

# Notes on Lucas Bessire, *Running Out: in search of water on the high plains*

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Lucas Bessire's *Running Out* is, like more and more books today, a mixture of genres: a record of hydrological facts and statistics concerning depletion of the Ogallala aquifer in southwestern Kansas, an *exposé* of wrong-headed political and administrative regulations and permissions, a compendium of sociological observations on a local population that happens to include the author's relatives and ancestors, a selective catalogue of irrationalities—cockamamie schemes to get rich, failed impractical dreams of magically transforming stubborn facts, slaughters of wildlife, massacres—and a kind of *Bildungsroman* outlining the author's attempt to come to terms with his own alienation, complicity, former failures, the gap between his childhood and youth as the offspring of struggling ranchers, and his current professional role as an Associate Professor of Anthropology at the University of Oklahoma.

In the aftermath of the Dust Bowl crisis to agriculture in the High Plains, Bessire's great grandfather was a pioneer in using pump irrigation of crops in the Cimarron River Valley. Two generations later, Lucas Bessire grew up estranged from his father, who had essentially abandoned his family, and conscious of a divide between Roman Catholic relatives and the fundamentalist Christian sect which split his family. He escaped his family and heritage at the earliest opportunity, went to college and trained as an anthropologist. He researched the impact of industrial-scale agriculture on native populations in the Gran Chaco region of Bolivia and Paraguay, people who were displaced from their homelands when governments and corporations cleared their forests. In his research, he discovered parallels between the peoples he studied and the plight of their environment, and his own background among the people and grasslands of the arid High Plains.

In 2016, he made the pilgrimage back to his roots, in an effort both to heal his personal scars and estrangement, and to try to understand and address the analogies he had glimpsed between the native peoples and environmental destruction he had studied in South America, and the people among whom he had grown up in southwestern Kansas.

The book deals intensively with groundwater management and depletion in one district in southwestern Kansas, site of his family's farm through five generations, but his study, analysis, and self-examination have wider implications. At the outset, Bessire observes that "Aquifers around the world are vanishing. Their disappearance often goes unnoticed or unmourned. Many will never return" (4). In an Afterword, he warns that "Depletion is not

limited to the details of aquifer loss in southwest Kansas. As the planet warms and droughts spread, similar dramas of aquifer loss are unfolding in dry areas around the world. The extreme losses of the High Plains are mirrored in the North China Plain, the Indus Basin of northern India and Pakistan, central Mexico, the Arabian aquifer system in Saudi Arabia and Yemen, the Murzuk-Djado Basin in northern Africa, and California's Central Valley. These foreshadow the declines underway elsewhere, including parts of Australia, Israel, Jordan, Syria, South Africa, Namibia, Turkey, Bangladesh, Nepal, Chile, and Argentina" (176-177).

Five critical elements, he argues, have created the problem of groundwater depletion and contribute resistance to its solution in southwest Kansas. They are 1) in the past, the lack of sound understanding of the hydrology and stratigraphy of the aquifer itself which is being exploited; 2) application of seemingly promising technology without understanding or concern for long-term consequences; 3) misconceived approaches to governance and administration of the water, often based on faulty and interested definitions characterizing the problem and misdirecting proposed solutions; 4) the power of the cash nexus—the drive for profit, among both locals and outside operators; 5) the obstructions and resistances of human attitudes. The book explores all five, but for reasons of space I'll focus on the final three. After all, as Rex Buchanan, Director Emeritus of the Kansas Geological Survey asserts, "we've known enough to make decisions for a long time. If we wait to know everything there is to know about the Ogallala, it'll be dry long before we act" (personal communication to the writer, October 4, 2021).

Misconceived approaches to governance and administration of the water resource inflict harm through the very practices they were intended to mitigate and redress. The State of Kansas established five GMDs (Groundwater Management Districts) "to conserve groundwater, stabilize agriculture, and allow western Kansas water users to determine their own future destiny. The state ceded much, but not all, aquifer governance to the GMDs" (11). These administrative units have great powers, including selling water rights, monitoring use, permitting or restricting pumping, and granting waivers to exceed legal allotments [Groundwater Management District Act, Legislative Declaration, KSA ¶ 82a-1020, ¶ 821-1022 (1972)]. Membership can be restrictive: the Southwest GMD, which governs Bessire's family farm, restricts membership to owners of at least forty acres of land or water rights to one acre-foot (about 325,000 gallons), and only members can vote on policies (of which more later).

