

# The Power and Ethics of Vernacular Modernism: The Misicuni Dam Project in Cochabamba, Bolivia, 1944–2017

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*Abstract* This article traces the Misicuni dam project, which promised to solve water scarcity in the Central Valley of Cochabamba, Bolivia. First proposed in the 1940s, the project captured the popular imagination in the 1960s and 1970s, broke ground in the 1990s, and opened in 2017. The decisive impulse for the Misicuni dam project came from a broad democratic alliance of Cochabambinos that pressured the Bolivian state, international development banks, and contractors. This alternative history of vernacular modernism, or cross-class efforts to promote, participate in, and democratize modernist development, moves beyond the existing literature that assumes that outside political, economic, and technical elites impose modernist development projects like dams on communities from above. I argue that Cochabambinos' continued enchantment with the Misicuni dam project owed to the belief that the project's realization would fulfill the 1952 Bolivian Revolution's promise of a water-rich modernity without conflicts and competition over water.

**A**t first glance, the Misicuni dam inaugurated in 2017 high above Cochabamba's Central Valley in Bolivia might seem like a classic example of an

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imposing, costly, and invasive development project. Indeed, it took many decades, roughly \$359 million, and scores of laborers to build this 120-meter dam and its associated tunnels and reservoirs.<sup>1</sup> But this project is the product of a long struggle by a diverse coalition to fulfill a promise first made after the 1952 Bolivian Revolution: just distribution of plentiful water to all. When Movimiento Nacionalista Revolucionario (MNR) leaders proclaimed the revolution's agrarian reform in Cochabamba's hinterlands on August 2, 1953, they promised more than land. Surrounded by thousands of militant unionized peasants, MNR founder Wálter Guevara Arze declared that "the waters that before were rented or sold for agricultural production are now free, and all shall have a right to them."<sup>2</sup> As Guevara Arze's statement on what became the Day of the Peasant indicates, access to irrigation water, which was even scarcer than land, was one of the revolutionary peasantry's most vocal demands and one of the MNR's most significant commitments.<sup>3</sup>

A few years earlier, as both peasants and urban residents were protesting water scarcity, an intrepid engineer had found a possible solution in the Tunari mountains above Cochabamba's Central Valley. In 1944, the Chilean-educated manager of the municipal water service, Luis Calvo Soux, first sketched out what would come to be called the Proyecto Múltiple Misicuni: a proposal to dam the Misicuni River and its tributaries into a massive reservoir in the mountains in order to provide water and hydroelectricity to the fields, factories, and homes of the Cochabamba valley below (see figure 1).<sup>4</sup>

Initially, the MNR promised to universalize access by redistributing the water sources monopolized by large landed estates (*haciendas*). This pledge was crucial to the party's ability to win and maintain political support from Cochabamba's peasants, workers, and urban middle classes. Through agrarian reform—which encompassed redistribution of both land and water—in the

1. All currency figures in this article are given in US dollars. The project's total cost will rise to an estimated \$499 million if and when the final phase is executed. Manuel Filomeno, "En seis décadas se invirtió más de \$US 359 millones en Misicuni," DossierSiete: El caso CAMC, *Página Siete* (La Paz), 26 May 2016, p. 2.

2. República de Bolivia, *El libro blanco*, 160. Guevara Arze gave the speech in Quechua.

3. Military socialist president Germán Busch declared August 2 the Day of the Indian in 1937 to commemorate the founding of the country's first indigenous school in Warisata (La Paz department) on that day in 1931. The MNR leadership chose this day to declare agrarian reform and renamed it the Day of the Peasant, in keeping with the party's emphasis on the economic role of the peasantry in the country's modernization. August 2 is also referred to as the Day of the Agrarian Reform.

4. "El problema del agua potable (editorial)," *Los Tiempos* (Cochabamba), 21 Nov. 1969, p. 4.

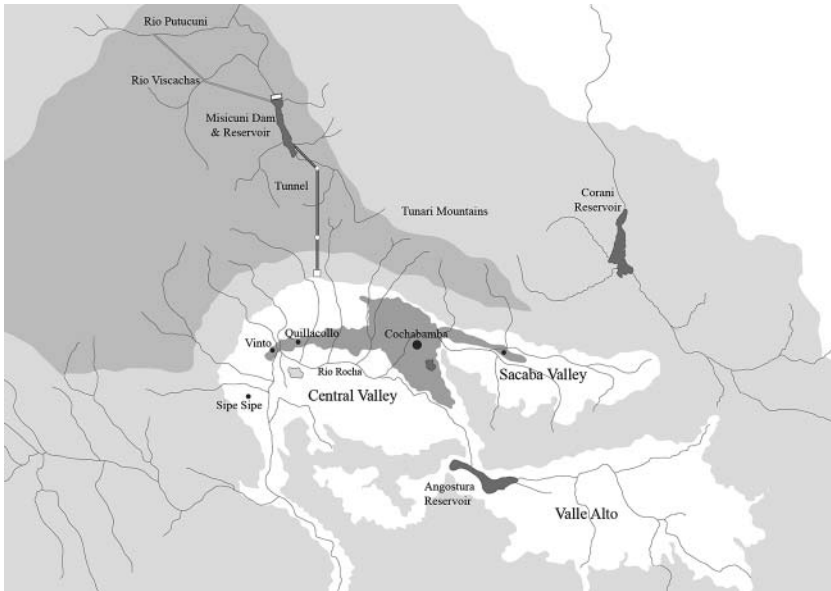


Figure 1. The Cochabamba region and Misicuni project infrastructure. (The Putucuni and Viscachas aqueducts have not yet been built.) Map created by Cochabamba architect Jorge Camacho Saavedra based on information from Empresa Misicuni, *Estudio de evaluación*.

decade that followed, hacienda workers (*colonos*) won control of water sources from haciendas. But this reform ultimately excluded other groups demanding water, including independent smallholding farmers (*piqueros*), urban residents, and industry. By the time that the MNR government fell to a military coup in 1964, it had failed to make water available to all.<sup>5</sup>

Cochabambinos responded to the limits of water redistribution by rallying behind the Misicuni dam project. While the proposal was born in the 1940s, early in the international wave of large-scale dam building, it was not until the 1960s and 1970s that Cochabambinos embraced it, even as a growing international chorus of researchers and grassroots activists began to critique large dams. While intense dam building continued in many parts of the world, especially in China, India, and Brazil, such projects met growing popular resistance. In Cochabamba, however, a broad-based coalition forged in these same decades promoted the Misicuni dam project, pushed it forward, and finally

5. For a full discussion of the revolution's water reform, see Hines, "Dividing the Waters."

brought it to fruition in the 1990s, just as the antidam movement reached the height of its influence elsewhere.<sup>6</sup> To understand why Cochabambinos supported this project as much of the rest of the world turned against big dams requires an examination of a broad democratic coalition's 50-year effort to bring the Misicuni dam into being.

The Tennessee Valley Authority (TVA) inspired both postwar dam building and the scholarly literature on dams, the latter of which took its start from former TVA director David Lilienthal's 1944 book *TVA: Democracy on the March*. Scholarship since has given us a strong sense of how dams came to embody dreams of development in the mid-twentieth century and the many ways in which they failed to do so.<sup>7</sup> While a first wave of studies depicted large-scale dam projects as beneficial to local communities, economies, and environments, for most recent scholarship dams have come to embody not "democracy on the march" but the immense costs of authoritarian modernization. Recent studies have highlighted the mass expulsions, inadequate relocation programs, and struggles for compensation that dams produced, as well as their fundamental failure to bring the widespread prosperity that their promoters promised. Rather, as these accounts demonstrate, dam projects have often impoverished local communities, generating power and profits for elites instead.<sup>8</sup>

Understandably, critical dam studies usually focus on conflicts between high modernist planners and locals resisting their plans. But such studies have left us with few tools to understand why some communities continued to promote dams even after their drawbacks became clear elsewhere. This literature often relies on James Scott's seminal *Seeing like a State*, which tracked the history of modern states' efforts to make society "legible" in order to organize and standardize social practice and the natural world through authoritarian high modernist development projects like megadams.<sup>9</sup>

6. Intense criticism of dams prompted the World Bank to help found the World Commission on Dams in 1998. The bank distanced itself from the commission, however, after its 2000 report recommended greater caution in dam building. World Commission on Dams, *Dams and Development*.

7. Lilienthal, *TVA*. For celebratory accounts of dams, see Billington and Jackson, *Big Dams*; Little, *High Dam at Aswan*; McDonald and Muldowny, *TVA and the Dispossessed*; Pitzer, *Grand Coulee*; Stevens, *Hoover Dam*.

8. Important critical accounts of dams and displacement include Isaacman and Isaacman, *Dams*; Klingensmith, "One Valley and a Thousand"; Leslie, *Deep Water*; Manganiello, *Southern Water*; *Southern Power*; Singh, *Taming the Waters*; Tilt, *Dams and Development*; Worster, *Rivers of Empire*.

