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## CONTEMPORARY DEBATES

### Indigenous Peoples, Dams and Resistance in Brazilian Amazonia

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# Here and There: The Effects of Upriver Dams on Indigenous Peoples<sup>1</sup>

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How does a commentary about upstream dams on the Colorado River fit within a special issue devoted to dams and development on Indigenous lands in the Brazilian Amazon? First, dam building on the Colorado River helps us envision a scenario of what the future might look like for Amazonian Indigenous peoples. For the past century, capital-intensive development on the Colorado River has taken the form of energy-producing dams, irrigation projects, and storage reservoirs on Indigenous lands in the American Southwest. Second, the ultimate paradox is that Colorado River dams and irrigated water on Indigenous lands have undoubtedly improved many lives, but at enormous cultural and environmental costs.

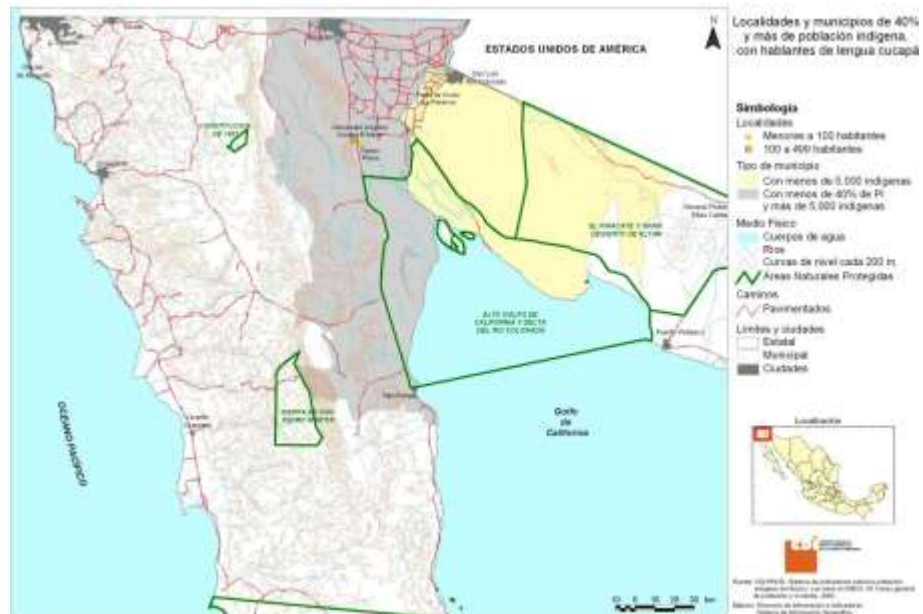
For instance, across the US-Mexico border, the lush agricultural fields of Yuma, Arizona, and California's Imperial Valley encounter the dry, militarized borderlands in which more than 90 percent of the Colorado River has been diverted by upstream US dams. Shaylih Muehlmann (2012:1) describes the tensions swirling around the Colorado River in her recent book, *Where the River Ends: Contested Indigeneity in the Mexican Colorado Delta*. She states that "directly across the border the river's water trickles to a stream. This is the most unequal international border in the world, a geopolitical barrier that while seeking to stop people from going north, as we shall see, prevents water from flowing south. Now, all that remains of the Colorado River is a dried-out riverbed, whose cracked and saline surface is a potent reminder of the river that once fanned out in the Mexican Colorado delta."

Upstream, along the lower Colorado River,<sup>2</sup> dam building projects have noticeably impacted five Indigenous Nations — the Fort Mohave, Chemehuevi, Colorado River Indian Tribe, Quechan, and Cocopah (also known as Cucapá in northern Mexico and Cocopa, more generally<sup>3</sup>) — all except for the Chemehuevi continue to live on portions of ancestral homelands. Across the border, the Mexican Cucapá live in mostly small, rural communities situated on the edge of the Colorado delta and upper Sea of Cortez.

The Cocopa originated at the river long before the arrival of outsiders, including the time of first contact with the Spanish in the sixteenth century (Kelly 1944, 1977; Kniffen 1931). Before contact, population estimates of nearly 8,000 Cocopa reveal how Colorado River Indigenous peoples successfully maintained themselves in the arid mountains and brackish wetlands located at the end of the river. Drastic reductions in Cocopa populations resulted after contact with Europeans and resulting hardships intensified after the formation of Mexico and later the United States (Spicer 1967). In general, systemic periods of violence, warfare, and diseases, such as tuberculosis, small pox, and other European pathogens, decimated Cocopa people from the sixteenth through the nineteenth centuries.

