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Water diversion: Death knell for Sharavathi

Anitha Pailoor, DHNS, Jul 27 2019, 21:29 istupdated: Aug 03 2019, 23:17 ist

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Ammennu, 60, cannot comprehend the logic behind diverting water from the Sharavathi to a distant place without quenching the thirst of those living on its banks. “Do you expect us to come to Bengaluru to taste the water of our river?”

For the past four years, her village Molkod in Honnavar taluk of Uttara Kannada district has been sustaining on tanker water in summer. This has been the fate of about 50 villages situated on the banks of the river, both upstream and downstream of Linganamakki Dam, as freshwater aquifers have either gone dry or turned saline.

There is also a steep fall in the groundwater level in these villages in the Western Ghats (Sahyadri). Of the 10 borewells dug in Byakodu village of Sagara taluk this summer, only two yielded water. Naturally, the government’s decision to divert water from Linganamakki reservoir to Bengaluru for drinking water purpose has angered over 10 lakh people whose culture and livelihoods are defined by this river. The proposed project, based on the Thyagarajan Committee report submitted to the government in 2014, was announced last month.

“There are two options to bring water from Linganamakki to Bengaluru — via Yagachi Reservoir in Hassan and via Vani Vilasa Sagara in Chitradurga. The best option is yet to be decided. The file will be put up before the minister concerned again,” Tushar Girinath, chairman, Bangalore Water Supply and Sewerage Board, told DH.

Memories of loss and misery have resurfaced among these riparian communities — dwelling along Sharavathi’s 132-km course, from Ambuthirtha in Thirthahalli taluk of Shivamogga district to Honnavar in Uttara Kannada district where it joins the sea. They have faced a series of hardships in the last 70 years after the river’s flow regime and ecosystem were drastically altered to generate electricity for the state. As the stage is being set to challenge the fine balance that exists between the river and its ecosystem again, people fear that the river might now be lost forever.

“Sharavathi has already lost the character of a river,” observes Na D’Souza, who has been leading the Save Sharavathi campaign. This Sagara-based writer has extensively documented the biodiversity and people in the river belt, and the challenges displacement and submergence pose. “I wonder how the government can take such an important decision without considering the ground realities and consulting local people. Priority should be to rejuvenate the ecosystem that is severely damaged,” he told DH.

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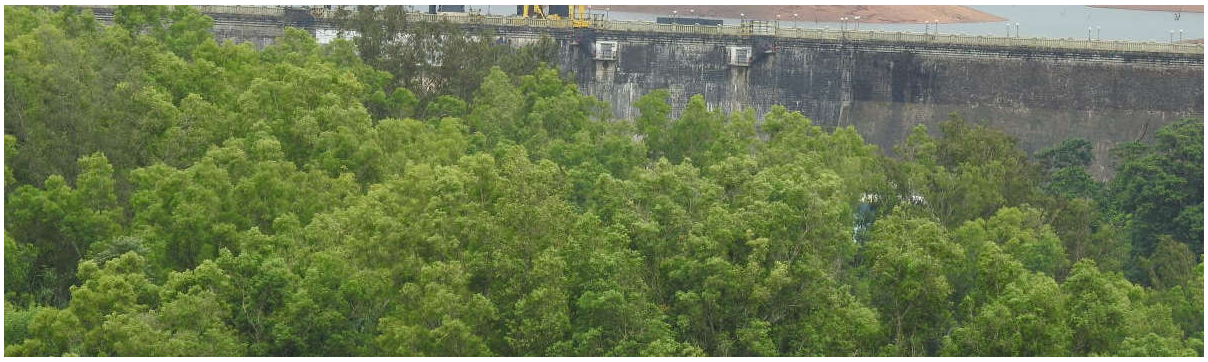

Ecology, economy affected

Farmer Akhilesh Chipli, co-convenor of the campaign, explains the ecological and economic costs of a series of power generation projects, from the 1930s, along the river. “While isolation and displacement shattered people in the upstream, biodiversity loss had telling consequences on the livelihoods of people in the downstream. We continue to suffer even to this day,” he told DH.

