

Towards a “New Culture of Water” on Sonora’s Río Mayo

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Abstract

Irrigation is perhaps one of the clearest windows onto the changing relationship between statecraft and territory in Mexico, for few nations in the Western Hemisphere have invested so heavily in hydraulic transformation. In 1992, officials radically altered the nation’s approach to water governance and agrarian reform, backing away from the revolutionary social conception of land and public resources set forth in the 1917 constitution. This paper explores the two decades of political discontent leading up to those reforms, in southern Sonora’s Mayo Valley Irrigation District. While their power to govern water and people has declined significantly since the 1990s, the famously sweeping authority of Mexico’s federal land and water bureaucracies had been waning since well before the reforms. Research, nonetheless, often misrecognizes the significant weaknesses and gaps that plagued twentieth-century federal water governance. This, in turn, makes it difficult to adequately sketch out its twenty-first century dimensions. Drawing from field interviews, newspapers, and archival documents, therefore, the paper focuses on the tensions between officials’ attempts to capture and contain agrarian and hydraulic politics from the 1970s to 1990s, and the places and times when these escaped their grasp.

Keywords: *Mexico, water, political geography, political ecology, rural social movements*

Introduction

Irrigation is perhaps one of the clearest windows onto the changing relationship between statecraft and territory in Mexico, for few nations have invested so heavily in hydraulic transformation.¹ Located in the southern tip of Sonora state, the Mayo Valley Irrigation District and surrounding region amply illustrate this point. By the 1980s, however, much of the grandeur and dynamism brought by decades of agricultural investment had faded. Officials were left wringing their hands over dilapidated infrastructure, the deleterious effects of drought, and a chronic lack of funds to pay for the negative social-environmental feedback—the temporarily externalized costs—of hydraulic

development (Hewitt 1988; McGuire 1986; Sanderson 1981). Then, in 1992, Mexico abruptly altered its approach to water governance and agrarian reform, backing away from the revolutionary social conception of land and public resources set forth in the 1917 constitution, and embracing an anti-socialist neoliberalism pushed in part by the International Monetary Fund and World Bank. Amendments to the constitution's Article 27 now allowed for the titling and sale of *ejido* (agrarian reform) lands.² The new Ley de Aguas Nacionales (National Water Law, LAN) retained federal control over water, but opened the door to private use rights through the creation of a public registry. Most significantly, Mexico's federal government launched what to many seemed a radical initiative to transfer irrigation management (IMT) at the field and district levels to water users organized in user associations. This "new culture of water" also called for "new paradigms and values" that would incorporate "the natural dynamics that make possible the resource's existence." It promoted access to information, clearer jurisdictional boundaries, and citizen participation (Carabias y Landa 2005: 210). By some accounts, with their embrace of IMT authorities retreated from years of acrimony surrounding hydraulic social relations while also managing to retrench significant aspects of control (Rap et al. 2004; Wester 2008; Wilder 2003 and 2009; Wilder and Romero Lankao 2006).

Despite the involvement of global financial organizations, however, transference also represented a more locally driven, *sui generis* process than the literature suggests (Rap et al. 2004). In many ways, too, it simply codified the weaknesses, disparities, and inequities that had long characterized water governance and allocation. So while IMT in the Mayo Valley certainly reflects many of the broader national trends, the experience there also shows the need for tempering and further reflection on the bureaucratic retrenchment argument. This is largely because the federal authority to govern water and people—and the countryside more broadly—had grown rather anemic since well before 1990s. What, really, was there to retrench? In order to answer this question, here I explore the environmental, spatial, and cultural politics driving the two decades of discontent in southern Sonora that shaped Mexico's 1990s neoliberal turn. I draw from field interviews, district-level official data and documents, secondary literature, and archival material from the Archivo General del Estado de Sonora. The primary purpose is to offer much-needed reflection on how, during the 1970s and 1980s, dominant understandings of and approaches to landed production and irrigation—i.e. the links between power and "truth" (Foucault 1980) forged since Mexico's 1910 revolution—began to break down. My analysis of these texts also runs into the early 1990s, when the new order of social-hydraulic relations had not yet been born. The old, by contrast, was fading fast.

Historian Michael Meyer argued that the struggle for water deeply "fashioned some of the most important configurations of...society" in colonial New Spain (1984: 45). The struggle of course rolls on. In twentieth-century

northwest Mexico the centralization of hydraulic and agrarian politics depended in large measure on sustaining hope for a parcel of irrigated land in the face of intense social and political conflict. The breakup and redistribution of many large haciendas following the 1910 revolution, and the expansion of the agricultural horizon via federal infrastructure (lasting well into the 1960s) suggested to many that prosperity would ultimately come their way. Irrigation districts thus became poles of economic and social development around which hope, federal environmental “management,” and political patronage for a time became solidly fused (see Aboites 1993; Aguilar Camín 1977; Almada 1993 and 2001; Scott and Banister 2009). Exploring land reform in Michoacán, Nuijten (2004) refers to this combination of promise and patronage as the “hope-producing machinery” of Mexico’s agrarian and rural bureaucracies.

There was, however, a double-edged materiality to the process: centralization remained viable to the extent that resource bureaucrats and party politicians could stabilize the meaning of and desire for their projects and proposals. The machinery could scarcely keep up with the combination of agricultural capitalization and expansion, and with the growing number of people enticed by federal policies to move onto the northwest’s coastal plains. There were, too, the more everyday complications of hydro-social relations and climatic uncertainty, as well as the contradictions of a development politics that wove together private and (government-directed) communal production.³ The clientelism that had linked countryside and central government since the revolution (and especially since the 1930s) began to break down. As is often the case, in its place came violence, both state-sanctioned and extra-official (Fox 1994), as well as new and ever grander schemes to maintain hope for irrigated production, which included inter-basin water transfer.