9. Scott, *Seeing like a State*.

Yet local politics clearly mattered, even in the TVA. Scott's own writing on the TVA recognizes a more complex history. He credits Lilienthal and other New Deal planners with possessing a genuine "democratic faith" that led them to develop "the populist technocrat's creed": use of persuasion, education, and attention to local conditions to cultivate grassroots support for modernist development. Unlike authorities featured in *Seeing like a State*, TVA planners debated how to involve local subjects. Scott even finds that the TVA left the Tennessee Valley "more prosperous, economically diverse, and flood free than it would have been" otherwise. He nevertheless concludes that Lilienthal's democratic faith was impossible to reconcile with technocratic planning, so that efforts to involve beneficiaries resulted in "participatory autocracy."<sup>10</sup> Historical sociologist Jess Gilbert more generously dubs TVA planners' efforts to pursue modernization through citizen participation "low modernism," which he concludes succeeded in "narrowing the gap between expert and citizen."<sup>11</sup>

Even these more fine-grained accounts of the TVA, however, share the assumption of both celebratory and critical literatures on dams that the initiative for such structures has come exclusively from above and outside local communities. The celebration of technical knowledge and achievement in the pro-dam literature is mirrored in critical studies by the assertion that engineers and state builders successfully transferred resources, power, and knowledge away from communities.<sup>12</sup> While pro-development discourse portrays locals as passive beneficiaries of development projects, antidevelopment literature ultimately accepts the idea that local communities are the objects of developers from elsewhere.<sup>13</sup> The agency of those affected is typically limited to supporting or protesting (usually unsuccessfully) projects delivered from on high.<sup>14</sup> Even Gilbert's low modernists who organize local support for the TVA are outside experts, no matter how democratic their intentions may be.

10. Scott, "High Modernist Social Engineering," 26–27, 33.

11. Gilbert, "Low Modernism," 144.

12. Daniel Klingensmith, for example, writes that the construction of dams "inevitably means a transfer of power over rivers as resources: away from local control and customary law, and to bureaucracies and state regulation, away from small agricultural producers and from users of common lands and to large producers and to owners of privatized property." Klingensmith, *One Valley and a Thousand*, 13.

13. Sneddon, *Concrete Revolution*, an excellent, broad study of the global politics of large dam projects since World War II, focuses on the goals of powerful state institutions promoting large dams, especially the United States Bureau of Reclamation and, more recently, the Chinese government.

14. Mikael Wolfe's account of the Mexican Revolution-era Nazas dam project in the Laguna region of northern Mexico is an important exception. As Wolfe writes, the fact that

The history of the Misicuni dam project in Cochabamba, Bolivia, challenges these paradigms, offering an alternative history of modernism that reminds us that political and technical elites were not the only people captivated by dams. The decisive impulse for the Misicuni dam project came not from state planners but rather from a broad democratic alliance of Cochabambinos who felt neglected by a national state that had not bothered to make them legible.<sup>15</sup> As this article demonstrates, local groups' mobilization from the 1960s to the 1990s kept the proposal alive, propelled it forward, and ultimately pressured the Bolivian state, international development banks, and contractors to fund and build the dam. The attractions of dams elsewhere—flood control, electricity generation, industrialization, and especially irrigation and drinking water provision—appealed to Cochabambinos, even in the absence of promotion by the state and international financial institutions.<sup>16</sup> As the state increasingly backed away from its social responsibilities, this coalition dragged the state back in to the messy task of fulfilling its historic commitment, dating to the 1952 revolution, to land and water reform.

The Misicuni dam project is an example of what I call vernacular modernism, cross-class efforts in particular sites to promote and participate in modernist development and creatively adapt it to local needs and realities. This concept breaks open our understanding of modernist development and planning, allowing us to see beyond top-down authoritarian practices and bring to light “a whole range . . . of practices” that not only, in film historian Miriam Hansen's words, “register, respond to, and reflect upon processes of modernization and the experience of modernity” but also demand their introduction and

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“local campesinos, workers, and técnicos . . . generally embraced the [Nazas River Dam] as liberating” shows that, “in contrast to the generalizations that much recent global environmentalist literature has made, socially disadvantaged communities did not always oppose large dams.” Wolfe, *Watering the Revolution*, 60.

15. Ashley Carse challenges the tendency in development literature to treat “‘smaller’ or ‘lower’—the local, everyday—as either passive or reactive” and rightly argues that “global infrastructure doesn't so much ‘impact’ local, regional, and national projects as forge relationships of interdependence with them.” His focus is on infrastructure imposed by the United States—the Panama Canal—but Panamanians' desire for roads, which he dubs “aspirational infrastructure,” can be likened to Cochabambinos' desire for the Misicuni dam. Carse, *Beyond the Big Ditch*, 10, 14, 172.

16. As Mark Carey writes in his study of how a similarly broad range of actors interacted with climate change in the Peruvian Andes, we should not “overlook the role marginalized populations play in the decision-making processes affecting their livelihoods.” Carey, *In the Shadow*, 9.

fulfillment.<sup>17</sup> As the alternative modernities literature rightly insists, modernity has in the last century become not only global but multiple. Vernacular modernism captures the ways in which individuals and communities attempt to modernize themselves and their surroundings on their own terms, rather than, as Dilip Parameshwar Gaonkar puts it, “being ‘made’ modern by alien and impersonal forces,” and thus help set the terms for modernist development.<sup>18</sup> While high modernism requires ignoring local history, knowledge, people, and ecology, vernacular modernists draw on knowledge of their history and ecology to advocate for fulfillment of modernity’s promises through modernist development. In contrast to authoritarian high modernism, vernacular modernism aims to democratize modernism and indeed modernity itself.<sup>19</sup>

I argue that Cochabambinos’ continued enchantment with the Misicuni dam project owed to the deeply ingrained belief that the project’s realization would fulfill the 1952 Bolivian Revolution’s promise to provide a water-rich modernity to all and thereby resolve conflicts and competition over water. The project’s most vocal promoters were those excluded from the revolution’s water reform. Yet the dam also garnered strong support from water-reform beneficiaries like ex-colonos, who were eager to see other sectors satisfy their water needs elsewhere. The project was democratic in numerous ways: a broad cross-class coalition backed it, and its supporters aimed to provide water to all Cochabambinos who needed it. Furthermore, through the process of developing and promoting the project, Cochabambinos built a radical model of popular participation that involved decision-making power over the trajectory of hydraulic development by formally and informally educated citizens who became hydraulic experts in their own right. They called on powerful state and market institutions to fulfill their promises to deliver the benefits of modernity through modernist development by conquering nature on the local population’s behalf. This history offers us an opportunity to see a diversity of views within the Bolivian Revolution and within modernism. Cochabambinos envisioned a more inclusive, democratic, and radical modernity, even if, as we will see, it was ultimately a restricted one.

17. Hansen, “Mass Production of the Senses,” 60. Hansen developed the term “vernacular modernism” to capture “the dimension of the quotidian, of everyday usage, with connotations of discourse, idiom, and dialect, with circulation, promiscuity, and translatability.” *Ibid.*

18. Gaonkar, “On Alternative Modernities,” 18.

19. For discussion of alternative modernities, see also especially Appadurai, *Modernity at Large*.

This article traces how and why the project caught on in Cochabamba and its promoters' goals through four phases: early proposals during a time of radical promises of water redistribution to all, from 1944 to the fall of the MNR in 1964; the consolidation of a diverse local coalition backing the project, from 1964 to 1985, in opposition to an authoritarian plan to drill deep wells exclusively for the city's use; the coalition's success in spurring the dam's construction in the face of neoliberal economic restructuring, from 1985 to 2000; and finally the construction of the dam project, and the displacement and exclusions that it ultimately entailed, from the 1990s to 2017. The article follows the advocates of the project, charts the shifting alliances behind it, and examines knowledge politics throughout, interrogating how this project became the great symbolic embodiment of modernity and hydraulic justice.<sup>20</sup> Like high modernist development, this vernacular modernist project has been part of a state-building process, but one in which local citizens have demanded that the state build its capacities to deliver basic services to its population and fulfill its obligation to oversee modernist development. Rather than mere victims of modernist development, Cochabambinos have been some of its most important theoreticians.

### **Early Proposals, Military Socialist Reform, and National Revolution, 1944–1964**

Fed by water flows from the Tunari mountains, Cochabamba's semiarid valleys have served as a regional breadbasket since the period of Inca rule. While Cochabamba had long experienced periodic drought, urban water shortages became more acute in the late nineteenth century as the population grew more rapidly. In these same years, large estate owners gained control of the region's water sources, forming the kind of unequal water tenure regime that Mikael Wolfe has elsewhere termed *acuifundio*.<sup>21</sup> From the 1890s to the 1930s, local officials carried out projects to increase the city's water sources and expand distribution, while large landowners and smallholding peasants combined forces to build earthen dams from limestone and rock in order to expand existing lakes in the Tunari mountains and channel the water to their fields. But if the resulting artesian wells, mountain spring diversions, and privately owned reservoirs partially satisfied urban and rural demand, large estate owners

20. The article does not fully explore the deeper community roots of these demands, the subject of my dissertation and book project, but rather focuses on the public debates and social mobilization that brought the project into being.

21. Wolfe, *Watering the Revolution*, 4.



remained decisively in control. By 1940, intense migration from the countryside to the city following the Chaco War (1932–35) and a severe drought had stretched city residents and smallholders' already inadequate water sources to their limits.

In the 1940s, water scarcity became the most important shared social and political concern in the Central Valley. Both city dwellers and smallholders vigorously protested water shortages and started to look to the Tunari mountains for additional water sources. In the city, residents of new peripheral neighborhoods lacking municipal water service complained to newspapers and collectively petitioned authorities. Both the newly established Pro Cochabamba Committee (CPC) and the Cochabamba Engineers' Association demanded that the national government find and fund a solution to the city's water crisis. In the countryside, smallholders protested large landed estates' domination of irrigation water rights.

