

**A seminar on
Brahmaputra— current problems and possible
solution**

**was organized by Assam science society on 26/08/2017
at the premises of Assam Science Society , Khanapara, Guwahati**

The inaugural session of the seminar was presided over by Dr Soneswar Sarma , former Professor of Gauhati University, and President of the Society . The purpose of the seminar was explained by Shri Basanta Deka . The key note address was delivered by Dr. Dulal Chandra Goswami , former Professor of Geography, Gauhati University.

The technical session of the seminar was conducted by Dr Barindra Kumar Sarma, former Professor of Physics of Gauhati University and Dr. Chandan Mahanta, Professor of IIT-G.

Dr Arup Sarma, Professor of Civil Engineering IIT-G,
Shri Pradip Pujari, former Engineer of Brahmaputra Board,
Dr Sarada Prasad Sarma, former Professor of Botany of Gauhati University
Shri Ratul Sarma former Commissioner and Secretary , Water Resource
Department, government of Assam
Dr Partha Das, Head, Water, Climate and Hazards, Aryanak
Dr Abani Bhagabati, Professor of Geography of Gauhati University,

presented papers to substantiate their views on the topic. The Seminar was attended by Society members from different districts living on the banks of the Brahmaputra.

General observations

The mighty Brahmaputra is the most unexplored river system in the country, and in the world. The huge river basin of the Brahmaputra, with immense potentialities, has not been addressed scientifically till now by any of the state and the Union governments. The Brahmaputra is an international river with about 33 per cent of its potentialities lying in India. The rest is shared by the other countries. The seminar had discussed the prospects of the basin broadly towards utilizing the river to the advantage of man, and without harming the ecosystem in any manner. What is needed is a comprehensive and integrated river management plan covering the entire catchment area.

The Brahmaputra River along with its numerous tributaries and riverine wetlands historically forms the lifeline of the people of Assam. The identity and growth of the greater Assamese society owes immensely to the diverse ecological services rendered by the Brahmaputra from time immemorial. In spite of all the recent changes brought about by modernization, urbanization and

industrialization, the economy and culture of the greater Assamese society are still deeply rooted in the Brahmaputra water regime and its fertile floodplain. This linkage between the river and the people continues to be spontaneous and sustainable, to a great extent. It is more so particularly for the people, whose livelihood is directly associated with the immediate floodplain of the river. Importantly, the foundation (agriculture, animal husbandry and fishing) of the rural economy of the State still dominantly rests on the Brahmaputra river ecosystem. Therefore, any change in the sensitive river ecosystem, whatever may be its nature and degree, shall definitely have some kind of impact on the associated area and the people. It should be therefore mandatory that the people must be given enough opportunity to express their perceptions, views and doubts, if any, before planning for any kind of major alteration/modification in the river ecosystem like dredging of the river bed and erection of big dykes (road-cum-embankment) parallel to the river banks.

Resolutions

The Seminar adopted the following resolutions for dissemination:

- 1) Non-availability of basic hydrological data of the Brahmaputra and its major tributaries is the most fundamental constraint in developing knowledge base on the river Brahmaputra that is vital for sustainable management of its water resources. Without sufficient knowledge of the

flow behavior, it will be difficult to formulate and plan any effective and proper management system. As the first vital step, the data collection network all along the course of the river Brahmaputra and its tributaries should be rejuvenated, and additional data collection stations established immediately with new technological initiatives for planning major management system of the basin scientifically in near and distant future.

- 2) The existing knowledge of the surveys and studies already conducted by different organs of the state and the Union government is not adequate to plan any future course of action towards solution of flood and erosion problem of the Brahmaputra valley. In addition to augmenting the existing surveys and studies with recent and relevant data, fresh surveys and studies should be taken up urgently to fill the gaps to formulate effective short-term and long-term action plan.
- 3) The Brahmaputra, after passing over the hills of Arunachal Pradesh, enters Assam with a steep slope and a huge silt load making it a unique river in the world. The scientific characteristics of the Brahmaputra defy any parallel with any other river of the world. The tributaries, particularly on the northern bank, contribute immensely to the complexity of the river Brahmaputra in terms of its carrying capacity and silt load. The measures adopted in case of other rivers to utilize their potentialities are unlikely to provide feasible solution for the Brahmaputra basin. The river

characteristics have to be tackled uniquely to minimize its devastation and maximize its uses.

