K.; Swapnali, Barman, and S.P. Aggarwal (2010). A study of erosion-deposition processes around Majuli Island, Assam, Earth Science India, 3(IV), 206-216	

Because of the river island's unique character and isolation, it has been the cultural capital of Vaishnavism, initiated around the 15th century by Mahapurush Srimanta Sankardev and his disciple, Madahdev. Records suggest that by the time of the 1950 earthquake, 65 monasteries (*satras*), were established in the island, some holding more than 400 monks. However, severe erosion compels many monasteries to relocate within the island. Currently, there are 36 monasteries within the island while 28 monasteries have been completely shifted away from the island.

### **Dwindling in the face of nature**

Just after India's independence, Majuli consisted of three tehsils (mouzas or revenue blocks): Ahatguri, Kamalabari and Salmora. Now Ahatguri is lost to the capricious river while Salmora is affected severely. During the 1960s and 70s, the government rendered help to few households to migrate to and settle in nearby Jorhat and Golaghat districts. However, due to rampant corruption now only powerful monasteries are the recipients of the government land. Though the local Sub-Divisional officer claims that approximately 5,000 people have been the beneficiaries of government land so far, nevertheless, an RTI report unveils that the government has relocated only 500 families outside the riverine island. Those economically sound households have purchased property elsewhere, but for those poor who cannot afford have no option but to live like refugees on sand banks or embankments with little or no access to sanitations.

Arguably, the people of Majuli are facing the utter travesty of the shrinking landmass. Socio-cultural heritage, relics alongside skills meant for livelihood remain grappled in the face of nature. For instances: Mishings, who weave jim (ribbed quilt), are gradually losing their skills. Only few households now weave looms, but due to exorbitant price of the thread, most people buy readymade clothes. All these have heightened the long-term insecurity as economic conditions of the people worsen — they are losing even their simple skills of rearing goats and pigs. While Samaguri, the centre for practice of mask and boat making remains threatened, Salmora mining clay requires salvation from the disintegrated edge of the island. Here, the potters fabricate wares without the wheel and put them up for sale through the barter system.

The overall situation is a grim reminder of the mounting perennial problems of the region pointing towards the inadequacy of the interventions and lackadaisical attitude of the government of Assam. The alarming threat testifies to the increasing scourge of people's poverty —farmers have lost their agricultural fields. With very little land left to cultivate and grow crops, youths have migrated to the metropolitan cities of India in search of jobs like security guards, domestic helpers and in the hospitality sector. What is ironical is that due to growing unrestrained corruption the revenue office clerk declines to take revenue unless the farmers agreed to pay the taxes for the plots of lost land, completely washed away by the river.

Across the island, there are 20 sand banks (locally known as *saporis*) created by the river during its process of deposition, which are very fertile. Farmers who have lost their land to the river usually cultivate on these *saporis*. However, the government endorses a penalty tax for those farmers who grow their crops on these *saporis*. Notwithstanding, monasteries like *Auniati* and *Bor Alengi* claim that some of the *saporis* belong to them following the justification that those were their land gnawed by the river, which have now re-emerged. Hence, those farmers cultivating on it need to pay taxes to these monasteries.

### **Red tape and Unaccountability**

In 1996, the Brahmaputra Board and the Space Application Centre jointly embarked on a survey to study the bank erosion problem of the island, which have undergone drastic changes due to frenzied behaviour of the river Brahmaputra. Based on the findings of the survey, the Board prepared a Master Plan for development of the riverine island, which among other things

incorporated appropriate actions for flood control, erosion control and drainage improvement, approved of by the Government of India in 2004. These actions were undertaken in three phases:

- Phase-I
  - Construction of nose of the existing land spurs.
  - Permeable screens in the form of RCC porcupines (1390 no.).
  - Improvement of road cum embankment (50 km).
  - Construction of new embankment (18 km).
  - Bank revetment work (1.5 km).
- Phase-II
  - Permeable spurs to be constructed in specific locations in the above reaches (21 no.).
- Phase-III
  - Land spurs (10 no.) along with bank revetment.

In one of the recent studies undertaken by Kharya and Kumar (2012) uncovers that R.C.C. porcupines are highly efficacious in reducing the intensity of erosion. In support of this statement, they go on to argue that construction of R.C.C porcupines at some of the vulnerable spots across the island: Sonowal Kachari, Salmara, Kaniajan & Kamalabari, Bhakat Chapori, Birinabari, Malual & Ukhalchuk and at Jengrai have showed significant reduction of erosion with improved siltation at these reaches. Further, they observed that since 2004-05, no embankment breached in the south bank of Majuli. Importantly, after a gap of two decades, farmers of these vulnerable locations have restarted harvesting of Sali paddy. And most importantly, at varied locations large tracts of land have been retrieved by inducing siltation near the bank. Notwithstanding, in 2010, Monaj Bora, the president of the Assam Yuva Parishad and a resident of Majuli, filed a Public Interest Litigation (PIL) against the Brahmaputra Board accusing that the anti-erosion projects taken by the Board remains incomplete although the deadline has long passed. In response to this PIL, on 07 May 2013, the Gauhati High Court has directed the Brahmaputra Board to submit a report within three months on how it plans to secure the lives and property of the people of the island. However, on 31 May 2013, the Brahmaputra Board offloads responsibility for flooding in Majuli; instead, it handed over this responsibility to the State Water Resources Department. Evidently, since 2005 the Board has spent more than ₹ 560 million with no concrete results on ground. Hence, barring some dramatic intervention, the

cultural hotspot will disappear in few decades if the concerned Ministry fails to come up with some holistic, long-term and integrated solutions.

### **Majuli and UNESCO World Heritage Status (WHS)**

In 2004, the Government of India proposed to nominate Majuli, for inclusion in the ‘cultural landscape’ category of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) World Heritage list. Ironically, even in March 2012 for the third time, the UNESCO rejected the appeal to include the island on its coveted list. Thanks to the Cultural Ministry for submitting flawed and incomplete dossier. More ignominious than this failure is the callous and insensitive attitude of the concerned Ministry that fails to revise this dossier for reconsideration and dream of getting Majuli in the 2014 list of WHS.

### **Further Reading**

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