The first proposals for the Misicuni dam project in the 1940s and 1950s appeared at a time when peasants and urban reformers were still confident that broader distribution of hoarded hacienda water sources would resolve water scarcity and inequality. In 1941, urban protests pressured reformist military socialist governments to purchase one hacienda's water sources at a fraction of the hacendados' asking price, a major departure from the generous prices that traditional parties had paid before the war. Even so, that purchase failed to satisfy growing urban demands and did nothing to address water inequality in the countryside.<sup>22</sup>

Persistent grievances about water helped to fuel revolutionary mobilization in the 1940s and 1950s in both the city and the countryside. Soon after taking power in April 1952, the MNR-led revolutionary government promised to overturn Cochabamba's *acuífundio* by expropriating and redistributing water from haciendas. For the first time, the national government seemed committed to addressing Cochabamba's infrastructural needs, which locals had long charged that the government ignored in favor of the needs of the capital La Paz. A month after Guevara Arze pledged that water would flow freely to all who needed it, Cochabamba's MNR mayor Armando Montenegro expropriated a series of hacienda-owned lakes for the city's use. At the same time, colonos on those estates began to file agrarian reform cases petitioning for redistribution of estate land and water sources. Redistribution of hacienda water to all was apparently on the horizon.

22. For an in-depth examination of the history of social struggle over water property relations in Cochabamba, see Hines, "Dividing the Waters." For discussion of these early expropriations of hacienda water sources, see *ibid.*, 50–87.

It is not surprising, then, that most Cochabambinos paid little attention when Luis Calvo Soux declared that he had found the solution to water scarcity high in the Tunari mountains.<sup>23</sup> While agrarian reform was still underway, Calvo Soux conducted a provisional study of the project with funding from the engineering firm that he managed in the late 1950s. He envisioned three dams that would direct the waters of the Misicuni, Viscachas, and Putucuni Rivers to a 500-square-kilometer reservoir in the Misicuni valley, 1,600 meters above the city. From there, a flow of 6,000 liters per second would pass through a 12-kilometer tunnel bored through the mountains to the edge of Cochabamba's Central Valley and fall 900 meters to produce hydroelectricity on its way to the valley's fields and treatment plants (see figure 1).<sup>24</sup> The available funds only allowed Calvo Soux to conduct what he called "barely a preliminary study," however, which the MNR government ignored under the pressure of economic crisis and US advisers' conservative fiscal recommendations.<sup>25</sup> Despite these disappointments, the essential features of the project that Calvo Soux proposed then—the rivers in question, the Misicuni valley reservoir, the tunnel through the mountains, and the multiuse aspect—endured. The study made the dam proposal public for the first time, even though at first few paid much attention.<sup>26</sup>

Large numbers of Cochabambinos only started to take an interest in the Misicuni project once it became clear that the MNR would not make good on its promise to redistribute hacienda water sources to all. Even before its 1964 overthrow, the MNR had retreated from its commitment to water reform. Agrarian reform did redistribute water, but only to hacienda colonos, leaving piqueros, the city, and industry with few sources to meet their needs. Even the hacienda water sources that Mayor Montenegro expropriated for the city in 1953 were ultimately redistributed to hacienda colonos. As the limits of redistribution became clear, redirecting the abundant waters of the mountains' rivers seemed the only way to fulfill the revolution's promise of water for all Cochabambinos.

23. "El problema del agua potable (editorial)," *Los Tiempos* (Cochabamba), 21 Nov. 1969, p. 4; Antonio Zimmerman, "La Cordillera del Tunari filón[?] inagotable para la captación de aguas y energía eléctrica," *Prensa Libre* (Cochabamba), 18 May 1962, p. 3.

24. "Se conocieron estudios preliminares del plan de aprovechamiento de la cuenca del 'Misicuni,'" *El Pueblo* (Cochabamba), 23 Feb. 1960, p. 1.

25. "Ex-alcaldé sostiene categórico: 'Misicuni' daría agua y luz a nuestra ciudad," *Prensa Libre* (Cochabamba), 23 Sept. 1966, p. 1. For an excellent account of the influence of the US government on the MNR's economic policy, see Young, *Blood of the Earth*.

26. The first mention of the project in the local press was in "Recomiéndase el estudio de las posibilidades de la cordillera para proporcionar electricidad, agua y riego," *El Pueblo* (Cochabamba), 8 Apr. 1958, p. 3.

### Vernacular Modernism versus Authoritarian High Modernism, 1964–1985

A broad cross-class movement backing the Mísicuni project emerged in Cochabamba's Central Valley under the dictatorships that succeeded the MNR in the 1960s and 1970s. Over these two decades, the city's elites and professionals, the urban popular classes, and the rural peasantry forged a coalition demanding realization of the Mísicuni dam project as a democratic alternative to a high modernist plan to drill deep wells for the exclusive use of the city that the dictatorships and Inter-American Development Bank (IDB) attempted to impose. In the 1970s, Cochabambinos angled to win favor through the Hugo Banzer Suárez dictatorship's development plan, which favored La Paz and the emergent Santa Cruz region, but they were unwilling to accept modernist development at any cost.

It was the MNR that first invited the IDB to fund an urban drinking water development project in Cochabamba in the early 1960s, in response to increasing urbanization, scarcity, and social protest. The loan agreement that President Víctor Paz Estenssoro signed required drilling new deep wells in the Cochabamba valley, explicitly discarding proposals to locate new water sources in the Tunari mountains. While bank officials publicly argued that well water was cheaper to capture, transport, and treat, confidential documents from the time reveal that they also backed deep wells as a means of "protecting" water from "theft" by peasant cultivators in the valley and avoiding negotiations with peasants who held rights to sources in the mountains.<sup>27</sup> And it did not take access to confidential documents to see that the plan was aimed at meeting the water needs of the city at the expense of peasant (both ex-colono and piquero) water users.<sup>28</sup>

The plan to drill wells rather than execute the Mísicuni project riled urban residents, especially established economic elites. Local professionals,

27. República de Bolivia, Ministerio de Economía Nacional, Deutsche Projekt Union, and GMBH Ingeniería Global, "Informe no. 42. Presentado en fecha 15 de mayo, 1965. Solicitud de préstamo para el abastecimiento de agua potable para la ciudad de Cochabamba . . ." vol. 2, Cochabamba, 15 May 1965, Servicio Municipal de Agua Potable y Alcantarillado, Cochabamba (hereafter cited as SEMAPA), art. 324. (Documents cited here and subsequently from this body do not have corresponding record numbers because I was granted special access to internal institutional files and archives.)

28. The World Bank also rejected the Mísicuni project as an option for hydroelectric development. Corporación Boliviana de Fomento, "Power Supply for the Cochabamba District," La Paz, Mar. 1961, World Bank Group Archives, Washington, DC; Montreal Engineering Company, "Preliminary Report on Proposed Interconnection of the Generation and Transmission Facilities of Corani and Cochabamba Area," 17 Oct. 1962, World Bank Group Archives, Washington, DC, p. iv.

landowners, and engineers opposed deep wells with technical arguments based on local experiences and imaginaries. Up to that point, well projects had shown inconsistent results, often delivering little water. Mountain water, in contrast, was visible, measurable, and easily imagined by the general population, even those who had never ventured up into the mountains. As one editorial put it, “the benefits of surface water from the mountains are undeniable; it is there to be seen and available to whoever wants to bring it.”<sup>29</sup> Given the 1,000 200-meter-deep wells that the valley was estimated to already have, a local hydrologist claimed that it would be necessary to drill 1,000 meters deep to find a plentiful aquifer. And whereas wells might quickly deplete valley aquifers, yearly rains replenished mountain lakes. Cochabamba architect and urban planner Jorge Urquidi advocated mountain sources, with their “permanent” flows, over “inadequate” deep wells.<sup>30</sup> The newspaper *Los Tiempos*, owned by the wealthy landowning Canelas family, returned to print after years of post-revolutionary hibernation to describe the Misicuni’s waters as some of the purest and most abundant in the world and to hold the project up as “the hope of Cochabamba.”<sup>31</sup> For these reasons, local elites considered mountain water to be more secure and abundant than well water and therefore a more appropriate solution to water shortages. They also claimed that whereas deep wells would employ foreign technology and personnel and would generate profits abroad, damming mountain rivers would utilize and benefit Bolivia’s own experts and laborers.<sup>32</sup>

Most of all, elites opposed deep-well drilling because it threatened their own water sources. Private well owners, who were among the city’s wealthiest residents, feared that the new deep wells would interfere with their own. Antonio Valdivieso, owner of the valley’s oldest well-drilling company, criticized the attempt to solve the water problem at the expense of privately owned wells, most of which his company had drilled. Valdivieso chaired the CPC in 1969 when it reiterated calls to study the Misicuni project, which, in contrast to

29. “Replica al alcalde municipal: El Comité Pro-Cochabamba y el problema del agua potable,” *Prensa Libre* (Cochabamba), 3 July 1969, p. 3.

30. *Los Tiempos* (Cochabamba), 25 Jan. 1970, p. 4.

31. Guillermo Canedo C., “Aguas potables para Cochabamba (editorial),” *Los Tiempos* (Cochabamba), 23 July 1969, p. 4.

32. See daily coverage in *Prensa Libre* and *Los Tiempos* from 1969 to 1970. For instance, see Rafael Peredo A., “Vertebración caminera para solucionar escasez de aguas potable y de riego (editorial),” *Los Tiempos* (Cochabamba), 25 Jan. 1970, p. 4; Lauro Morales Navia, “Agua potable para Cochabamba: Aprovechamiento superficial o fuentes del subsuelo convienen a nuestra ciudad,” *Prensa Libre* (Cochabamba), 26 Feb. 1970, p. 5.

deep wells, would leave the water sources for privately owned wells untouched. Together with the CPC, Luis Calvo Soux led the campaign for Masicuni, presenting to local civic groups and claiming in editorials that the project could provide 400 liters of water per inhabitant per day for more than a century. CPC leaders warned that they would “lead a popular movement until the problem was patriotically and decisively addressed.”<sup>33</sup> The stalled IDB project, foot-dragging by government officials on commissioning dam studies, and ongoing water shortages sowed the seeds of a broad-based movement calling for the realization of the Masicuni dam project, though the movement would take a few more years to materialize. What began as a scheme of engineers and elites soon became a widespread demand across the valley. As it turned out, urban elites, wanting to preserve their exclusive access to groundwater sources, opposed deep wells for the city and campaigned for the more inclusive Masicuni project instead.