Despite the power and reach thought to have characterized hydraulic bureaucracy before the 1980s and 1990s (Aboites 1993; Rap et al. 2004; Scott and Pineda 2011; Wester 2008), students of Mexican water governance must take care not to assume an a priori hierarchy of power relations or unity of domination (Jessop 2007). Following Lefebvre, I argue here that while space (and social-ecological processes more broadly) may become a tool of capitalist hegemony, “it [also] escapes in part from those who would make use of it” (1991: 26). This escape of things, people, and processes in turn deeply structures stateform and statecraft (Deleuze and Guattari 1987). Particularly in the Mayo Valley, neither water nor land became an elegant instrument of political centralization and control (see figure one). Often as not, water flowed defiantly through officials’ grasp, while landed social relations proved difficult for federal government to mediate (Hewitt 1986; Sanderson 1981). In what follows, I explore the effects of this tension between, on one hand, officials’ attempts to capture and contain agrarian and hydraulic politics, and, on the other, the places and times when these escaped their control. The tension became the crucible within which current relations between federal hydraulic bureaucracy and the countryside took shape.

Even by the 1960s in the Mayo Valley, state-led agricultural development and its attendant negative environmental and social effects began to collide with the regime's longstanding use of agrarian reform and irrigation as means to shore up political support for single-party rule. Not surprisingly, federal authorities (including hydraulic engineers), assorted politicians, and leaders from official agrarian leagues sought solutions to their political problems in technical-infrastructure approaches designed to reformulate the region's hydraulic landscapes. With this in mind, I focus on the relationships between three broad processes: 1) irrigation spaces as combined technical, political and cultural productions; 2) their co-evolution with federal resource bureaucracy; and 3) the political maneuvering of those who fell within but attempted to flee from hydraulic bureaucrats' control; that is, the primary objects of government intervention: the "campo," or countryside, and "*campesinos*," those who inhabit and derive their livelihood from it.

On a general level, the essay looks at the socio-spatial barrier jumping that Neil Smith (1984), James O'Connor (1998), David Harvey (1985), and others have described as inherent to "uneven" capitalist (here, agricultural) development. Arguably, a primary function of statecraft within capitalism is to maneuver around capitalism's barriers and contradictions. Official irrigation in Mexico has long been a vehicle for such maneuvering, with its focus on internal colonization and centrally planned demographic transformation (Banister 2011; Meyer et al. 2003). The essay also trains a light on the entwined discursive and material boundary-work that irrigating Mexico has always implied. Relationships between the "inside" and the "outside" of a federal *distrito de riego* efface any hard-and-fast distinction between the interior and exterior of state sovereignty. The two are mutually constitutive rather than discreet social spaces and processes. Who and what officials let in or keep out, therefore, is a matter determined by and determinative of political power and moral judgments vis-à-vis the proper situation and comportment of people and processes in space (Foucault 1980; 2003).

Illegality, a place where exception becomes the rule

Doling out access to land, credit, and, water, and either facilitating or turning a blind eye to illegal resource monopoly, were critical to the Institutional Revolutionary Party's (PRI) 71-year dominance in the northwest and in Mexico more broadly, until 2000 when it lost the presidency. With these essential inputs farmers incurred obligations to "plant approved crops, market the harvest to specified outlets, and accept the prices offered" (McGuire 1986: 111). Federal authorities could thus situate themselves between people and the most critical means of production and livelihood. But here were pitfalls for political centralization. By placing itself between people and water, the state (in the form of large, powerful development bureaucracies and the people who populated them) was forced to constantly adapt to the exigencies of social-hydraulic conflict and endless struggles for irrigable land. By the 1970s and

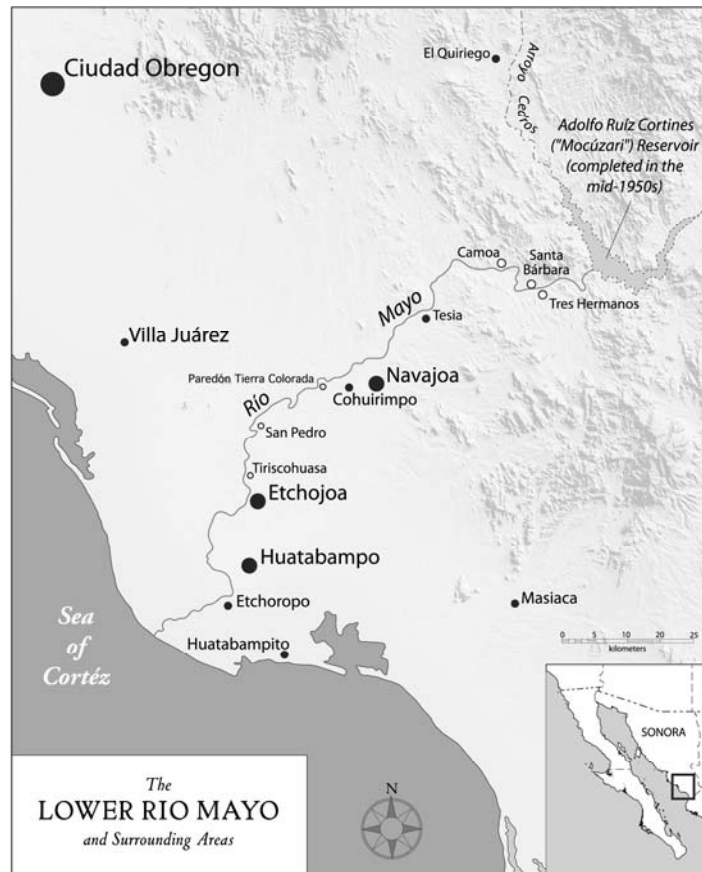


Figure 1. Map of study region

1980s, in the Mayo Valley in particular, with its 80,000 to 100,000 irrigable (on paper) hectares, the contours of these struggles grew patently clear. Alternating cycles of drought and floods had over the years continuously reshaped the material and social topography of irrigation. Infrastructure had become silt clogged or severely dillapidated in many places. Particularly on the district's western (and most indigenous and marginalized) flank, salt and other minerals caked over significant portions of the topsoil (Banister 2010). The Yoreme (Mayo Indians) and others whose lands had been largely enclosed and appropriated since the 1880s had been contesting the injustices and environmental fallout of federal irrigation since completion of the Adolfo Ruíz

Cortines (“Mocúzari”) dam, in 1955.⁴ It nonetheless took time and social organization for protest to boil over.