- 4) The proposed dredging of the Brahmaputra bed for the limited purpose of facilitating a navigational channel should not be construed as a measure to reduce flood and erosion. The channel will fall far short of fulfilling the need of reducing flood and erosion caused by the River. The project should be implemented after careful consideration of the consequences like its maintainability and year-round feasibility of dredging. A detail project report should be made available in the public domain, respecting people's right to information, to allow the experts to evaluate its merits and demerits in the totality of the project. A calculation shows that If a channel as proposed is made from Sadiya to Dhubri at same moment of time, it can be field up by fresh water with silt just within two hours.
- 5) It is the considered view of the Seminar that dredging should not be thought of and considered as the single component of solution of the problem of flood and erosion in the Brahmaputra basin. A comprehensive and lasting solution spanning over years and decades will involve a combination of different technical measures at different points in the flow regime of the river Brahmaputra. The permanent solution requires a rigorous study of all the vital scientific characteristics of the river basin.

Such a study, with the objective of ensuring ecological balance of the entire basin, should invariably consider effects on aquatic ecosystems of the river and ecosystem services, riverine fauna like fishes and dolphin, water quality, ground water table of river bank areas, livelihoods of fishermen, riverine islands (*chars* and *chaporis*) and their inhabitants, riverine land use of local people, land acquisition, riparian culture, possible rehabilitation, resettlement and outmigration of affected people, etc.

In absence of such a scientific study, the talk of express highways on the banks of the river Brahmaputra is without any basis. Any decision to go for large intervention on the Brahmaputra should be taken based on the results of such a study only. The project will create many problems like drainage congestion and water logging in both the riverside and countryside of the express highway. Moreover, the alignment of the proposed highway will have considerable effect on the geographical aspect due to the large variation of the width of the river ranging from 1.5 Km to 20 Km.

The project proposal, when prepared, needs to undergo the same process of getting clearance from the riparian people all along the length of the river, from the Ministry of Environment, Forest and Climate Change and other government authorities which are applicable to any major

intervention under the Environment Impact Assessment Notification, 2006 and its subsequent amendments till 2017.

- 6) A comprehensive action plan to mitigate flood and erosion of the river Brahmaputra by enhancing its water holding capacity should evaluate measures like high value plantation, rainwater harvesting to enrich pond economy, multipurpose storage reservoirs with low-height dams to generate power, creation of a canal system to link up the reservoirs, maintaining enough flood plains near the banks, reforming agricultural practices where needed

- 7) Within the country, the governments of Arunachal Pradesh and Assam, and the Union government should coordinate manpower and effort to build a sustainable action plan to utilize the Brahmaputra river basin to the maximum to the benefit of all the stakeholders in the long run. The Seminar strongly feels that any piecemeal effort and planning, by the stakeholders, will lead to much less benefit adding more to the complexity of the problem accumulated over the decades, besides creating mutual distrust and discontent. The Seminar further recommends that the government of India should initiate measures with neighboring countries of China and Bangladesh to accord the river the status of an international river with a view to share information and maintain vitality of the river.

- 8) The Seminar urges the government of Assam to discuss with the government of Arunachal Pradesh about the impact on life, property and the ecosystem of the downstream areas of Assam due to the proposed dams in Arunachal Pradesh. Both the governments should adopt a policy on the river to maintain flow uninterrupted and unfettered in the entire course in Arunachal and Assam following the adoption of such a policy by the Union government in case of river Ganga in its entire length of flow. The possibility of low-height dams should be explored without creating destruction potentiality of the proposed high dams.

- 9) Since many of the rivers that cause flood and erosion in Assam come from hilly areas located in neighboring states, besides Arunachal Pradesh, like Meghalaya, Nagaland and Manipur, taking measures in downstream areas of Assam only cannot solve our problems. The government of Assam should formulate a clear strategy for forging collaboration with the neighboring states for sustainable river management. Such a strategy must take into consideration regular communication about river status, joint flood forecasting and flood early warning, silt retention, joint up keeping of healthy ecosystem of upper catchment areas, exchange of hydrological data, collective scientific study of catchments areas and river hydrology, collaborative impact assessment of interventions on rivers, etc. The government of Assam should endeavor to formulate a Joint River Management Policy with the neighboring states, including mitigation of erosion as a principal component of such a policy.

- 10). Faulty design and shoddy construction of embankments as well as improper repairing and maintenance thereof often lead to breaches in the embankments resulting in catastrophic flooding. To ensure quality of design and construction of embankments as well as appropriate maintenance, the government of Assam should formulate an Act on the structural inventions on rivers and their implementation with provision for fixing accountability.
- 11) The expertise available in the universities, other institutions, including the IITs the governmental agencies of Assam and the country as a whole should be engaged primarily to survey, study, evaluate and formulate the measures to utilize the river Brahmaputra to up lift the economy of the state, at the same time, mitigating flood and erosion, consulting the national and international experts as and when necessary. A futuristic River Research Institute, to serve the entire region, with state of the art science and technology, is an urgent need of the state to produce and train a generation of river scientists, engineers and technologists for management of water and energy inherent in the flow of the Brahmaputra and the tributaries for the benefit of the region.

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