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Govt plans geospatial mapping and monitoring of areas in Ganga Basin

RICHA SHARMA @ New Delhi

THE Centre is considering using geospatial technology for mapping and monitoring water quality, and waste dumps in the river channel and to generate flood hazard potential zones on the entire Ganga Basin. A proposal to develop a geo-portal of the entire Ganga basin by the Indian Institute of Remote Sensing, Dehradun (IIRS) was considered during the latest meeting of the Executive Committee of the National Mission for Clean Ganga (NMCG) at a proposed cost of ₹5.4 crore.

The research proposal was conceptualized on the basis of the use of space inputs in the monitoring of the Ganga River & special emphasis was on the development of tools & dashboards that can be used by field-level volunteers associated with NMCG.

The main objectives of this project are to develop a geo-portal of the entire Ganga basin for visualization and analysis of hydro-meteorological and other thematic parameters, to develop a geospatial solution for mapping and monitoring river water quality in respect of a few parameters, water level, and solid waste dumps in the active river channel or buffer area of the selected river stretches and to generate flood hazard potential zones for the selected stretch using geospatial techniques.

During the presentation, the IISR team said that the possible outcome of the study would be to develop a Geo-portal (Geo-Ganga) to visualise and analyse the hydro-meteorological and other thematic parameters — base-map, land use land cover, soil, streams, river discharge gauging sites, water quality sites, transport infrastructure, topography, geology, water resources projects, location STPs/Ghats.

There will also be a mobile mapping solution/app for water quality assessment and solid waste site management.

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Why is the Kushiyara river treaty important?

What is the status of the Teesta river water sharing proposal between India and Bangladesh?

KALLOL BHATTACHERJEE

The story so far: During Bangladesh Prime Minister Sheikh Hasina's visit to India from September 5 to 8, the two sides signed a slew of agreements, including the first water sharing agreement since the landmark Ganga Waters Treaty, 1996. A memorandum of understanding (MoU) was signed on sharing of the waters of the Kushiyara river, a distributary of the Barak river which flows through Assam, and then on to Bangladesh. The agreement comes in a year when both lower Assam in India and Sylhet in Bangladesh have witnessed deadly floods highlighting the requirement for greater cooperation on flood control and irrigation-related issues between the two countries.

What is the Kushiyara agreement?

■ Over the last century, the flow of the Barak river has changed in such a way that the bulk of the river's water flows into Kushiyara while the rest goes into Surma. According to water expert, Dr. Ainun Nishat, the agreement is aimed at addressing part of the problem that the changing nature of the river has posed before Bangladesh as it unleashes floods during the monsoon and goes dry during the winter when demand of water goes up because of a crop cycle in Sylhet. Though the details of the agreement are not yet known, Dr. Nishat says that under this MoU, Bangladesh will be able to withdraw 153 cusecs (cubic feet per second) of water from the Kushiyara out of the approximately 2,500 cusecs of water that is there in the river during the winter season. There are various estimates about the area that will benefit from this supply but it is generally understood that approximately 10,000 hectares of land and millions of people will benefit from the water that will flow through a network of canals in Sylhet benefiting the farmers involved in Boro rice, which is basically the rice cultivated during the dry season of December to February and harvested in early summer. Bangladesh has been complaining that the Boro rice cultivation in the region had been suffering as India did not allow it to withdraw the required water from the Kushiyara. The agreement addresses Bangladesh's concern over water supply along the river, during the winter months but flood control in the basin of

Kushiyara is expected to require much more work.

How will Bangladesh use the water?

■ The water of Kushiyara will be channelled through the Rahimpur Canal project in Sylhet. The Rahimpur Canal project in Zakiganj upazila or subdivision of Sylhet was built to help the farmers access Kushiyara's water but the facility used to remain dry during the lean season without serving the purpose for which it was built. The eight km long canal is the only supplier of water from the Kushiyara to the region and Bangladesh has built a pump house and other facilities for withdrawal of water that can now be utilised.

Why is the water from the Kushiyara so important for Rahimpur Canal?

■ The water of the Kushiyara has been used for centuries in Sylhet's subdivisions like the Zakiganj, Kanaighat and Beanibazar areas. But Bangladesh has witnessed that the flow and volume of water in the canal has reduced during the lean season. The utility of the river and the canal during the lean/winter season had gone down, affecting cultivation of rice as well as a wide variety of vegetables for which Sylhet is famous. The additional water of Kushiyara through the Rahimpur Canal therefore is the only way to ensure steady supply of water for irrigation of agriculture fields and orchards of the subdivisions of Sylhet.