In the early 1970s, Mexico City’s leading daily, *Excélsior*, ran a series of exposés on land concentration in the northwest, painting a picture of stark inequality. Drawing on data from the Unión General de Obreros y Campesinos de Mexico (Union of Workers and Farmers, UGOCM), the author claimed that barely 100 families controlled at least 800,000 hectares of southern Sonora and northern Sinaloa’s choicest agricultural and livestock lands. Most of the latifundios had been disguised as individual “small properties” (*pequeñas propiedades*), with some holdings reaching nearly 30,000 hectares (well in excess of the constitutional 150-ha irrigated and 200-ha. non-irrigated land limits).⁵

The mechanisms for subverting agrarian-reform laws were complex. Most prominent among them was the renting of ejidal land. While archival evidence of rentism is fragmentary, the individual pieces are still suggestive of a widespread pattern and practice, particularly in the more indigenous and troubled ejidos of the Mayo Valley’s western flank. By the mid-1970s, in the villages of Chúcari and el Sahuaral for example, well over seventy ejidatarios, almost all with Mayo Indian surnames, had rented out plots to men with family names like Ross, Morales, Almada, Peña, and Bringas, clear echoes of the valley’s deeply-rooted (since the late 1800s) landed oligarchy. A 1971 report from the official National Campesino Federation (CNC) suggested that eighty percent (nearly 120,000 hectares) of ejidal lots had been rented out in southern Sonora alone, and that the backlog for new grants of land and water—the “*rezago agrario*”—now included 80,000 people.⁶ With the renting of ejidal lands (rentismo) factored in, then, the total irrigable surface area under *latifundista* control was enormous, and stood in stark contrast to the large queue of people waiting for a parcel of their own. Decrying rentismo soon became common practice for PRI politicians, official campesino leaders, and bureaucrats. Doing something about it was a different matter entirely.

Camouflaged latifundios were only one side of the ongoing resource-monopoly drama, however. For water, a substance not easily bounded or contained, was also required and in the correct quantities at the right place and time. Illegal mechanisms became just as critical to accessing water as for land, particularly since water and land rights were legally bound up together. Rentism did not develop at a stroke, of course, nor did the black market for water. Government ditch bosses had for years turned to clandestine sale as a way to manage an over-allocated river, and, of course, supplement their income. Anthropologist Charles Erasmus noticed its ubiquity already in the 1960s:

[o]n the Mayo River where the irrigation water is sometimes insufficient, graft is much more common in administering water distribution than in the Yaqui River irrigation zone where supply is more than adequate. Although limits are placed on the number of hectares that

any one farmer can irrigate during water shortages in the Mayo zone, the large farmers always manage to have enough. One method is to rent ejido lands to get their water rights. By paying a *mordida* [bribe] to those in charge of the irrigation system, the large farmer may have these rights honored for his own property. (1961: 226)

For many valley elites, over-allocation combined with erratic precipitation meant that cash in hand could easily trump regulations. Neither official registries of water users nor the best-intended district management plans could regulate this shadow world (Banister 2010). Illegality, therefore, became central to the district's day-to-day operations, as well as generative of substantial extra income for authorities, ill-gotten gains that they then reinvested in their own agricultural operations (Erasmus 1961). Only now, personnel within irrigation "modules" rather than federal officials take the money (Banister 2010).

Illegal practices were also destabilizing to officials' sense of self and mission, for hydraulic bureaucrats in particular have traditionally insisted that theirs is the least corrupt (and corruptible) of Mexican organizations.⁷ The ambiguity produced an exquisite inertia, one that authorities approached by constantly reflecting on what they thought to be proper (and legal) comportment within the boundaries of a federal irrigation district. The rhetoric is revealing both for what and whom it includes and excludes, and for its moralizing tone. Local authorities and agricultural elites had long denounced alcoholism as a problem peculiar to Mayos and the lower classes. Some also now offered up rentism as a vice ("*el vicio del rentismo*"), a matter of poor judgment and bad taste. Unlike drinking, though, it violated federal agrarian law, risking "judicial [police] intervention."⁸ The CNC's secretary general, Rubén Duarte, went so far as to liken it to a cancerous rotting from within.⁹ By contrast, there is comparatively little documented discussion of the structural reasons for illegal land rental or water sales. Nor were the valley elites who rented land and bought and sold water under the table described as vicious. But while moralizing helped create and police such boundaries, historical documents also suggest the growing dimensions and uncontrollability of this extra-official world, and of the blurred boundaries between legal and illegal practices.

Official agrarianism runs out of water

Already by 1975, then, political resistance was calling into question the discursive and material boundaries of federal resource control, including the very role officials had long claimed for themselves as politically disinterested managers of water and as ultimate arbiters of hydraulic conflict. Landless workers, disenfranchised ejidatarios, field-laboring Indians, and many others throughout the northwest were now brazenly invading private lands. They came from all over central Mexico and the northwest. Agricultural expansion had slowed, and industrial development, still in its incipient stages, could hardly absorb the surplus labor. The Border Industrialization Program (1965),

for instance, had attracted thousands of peasants to the north from central and southern Mexico. Not long afterward, economic downturn had driven many of these economic refugees back across the line. By the hundreds, then, people began filing into the northwest's irrigated valleys, seeking plots to farm, water to make them produce, and, over all, a new life.

Their arrival coincided with the mounting backlash against the PRI and so-called revolutionary family. Much of this was coming from middle-class university students who had not participated in but had grown weary of official (or institutional) revolution's unfulfilled promises. Agricultural and industrial development created new opportunities for upward mobility, especially in Mexico City and state capitals like Hermosillo. But youth were frustrated by the unresponsiveness of an ossified, single-party political structure (Guadarrama 1988). Several students from the Universidad de Sonora (UNISON) saw in the campesino movement an outlet for their discontent. They went on to found, first, the Frente Campesino Independiente (Independent Campesino Front, FCI). In 1976, after disagreements over strategy, the offshoot Frente Campesino Independiente Revolucionario (Revolutionary Independent Campesino Front, FCIR), was formed.¹⁰

Meanwhile, President Luis Echeverría, "*el incansable*" (the tireless one), as someone described him to me, sought to capitalize on and contain this unrest. His principle strategy was to revive an agrarian populist rhetoric reminiscent of 1930s; he hoped to use the Ministries of Agrarian Reform (the newly created SRA) and Hydraulic Resources (SRH) strategically, to make good on at least some promises for irrigation's expansion. This had long been a way to channel the energy of rural politics back toward the federal government and the official party (Almada 1993; Banister 2010; Bantjes 1998; Sanderson 1981). Just as it had in the 1930s, then, the practice of land invasion-occupation enjoyed renewed official support.