Fisherfolk who live by the river have experienced the changes in close proximity. “I hardly go to the market these days as there is no catch. Fish diversity and quantity have reduced by 75%. Some of the species this region is known for have gone extinct,” said Savithri Ambiga of Tanamadagi hamlet, in Honnavar in Uttara Kannada, who sells fish harvested by the male members of the family.

As she was speaking, an elderly woman fondly recalled memories of women going in groups to collect clams in the estuary. These bivalves not only provided nutritional security to the families but also contributed to the local economy. “With their decline, women’s role as harvesters took a backstage,” she said.

A recent study by the Indian Institute of Science, Bengaluru, points at the cumulative impact of year-long water releases from dams on salinity conditions in the estuary of Sharavathi. “Estuaries act as a

spawning ground for the fish and as a nursery for the juveniles and larvae. They naturally have different salinity gradients that help marine fish diversity to flourish. While the estuary of River Aghanashini in Uttara Kannada has eight types of bivalves, it has reduced to one in the Sharavathi. Similarly, the Aghanashini estuary has 80 types of fish but Sharavathi estuary has only 40," says coastal ecosystem expert Dr M D Subhash Chandran. The reason is obvious: Unlike River Sharavathi, the Aghanashini flows free.

Over the decades, due to lowered salinity of river, the valley downstream has become favourable for crops like pepper, nutmeg, betel vines and betelnuts, banana and fruit trees, creating a booming agro-economy, and this ecosystem is bound to collapse if the salinity increases because of the proposed project, he says.

A board mentioning the area as Sharavathi Valley Lion-tailed Macaque Sanctuary. DH photos/Anitha pailoor

Several challenges

"The project poses several challenges," says Gajanana Sharma, a retired superintendent engineer, KPTCL. He explains the challenges: From Linganamakki, water has to be drawn to a height of almost 1,500 feet and to a distance of over 400 km. There should be a big pumping station at the beginning and a power station to supply the power required for pumping in terms of many hundreds of megawatts. A couple of 220 kv transmission lines are to be laid cutting through the forest.

To draw 30 thousand million cubic feet (tmcft) of water, it would require more electricity than what can be produced by an equal quantity of water. And then it has to flow through huge pipelines to an intermediary station from which it will be channelled to a

reservoir near Bengaluru. The project will incur a huge cost, and will have several irreversible consequences.

The Sharavathi power stations, which generate almost 1/6th of the state's production, have helped state produce electricity at low costs. The reservoir which has a capacity of 156 tmcft has reached its maximum level of 1,819 tmcft only in 15 years after its construction in 1964. This indicates that the region doesn't get as much rainfall as expected during its construction. Extraction of water from here would only increase the burden and escalate electricity problems. Even when renewable energy production increases in future, hydro stations are crucial for grid maintenance according to him.

Gajanana Sharma's third argument is the burden borne by this 128-km-long river. Five power stations, 4 big dams (only three are functional), 4 tunnels– all these in a distance of just 50 km have put immense stress on the river. Mani Dam and Hulikallu Dam, though not directly related to the river, are situated in the same ecosystem. The pumped storage scheme, another proposed project here, will add another power station and two very big tunnels, with an underground power station of 2000MW capacity.