Today, about 300 US Cocopah live north of the US-Mexico border in Somerton, Arizona, on several small reservations. In Mexico, self-identifying Cucapá total about 200 individuals and live in small, rural villages, in communities such as El Mayor Indígena Cucapá, Campo Flores, and Pozas de Arvizu, and in the urban centers of Mexicali and San Luis Rio Colorado of the Mexican states of Sonora and Baja California del Norte (Figure 1).

Notwithstanding, the Colorado delta and upper Sea of Cortez is the cultural homeland of the Cocopa people. Environmentally, it is a downstream ecosystem supported by upstream river water.



**Figure 1:** Locations of the Mexican Cucupa Communities located on the edge of the Colorado delta and upper Sea of Cortez. Delta. Source: Commission Nacional Para El Desarrollo de los Pueblos Indígenas, 2008.

Prior to upstream dams, the delta encompassed more than 2 million acres of brackish wetlands and extreme desert. After the completion of the last large dam – Glen Canyon Dam in 1963 – the delta dried up, reducing the area to 10 percent of its original size (Clifford 2008). Moreover, dam building activities along the Colorado River enabled a modern capitalist economy to grow and develop in the American Southwest.

In the United States, the Cocopah Nation leases farmland to non-Indigenous farmers and large agribusinesses. Those same farmers produce 90 percent of all domestically grown winter vegetables consumed in the United States and Canada, as well as 98 percent of all iceberg lettuce (Gonzalez 2006). The lettuce growers rely on large amounts of irrigated Colorado River water and available Cocopah land. It takes roughly 3 gallons of water to produce a 1-cup serving of lettuce, and 24 gallons to produce about 1 pound (Kreith 1991). Annual rainfall in the extremes of southwestern Arizona amounts to roughly 3.5 inches, and the region remains frost-free for 350-365 days per year. Of the 2.8 million acre-feet of Colorado River water allotted for Arizona, Yuma County irrigators consume more than one-third (Bequette et al. 2001). Additional water-intensive crops include cotton, alfalfa hay, wheat, lemons, oranges, and tangerines.

Industrial agricultural practices on Mohave, Chemehuevi, and Quechan lands generally mirror the conditions occurring on Cocopah lands. For example, the Colorado River Indian Tribe (CRIT), located outside of Parker Arizona, is an amalgamation of several Indigenous nations, with nearly 3,500 members who self-identify with either Mohave, Chemehuevi, Hopi, and Navajo peoples. CRIT leases approximately 85,000 acres of reservation land to non-Indigenous industrial farmers for the commercial cultivation of cotton, wheat, alfalfa, and other water-intensive crops. CRIT also possesses senior water rights to about one-third of all the Colorado River, totaling about 717,000 acre-feet of water each year (Colorado River Indian Tribes 2008; Inter Tribal Council of Arizona 2008).

Although Indigenous peoples in Amazonia are a world away from the Colorado River, the present commentary helps to remind us of the potential impacts and future scenarios along

the Amazon River. Comparing US-Mexico perspectives and experiences in the context of dam building also forces us to think about what dam building is, who benefits from it, and how Indigenous peoples and environments are caught in complex webs that are linked to a capitalist, global economy. Moreover, US-Mexico perspectives and experiences also help to highlight the fact that some will pay the price more than others.

Overlay this scenario with global climate change, where Barnett and colleagues in the journal *Science* link human activities to a fifty-year decline in Colorado River water, suggesting that human-induced climate change is responsible for major reductions in winter snow pack, downward trends in total river flow, and earlier spring river runoff (Barnett et al. 2008). The Colorado River reservoir system, according to Barnett and colleagues, “will not be able to meet all of the demands placed on it, including water supply for Southern California and the inland Southwest, since reservoirs levels will be reduced by over one-third and releases reduced by as much as 17%.... Basically, we found the fully allocated Colorado system to be at the brink of failure, wherein virtually any reduction in precipitation over the Basin, either natural or anthropogenic, will lead to the failure to meet mandated allocations” (Barnett et al. 2004:7).

Thus, the perceived risk of accelerated “ecocide,” whether it’s the rivers of the Amazon or the Colorado, is exacerbated by the perils of climate change and by a perception of inevitable collapse of the “sustainability tripod – society-economy-ecology.”