That might seem fair enough—after all, it is the farmers and ranchers who are going to utilize the water under their land—but when the larger picture of the dependency of the economy of the whole region on the continued viability of the aquifer as a resource for agriculture is taken into account, it is apparent that townspeople, shopkeepers, teachers and ministers, and laborers and workers in related industries—meatpacking plants, dairies, hog farms, poultry factory farms—are stakeholders, too, dependent on the aquifer as the basis for the continued economic viability of the region. Nearly all local irrigators are white descendants of early settlers. Most ethnic minorities are laborers, working in the toxic agriculture and the big meat-packing plants, and consequently vulnerable to greater harms. “These working classes will face harsher consequences of aquifer decline” (148-149).

Here the issue of definitions of terms comes into play. One Southwest GMD official quoted by Bessire stated that “the resource has been dedicated by the state legislature *to the people, so the people of Kansas* can use the resource subject to a process of application and the putting of water *to use for the public interest*” (italics mine). “So how do we define public interest? It is commerce” (13). The Southwest GMD’s mission was, in the words of one official, “to conserve and develop the water supply to grow the social, economic, and natural-resource well-being for current and future generations in the public interest.” And for the district, “public interest was the same as economic growth” (108). But clearly, this is double-talk; development erodes conservation, and the goals of economic well-being (as currently pursued) and “natural-resource well-being” (currently an afterthought, if that) are in practice often diametrically opposed. The economic flourishing generated by current practices to the benefit of “the current generations” guarantees the eventual dispossession of those “future generations.” “Economic growth” in more than one instance benefits a few and marginalizes many—and the beneficiaries are often outsiders, while it is locals who are further and further impoverished. Who are the stakeholders? Whose interests are “the public interest”? “In its current form, regional water governance is a form of pay-to-play democracy, reserved for the already privileged. Only those who already own water rights can participate in meetings and vote in elections. That gives corporate water users outsized influence,” while “the vast majority of citizens in southwest Kansas . . . are excluded from the decision-making processes that will determine the fate of the aquifer upon which their lands and livelihoods depend” (172).

GMD management set goals that would ensure depletion of the resource. Before 2004, new wells were permitted if they were predicted to deplete 40 per cent or less of the groundwater, based on estimates of how much of the aquifer would be lost over a twenty-five year period, though that estimate would have been based largely on guesswork as to the actual contents of the aquifer (111). As one local quoted by Bessire opines: “it is like those old mining towns you see up in the mountains. They took what they want and when it ran out they left. The water is going to run out and there is nothing we can do about it. There’s no utopia out here” (44).

Other management practices by the GMDs further guaranteed more and more rapid exhaustion of the resource. It was only in 2012

that the Southwest GMD stopped the practice of docking farmers who did not use their full annual allotment of groundwater—two acre-feet of water, or roughly 651,000 gallons per acre—cutting back their allotment for the next year. Given that penalty for conservation in any given year, it only made pragmatic sense to use up your entire allotment in any given year, whether you needed it for your crop, or not. And the state kept granting more farmers the right to pump more water (the Southwest GMD was only closed to new allotments in 2015) (13-14). The Southwest GMD permitted 3.6 million acre-feet of aquifer to be pumped per year. Compare the City of New York, which consumed less than a third of that amount for domestic and industrial use in 2018 (14).

“*Radix malorum est cupiditas,*” was the text Chaucer’s cupidinous Pardoner preached on: “The love of money is the root of all evil.” Desire of gain, sometimes merely the seemingly-innocent pursuit of making a living, can be seen as a component in some of the other four critical elements that have created the problem of groundwater depletion, and contribute resistance to its solution. For the independent farmer, there is the struggle to make ends meet and keep the farm another year, against the odds of weather, markets, mortgages and loans, and the larger economy. In the face of drought and debt, the temptation is immense to pump as much prehistoric water as they can from the aquifer, regardless of their rights allotment, in the hope of bringing in a harvest.

The scramble for government largesse is yet another crucial factor in the depletion crisis in the High Plains. In the crisis of the Dust Bowl, Agricultural Adjustment Administration payments were established by the federal government to pay farmers for failed crops and reduced plowed acreage. Thus farmers were assured of a fixed income whether a crop was harvested or not. In 1936, 90 percent of farm operators in [Haskell County] received benefit payments (87).

Like the federal government, insurance companies, banks, and local businesses are also complicit in the draining of the aquifer. “Loan counselors do not tell farmers what to do. But they often encourage farmers to follow the lowest risk option and assess their loan applications accordingly.” The result: the bank is encouraging farmers to raise irrigated corn, the most costly crop in terms of water use, but the most profitable at harvest (39). But because of the cost of inputs—seed, fertilizer, herbicides, pesticides, natural gas for irrigation motors, insurance, taxes, etc. —“debts grow alongside the water-thirsty corn. In 2018, a quarter of all Plains farms reported being indebted”—and the rate was highest for Kansas corn farms (39-40). But debts keep farmers coming back to the bank even as they are over-pumping the aquifer in a desperate effort to make ends meet, and “federal farm insurance subsidizes this debt-waste cycle,” preventing “devastating loss” to all involved (42). As one observer remarked to Bessire, “Until they quit insuring corn, . . . people will water it to grow insurance money” (43-44).