The regime promulgated new agrarian and water laws between 1970 and 1972. Along with the 1970 National Hydraulic Plan, these reclaimed for central government the role of primary resource manager, a role that had begun to wane considerably since irrigation's go-go years of the 1940s to 1960s. The new Federal Water Law also set forth an updated and broad populist mandate, bringing together a concept of "equitable distribution" with a focus on the "conservation of hydraulic resources." In line with promises of equity, the legislation appropriated a longstanding UGOCM proposal for limiting new water grants to parcels of twenty hectares or less. In theory at least this would apply to all lands subsequently opened to irrigation, and to those within the promised new districts. The nation's irrigated surface area was set to expand as well: a SRH press release had the president promising "to benefit thousands of Mexicans with federal irrigation works in new districts."¹¹ However, much of the water that would service these works had already been formally allocated, for rarely had planners considered the river's erratic behavior or overall flow dynamics in their decisions. River volume on the Mayo River had been so con-

sistently low and lands so salt polluted that seasonal planting rarely exceeded 45,000 to 60,000 of a total 90,000 irrigable has. (Banister 2010).¹²

Given such socio-environmental volatility it is no surprise that in 1975 and 1976 the land invasions spun out of the President and his ministers' control. The FCIR began fighting not simply for a fair share of a centrally allocated resource base; rather, its members more and more questioned and strategized around federal government's role as ultimate arbiter of resource conflict. Demetrio Valenzuela, former FCIR leader, put it thusly:

I would never call the state a defender of the campesinos [instead] government agents knew all too well that if they did not deal with the campesino problem, it would constitute a danger for the state... [President] Echeverría knew this, too.

The use of the term “campesino” (literally, someone from the countryside) is important here. Its centrality to rural life and identity is partly a function of its political uses since the revolution (Boyer 2003). Historically, the term is a critical element of a complex discourse authorizing official intervention in the countryside. At various times and places it has also been used as a hedge against such intervention. In southern Sonora, it was no different. Spurring the “campesino problem” of the 1970s was the growing sense that the oft-cited promises of land and water for all—promises that frequently came coupled with vague references to “The Revolution”—were no longer viable. But while the FCIR was on a firm historical footing, it also politicized the campesino problem in a way that began to overspill the usual channels for containing rural unrest (typically, official, PRI-dominated agrarian organizations like the Confederación Nacional Campesina, or CNC, set up following the 1930s land reform). And for Sonora's governor, a youthful Carlos Armando Biebrich, the dangers were all too present. Jarred by the events in this conservative state dominated by a tight-knit group of landed and industrial elites (marriage and the cross-pollination of agricultural and industrial capital had brought these groups ever closer together), Biebrich mobilized state police forces against any further land invasion. The use of force, quite predictably, soon resulted in the deaths of several campesinos in San Ignacio Río Muerto, in the Yaqui Valley in October 1975.¹³

Decapitation of leadership, as more than one FCIR veteran recounted, was a common official tactic in the 1970s. Yet the outcry following the massacre nearly blew Echeverría over backward. One of the men murdered at San Ignacio, a popular schoolteacher named Heriberto Terán, was also a well-respected leader in the campesino movement. The brutalization of campesinos at San Ignacio Río Muerto and the death of *maestro* Terán together sparked a mass mobilization in 1976. Protesting alongside campesinos now were miners, teachers, neighborhood leaders, university students, telephone and railroad workers, even bank employees. Echeverría, Biebrich, and members of his cabi-

net were purportedly stunned by the scale and diversity of the mobilization. They had lost control over a fire that, though long smoldering to be sure, their own policies had fueled.

The administration responded in desperation with a series of panicky land expropriations in Sonora's two southern valleys (Mayo and Yaqui), promising irrigated parcels to campesinos. By the end of the process, the Ministry of Agrarian Reform had redistributed nearly 40,000 hectares of well-watered lands, and 62,000 hectares of pasture (*agostadero*). The recipients included around 9,000 ejidatarios (Sanderson 1981:198). For decades, presidents had been strategically offering up pasturelands accompanied by earnest promises of creating the infrastructure to irrigate them not far down the road. Only now, they were running out of space, and more importantly, water, as districts like the Mayo were heavily over-committed.

Landowners objected to Echeverría's maneuverings, organizing a large protest rally, driving their tractors through the streets and plazas of Ciudad Obregón (see map), all but shutting the city down. Here, then, were two devastatingly public repudiations of the president's policies, and from opposing ends of Mexico's formal political spectrum, and Echeverría and the governor were caught in a gigantic pincer of their own creation. Throughout the expropriation process the president had attempted to appease both landless worker and latifundista alike, largely through promising the expansion of irrigation. The president's rhetoric had been equally bold and ambiguous. On the one hand he had called for an end to the practice of camouflaging latifundios as pequeñas propiedades, claiming these were the root cause of the region's political troubles. It was a clear attack on landed elites, many of whom likely thought of themselves as simple farmers. On the other, he was emphatic that "the Mexican Revolution" had and would always respect "private initiative." "Authentic small property-holders" would thus receive "certificates of immunity" from future expropriation (Sanderson 1981).

The latter is a crucial point for understanding the relationship between political patronage and officials' approach to irrigation space, as well as for grasping the contradictions of Mexico's pre-1990s development program. When coupled with the promise of immunity, government-granted land might appease the agricultural bourgeoisie. It allowed room for the obligatory revolutionary rhetoric, and for promises of agrarian reform and expanded irrigation for the ejidal sector. These, in turn, were critical for garnering the rural vote across a fairly broad ethnic and class spectrum. Shortly before the events at San Ignacio, at an annual meeting of the National Livestock Confederation, therefore, Echeverría had granted 338 certificates covering nearly 500,000 hectares of private land across the country! This brought the total to 12,100 certificates for 4,235,000 hectares, a massive surface area now immune to expropriation.

