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Why Diverting Yettinahole River is Both Ecologically Damaging and Economically Unsound

BY MEGHNA KRISHNADAS AND SUMAN JUMANI ON 24/01/2017 • 6 COMMENTS

With widespread disapproval against diverting the Yettinahole from the public, scientists, environmentalists and local political representatives, why are policymakers pushing ahead?



Earthmoving work underway at one of the sites of the Yettinahole project. Credit: Meghna Krishnadas

We are a nation bursting at the seams. Our burgeoning population is vying for limited natural resources, water being among the most crucial. And the Yettinahole river diversion project brings to fore critical issues of ecological sustainability in resource-use.

Ever-growing domestic and industrial water demands have led drier, eastern parts of Karnataka to outgrow water-sufficiency once provided by local rivers, lakes and below-ground water. To meet swelling demands, the west-flowing rivers of the Western Ghats are now being diverted eastwards. However, the streams and forests of these river systems comprise watersheds that support agriculture, drinking water and local fisheries for people on the western side of the mountains. The west-flowing rivers are integral to regional ecology and which now stands threatened.

The plan to turn Yettinahole

Diverting the west-flowing Yettinahole towards Bangalore is an ambitious project with an estimated cost of Rs 13,000 crore (<http://www.apherald.com/Politics/ViewArticle/149706/Yettinahole-Project-costs-13-000-crores-to-provide-water/>). The project proposes to divert nearly 24 TMC (or 672 billion litres) of water from the head-waters of the Netravathi river towards the water-scarce districts of Kolar, Ramanagara, parts of Hassan, Tumkur, Chikkaballapur, Bengaluru Rural and Devanahalli Industrial Area, – besides augmenting water to T.G. Halli and Hesarahatta reservoirs near Bengaluru city.

The project plan is this: divert flows of the Yettinahole, a vital tributary of the Netravathi, through eight diversion weirs and a canal network spanning 1,000 kilometres. The water will be pumped from the weirs to a network of five delivery chambers and then channeled eastward through giant pipes that cut across the Western Ghats. In addition, seven storage reservoirs will be constructed in several districts of Karnataka.

Netravathi River Diversion Project



Scientists have contested its feasibility on grounds of flawed hydrological data and faulty assessment of water availability. Instead of assessing riverine flow in each diverted stream, flows were estimated from just one stream in a nearby catchment. In contrast, a separate independent assessment conducted by scientists from the Indian Institute of Science (IISc), Bengaluru, estimates that only 9.55 TMC of water – far less than the projected 24 TMC – will be available even during monsoon months. These results, published in an international peer-reviewed journal, bring into question the fundamental basis of this massive and costly venture.

Skirting the law

Furthermore, the Yettinahole Diversion Project falls within eco-sensitive areas recognised by the Western Ghats Ecology Expert Panel (Kasturirangan report). Building weirs, pump-houses and associated infrastructure will cause significant chunks of forest loss. Power-lines, canals and approach roads will require long strips of forests to be cleared of trees. Surprisingly, the project report does not provide a net estimate of forests to be cleared for carrying diverted waters across the forested reaches of Western Ghats, but only for the weir locations.

Such deforestation comes with high ecological costs. Studies show that a loss of forest connectivity will hinder wildlife movement and increase conflict between people and wildlife. Forest loss also harms biodiversity and erodes ecosystem services such as carbon storage, climate regulation, integrity of soil, watersheds and river catchments. Equally concerning is the disruption of natural river flows. Extensive flow regulation and water removal not only impairs water supply for local communities but also causes serious ecological detriment such as loss of riverine fauna, impaired nutrient transport and salt

water intrusion at the river mouth.

However, the Karnataka Neeravari Nigam Limited (KNNL), the government body implementing this project, has denied the need for ecological impact assessments. The claim is based on a technicality: drinking water projects are exempt from the purview of the Environment Protection Act. But only 60% of the diverted water will actually be used for drinking water. The Detailed Project Report (DPR) states that about 40% of diverted waters (9 TMC, 252 billion litres) will be used to fill 527 minor irrigation tanks, the water stored in which is used for purposes other than drinking.

Nonetheless, there is no appropriate data evaluating potential ecological impacts. Moreover, there has been no public consultation with local communities downstream of Yettinahole, who will be affected by the diversion of their water supply.

Disturbing signals

The manner in which the project has morphed to skirt the law is disturbing. While the original project report included irrigation and power generation components, it was modified to remove all mention of them without any *actual* changes to water storage or usage plans. Civil society groups have claimed that making Yettinahole a drinking water project by modifying the original proposal are mere cosmetic changes to evade environmental scrutiny. This way, it keeps to the letter but ignores the spirit of the Environmental Protection Act.

Why is there such a discrepancy between the science used by the government and assessments by independent experts? If public consultations have been held appropriately as claimed, why are there protests by concerned citizens in so many parts downstream of Yettinahole? With widespread disapproval against diverting Yettinahole from the public, scientists, environmentalists and local political representatives, why are policymakers pushing ahead still? And why have the Karnataka government and KNNL not provided a figure for the number of people whose livelihoods are likely to be adversely affected by diverting Yettinahole, instead just focusing on the perceived benefits?

Despite conservationists and ecologists cautioning against severe ecological fallouts in the eco-sensitive Western Ghats, the government has neglected doing due diligence. The Karnataka government allocated Rs 2,800 crore and assigned contracts worth Rs 1,000 crore before appropriate project assessments and environmental and forest clearances were obtained. In fact, there are three cases against Yettinahole Project in the National Green Tribunal – yet work continues apace.

Facing growing water demands

Like the Cauvery today, Yettinahole exemplifies water wars to come. Long-term solutions to our growing needs will have to be met with futuristic planning for the sustainability of available water. Sustainability implies that we understand and comply with ecological contexts in which water is made available in a system and use it accordingly.

A 2015 study (https://www.researchgate.net/profile/T_V_Ramachandra/publication/282152183_Environmental_Flow_Assessment_in_Yettinahole_Where_is_24_TMC_to_divert/links/5605434808ae5e8e3f318a53.pdf?origin=publication_list), led by T.V. Ramachandra of the Centre for Ecological Sciences, IISc, argues that water needs in arid regions like Kolar and Chikkaballapur can be sustainably met through local measures, such as 'decentralised water harvesting', along with sensible consumption and usage. This involves "restoring existing lakes and ponds, reusing wastewater, improving native vegetation in the catchments, and implementing of soil and water conservation through micro-watershed approaches".

Cities like Bengaluru and Chikkaballapur are running dry but destroying river systems of the Western Ghats can't be part of any a long-term solution. Before launching expensive schemes like the Yettinahole river diversion, the government must assess the efficacy of alternative sustainability measures. Potential solutions abound but the political will to listen and plan for the long-term seems lacking.

The debate over Yettinahole is as much about principle as purpose. If we get into the cavalier mindset of recklessly sidestepping laws to meet political goals, we forsake our claim to be a modern functional democracy. The key to viable development is to create systems and societies that are sustainable, where resource-use decisions involve good science, objective discussions and feasible compromises based on reasoned debate.

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