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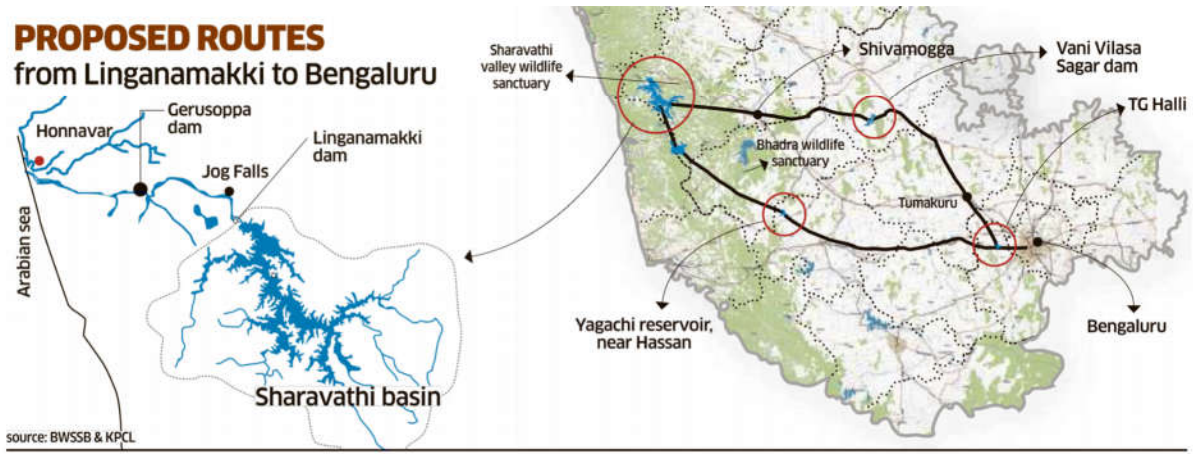

Subhash Chandran indicates that the administration's 'illusion of surplus' has resulted in unsustainable projects with negative implications. He explains the ecological significance of temporary flooding of the rivers during monsoon. "Floods bring alluvial soil which is rich in organic matter to the agricultural land in the downstream, the only source of nutrient for these fields. It brings enriched inputs from the forests into the sea which is essential for the sustenance of marine life. Flooding is crucial for groundwater recharge as well."

After the dams were constructed, the inconsistent flow of water has eroded the river's banks, affected indigenous cropping pattern and reduced the yield of traditional crops such as paddy, areca nut, watermelon and spices. Villages lying 15 km away from the seashore are affected by salinity ingress. "Earlier this was limited to one to two km," said Ganesh Ganapa Naik of Molkodu village.

As the flow of the Sharavathi has reduced considerably and flooding has almost stopped after the construction of Gerusoppa Dam, islands have been formed in the river. "We have seen the river shrinking over the years," said Keshava Naika of Balkuru village in Honnavar. In a good move, the Forest Department has

grown mangrove species in these islands to facilitate riverine species to flourish.

Sand mining

It's not just the construction of dams and the influx of population that followed which have increased the stress on the riparian ecosystem. "Indiscriminate riverbed sand mining which began in the nineties has wreaked havoc, too. Even though the administration in both Shivamogga and Uttara Kannada districts have taken several measures to curb the crime, it is continuing unabatedly even to this day in the Sharavathi and its tributaries," said an official in Sagara.

A registered miner in Honnavar admitted that 40% of the sand mined by even approved miners is illegal. "These days GPS has been installed to the trucks that transport sand. So it is not easy to evade the vigilance team," he said. According to him, there was a time when the number of operators was five times that of the registered players. Sand mining in Hosanagara, Sagara and Honnavar has left deep scars on the river's ecology and has left to groundwater depletion.

People protesting against the Sharavathi water diversion project. dh photo

Green deserts

Beginning from Thirthahalli, one can see vast tracts of Acacia auriculiformisplantation in the catchment area of Sharavathi. Developed to supply pulpwood for Mysore Paper Mills and “to stop soil erosion” on the banks of the river, according to the officials of the Forest Department which manages the forest, the monoculture crop is spread across 9,000 hectares in Shivamogga district only. Eucalyptus pellita is grown in around 2,000 hectares in the district.

“The actual area is much more. In our village Bharatipura, the area under the plantation is at least two times more than the number in the records,” said Sridhara Kallahalla, secretary of Malenadu Jagruta Samudaya. He had filed public interest litigation questioning the logic behind developing monoculture plantations in the biodiversity-rich Western Ghats a decade ago. “This is against the interests of the forest and people. Interestingly, the department didn’t even bother to take consent of people before planting acacia in forest and revenue land,” he said.