By the 1970s, several local mayors and state governors had inspected the project site and demanded national government action. The national government began to respond to these demands under left-leaning president Juan José Torres (1970–71), who in 1970 appointed Calvo Soux to head the newly founded Cochabamba Regional Development Corporation (CORDECO). Calvo Soux declared that Masicuni would be his top priority, commissioned a preliminary study, and contracted the French firm *Sté Fréjusienne d’Électricité* (SOFRELEC) to carry out prefeasibility studies. He had little time to operate, however, before losing his position following General Hugo Banzer Suárez’s August 1971 coup.<sup>34</sup>

At first, Banzer seemed to be continuing the project. When SOFRELEC completed the prefeasibility study in 1975, Banzer emphasized the project’s potential to stimulate agricultural and industrial production, in line with his economic goals. Nevertheless, the Banzer administration prioritized export-oriented agriculture in the eastern lowlands over development in the

33. “Replica al alcalde municipal: El Comité Pro-Cochabamba y el problema del agua potable,” *Prensa Libre* (Cochabamba), 1 July 1969, p. 3. See also Boyle Engineering, “Ampliación y mejoras del sistema de agua potable de Cochabamba, informe de factibilidad,” Cochabamba, Feb. 1967, Biblioteca de la Universidad Mayor de San Simón, Cochabamba; daily coverage in *Prensa Libre* and *Los Tiempos* from 1969 to 1970.

34. Corporación de Desarrollo de Cochabamba (CORDECO), “Decreto de su creación,” 6 Nov. 1970, Archivo de la Secretaría Departamental de Planificación de Cochabamba (hereafter cited as ASDPC); CORDECO, “Climatología e ecología,” Cochabamba, 1971, ASDPC, HC-029. See daily coverage in *Los Tiempos* and *Prensa Libre* from November 1970 to March 1971.

Cochabamba valley, ignoring water shortages and shelving the Misicuni project to develop a hydroelectric project in the Santa Cruz department instead.<sup>35</sup>

With the national government once again sidelining Cochabamba, urban elites and popular groups there together rallied behind the Misicuni project and in the process built a broad new civic movement. CORDECO's new general manager and the new cross-class civic organization Junta de la Comunidad (JUNCO) argued that the Misicuni project would increase agricultural production and industrial activity while defusing social tension in the countryside.<sup>36</sup> The local factory workers' union called Misicuni the "starting point for Cochabamba's development," and both JUNCO and the Cochabamba Women's Union sent representatives to La Paz to lobby the president.<sup>37</sup> JUNCO's Misicuni campaign culminated in a massive open assembly in which member organizations demanded that the government immediately commence feasibility studies and allow JUNCO to execute the project along with CORDECO.<sup>38</sup> While Banzer promised to review the prefeasibility studies, commit some funds to the project, and seek additional funds for a feasibility study from the Andean Development Corporation, local groups doubted the seriousness of his commitment, especially since his national development plan for 1976–80 excluded the project.<sup>39</sup>

In a dramatic show of force, the city's now broad and democratic civic movement organized a September 1975 "caravan" to Misicuni to promote "awareness of the Misicuni Project's importance." Local authorities joined in: the city's mayor announced plans to visit Misicuni "to promote the interests of Cochabambinos to national authorities"; officials for the municipal water company, the Municipal Drinking Water and Sewage Service (SEMAPA), pledged to lead a tour of the "hydraulic possibilities of the Misicuni watershed"

35. The national electricity authority, Empresa Nacional de Electricidad (ENDE), and the IDB explicitly chose to prioritize the Rositas hydroelectric project in Santa Cruz over Misicuni. See daily coverage in *Los Tiempos* and *Prensa Libre* from 1972 to 1974.

36. JUNCO was comprised of the city's neighborhood federation, urban labor unions, peasant unions, university students' and professors' federations, professional organizations, business associations, and women's groups.

37. "Fabriles respaldan al proyecto Misicuni," *Prensa Libre* (Cochabamba), 4 Apr. 1975, p. 5.

38. See daily coverage in *Prensa Libre* from 1974 to 1975.

39. Lamarre Valois International, Consultores Galindo, Icbol, and Agroinco, "Proyecto Múltiple Misicuni, estudio de factibilidad: Síntesis general," Cochabamba, Dec. 1979, ASDPC, pp. 2–3 (this document has not yet been catalogued by the archive). See daily coverage in *Prensa Libre* for 1975.

once the caravan arrived at the site; and other state agencies, elite civic groups, and the chambers of commerce sent representatives.<sup>40</sup>

Caravan organizers expected only 100 participants, but at dawn on the departure date over 1,000 men, women, and children converged on Cochabamba's central plaza. Caravanners wound their way up a steep mountainside road and on to Misicuni, where they listened to a priest perform mass and to local authorities make speeches. JUNCO's president was pleased with what he called a "massive turnout" that demonstrated "the people's consciousness of the Misicuni project's potential to achieve their long-desired development."<sup>41</sup> For this coalition, development meant not only fomenting agricultural and industrial production but also meeting basic human needs.

President Banzer did not attend, but within a month his government secured a \$2 million loan for feasibility studies from the Andean Development Corporation. *Los Tiempos* reported that the loan was a direct result of the JUNCO-organized caravan, which the newspaper called "a resounding success due to the 'multitudinous' participation of Cochabamba's people."<sup>42</sup> Euphoric, JUNCO's president declared that "all Cochabambinos should unite around this popular aspiration, supporting . . . this project that will free us from underdevelopment and neglect."<sup>43</sup> A year later, the national government founded the Misicuni Association (which became the Empresa Misicuni in the 1990s) to oversee feasibility studies, which a Canadian firm conducted from 1977 to 1979.<sup>44</sup>

It is unclear whether peasants were among the caravanners, but their support for the project was growing. Peasant unions first endorsed the Misicuni project in the 1960s, when one leader praised the Misicuni River as a "flow of great magnitude, fed by immense tributaries."<sup>45</sup> From early on, Central Valley peasant unions forcefully opposed plans to drill deep wells for the city and

40. "Alcaldía propicia visita a la región de Misicuni," *Prensa Libre* (Cochabamba), 7 Sept. 1975, p. 5; "JUNCO prepara caravana para visitar Misicuni," *Prensa Libre* (Cochabamba), 17 Sept. 1975, p. 5; "SEMAPA participará en la caravana a Misicuni el 28," *Prensa Libre* (Cochabamba), 21 Sept. 1975, p. 5.

41. "Más de millar de personas integró caravana a Misicuni," *Prensa Libre* (Cochabamba), 29 Sept. 1975, p. 4.

42. "CAF acordó crédito para Misicuni," *Los Tiempos* (Cochabamba), 10 Nov. 1975.

43. "Apoyo a CORDECO para materializar Misicuni," *Prensa Libre* (Cochabamba), 3 Jan. 1976, p. 4.

44. Supreme decree 13212, 18 Dec. 1975. See daily coverage in *Los Tiempos* and *Prensa Libre* from October 1975 to January 1976.

45. "Agricultores de Tiquipaya apoyan el proyecto municipal de Misicuni," *El Pueblo* (Cochabamba), 12 Mar. 1960, p. 5.

demanded engineering studies of the Misicuni project, offering to contribute funds and labor.<sup>46</sup> In 1973, peasant union leaders visited Misicuni and expressed “alarm” at the “hurdles” that authorities put in the project’s way.<sup>47</sup> For the peasants, the project was ideal because it promised to provide irrigation water for them and drinking water to the city without threatening their existing water sources.<sup>48</sup> Ex-colono communities that won hacienda water sources through agrarian reform, like the Tirani community in the Tunari mountains’ foothills north of the city center, have supported the project for this reason ever since. As a Tirani union leader told me in 2011, “it is impossible for us to share our lakes with the urban population as they do not even fully meet our needs. The solution is Misicuni, to finally complete it.”<sup>49</sup>

Peasant opposition to deep-well drilling and commitment to the Misicuni project culminated in the 1977 Well War in the agricultural community of Vinto. This was the first of a series of well wars over the following two decades in which peasant unions confronted the national government, international development banks, and local and foreign contractors linked to plans to drill deep wells in peasants’ communities. The conflict erupted in 1976 after President Banzer launched an emergency water project to supply the city of Cochabamba. The nationally appointed emergency committee studied eight possible projects, the Misicuni project among them, but ruled out water capture in the mountains for its high cost and lengthy construction period. Instead, the committee recommended drilling ten deep wells in Vinto, 20 kilometers west of the city. Banzer emphasized that this was only a partial solution not meant to replace the Misicuni project.<sup>50</sup> But Vinto peasants saw the deep wells as a threat to their own groundwater sources, and to the Misicuni project as well.

Conflict was imminent. Even the emergency committee privately warned that the new wells would very likely lower the water table in Vinto, affecting local irrigation and sparking protest. As the committee’s report put it,

46. See daily coverage in *Los Tiempos* and *Prensa Libre* from 1969 to 1975.

47. *Los Tiempos* (Cochabamba), 9 July 1973.