What was India's objection to the Rahimpur Canal?

■ The Kushiyara water sharing agreement finalised during the August 25 Joint River Commission and signed during Prime Minister Hasina's visit was made possible as India withdrew its objection to withdrawal of Kushiyara's waters by Bangladesh through the Rahimpur Canal. Withdrawal of India's objection is likely the main part of the agreement, said Dr. Nishat. Before this, Bangladesh had carried out the Upper Surma Kushiyara Project which included clearing and dredging of the canal and other connected channels of water; but the channels could not be of much use to Bangladesh because India objected to the move and claimed that the dyke and other infrastructure interfered in border security as Kushiyara itself forms part of the border between the two sides. However, the agreement indicates that the economic benefits possible from the river outweighed the security concerns.

What are the hurdles to the Teesta agreement?

■ The Kushiyara agreement is relatively smaller in scale in comparison to Teesta that involves West Bengal, which has problems with the proposal. The Kushiyara agreement did not require a nod from any of the States like Assam from which the Barak emerges and branches into Kushiyara and Surma.The reduced water flow of the Kushiyara during winter and Teesta too, however, raise important questions about the impact of climate change on South Asian rivers that can affect communities and trigger migration. Bangladesh has cited low water flow in its rivers during the winter months as a matter of concern as it affects its agriculture sector. Dr. Nishat contends that the coming decades will throw up similar challenging issues involving river water sharing as the impact of the climate crisis becomes more visible with water levels going down in several cross-border rivers.

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Efforts of local community key to tackle water issues: experts

2-day event on water organised by DakshinaChitra Museum

STAFF REPORTER
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The need to involve the voices of local communities in wetland conservation and other water-related issues was stressed by experts at the two-day multidisciplinary event *Thaneer!Thaneer!*, organised by DakshinaChitra Museum.

The two-day event that ended on Saturday included talks, exhibitions, and screening of documentary films and saw enthusiastic participation, particularly from the student community.

Jayashree Vencatesan, trustee, Care Earth Trust, expressed concern over how elitism had crept into projects to conserve wetlands and other waterbodies. She said things like building of parks, walking tracks and amphitheatres had taken centre stage in conservation project instead of the importance that ought to be given for local communities and flora and fauna.

Nityanand Jayaraman, founder, Vettiver Collective, said high-sounding "engineering" solutions proposed for water-related problems often ended up transferring the problems to marginalised and underprivileged communities living elsewhere. He raised doubts over the efficacy of ongoing construction of stormwater drain networks in tackling flooding in the city.

Hands-on lesson: Schoolchildren attending a workshop held at DakshinaChitra Museum on Saturday. • S.R. RAGHUNATHAN

Sara Ahmed, founder, Living Waters Museum, Ahmedabad, highlighted the importance of equitable access to water since surplus availability of water in a region did not always mean that everyone, particularly the marginalised communities, had adequate access. She expressed interest in documenting water heritage in Tamil Nadu for the virtual Living Waters Museum.

Mani Maaran, head pundit, Saraswathi Mahal Library, spoke on water management during the rule of the Chola Dynasty. He said elaborate mechanisms were in place to ensure access to water to even those staying at the tail-end areas of irrigation networks.

R. Srinivasan, Member, State Planning Commission, Tamil Nadu, who inaugurated the event on Friday, highlighted the need for caution over adopting a top-down approach in finding solutions. Instead, he said the knowledge of the local communities should be utilised. S. Janakarajan, president of the South Asia Consortium for Interdisciplinary Water Resources Studies, and Prabir Banerjee, President, PondyCan, also spoke on Friday.

Anitha Pottamkulam, director - culture, DakshinaChitra Museum, said the event was consciously designed as a multidisciplinary event to look at water from different perspectives. She said the learnings from the event would go into the creation of educational material for visiting school children.

The event included an exhibition of paintings, videos and photos by Parvathi Nayar, Aparajithan Adimoolam, and G.S. Bhavani. Five documentary films - *Coral Woman, Moving Upstream: Ganga, My name is Palaaru, 1,000 days and a dream,* and *Dammed* - curated by R.P. Amudhan were screened.