But while the certificates secured private tenure for land that, in due time, federal irrigation infrastructure might reach, the president hastened to add that such protection came with "revolutionary moral and social obligations to dedi-

cate the land to the service of the Nation.”¹⁴ The statement was at once highly scripted and vague. Who, exactly, did he have in mind by invoking “the Nation”? Moreover, at this point those who had actually lived through and/or experienced Mexico’s 1910-1920s revolution were few indeed. They were old and likely weary of government promises. Not since the revolution had the very idea of nation become so unstable, so widely subject to scrutiny from campesinos and students, and now landed oligarchs. And they were becoming better organized by the day. Put differently, the dual structure of rural Mexico (i.e. private versus “social” sector) set in place following the revolution was becoming politically untenable, especially in and around irrigation districts, where the two sectors had coevolved. During the worst moments the tensions could easily end in violence that, often as not, bore an official imprimatur. Most critically, the mid-1970s to 1980s marked a turning point in Mexican political life. As one ejidatario put it, the official agrarian leagues “were for us like a religion,” and they had fallen from grace for their willingness to appease both the president and private sector.¹⁵ The foundational beliefs and practices sustaining a government ruled by a single party and omnipotent president were losing their viability across the nation. But that this was occurring in a place where government and party had invested so much was especially poignant. A new plan was needed.

PLHINO, “*Pueblos Cachorreros*,” and the reconstitution of (hydraulic) space

A new machinery was required both to release and re-channel the political pressure. In devising it officials turned to an old but powerful approach: the use of infrastructure and technology to expand irrigation’s ambit. Here was a textbook case of “uneven development,” whereby refinement of the means of production in one place also produced fetters to continued growth and expansion (including now widespread political protest) and, thereby, necessitating movement toward and development of another growth pole. Moving people away from the problem provided authorities with a temporary “spatial fix” (Harvey 1985). The more matters grew heated within district boundaries the more attractive the undeveloped hinterland became—hence the oscillating motion of uneven development. This required infrastructure to carry water from where it was (semi) abundant to where it was desired. In tandem with invasions and expropriation, therefore, water authorities and PRI politicians resuscitated a longstanding plan calling for a gigantic hydraulic network that would link together river basins from the state of Nayarit to Sonora. The *Plan Hidráulico del Noroeste* (Northwest Hydraulic Plan), or PLHINO, in some form or fashion had been in circulation since the 1950s. In the mid-1960s, the Inter-American Development Bank finally loaned Mexico 300 billion pesos to initiate a modest construction program toward its fruition (Sanderson 1981: 164).

Whether or not they believed in the project's promise and viability, over time PLHINO became a rhetorical device that politicians and federal officials wielded to resuscitate the hope for irrigation and, thereby, help mend strained networks of political patronage. Evoking it allowed them to speak in terms of new irrigation districts, or of expanding existing ones. Moreover, in those early years (1950s to early 1960s), hundreds of would-be ejidatarios received permission from the Departamento de Asuntos Agrarios y Colonización to move onto federal lands in the dense organpipe cactus forests to the south of the Mayo Valley. This, in turn, came with yet another official promise: somehow by 1962 works would be in place transfer in sufficient water for a new 35,000-hectare district.

As a way to ensure the regime's durability, PLHINO helped produce an important political-liturgical effect. During President Echeverría's six-year term, for example, it was part of official ritual to arrive in the zone, invoke the PLHINO, and make vague promises of progress and a brighter future, one that might be just weeks away. In plans, maps, newspaper reports, and of course, in rumor, a new vision and new sets of desires and expectations began to take shape. It was a bold idea: 370,000 more hectares under irrigation in the northwest; at least 52,000 of these in Sonora; an integrated network of eighteen rivers and arroyos, and nineteen dams, all laced together from the state of Nayarit to Sonora. In short, water would be coaxed from the tropics to the southern reaches of the Sonoran Desert.

President Echeverría had visited southern Sonora in 1973, promising nearly 150,000 new irrigated hectares for the Mayo and Yaqui districts. PLHINO would help make this a reality. In the context of 1970s water shortages it certainly sounded hopeful, and the press continued to report on PLHINO's "rapid advance"—even in the absence of hard evidence. As one agrarian reform official saw it, the "hope that PLHINO will solve the water problem keeps the farmer alert, and he does not become discouraged, [because he can] think of the general benefits [it] can bring our economy and his own agricultural sector."¹⁶ The "megaproject" was a "hope-producing apparatus" (Nuitjen 2004), just like federal dams had been during previous decades. It was also a project whose very conception signaled a patronage machine run amok.

Emboldened by such promises, once again people began arriving in large numbers from the Yaqui and Mayo valleys, from Chihuahua and the Sierra Madre range, and, to a lesser extent, from Sinaloa and Nayarit. The area became popularly referred to as the "*Zona PLHINO*," while the towns and villages that sprang up there were dubbed "*pueblos cachorreros*," or lizard towns (places so dry and inhospitable only lizards could survive in them). Like other zones of state-led colonization, the hopes and dreams of its colonos were not always so easily molded or contained. But with the promise of expansion and the doling out of erstwhile worthless land, officials bought themselves a little more time.

Doña Leonora was among the founders of ejido Melchor Ocampo, just west of Highway 15. She recounted the uncertainty and strife of those early years. In scenes reminiscent of Amazonian settlement, these latter-day colonos cleared away brush and cactus, making way for villages in areas that were at the time kilometers away from the nearest electrical power lines. Many went so far as to clear land in anticipation of a planting cycle soon to come. (This has been the case more recently with a boom in shrimp aquaculture production.) They drew drinking water from stock tanks silted with mud and contaminated by rotting animal carcasses, and they had little more to keep them going than officials' promises. In the words of a water engineer, they knew how "to live poor." Early on, a handful of colonos also received government credit for small-scale livestock operations. They soon discovered, however, that even hardy *criollo* cattle struggled in the spiny brush of the dry coastal plain. Rainfall averages about 200 mm a year there, and much of that comes in the form of violent and highly localized summer cloudbursts or autumn cyclones. So there they waited for the water to arrive and for the canals and promised infrastructure to deliver it.