48. The prefeasibility study determined that the Misicuni project could provide irrigation water to 11,000 peasant families. SOFRELEC Ingenieurs Conseils—Paris, with the assistance of Sanidro Ingenieros Consultores—Cochabamba, “Estudio de prefactibilidad del Proyecto de Aprovechamiento Múltiple de Misicuni—síntesis,” Cochabamba, Feb. 1975, ASDPC, HC-247 síntesis.

49. Member of Comunidad Tirani, interview by author, Cochabamba, 27 May 2011.

50. See daily coverage in *Los Tiempos* and *Prensa Libre* from July 1976 to September 1977: for instance, “Decidida acción del Gral. Banzer para el problema del agua potable,” *Los Tiempos* (Cochabamba), 18 July 1976.



“measures should be taken to address this delicate issue.”<sup>51</sup> But when rumors began to spread in Vinto that the new deep wells would interfere with old community wells, these same state engineers assured local peasants that new wells would tap deep layers of the aquifer sealed off from the upper layers that fed existing irrigation wells.<sup>52</sup> Despite these assurances, by August Vinto peasants reported that their wells’ production had decreased by 75 percent.<sup>53</sup> When state authorities ignored their complaints, Vinto residents formed the Pro Vinto Committee and attempted to stop the project.<sup>54</sup> In open mass meetings and petitions, Vinto peasants called on state authorities to guarantee consistent water supply, drill additional wells for community use, connect them to the new water main, and immediately begin work on the Misisuni project.

Vinteños had technical arguments of their own. They maintained that the aquifer’s layers were interconnected, so that pumping water from deeper layers would deplete upper layers as well. Their conclusions drew on long-term experience as well as recent observations. In a letter to SEMAPA, the Pro Vinto Committee reported that “after the [new] wells were drilled, it became clear that there is filtration and communication among the layers, such that the population’s wells are completely dry.” The Pro Vinto Committee pointed out that state authorities, despite their supposedly technical arguments, had not conducted a single technical study of groundwater resources.<sup>55</sup> The allegedly unsophisticated peasants had come to the same conclusions as the dozen engineers on the emergency committee and every other study of the Central Valley’s underground water resources before and since.<sup>56</sup>

51. Comité Técnico Inter-Institucional Cochabamba, “Abastecimiento de agua potable de la ciudad de Cochabamba: Estudio de alternativas de emergencia,” Cochabamba, Feb. 1977, SEMAPA.

52. “Para acumular agua potable: Presas de almacenamiento en la cordillera del Tunari,” *Prensa Libre* (Cochabamba), 26 Mar. 1977, p. 4; “Anuncio oficial: Hasta octubre YPFB solucionará el problema de escasez de agua,” *Los Tiempos* (Cochabamba), 6 May 1977.

53. “YPFB considerará denuncias de los pobladores de Vinto,” *Prensa Libre* (Cochabamba), 26 Aug. 1977, p. 4.

54. See daily coverage in *Prensa Libre* in August 1977 and correspondence and agreements between SEMAPA and Vinto communities in SEMAPA’s legal department files.

55. “Carta del Comité Pro-Vinto a SEMAPA,” 22 Nov. 1977, SEMAPA, legal department files.

56. The 1978 study conducted by the United Nations Development Programme (UNDP) and the Bolivian Geological Survey (GEOBOL) of hydraulic resources in Cochabamba’s four valleys, which aimed at increasing irrigation resources and urban water supply, also determined that “future exploitation will affect the hydrodynamic

Vinto peasants did not stop the drilling, but they did force significant concessions from the state. In a still binding agreement, SEMAPA officials agreed to guarantee “the normal and complete supply of drinking water to the population of Vinto” through a water main connection and to resolve any “inconvenience or difficulty” that the new wells might occasion.<sup>57</sup> Through this conflict, peasants strengthened their unions, their rights to underground water sources, and their resolve to confront SEMAPA’s efforts to appropriate these sources. They also made clear their unequivocal support for the Misticuni project.

By the late 1970s, a broad cross-class regional movement had consolidated behind the Misticuni project as a democratic alternative to deep-well drilling. The coalition recognized that pumps provided water to those who could afford to drill the deepest and so demanded that the government execute the more inclusive Misticuni project instead. Urban and rural mobilization was decisive in persuading the national government to commission requisite studies: the 1975 prefeasibility study, the 1979 feasibility study, and the final design study completed in 1987, all against the initial wishes of the IDB.<sup>58</sup> Already by the 1970s one could say, as Nina Laurie and Simon Marvin would in the late 1990s, that “Misticuni had become emblematic of the region’s identity and hopes for the future.”<sup>59</sup> This coalition put forward its own vision of modernity in which all Cochabambinos would have access to plentiful water and determine its source.

What was at stake in these debates was not only the Misticuni project itself but the broader question of what development would mean and who would set priorities. Defenders of Misticuni argued that the project should not be judged strictly by economic criteria but rather by what CORDECO’s general manager Osvaldo Pareja Mariscal called its “social profitability,” by which he meant its potential to improve the lives of the region’s population.<sup>60</sup> Pareja set out the

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situation and interfere with existing wells, and this interference will need to be compensated.” GEOBOL and UNDP, “Proyecto integrado de recursos hídricos Cochabamba, investigaciones de aguas subterráneas en las cuencas de Cochabamba, PNUD/OCT Bo 73/008, Informe Técnico 1,” Cochabamba, 1978, SEMAPA, p. 224.

57. “Convenio suscrito entre autoridades de gobierno con entidades y representantes de Vinto,” 1 Dec. 1977, SEMAPA, legal department files.

58. “Reunión en La Paz: Cochabamba espera hoy aprobación oficial para el proyecto Misticuni,” *Los Tiempos* (Cochabamba), 2 Mar. 1982.

59. Laurie and Marvin, “Globalisation,” 1409.

60. “Proyecto Misticuni tiene su importancia para Cochabamba,” *Prensa Libre* (Cochabamba), 29 Oct. 1975, p. 4. Promoters like Pareja emphasized that increased irrigation water would improve the livelihoods of peasants and thereby slow their migration to the city and alleviate urban-rural tensions.

lines of debate clearly: “We should never judge projects according to their economic profitability alone. The Misicuni project has the great advantage of being socially profitable and [so] should by no means be considered expensive.”<sup>61</sup> By contrast, the electrical company ENDE, like the IDB and the World Bank later on, insisted on economic profitability. When national legislators determined that carrying out the Misicuni project would be “economically irrational” (*antieconómico*), JUNCO responded that they “should not forget that it is a multiuse project that will solve the city’s serious water scarcity problem and irrigation shortages in various areas of the Central Valley.”<sup>62</sup> This was the crux of the debate.

### “For Water and Life”: Vernacular Modernism versus Neoliberal High Modernism, 1985–2000

The return to democracy brought Víctor Paz Estenssoro back to the presidency in 1985, ushering in two decades of neoliberal economic restructuring and social crisis. The neoliberal state and its international financial partners advocated privatization of services that the state had remained committed to providing even under dictatorship. But their prescription for hydraulic development in Cochabamba’s Central Valley remained the same: drilling deep wells in the countryside for the exclusive use of the ever-growing city. Nevertheless, Cochabambinos were confident from their previous successes that they could force the Misicuni project forward, despite efforts to cancel it by the national government, the IDB, and the World Bank. In a decade marked by drought and intense migration from mining centers to the city, urban residents and rural peasants organized three marches “for water and life” to demand the project’s realization.<sup>63</sup> While divisions between urban residents and rural peasants marked the first and second marches in 1992 and 1994, by the third march in 1997 these two groups had united to demand construction of the Misicuni dam and to oppose a privatization scheme that threatened to scrap it.

The region’s first march for water and life was an urban affair. In December 1992, the Federation of Neighborhood Councils–Cochabamba (FEJUVE), the Departmental Workers’ Federation, and the Civic Committee (the product of a 1980s merger of the Pro Cochabamba Committee and JUNCO) called the

61. Ibid.

62. “Brigada parlamentaria: Ejecución del proyecto Misicuni sería antieconómico para ENDE,” *Los Tiempos* (Cochabamba), 23 Oct. 1983.

63. The call for the first with this title is mentioned in “FEJUVE convoca a una ‘Marcha por el Agua,’” *Los Tiempos* (Cochabamba), 3 Dec. 1992.

march to protest water scarcity and to demand the immediate construction of the Misicuni dam. The coalition launched a national campaign to demand that the government secure financing for the project and promised to organize a general strike in Cochabamba if the government refused. After a national meeting of neighborhood federations endorsed these demands and threatened to call a national state of emergency, the government announced that it had secured project funding from the Italian government.<sup>64</sup>

The region's second march for water and life was a rural initiative, part of the three-decade-long fight of agricultural communities to defend local groundwater sources from appropriation for the city. A World Bank-funded effort by SEMAPA to drill a new battery of wells in Vinto and neighboring Sipe Sipe sparked renewed conflict, culminating in the October 1994 march. Urban residents had largely remained on the sidelines during the 1977 Well War, but in the context of severe drought and water rationing urban popular groups now actively backed drilling new deep wells and threatened the protesting peasants. In anticipation of the march, FEJUVE leaders called on city residents "to remain united and strong against the opposition of the Vinteños" and pledged to use force if necessary. FEJUVE president Eloy Luján declared that the deep wells were "essential to alleviating the thirst of the city" and that his organization would allow no "interference" with their completion. Echoing the arguments of state institutions and foreign engineers, Luján offered to "explain" to the marchers that "studies showed that a sedimentation process and ancient rock made the layers impermeable up to 400 meters deep," meaning that deep wells would not affect shallow irrigation wells' sources. He vowed that FEJUVE members "would find themselves obligated to block marchers' access to the city, potentially provoking a confrontation," if peasants continued with their "mis-taken critiques."<sup>65</sup>

Undeterred, over 3,000 peasants from 100 peasant communities departed Vinto early on October 7, 1994, chanting against the well-drilling plan that they claimed would destroy the valley's most productive agricultural areas. As in the past, the peasants protesting the wells presented the Misicuni project as an alternative that would satisfy both urban and rural needs, and they pledged to donate \$50 and a week of labor each to the cause. Flying banners with messages that rejected wells and called for the Misicuni project, they headed east toward Cochabamba, where urban residents were waiting for them. While city

64. See daily coverage in *Opinión* (Cochabamba) and *Los Tiempos* in December 1992.

65. "Vinto realizará mañana una marcha rechazando la perforación de pozos," *Opinión* (Cochabamba), 6 Oct. 1994.

residents allowed the peasant marchers to enter the city, *Los Tiempos* called the protest the beginning of a “peaceful war over water.”<sup>66</sup>

Ongoing peasant opposition forced SEMAPA to abandon its new well-drilling plan.<sup>67</sup> At the close of its \$35 million project to bring drinking water to three cities in 1998, the World Bank called its Cochabamba project a failure. According to the bank’s final report, the endeavor had only achieved 35 percent of the promised increase in drinking water, due to “opposition by farmers to drilling of new wells.”<sup>68</sup> Defiant Cochabamba peasants had deterred the world’s most powerful development bank, initiating a conflict between the bank and Cochabambinos that soon intensified.

