

Damming the Mekong Basin to environmental hell

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Major dam construction projects have become a favorite pastime of some autocratic governments, with China leading the way. But, far from protecting against water shortages, as supporters promise, large dams are contributing to river depletion and severely exacerbating parched conditions. Nowhere is this more apparent than in the basin of the Mekong River, which is running at a historically low level.

Known as the ‘mother of waters’ in Laos and Thailand, the Mekong flows from the Chinese-controlled Tibetan Plateau to the South China Sea, through Myanmar, Laos, Thailand, Cambodia and Vietnam. Farmers in the river basin, Asia’s rice bowl, produce enough rice to feed 300 million people a year. The basin also boasts the

world's largest inland fishery, accounting for an estimated 25% of the global freshwater catch.

This vital waterway is now under threat, largely owing to a series of Chinese-built mega-dams near the border of the Tibetan Plateau, just before the river crosses into Southeast Asia. The 11 dams currently in operation have a total electricity-generating capacity of 21,300 megawatts—more than the installed hydropower capacity of all the downriver countries combined. And they are wreaking environmental, economic and geopolitical havoc.

For starters, by reducing the flow of freshwater and nutrient-rich sediment from the Himalayas into the sea, these mega-dams are causing a retreat of the Mekong Delta in southern Vietnam. The resulting seawater intrusion is forcing rice farmers to switch to farming shrimp or growing reeds.

Moreover, according to a Mekong River Commission study, hydropower development through 2040—which includes several more Chinese mega-dams under construction or planned—will result in a 40–80% decline in fish stocks (by biomass). Migratory fish will disappear across much of the basin, which is currently second only to the Amazon in terms of fish species diversity.

Dams are also disrupting the Mekong's annual flooding cycle, which helps to refertilise farmland naturally by spreading nutrient-rich silt, besides opening giant fish nurseries. Earlier this summer, China's maintenance work on its Jinghong Dam resulted in the release of torrents of water. The ensuing floods in Thailand and Laos destroyed crops and disrupted fish, damaging local people's livelihoods.

China then refilled the Jinghong Dam using Mekong water. The drop in downstream water levels compounded water-scarce conditions, the result of a 40% shortfall in monsoon rains in June and July. Instead of overflowing during the summer, the Mekong River Commission reports, the river reached record-low levels, depleting fish stocks and setting back rice production. In Thailand, overall reservoir water availability has sunk by 24% year on year, in a drought so severe that the Thai government, led by General Prayut Chan-ocha, has ordered the armed forces to help respond.

Despite all of this, China has shown no sign that its dam-building frenzy is abating. For the Chinese government, mega-dams are proud symbols of engineering prowess. So not only does it have more large dams in operation than the rest of the world combined; it also has

the single largest, the Three Gorges Dam, and plans to build an even bigger one near the disputed Himalayan border with India.

But China's dam construction isn't just about national pride. As droughts become more frequent and severe, China's dam network gives it increasing leverage over downriver countries. In response to a major drought in downriver countries in 2016, China released 'emergency water flows' from one of its dams. Now it is again promising to release more water—a jarring reminder of the extent to which downstream countries depend on China's goodwill.

Next time, China could well demand something in return, and a desperately thirsty country may not be able to refuse. China could, in short, use its dams to weaponise water.

Moreover, although China is the world's top dam-builder—with by far the most ambitious inter-basin river-water transfer program—it's not the only one. Landlocked Laos is seeking to make hydropower exports, especially to China and Thailand, the mainstay of its economy. To that end, it has just completed—over the objections of Vietnam and Cambodia—the Thailand-financed Xayaburi Dam, which is now undergoing a test run and will begin generating electricity in October.

Although smaller than China's upstream mega-dams, the Xayaburi Dam is already having an impact. Its filling and test run alone have affected the flows of the Mekong tributaries in downstream Thailand, exacerbating the country's drought. The effect is pronounced enough that the Thai government—which has agreed to purchase 95% of the electricity the dam generates—has asked Laos to suspend its test run until the drought eases.

But here, too, China plays a role. As the largest investor in Laos, China is financing and building more than half of the country's large dam projects. Similarly, in Cambodia, China recently completed its seventh—and not its last—dam project.

Dams tend to create winners upstream, where people gain greater access to water and hydropower, and losers downstream. In the Mekong region, the losers far outnumber the winners in the short run. In the long run, the environmental destruction ensures that there are no winners at all. The only way to avoid such a bleak future is to end defiant unilateral dam building and embrace Mekong Basin-wide institutionalised collaboration, focused on protecting each country's rights and enforcing its obligations—to its people, its neighbours and the planet.

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