Demetrio Valenzuela and Alicia López (another FCIR veteran) both described the PLHINO Zone to me as a new focal point for the PRI-party's then extensive program of rural mobilization in the northwest. In their view it was a place created to regain some of the terrain lost to independent campesino organizations like the FCIR. PRI politicians, said López, "promised water for irrigation and credit, and this created certain expectations. These were incorporated into the official campesino leagues..." in order to garner the so-called "*voto verde*"—literally the "green vote" of the countryside. But official rural organization was more complicated still, falling along a variety of axes including gender. López, for example, had started her activism as a leader of landless women, who were barred from receiving agrarian-reform lands because they were not considered "heads of household" within the legal definition of the term. The landless and women in particular thus constituted a large group of people existing outside the party structure. Demonstrating once again the ability to make use of political tension, therefore, a new juridical form emerged to bring them and others into the PRI-party fold. It was called the *Sociedad de Solidaridad Social* (Association of Social Solidarity, SSS). The SSS became an umbrella category, covering everything from small-scale business associations to political-activist organizations. In the Zona PLHINO, it was a way for women to organize and engage in cottage industries (e.g. poultry and egg production), while also tying them to the PRI's patronage machine.

Still, the question remained: if the proposed grand infrastructure projects would take years to complete, what were the colonos to do in the interim, without water? In the Zona PLHINO people's frustrations took a surprisingly long time to boil over. The reasons for this are only partly traceable to the post-revolutionary regimes' ability to stabilize consent around its projects and ideals. The fact that the cognitive dissonance—the frustrating distance between

development's hard-edged realities and politicians' promises—failed to constitute a larger crisis of governance had also to do with the ways that would-be farmers, and “campesinos” more broadly, created alternative livelihood possibilities as it began to look like the water would never come. They formed village-level fishing cooperatives (which to some degree also tied them to party and bureaucracy), while at the same time illegally harvesting shrimp out of season, selling it to motorists and truckers on the nearby highway. Some cut firewood to sell throughout the region and built small-scale brickyards for housing construction. Others baked bread in makeshift adobe ovens or serviced agricultural equipment. Many also worked (and work) in nearby towns and cities. Indeed, the Zona PLHINO became a bedroom community for laborers servicing homes and businesses in Navojoa and Ciudad Obregón. Juan Ortega, another of the original colonos into the area, and a one-time *comisariado* of ejido Melchor Ocampo, described to me the difficulties of those early years and the frustration of promises unkept:

Many of us were working in the Yaqui Valley. Others cut wood to sell. People came from the cities to buy it. Some went to the US. Here, how we have worked...what a barbarity! We built houses of Pitaya [organpipe cactus] ribs...but we had to abandon them [the original well was polluted]...now we are old and we are tired. The government told us we would see water here, right away.

As a way to temporarily shore up the fraying ties of PRI-party patronage, then, PLHINO was at best temporarily successful. In many ways, it helped stave off the worst of the acrimony stemming from the contradictions between capitalist agriculture, agrarian politics, and everyday hydraulic-social relations. These had produced disparities between the so-called social sector (ejidos and indigenous “*comunidades*”) and a private sector that since the late-nineteenth century derived enormous benefit from massive federal spending on irrigation infrastructure and on the development of land (Almada 2000; Gordillo 1988; Hewitt 1988; Sanderson 1981). At the same time, however, without campesinos' active self-organization, it is easy to envision a different political outcome. Were it not for the superabundance of crustaceans in mangrove-lined estuaries near towns like Melchor Ocampo, or for work in the region's cities, most pueblos in the Zona PLHINO would have been even more desperate, and, thereby, low-hanging fruit for the FCIR and other elements of the autonomous movement. The PRI strove to capture and redirect this dynamism, but also lost significant numbers to other organizations. It would not be until the late-1990s that water began to trickle into the zone, carried via cement-lined canals from the Río Fuerte region of Sinaloa.

Gray borders and the immediate post-reform years

In the heady days of PLHINO, and for sometime thereafter, members of the FCIR and other agrarian organizations continued to struggle for water. Often these struggles took place in the spaces just outside of the Mayo District's official boundaries (rather than further south in the Zona PLHINO). As such, the boundaries between "inside" and "outside," though comparatively stable on official maps and in water registries, became critical sites of negotiation. They were also a bellwether of sorts, showing just how tenuous hydro-social relations would become following the 1990s reforms. The case of ejido Luis Echeverría Osuna aptly captures this dynamic. The ejido began as yet another pueblo cachorrero, but this one on the southern edge of the district. During the mid-1970s, community leaders from this newly formed community made dozens of trips to regional water ministry offices and even Mexico City in hopes of landing a concession. Like colonos elsewhere, they had homesteaded the village under the auspices of the UGOCM during the 1950s and 1960s (many villagers later joined the FCIR). With makeshift canals, they managed to plant a few small plots of cotton during those early years. "We were very green," recounts Juan Castores, a respected community leader. The modest harvest would serve as a symbol of local initiative, a way to "show [the President of the republic] that we could do it." District officials quickly granted them a "precarious" (provisional) water permit because the community fell outside district bounds.

Then, on September 30, 1976, Hurricane Liza struck Baja California and southern Sonora, leaving 600 people dead, destroying many homes, and affecting nearly 200,000 of the region's most vulnerable residents—including those living in small, mostly ethnic Yoreme (Mayo) villages nearest the coast.¹⁷ The community of Luis Echeverría likewise sustained heavy damage to its makeshift canals, including the one used for its potable supply. (Recall that catastrophic flooding has always constituted a driving force for regional social change.) Community members called a meeting with the SRH's ditch manager, who advised them to go to Navojoa and Ciudad Obregón, fill out the proper forms (*trámites*) and initiate the required permit process and cycle of paperwork (*tramitación*). Castores recalled making several trips with his *compañeros*, each one ending with the same official promise of action, as well as a request for additional paperwork. He also remembered the intense pressure he received from women in Luis Echeverría whose families were suffering. As the dry season approached, desperate and still lacking a definitive answer, ejidatarios decided to excavate an illegal channel to tap into the district network and bring water to their fields and village.