When the World Bank and IDB demanded that the national government privatize SEMAPA and halt the Misicuni project in order to hold on to urban water development loans, Cochabambinos organized the decade’s third march for water and life, in March 1997. A host of local political authorities and popular organizations planned the march, including the mayor’s office, the Civic Committee, opposition party members, the Empresa Misicuni, SEMAPA, FEJUVE, the Cochabamba Engineers’ Association, the Departmental Workers’ Federation, the peasant union, the transport union, the SEMAPA workers’ union, the university student union, and the small-business owners’ federation. These groups were especially outraged by the government’s decision, at the behest of the World Bank, to link the concession to the development of the Corani reservoir (dammed as part of a World Bank–funded hydroelectric project in the 1960s) as the city’s new water source instead of the Misicuni project. They also feared that the government would turn over \$60 million that had been earmarked for the Misicuni project to the concession.<sup>69</sup> President Gonzalo Sánchez de Lozada declared that “Cochabambinos should decide whether they want Misicuni or whether they want water,” reasoning that the Corani project could be completed more quickly and could be entirely financed by the Corani Electric Company that his government had capitalized (partially privatized). The president’s political rival and Cochabamba mayor Manfred Reyes Villa seized on these comments to call on the population to mobilize

66. *Los Tiempos* (Cochabamba), 8 Oct. 1994.

67. SEMAPA drilled a deep well on military property with police protection in El Paso instead. CORDECO, El Paso, Cochabamba Prefecture, and SEMAPA, “Convenio de intercambio agua por agua,” 10 Apr. 1996, SEMAPA, legal department files. See also Crespo, “Bolivia.”

68. World Bank, “Implementation Completion Report,” iii.

69. Of this, \$30 million was allocated by the national government, and \$30 million came in loans from the World Bank, the IDB, and the French government.

against Sánchez de Lozada's "sellout policies" and plans to "liquidate Misicuni."<sup>70</sup> Sánchez de Lozada's misstep cost him Cochabamba's support in the 1997 presidential election and facilitated the victory of Reyes Villa's ally, former dictator Hugo Banzer Suárez.<sup>71</sup>

On the day of the march, artisans, transport workers, students, housewives, retirees, teachers, workers, peasants, and local politicians converged early in the afternoon and set out for the main plaza behind the mayor, a marching band, and Cochabamba's flag. Weaving their way along city streets, marchers brandished placards reading "SEMAPA is not for sale! Death to capitalist politicians!" and chanted in unison, "Long live Cochabamba, SEMAPA, and Misicuni!"<sup>72</sup> From the balcony of the Catholic cathedral, representatives spoke to the marchers below. Without fail, every speaker condemned the government's attempt to discard the Misicuni project, which one transport federation leader described as "life for Cochabambinos."<sup>73</sup>

After several more protest actions over the course of three months, including a civic strike, a hunger strike, and a "march for dignity and water," the Supreme Court nullified the bidding process for privatizing SEMAPA.<sup>74</sup> With the Supreme Court's decision, a legal strategy backed by intense local mobilization halted this first attempt to privatize Cochabamba's water utility and abandon the Misicuni project.<sup>75</sup> In spite of ongoing intense conflict between the city and the countryside over water, the regional population had banded together against a common threat and forced the government to require that the concession carry out the Misicuni project. While the World Bank concluded that the public's victory in forcing the government to tie the Misicuni project to the concession had put the concession itself at risk, the government soon found

70. "Marcha de la cochabambinidad," *Los Tiempos* (Cochabamba), 13 Mar. 1997. For discussion of these comments, see daily coverage in *Los Tiempos*, *Opinión*, *Presencia* (La Paz), *La Razón* (La Paz), *Hoy* (La Paz), and *Primera Plana* (La Paz) in March 1997.

71. Reyes Villa and Banzer astutely used the Misicuni project as a political tool that could be "switched on" when convenient, as Christopher Sneddon has argued for similar projects elsewhere. Sneddon, *Concrete Revolution*, 126.

72. "Cochabambinos marcharon contra concesión de SEMAPA," *La Razón* (La Paz), 14 Mar. 1997; "Una multitudinaria marcha rechazó entrega de SEMAPA," *Los Tiempos* (Cochabamba), 14 Mar. 1997.

73. "Cochabambinos, en emergencia, no aceptan 'enajenación' de SEMAPA," *Presencia* (La Paz), 14 Mar. 1997.

74. "Cochabamba enojada anuncia marcha y huelga de hambre," *Presencia* (La Paz), 24 Apr. 1997.

75. "El gobierno acatará nulidad de licitación de SEMAPA," *Opinión* (Cochabamba), 6 July 1997.

a bidder: a new multinational consortium called Aguas del Tunari.<sup>76</sup> The local population already had defeated privatization and had defended the Misicuni project once and was therefore well prepared to do it again. In the 2000 Water War, this coalition forced the government to cancel its contract with Aguas del Tunari in an even more massive social revolt that brought the region to international attention.

The threat that the privatization deal posed to the Misicuni project was a major factor in motivating such far-ranging participation in the 2000 Water War, something that has been overlooked in the extensive literature on the conflict.<sup>77</sup> Local residents were defending not only the water utility against privatization, which affected only a minority of the region's population, but also the Misicuni project as the solution to the valley's water problems. Unlike other proposals, from deep wells to the rival Corani project, the Misicuni project promised to provide water to all, urban residents and rural dwellers alike. The local coalition that defeated water privatization in a few months from late 1999 to early 2000 had formed over several decades of pushing forward the Misicuni project and demanding a say over the direction of the region's hydraulic development.

### **The Ethics of Vernacular Modernism: Construction and Displacement, 1990s–2017**

As far as can be surmised from the extensive documentary record reviewed for this article, until the 1990s none of the engineers, political authorities, or project advocates who had supported the Misicuni dam project had asked how it would affect the Misicuni valley's environment and peasant communities. In the context of national and international indigenous movements, new legislation requiring environmental and social impact studies in the 1990s, and plans to begin construction, engineers and authorities now were obligated to consider the implications for communities slated to be flooded and to open negotiations with them. By now, Cochabamba engineers involved in studies during the 1970s and 1980s had become high-ranking Empresa Misicuni officials. Having long promised that the project would improve the environment of Cochabamba valley and the lives of its residents, company authorities now claimed that the project would improve the environment and residents' lives in the Misicuni valley as well. While at first Misicuni communities accepted what the Empresa

76. World Bank, "Implementation Completion Report," ii, iv–vii, 6, 17–18, 20–23, 28, 30–32.

77. One notable exception is Laurie and Marvin, "Globalisation," which, like this analysis, argues that the Misicuni project was central to Cochabamba's regional identity, autonomy, politics, and effort to become modern.

Misicuni offered them, they gradually began to contest this vision of the project, especially after enduring relocation. The Misicuni experience is today informing the perspective of the communities in the Viscachas and Putucuni River valleys, the watersheds slated to be dammed in the project's final phase, where residents now reject the project's expansion.

Studies in the 1990s noted the project's negative consequences for the people and physical environment of the Misicuni valley but concluded that they would be few and easily surmounted. A 1992 study determined that the project would result in "some adverse effects," including "the flooding of the Misicuni valley where approximately 20 families live" (an erroneous number), "disruptions to the flow of the Misicuni River below the dam," and "erosion around the construction site." Nevertheless, the study concluded that these effects were of "minor importance" and could be "mitigated with a good plan" to relocate Misicuni families and "improve their quality of life." The first environmental impact study, conducted in 1996, found that construction would entail "clearance of approximately 140 hectares of cultivable land" and "resettlement of approximately 400 people currently living in the flood zone." But, in keeping with a "philosophy of environmental protection," the study recommended that the company "resettle and compensate the population, . . . inform them about the project, and respond immediately to any grievance, complaint, or protest." According to the logic of these studies, the project's negative impacts would be almost negligible due to the supposedly small number of inhabitants in the Misicuni valley and the possibility of improving their quality of life.<sup>78</sup> Yet authorities had yet to consult Misicuni peasants themselves.

A logic of improvement undergirded the 1998 framework agreement reached between Empresa Misicuni authorities and representatives of the Misicuni valley's eight communities. The company committed to compensating the owners of land to be flooded, replacing their homes at higher elevations, relocating their cemetery, providing technical assistance in agriculture and livestock raising, and helping "to resolve existing problems within the nuclear family."<sup>79</sup> On this basis the company won the communities' assent to build the dam, the project's second phase.