Dr T V Ramachandra of Centre for Ecological Sciences, Indian Institute of Science, Bengaluru, said, “It is unfortunate that there is a lack of scientific understanding while implementing such large-scale monoculture plantations in the Western Ghats. Along with

that, commercial crops such as rubber and ginger plantations are going to make the Western Ghats vulnerable to disasters — floods, landslides, and consequent loss of life and property."

He felt that this is also a reason for the water problem in the region. "As the landscape has lost the ability to retain water due to deforestation, all water goes as overland flow. Due to insufficient infiltration of rainwater, the region faces water scarcity," he said.

A study by his team highlights that the villages in the vicinity of native forests earn Rs 1.54 lakh per acre per year due to higher yield of crops (with a large number of native pollinators) and availability of water during all seasons. The villages in the vicinity of monoculture plantations, earn only Rs 32,000 per acre per year, due to lower crop yield and water availability during only six to eight months.

Interestingly, as many as 252 villages in Sagara and Hosanagara taluks find a place in a 2018 gazette notification by the Ministry of Environment, Forest and Climate Change that has listed villages falling in eco-sensitive zones.

Other threats

In 2017, Karnataka Power Corporation Limited (KPCL) proposed a pumped storage plant in the Sharavathi valley. "We are yet to get a clearance from the Forest Department. We will execute it with least disturbance to the ecosystem," said
V Ponnuraj, managing director, KPCL.

Regarding the water diversion project, he said, "It would lower the power generation capacity of the units along the Sharavathi. Hence we have suggested them to not take water from Linganamakki Dam." As of July 23, the water in the reservoir was only 30% of its

capacity.

Experts share this concern as the Sharavathi plant is considered to be one of the most efficient power generation plants in the country. “It is important to retain Sharavathi and its catchment to generate power sustainably,” said environmental researcher Panduranga Hegde.

The proposal of Jog Management Authority (JMA) to make Jog Falls perennial to attract tourists throughout the year is another project that has drawn the ire of people and environment enthusiasts. “We are waiting for the government approval,” said an official at JMA.

Santhosh Kumar, a former town panchayat member of Kargal, now repents for not opposing the project to draw water to Sagara town a few years ago. “Water sources in Sagara have either been neglected or encroached. Since 2016, the town gets water from the Sharavathi. We should have started the ‘Save Sharavathi’ campaign then only.” Locals blame this project for the destruction of forest land in Gamateghatta through which the pipelines are laid.

“The ecological, financial and energy costs of the project to pump Sharavathi water to Bengaluru will be enormous. It will require as much amount of energy produced at Linganamakki,” Shankar Sharma, a retired engineer based in Sagara, questions the feasibility of the project.

While campaigners successfully staged protests against the proposal in Shivamogga and Uttara Kannada districts where the river flows, Bengalureans have also vehemently opposed this project.

“Linganamakki Dam was built with the sole purpose of power

generation. If at all a drinking water project comes up, it should cater to local areas," said
H B Raghavendra, environmental activist and convenor of Save Sharavathi campaign.

"We have seen the ecological consequences of the Yettinahole project in Dakshina Kannada. While the cost of the project has been escalated, people have apprehensions about its viability. It's time we look at sustainable solutions," said Akhilesh.

High ecological value

From the project's sustainability to Bengaluru's unquenching thirst and inability to harvest and use water efficiently, experts have several aspects that weigh against the project.

Despite the continuous disturbance, Sharavathi still hosts a forest ecosystem of high ecological value. On June 7, 2019, the state government notified the Sharavathi Valley Lion-Tailed Macaque Sanctuary, comprising Sharavathi Valley Wildlife Sanctuary, Aghanashini
Lion-Tailed Macaque Sanctuary and adjoining reserve forests of Honnavar and Sagara. This expansion was made to conserve the endangered lion-tailed macaque which is endemic to the Western Ghats.

As people fight over water, all elements of nature continue to do their bit to maintain ecological balance, unaware of their uncertain future.