Women I have spoken with in such places tend to have vivid recollections of these early years, as they struggled to raise children on the dry, thorny edge of the irrigation district. Doña Lupe, one of the founders, conjured images of venomous creatures, scarce drinking water, and an impenetrable desert scrub thick with spiny cactus. She recounted opening up a dresser drawer early one

morning and startling a small rattlesnake coiled around a pair of socks. Like those in the Zona PLHINO a decade earlier, they too had crafted their homes from cactus ribs and mud from the desert floor. It was and remains a hard-scrabble place. People came mostly from outside the region. Many were Serranos from the temperate pine forests to the east with no wellspring of “indigenous” or situated knowledge from which to draw.

Particularly in the beginning, then, villagers had little time for fruitless bureaucratic process. They were merely getting by and needed to self-provision by digging their own canal, with or without federal permission. They thus formed a guerrilla work party for the job. The SARH ditch manager, in turn, padlocked the network gates, cutting off direct access to district waters. Desperate and facing pressure from mothers in the village, at dawn one morning several men went out and broke the government’s locks and watched the “federal water” rush in. SARH authorities then responded by sending in federal judicial police forces. “They came in aggressively,” recounts Castores, ready to make arrests, to show the serious nature of “stealing” federal waters. “We had agreed beforehand to say we had no leaders, because the government always did that”—arrested the leaders to decapitate the movement.

Following the incident, community members—many of whom had by then joined forces with the FCIR—decided to continue planting, with or without permission. With FCIR’s backing, they were also able to meet with the president in Mexico City, ultimately gaining official recognition as an ejido, as well as access to credit and informal guarantees of temporary water concessions for future harvests. Ejido Luis Echeverría Osuna (named after the president’s son) thus came to occupy a space between inside and outside, forced to negotiate “precarious” concessions for each planting cycle, just like nearly twenty other ejidos and communities in and around District 038.¹⁸ For them and the others, accessing water has always necessitated close relations with district officials. And still there is no guarantee of a consistent supply. A former Conagua employee suggested that those from Ejido Echeverría were consummate negotiators, the “good guys” who, unlike the valley’s agrarian “radicals,” understood the value of compromise. But many like Castores remain critical if cooperative: “they built the dam to water the entire valley...but really it has been mostly for the rich. The presidential decree [which gave priority to ejidos] was never respected; they have always said that even with the decree, not everyone could irrigate.”

There was also no guarantee of cooperation, as the performance of bureaucratic ritual often requires improvisation, particularly when the old scripts no longer seem relevant. In 1992, President Carlos Salinas made a stop in Hermosillo to speak with agrarian leaders about his new vision for the countryside. Leaders of UNORCA, the National Union of Autonomous Campesino Leagues (a leftist organization that continues to advocate for agrarian rights), requested that Castores show up to represent its interests. “So I went,” he said, “me with my *huarache* sandals, to speak to the President.” He recounted the *reunión*,

held in a huge auditorium with ejidatarios and campesino leaders from across the state. The organizers decided that they would have community members speak rather than agrarian leaders (Castores was selected for the task despite his role as a leader). Just before the meeting, the president's staff gathered together the nervous representatives in a room back stage. There, the officials coached them on how to address *el Señor Presidente*, and read from their official scripts. One staff member sat in a chair before them pretending to be Salinas and queried the men. Castores meanwhile was preparing to go off script, writing his own thoughts in the margins. Salinas's handlers intercepted him just as he re-entered the auditorium and erased them.

By then the room was already a sea of sombreroed ejidatarios. Before them at a long table and flanked by advisors sat Salinas de Gortari. The officials ate their lunch and slowly, one by one, the representatives approached the podium and were given a microphone and told to read from their scripts. One representative, a young man, grew so nervous that he began to tremble and finally walked off the stage in tears. Then came Castores' turn. He started out by reading the official document, finishing with five minutes to spare. He then stuffed the pages under his arm and extemporaneously addressed Salinas: "Señor Presidente, this script has absolutely nothing to do with the things we've been discussing in meetings leading up to this assembly." He went on to talk about the monopolization of water and land in the valleys. He also launched into a diatribe against Banrural (the ejidal credit bank), saying that it had simply abandoned the *campo*. The director of the Banco, also seated at the table, rose to protest. Salinas silenced him with a gesture and calmly listened to the rest of Castores' points. At the end the president asked, "where are you from Castores?" "I'm from Ejido Echeverría and I am with UNORCA." The President smiled, and replied simply, "ah, that's why!" Castores returned to his seat.

The rest of the discussion centered on the new official focus of agricultural production. The revolutionary rhetoric of agrarian reform, equity, and *campesinismo*, which not long ago would have been *de rigueur* at such meetings, now mattered little. To men like Castores who had learned to express their demands in terms specific to a previous epoch, the new script made little sense. And yet scenes like this were taking place throughout the region.

Conclusion

Reshaping the landscape in the name of water control, particularly in arid lands like northwest Mexico, holds profound implications for social and cultural formations therein, as Meyer (1984) suggests above. Irrigation is a deeply cultural production. The hydraulic landscape is rendered in blueprints and maps, and discussed in offices, boardrooms, and barrooms. It reflects a particular worldview, a modernist-epistemic approach to "nature" and to humans' situation within an oftentimes conceptually exteriorized natural world. Yet, the investigation of such transformation is frequently dominated by the dramatic

tenor and tone of hydraulic officialdom. Partly inspired by Karl Wittfogel's "hydraulic society" thesis (1957) scholars have certainly made critical advances in our understanding of humans' polyvalent relationships vis-à-vis water (Cf. Swyngedouw 1999; Worster 1985). But their work often fails to adequately convey a sense of social and political process. In one of the few studies of the events leading to the 1990s reforms, for instance, Rap et al. (2004) appeal to Grindle's (1977: 58) understanding of policy formation in Mexico. Grindle writes that policy "does not result from pressures exerted by mass politics, nor does it derive from party platforms or ideology, nor from legislative consultation and compromise. Rather, it is an end product of elite bureaucratic political interaction."