78. TAMS Consultants, "Explotación y utilización de recursos de agua en el valle de Cochabamba y sus alrededores, estudio de factibilidad, informe final, resumen ejecutivo," Cochabamba, 1992, ASDPC, pp. 5, 18–19 (this document has not yet been catalogued by the archive); Dames & Moore (USA), "Estudio de impacto ambiental del Proyecto Múltiple Misicuni," 1997, ASDPC.

79. "Convenio Marco para la cesión y transferencia de derechos sobre terrenos afectados por las obras de construcción del Proyecto Múltiple Misicuni," Cochabamba, 1998, Biblioteca de la Empresa Misicuni, Cochabamba.





Figure 2. The Misicuni reservoir beginning to fill in 2017. *Los Tiempos* (Cochabamba), 17 June 2017.

Construction began in 1996. First, an Italian-Bolivian company bored a 20-kilometer tunnel through the mountains over the next nine years. Next, an engineering consortium led and financed by Italians erected 87 of the dam's 120 meters between 2009 and 2011 but withdrew from the project amid accusations of incompetence, breach of contract, and fraud estimated to have cost the Bolivian state \$23 million.<sup>80</sup> In 2014, Evo Morales's government contracted the Chinese firm CAMC Engineering Company to complete the dam and build hydroelectric and water treatment plants. President Morales inaugurated the dam in March 2017 as seasonal rains began to accumulate in the reservoir for the first time (figure 2). Afterward Empresa Misicuni's president Jorge Alvarado pledged that the reservoir would provide 800 liters per second to the Central Valley by the end of 2017.<sup>81</sup> The Morales government thus succeeded in constructing the long-awaited Misicuni dam, but delays, losses, and indications of corruption have tainted the project in the public's eyes. Furthermore, infrastructure required to convey water to the region's neediest areas has yet to be built, and it is still unclear how Misicuni water will be distributed.

80. "De qué nos sirve tener el agua si no hay a quién entregarla," DossierSiete: El caso CAMC, *Página Siete* (La Paz), 26 May 2016, p. 12.

81. "La represa de Misicuni logró acumular más agua," *Los Tiempos* (Cochabamba), 1 June 2017.

Today, two decades after signing the framework agreement, Empresa Mísicuni authorities and members of Mísicuni valley communities have very different perspectives on the project's impact there. Company authorities for their part maintain that the project has improved living conditions. The company's 2007 environmental impact study concluded that the negative impacts had been "practically nil" because the place was sparsely populated and, in any case, "apparently does not feature traces or remains of historical, cultural, or scientific interest."<sup>82</sup> The company official who oversaw the relocation process, a Cochabamba architect, maintains that relocation improved the living conditions of community members. "Their new homes are made from sturdier materials and have amenities like running potable water and bathrooms," she told me; "80 percent have electricity."<sup>83</sup>

Yet many Mísicuni peasants regret having signed the framework agreement. The Mísicuni valley's 400 families sold 500 hectares of cultivable land to the company for a sum that many now call a pittance. Although they concede that some things have improved—the majority now have bathrooms, showers, and electricity, "just like in the city," in the words of one resident—many feel that the compensation did not justify the loss of their way of life. High on the valley's steep flanks, communities are far removed from the river whose water their livestock once drank and face lower yields due to cold temperatures and rocky soil. According to one resident, communities have lost the right to descend into the valley reservoir, where waters are now rising. Pointing toward a nearby road, he remarked, "from there down everything belongs to the company. Now we cannot enter." Looking down at the scarred landscape, he added, "Now everything is destroyed. We feel betrayed. What are we going to do?"<sup>84</sup> (See Mísicuni's church before it was removed in figure 3.) While the government has provided 350 Mísicuni families with 50 hectares each of publicly owned land in the Santa Cruz department, union leader Eugenio López reports that the land is not suitable for agriculture and that raising livestock there will require obtaining new water sources, an irony not lost on him.<sup>85</sup>

Mísicuni communities are demanding a new framework agreement that would grant them additional compensation. In a resolution presented to authorities in July 2016, the communities demanded a system of roads and bridges for circulation among the new communities ringing the rising reservoir, an irrigation system drawing on reservoir water, transfers of rich soil from the

82. Empresa Mísicuni, *Estudio de evaluación*, 96, 129.

83. Empresa Mísicuni official, interview by author, Cochabamba, 4 Aug. 2011.

84. Interviews by author in relocated Mísicuni communities, 27 July 2016.

85. Eugenio López, interview by author, Quillacollo, 28 July 2016.



Figure 3. The Misisuni church now flooded below the reservoir's waters. Photo by the author, July 2016.

valley bottom to their new plots, greenhouses for seed production, solar panels, river and reservoir access for livestock, fish farms, scholarships and additional teachers for the valley's new public boarding high school, 600 additional homes for the communities' youth, and a well-stocked, first-rate hospital. López explains that from community members' point of view, "the first framework agreement regulated the period of dam construction by providing compensation for our lands and relocation of our homes. But it did not deal with how we are going to survive."<sup>86</sup> Communities have threatened to block Misisuni access roads and cut off water to the city if authorities do not comply, employing tactics similar to those long used by the project's advocates.

The difficult experience of the Misisuni communities has offered a warning to residents of the Viscachas and Putucuni River watersheds. The Misisuni project's final phase would entail damming the Viscachas and Putucuni Rivers, flooding several communities around the dam sites, and disrupting agricultural

86. López, interview. I attended this July 22, 2016, meeting and spoke with López and other union leaders afterward.

production in 12 communities with 3,000 inhabitants.<sup>87</sup> In a popular assembly in June 2016, Viscachas community members resolved to oppose dam construction or any diversion of already scarce water from the Viscachas River. They report that engineers have come to the area “without talking with the people” for the last 40 years but have recently begun to make offers to residents. One told me that an Empresa Misicuni official offered them a sum six times that offered to Misicuni communities (but nothing compared to land prices in the Cochabamba valley, where they would presumably relocate) and a two-lane road. “What good will a two-lane road do us?” he asked. “None.” Thinking that my companion and I were company employees, a female community leader yelled at us, “We don’t want to see you here! Here we are not going to let you come in! Blood is going to flow!” Viscachas community members attribute their opposition to authorities’ plans to witnessing the experiences of Misicuni communities. As one resident put it, while Misicuni community members have already signed an agreement, “in Viscachas there is still the possibility of making a better decision.”<sup>88</sup> One of the Viscachas watershed communities where many residents oppose project expansion is Colquechaca (see figure 4).

The insistence of many Cochabamba engineers involved with the Misicuni project that it is improving the lives of affected communities is hard to square with the perspectives of affected community members themselves. Just beneath engineers’ frustration with communities’ intransigence is a familiar civilizing project. In a 2016 interview, a Cochabamba engineer who has worked on the project since the 1970s disputed the claims by Viscachas community members. His exasperated reply to my question is worth quoting at length:

Why wouldn’t they want the project? They will certainly be compensated. In Misicuni, schools have been constructed! These projects should be taken advantage of to improve living conditions. In time, they should be given electricity. These people can even have television, means of communication! Why not? Let them be informed. If they don’t take care of their new homes, that’s their problem. Because those people are like that. They prefer to live under a straw roof with their animals [instead of the new brick homes that the company constructed for them]. But that is their way of life.<sup>89</sup>

87. Regalsky, “El Proyecto Misicuni,” 40–42.

88. Interviews by author, Viscachas and Colquechaca, 27 July 2016.

89. Engineer, interview by author, Cochabamba, 20 July 2016.



Figure 4. The Viscachas River entering the community of Colquechaca, which would be flooded if the Misicuni project expands. Photo by the author, July 2016.

While engineers have been interacting with these communities for many years, most Cochabamba residents are just now learning that their long-held enthusiasm for the Misicuni project is not shared by many people living in these watersheds. The question of whether it is morally defensible to increase the water supply for the populous Central Valley by razing the landscape and communities of more sparsely populated neighboring mountaintop valleys is one worth greater public attention and discussion than has occurred to date.

### Conclusion

In Cochabamba's Central Valley, grassroots activism played a decisive role in pressuring politicians, banks, and experts to realize this modernist dam project that is now mostly complete. Neither an authoritarian state nor a populist one imposed this project from above. Rather, a diverse cross-class coalition of local individuals and organizations, including local state authorities, pressured the national government to execute it against the wishes of the IDB and the World Bank.

The struggle over the Misicuni dam project has been part of an ongoing fight in Cochabamba over the right to access water and shape regional hydraulic development, and over the meaning of modernity itself. The impulse for modern development came from a broad democratic coalition that put a modernist dam project molded to fit local realities, needs, and desires at the center of its plans. For half a century, the vast majority of Cochabamba's population have believed that they stand to benefit from this megadam project. Their vision of a water-plentiful modernity has not stood in opposition to or outside the state. Rather, Cochabambinos have seen state planning and international capital as essential to realizing their vision for modernity and have attempted to steer state and foreign institutions to their own ends. The long history of local support for the Misicuni dam project reflects a more inclusive vernacular vision of modernity, albeit a messy and incomplete one that has not adequately considered the dam's consequences for displaced communities.

