

# Of butterflies, cranes, macaques and India's hydropower conundrum

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New Delhi: A rare butterfly, a black-necked crane, macaques and biosphere reserves are some of the ecological concerns that Indian hydropower planners need to resolve before the country is able to expedite construction of these large projects, crucial for the stability of nations's electricity grid. Given that India looks to add 175 gigawatts (GW) of renewable capacity from infirm sources such as wind and the Sun, these hydropower projects are emblematic of difficult trade-offs that the country faces, caught between its pursuit of becoming a \$5 trillion economy and the environment. At present, India has an installed power-generation capacity of 357,875 megawatts (MW), of which around 13% or 45,399.22 MW is generated through hydroelectric power projects. "We are aware of the problems involved. While all large projects involve crucial studies of the flora and fauna of the region, there is always an X factor while developing a hydropower project, that are often located in remote regions," said an union government official requesting anonymity. A case in point being the 900 megwatts (MW) Nyamjang Chhu hydroelectric project in the Zemithang valley in Arunachal Pradesh which is home to the endangered black-necked crane (*Grus nigricollis*). It winters in Zemithang, where the local Monpa tribe reveres it as the embodiment of the sixth Dalai Lama, Tsangyang Gyatso, a Monpa. *Mint* earlier reported about the crane (which) is found in India, China and Bhutan, and breeds in high-altitude wetlands. It seems that the crane has won the battle for now. "In April 2012, India's Union Ministry of Environment of Government cleared the way for the development of the 750MW hydropower project on the Nyamjang Chhu River in the Zemithang valley of Tawang district in the state of Arunachal Pradesh," wrote Titash Choudhury in his 2017 thesis submitted for the degree of Master of Arts in the Department of Anthropology, University of Alberta. The thesis titled *Birds don't give a Dam: The politics of Hydropower Development and Wildlife Conservation in Arunachal Pradesh* cited *Mint's* coverage and said, "Though the article did not receive much attention at that time, four years later, in 2016, the National Green Tribunal (NGT) suspended the Union Environment Ministry's clearance for the ₹6,400 crore projects; in order to protect the future habitat of an IUCN red listed vulnerable species, the Black Necked Crane (*Grus nigricollis*)." The area is also the habitat of red panda, the Himalayan black bear, the musk deer, and medicinal plants and rare orchids. While in this case, development bowed before nature, the same may not be the case going forward for other projects, given that India is looking to add hydro capacities of about 45 GW to the renewable energy basket of existing 80 GW which includes solar, wind and small hydro. "A great activity time for hydropower is foreseen by us," said Balraj Joshi, chairman and managing director of state run NHPC Ltd, India's largest hydropower firm earlier this month. Experts are of the view that this trade-off can't be an either-or scenario. One has to grow and protect the environment, and a workable trade-off needs to be conjured for the subsequent generations. This comes at a time when India has brought 26.4 million new electricity consumers to its fold which according to Paris-based International Energy Agency (IEA) is the largest expansion of electricity access in the mankind's history. "Solar and wind are infirm sources of power and you need balancing power on tap, which the hydro can provide," said the government official cited above. Large hydropower projects are typically difficult to construct, given the issues regarding resettlement of the affected population and infrastructure development. Executing a hydropower project is time-consuming and tedious and involves a thorough survey and investigation and detailed project reports. This has led to many projects being stuck and delayed leading to a decreasing share of hydropower in the country's energy mix. "That debate has been settled that hydro is needed. There is no doubt in anybody's mind that hydro is not required. The question is how and how cost effective. That sensitisation is there across the government," the official added. With the average number of extreme weather events per year in each decade seeing a sharp spike, concerns remain. Nearly eight years ago, noted ecologist Madhav Gadgil had warned about the impending natural disasters threatening coastal states, unless critical steps were taken to conserve the ecologically fragile Western Ghats. Spread across six states, Western Ghats is a treasure trove of biodiversity and source of major rivers, including Godavari, Krishna and Cauvery. The recommendations, which have been ignored by state governments, are back in focus as the states face monsoon fury with floods and landslides killing hundreds across Kerala, Karnataka and Maharashtra. First published by

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