Such an approach vastly overemphasizes both the spatial reach and insularity of federal water governance in the years leading up to the 1990s reforms. Likewise, it leaves little room for grasping the intimate ways that water control efforts connect people, processes, and places sometimes across great distances and with unpredictable results. Analysis must not lose sight of political domination and its effects within the struggle to control water; indeed, this should be primary. But the outcomes of centralized irrigation are also not reducible to the whim of its would-be masters. During the twentieth century, Mexico's water bureaucracies—always working in tandem with several other federal organizations and the PRI—may have achieved an astonishing degree of authority to shape the course of rural life. Yet their sway was hardly a simple matter of fiat; rather, they drew strength from and consistently built upon the ability to adapt to changing circumstances. A crucial feature of this flexibility was of course the continuous expansion and reformation of irrigated space itself.

By the 1970s, however, state-led irrigation development faced insurmountable barriers. Hydraulic and other rural bureaucracies were crossing a threshold in terms of their overall ability to capitalize on the promise of continued expansion. And here, campesinos' shattered faith in official agrarian leagues represented a defining moment, a turning point for party-populism and hydraulic centralization. Farmers and officials alike sought an escape, as the spatial barrier jumping required to maintain people's expectations vis-à-vis irrigation and a better life proved increasingly difficult to sustain. Put differently, the revolutionary claims of those who would govern nature and people rang powerful and true but only to the degree that these claims continued to resonate with everyday life. Increasingly, they did not. The "new culture of water" in place since 1992 (Wilder 2009) is thus a long way from the post-revolutionary rhetoric of social equity that had characterized official resource politics since the 1920s. Its function, however, remains the same: to paper over the practices that sustain resource monopoly and inequality.

Notes

1. Between 1926 and 1952, Mexico's investment in irrigation grew from 4.4 to an astonishing 12.6 percent of the total federal budget (Orive Alba 1970: 174).

2. Ejidos are agrarian-reform communities of communal or semi-communal production, created after the Revolution. Most valley ejidos were formed during the Presidency of Lázaro Cárdenas del Río (1934-1940), and were carved from large landholdings created during the late-nineteenth and early-twentieth centuries. See Almada (1993); Bantjes (1998); Sanderson (1981); and Lorenzana (2006).
3. See Bakker (2003); Budds (2008, 2009); Swyngedouw (2004); and Linton (2008) on the so-called hydro-social cycle.
4. Since the Ministry of Hydraulic Resources (SRH) completed the Adolfo Ruíz Cortines ("Mocúzari") dam in 1955, median annual inflow is recorded at around 875 million cubic meters MCM. However, averages say little about this region of extreme climatic variability. Flows recorded before the 1950s, for example, show the Mayo reaching well over 2000 MCM (usually in winter), or plummeting to below 500. Data are from the Sociedad de Responsabilidad Limitada del Río Mayo (SRLRM, hereafter).
5. "Pequeña propiedad" is a portmanteau term of the Sonoran military-landowning elite that had become part of bourgeois identity and practice following the 1910 Mexican revolution. Numbers are cited in *HCS* (1988: 378). Ochoa's data came from UGOCM files.
6. Data are from, "Relación de Ejidatarios que Quedaron Incorporados al Crédito del Banco Agrario del Mar de Cortéz e Inversionistas que Venían Rentando Terreno Ejidal, undated, June 6, 1974, Archivo General del Estado de Sonora (AGES, hereafter), 411.12"32"/134 Ramo "Ejidos." They also come from Sanderson (1981: 175). The SRA later confirmed the CNC's estimate.
7. See, for example, Leandro Rovirosa Wade, Minister of Hydraulic Resources, editorial cited in *El Imparcial*, "Aspectos de la problemática nacional en el próximo sexenio," June 4, 1975.
8. Ricardo Martínez Wilson, Dpto. De Asuntos Agrarios, to Juan Matus, Ejido San Ignacio, October 28, 1974, AGES, 411.12"32"/134 Ramo "Ejidos." Such Protestant-like references to *campesinos* and their vices (alcoholism, etc.) surface continually in historical documents. See, for example, Mange (1934).
9. Rubén Duarte Corral, CNC Liga, to Roberto Osoyo Alcala, SARH Representative in Sonora, March 18, 1980, AGES, 412.6"52"/11 Ramo "Irrigación Presas."
10. Much of what follows is based on interviews with two important leaders in the FCIR movement, which I conducted in 2007, as well as with ejidatarios inside and outside the District. One of the two leaders I met in 2007, while the other I have known since the mid-1990s, when I lived in southern Sonora. I have changed the names of these informants. The split was the product of a disagreement among leaders over two distinctive yet interrelated directions: whether to continue focusing on land invasion, or on production strategies (including irrigation and credit). In

the end, FCIR, with its focus on invasion, won out. Looking back on those years, however, the two interviewees referred to here agreed that a more durable approach would have combined the two.

11. "En este mes entrará en vigor la ley federal de aguas," *El Diario del Yaqui*, January 12, 1972.
12. The *Plan Nacional Hidráulico* set forth a national development and management program in the ambitious fashion typical of the Echeverría years. From 1970 to 2000, the federal government would invest over eighty billion pesos to provide 4.4 million hectares with reliable irrigation. The northwest region would receive twenty-five percent of the funds (cited in Sanderson 1981: 174).
13. See Hewitt (1988) and Erasmus (1961) on the question of kinship and politics in Sonora and Navojoa, respectively. McGuire (1986) and Sanderson (1981) have thoroughly recounted the events at San Ignacio Río Muerto.
14. *El Imparcial*, June 16, 1975, "Ordena Luis Echeverría Álvarez investigar latifundios en Sonora," and "No se pretende acabar con los particulares."
15. Cited in Gordillo (1988: 20-25).
16. In Sanderson (1981:164 and 178).
17. "Viven casi 70 millones en zonas de riesgo," *El Universal*, March 12, 2005.
18. This number comes from the SRLRM.

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