Critical dam and development literature tends to portray state action as negative across the board, leaving unanswered what or who determines the character of state intervention. The devastating impact of neoliberalism's hollowing out of the state since the 1970s should caution against painting state development projects with a broad brush. We should instead study development as a social relation, considering the content of development projects, who supports them, who stands to benefit from them, and who stands to lose. As William Roseberry has written, paraphrasing Antonio Gramsci, subaltern groups are not "deluded and passive captives of the state," nor are "their activities and organizations . . . autonomous expressions of a subaltern politics and culture." Rather, "they exist within and are shaped by the field of force."<sup>90</sup> Like any hegemonic process, we should approach modernist development as a terrain of struggle in which various groups collectively construct reality through both conflict and cooperation. Such inquiry offers the opportunity to uncover how a broad array of individuals and groups have attempted to shape modernist development and influence state and foreign development agencies—and to measure their success. The history of the Misicuni dam project suggests that future research that looks for the origins of and expectations for dam projects both within and beyond the ranks of state planners, engineers, and financiers will also uncover a broader array of visions for social improvement.

The pro-Misicuni coalition's vernacular modernist vision of hydraulic development promised plentiful water for all. Backers were confident that

90. Roseberry, "Hegemony," 360.

hydraulic abundance would end social conflict over water, especially the deep divide between the city and countryside and, in more recent decades, the even deeper divide between the haves and have-nots within the city itself. This vernacular modernist vision garnered widespread support across Cochabamba's Central Valley and became powerful enough to sway the plans of the national government and partnering international development institutions. And the act of uniting behind this cause itself helped to alleviate these tensions. The coalition ultimately won the execution of the project in the 1990s, when government and bank-sponsored neoliberal restructuring seemed unstoppable. Indeed, Cochabambinos' success in stopping water privatization and winning completion of the Misicuni dam marked the opening of what Jeffery Webber has called a "left-indigenous cycle of rebellion" that toppled two neoliberal governments and brought Evo Morales, the country's first indigenous president, to power.<sup>91</sup> These were momentous achievements.

But this apparent triumph raises the question: Has the Misicuni dam project fulfilled the 1952 national revolution's promise of water for all Cochabambinos? Even now, over half of urban homes still lack safe, secure, and affordable drinking water sources, and this is unlikely to change significantly with the arrival of more water from Misicuni. Nor will much of that water flow to the Central Valley's fields. The dam is complete, but the promise unfulfilled. What, then, went wrong?

Over the half century that it took to bring the project into being, the valley's agricultural fields gave way to urban neighborhoods populated by migrants from the countryside and from highland mines that were shuttered under neoliberal economic restructuring. It is therefore now mostly too late for the project to slow the valley's rapid urbanization (even if more enlightened planning might restore some of this agricultural land). The valley's urban population now surpasses one million, far more people than in the revolutionary period. With little agricultural land left to irrigate, the project is now mostly aimed at satisfying urban drinking water demands. At the same time, the flow of the Misicuni River has decreased significantly since the 1970s-era feasibility studies due to the impact of global climate change.

But it is not simply that there are more people and less water. It is also a question of who controls available water sources. The public water authority services less than half the city's residents, allowing residents of the poor, arid, and polluted Zona Sud to go thirsty while the municipality uses the public drinking water supply to water public parks in wealthier northern neighborhoods. A broad-based coalition won execution of the Misicuni dam, but state

91. Webber, *From Rebellion to Reform*, 65.

officials will decide where the new reservoir's water will flow. The struggle going forward will be over who will have access to the region's somewhat greater but still limited water supply. Fulfilling the revolution's promise of water for all will only be possible once representatives of all the region's users, including communities in Masicuni, Putucuni, and Viscachas, decide together how to allocate this crucial resource according to their changing needs.

## References

- Appadurai, Arjun. 1996. *Modernity at Large: Cultural Dimensions of Globalization*. Minneapolis: University of Minnesota Press.
- Billington, David P., and Donald C. Jackson. 2006. *Big Dams of the New Deal Era: A Confluence of Engineering and Politics*. Norman: University of Oklahoma Press.
- Carey, Mark. 2010. *In the Shadow of Melting Glaciers: Climate Change and Andean Society*. Oxford: Oxford University Press.
- Carse, Ashley. 2014. *Beyond the Big Ditch: Politics, Ecology, and Infrastructure at the Panama Canal*. Cambridge, MA: MIT Press.
- Crespo, Carlos. 1999. "Bolivia: La guerra de los pozos en Vinto y Sipe Sipe." In *Comunidades y conflictos socioambientales: Experiencias y desafíos en América Latina*, edited by Pablo Ortiz-T., 293–328. Quito: Ediciones Abya-Yala.
- Empresa Masicuni. 2007. *Estudio de evaluación de impacto ambiental: Proyecto Masicuni fase 1*. Cochabamba. <http://www.masicuni.gob.bo/eia-masicuni-fase-i/EIA-Masicuni-Fase-I-web.pdf>.
- Gaonkar, Dilip Parameshwar. 2001. "On Alternative Modernities." In *Alternative Modernities*, edited by Dilip Parameshwar Gaonkar, 1–23. Durham, NC: Duke University Press.
- Gilbert, Jess. 2003. "Low Modernism and the Agrarian New Deal: A Different Kind of State." In *Fighting for the Farm: Rural America Transformed*, edited by Jane Adams, 129–46. Philadelphia: University of Pennsylvania Press.
- Hansen, Miriam Bratu. 1999. "The Mass Production of the Senses: Classical Cinema as Vernacular Modernism." *Modernism/Modernity* 6, no. 2: 59–77.
- Hines, Sarah. 2015. "Dividing the Waters: How Power, Property, and Protest Transformed the Waterscape of Cochabamba, Bolivia, 1879–2000." PhD diss., University of California, Berkeley.
- Isaacman, Allen F., and Barbara S. Isaacman. 2013. *Dams, Displacement, and the Delusion of Development: Cahora Bassa and Its Legacies in Mozambique, 1965–2007*. Athens: Ohio University Press.
- Klingsmith, Daniel. 2007. *"One Valley and a Thousand": Dams, Nationalism, and Development*. New York: Oxford University Press.
- Laurie, Nina, and Simon Marvin. 1999. "Globalisation, Neoliberalism, and Negotiated Development in the Andes: Water Projects and Regional Identity in Cochabamba, Bolivia." *Environment and Planning A* 31, no. 8: 1401–15.



- Leslie, Jacques. 2005. *Deep Water: The Epic Struggle over Dams, Displaced People, and the Environment*. New York: Farrar, Straus and Giroux.
- Lilienthal, David E. 1944. *TVA: Democracy on the March*. New York: Harper and Brothers.
- Little, Tom. 1965. *High Dam at Aswan: The Subjugation of the Nile*. New York: John Day.
- Manganiello, Christopher J. 2015. *Southern Water, Southern Power: How the Politics of Cheap Energy and Water Scarcity Shaped a Region*. Chapel Hill: University of North Carolina Press.
- McDonald, Michael J., and John Muldowny. 1982. *TVA and the Dispossessed: The Resettlement of Population in the Norris Dam Area*. Knoxville: University of Tennessee Press.
- Pitzer, Paul C. 1994. *Grand Coulee: Harnessing a Dream*. Pullman: Washington State University Press.
- Regalsky, Pablo. 2015. "El Proyecto Mísicuni y la territorialidad originaria (TCO) de Ayopaya." In *La problemática de la tierra a 18 años de la Ley INRA*, vol. 1, *Territorios, minifundio, e individualización*, edited by Pablo Regalsky, José Núñez del Prado, Sergio Vásquez Rojas, and Juan Pablo Chumacero, 9–54. La Paz: Tierra. República de Bolivia. 1953. *El libro blanco de la reforma agraria*. La Paz: Subsecretaría de Prensa, Informaciones y Cultura.
- Roseberry, William. 1994. "Hegemony and the Language of Contention." In *Everyday Forms of State Formation: Revolution and the Negotiation of Rule in Modern Mexico*, edited by Gilbert M. Joseph and Daniel Nugent, 355–66. Durham, NC: Duke University Press.
- Scott, James C. 1998. *Seeing like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven, CT: Yale University Press.
- Scott, James C. 2006. "High Modernist Social Engineering: The Case of the Tennessee Valley Authority." In *Experiencing the State*, edited by Lloyd I. Rudolph and John Kurt Jacobsen, 3–52. New York: Oxford University Press.
- Singh, Satyajit. 2002. *Taming the Waters: The Political Economy of Large Dams in India*. New York: Oxford University Press.
- Sneddon, Christopher. 2015. *Concrete Revolution: Large Dams, Cold War Geopolitics, and the US Bureau of Reclamation*. Chicago: University of Chicago Press.
- Stevens, Joseph E. 1988. *Hoover Dam: An American Adventure*. Norman: University of Oklahoma Press.
- Tilt, Bryan. 2015. *Dams and Development in China: The Moral Economy of Water and Power*. New York: Columbia University Press.
- Webber, Jeffery R. 2011. *From Rebellion to Reform in Bolivia: Class Struggle, Indigenous Liberation, and the Politics of Evo Morales*. Chicago: Haymarket Books.
- Wolfe, Mikael D. 2017. *Watering the Revolution: An Environmental and Technological History of Agrarian Reform in Mexico*. Durham, NC: Duke University Press.
- World Bank. 1998. "Implementation Completion Report: Bolivia: Major Cities Water and Sewerage Rehabilitation Project (Credit 2187-BO)." Report No.

- 18009, Washington, DC, 12 June. <http://documents.worldbank.org/curated/en/598871468743808386/pdf/multi-page.pdf>.
- World Commission on Dams. 2000. *Dams and Development: A New Framework for Decision-Making*. New York: Earthscan.
- Worster, Donald. 1985. *Rivers of Empire: Water, Aridity, and the Growth of the American West*. New York: Pantheon Books.
- Young, Kevin A. 2017. *Blood of the Earth: Resource Nationalism, Revolution, and Empire in Bolivia*. Austin: University of Texas Press.

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