The longer-term cultural and environmental costs that came with the Colorado dams, as well as the disastrous environmental changes, are not a trivial matter. In terms of environmental costs – which are inseparable from cultural ones – dams and their negative effects on the Colorado River have reduced ecological sustainability and challenge the resiliency of Indigenous peoples. Mexican Cucapá communities have struggled from acute poverty and lawlessness, and more recently, from their lives being affected by the rise of narcotrafficking along the US-Mexico border (Muehlmann 2013).

Furthermore, the lack of Colorado water that the Mexican Cucapá receive has led to the erosion and/or eradication of culturally significant plant and animal species, tied to Cucapá well-being. Currently listed as either threatened, endangered, or of concern by United States and Mexican authorities, are the following Colorado delta and upper Sea of Cortez species: Mexican-long-tongued bat, vaquita porpoise, jaguar, blue whale, fin whale, California gray whale, great blue heron, California brown pelican, reddish egret, brant, bald eagle, Harris’ hawk, American peregrine falcon, Yuma clapper rail, mountain plover, Hermann’s gull, elegant tern, blue-footed booby, Southwestern willow flycatcher, northern mockingbird, large-billed savannah sparrow, house finch, desert tortoise, flat-tailed horned lizard, lowland leopard frog, Colorado pikeminnow, bonytail chub, humpback chub, razorback sucker, desert pupfish, and totoaba.

Envisioning scenarios of Indigenous peoples survival in a world of increasing change forces us to view the US-Mexico perspective and experiences along the Colorado river as an example of what the future might be for the world’s greatest freshwater resource, the Amazon river. Before the Colorado River dried up nearly 100 miles north of the Sea of Cortez, Indigenous peoples, such as the Cocopa, relied on annual floods of water with silt originating from upstream sources near northern Arizona’s Grand Canyon. As journalist Erik Vance (2013:61-62) notes in his recent essay, “Letter from the Sea of Cortez: Emptying the World’s Aquarium, the dismal future of the Global Fishery,” the American West’s Colorado river has been reduced to a “tiny pond along with a few other wet spots scattered about the vast flood-plain are all that remain... the rest is irrigating fields in Arizona and California or providing hydro-power to Las Vegas.” In terms of the impact to Cocopa livelihood and culture, “one of the main reasons fishing was historically so good in the northern Sea of Cortez was that the river brought in nutrients. But when the river dried up in 1999, so did the nutrients. As happened with the Great Salt Lake, dry riverbeds were followed by desertification and salt.”

In closing, longer-term impacts for Colorado River Indigenous peoples and the implications for Indigenous peoples in the Amazon are comparable and from the perspective of cultural and environmental loss, largely irreversible. Resistance strategies mitigate the concentrated power of capitalism and the impacts of state-sponsored dam building. And, development policies often privilege the rich over poor, resulting in reductions in biodiversity and increasing social inequality. Dams viewed from the perspective of Indigenous cultural survival versus capital accumulation might also consider how dam building concentrates wealth and

power in the present global economy (Colombi 2013). The latter discovery runs counter to popular notions of dams serving as “public works projects for a public good.” Instead, large dams are related to the broader issue of externalities, or social and environmental costs that impact the survival of Indigenous culture, tied to water, and the resiliency of river-based ecosystems.

### Notes

<sup>1</sup> This commentary stems from an earlier essay of mine, titled (Colombi 2010) “Indigenous Peoples, Large Dams, and Capital-Intensive Energy Development: A View from the Lower Colorado River,” appearing in the Advanced Seminar Series book (Smith and Frehner 2010), *Indians and Energy: Exploitation and Opportunity in the American Southwest*. School for Advanced Research Press.

<sup>2</sup> For the purposes here, I focus my commentary on the lower Colorado River, which includes the upstream portion of river from Hoover Dam, just outside of Las Vegas, Nevada, downstream to the upper Sea of Cortez, located in the northern Mexican states of Sonora and Baja California del Norte. Dam building on the Colorado River and throughout the entire watershed, includes drainages originating from seven US states and impacts to Indigenous peoples living in the United States and Mexico.

<sup>3</sup> “Cocopah” refers to the name the *Cocopa* call themselves north of the US-Mexican border. Whereas, “Cucapá” refers to the name the Mexican *Cocopa* call themselves. *Cocopa*, on the other hand, is the most widely used name occurring in the ethnographic literature.

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