A local informant reported to Bessire that “it was common for folks to plant irrigated crops they know will fail in order to receive insurance payments. . . . The insurance companies . . . don’t seem to mind paying with federal dollars. . . . Under certain conditions, it

meant a failed irrigated crop was worth more than a successful one” (43). Until 2018, the only two options for Kansas crop insurance policies were irrigated crop insurance, and dryland crop insurance. Nonirrigated crops were considered lower value and higher risk, so they were far more expensive to insure. On the other hand, “if farmers pumped water for an irrigated crop, they spent less on the premium and made more money in reimbursements if it failed” (43). Well-intentioned interventions by banks and government created a collection of perverse incentives. Over the decade between 2008 and 2018, roughly 520 farms in two counties in southwest Kansas received around \$155 million in indemnities to offset lost crop values.

While individual land owners abetted by local business loans and government subsidies contribute their share to the irrationally rationalized system that is deepwater well irrigation in the High Plains, their impact is dwarfed by that of corporate interests.

Some of the largest corporate feedlots, meat-packing plants, slaughterhouses, dairies, milk-drying plants, and hog farms in the country are located in southwest Kansas. “There is a multibillion dollar corporate interest to prevent regulation and to pump the water until it’s gone” (78). Bessire cites investigative reporter Karen Dillon, who accessed open records of yearly water usage in 2018, and found that between 2005 and 2017, the top two percent of water users consumed 22 percent of the groundwater that was pumped statewide. And those top users were those big agribusiness operations and their tenant farmers (78-9). Kansas law since 1931 was supposed to prevent corporations from owning agricultural land, but the law has been steadily watered down until giant hog farms, feedlots, and dairies can not only acquire agricultural land, but also appeal county efforts to oppose their expansion (79-80). Bessire speculates that what he calls “suitcase farmers”—absentee landlords, whether corporate interests or wealthy outsiders—are responsible for a major portion of aquifer use (80).

Not only are the only people represented on the board of the typical GMD white landowners, that already limited and unrepresentative body is dominated by the largest users and those most closely tied to corporate interests. According to the *Kansas City Journal’s* research,

over the twelve-year period from 2005 to 2017, the operation run by one board member pumped 41,700 acre-feet. That is more than 13,588,000,000 gallons. Another board member’s family used more than 56,000 acre-feet. Another, who served on the board for twenty-five years, took more than 57,400 acre-feet. That meant one advisor to the board ran an operation responsible for using more than 52,820,517,100 gallons of water over twelve years. That is roughly equivalent to a column of water covering one acre and stretching thirty-one miles into the air (112).

Given the domination of these boards by the biggest consumers of water, it should be no surprise that dissenting voices from smaller operators are ignored or dismissed out of hand (113).

Corporate interests have successfully masked their role by trumpeting the bucolic ideal of the independent family farm as a cornerstone of American hard work, self-reliance, and traditional virtues. Large agribusiness interests recast criticism of rampant depletion as an attack on the family farm and traditional values of moral rectitude, independence, and local community. This omnipresent corporate propaganda “obfuscates the complicated ties that link depletion to the financial operations of farmers, banks, government programs, and corporate profits. And it smears any critique of overuse as an attack on community values and small farmers” (79).

Bessire’s final category of his five critical elements that contribute to the aquifer depletion crisis we face today, the obstructions and resistances put up by human attitudes, constitutes the most original factor in his analysis. This is the element he is peculiarly equipped to see because of his dual perspective as an heir of High Plains farmers five generations deep, and at the same time a trained scholarly anthropologist. He brings to the examination of his own rural society and attitudes the perspectives he has gained in his field work among marginalized rural and indigenous communities in Bolivia and Paraguay, displaced from their native forests by industrial-scale agriculture abetted by government interventions. Nevertheless, Bessire confesses that human motives, interests, and delusions were aspects of the problem that initially, he did not fully appreciate. “At the beginning, I could not see how . . . the drive for profit, the conceit of control, or the self-absorbed individualism that artificially divides the aquifer into parcels of private property and allows a few to drain it at the expense of many” were central to the problem, and how his own family’s history, and his own assumptions and collusions were implicated in the crisis he had tried originally to approach “objectively” (169).

Bessire reaches back to the work of anthropologist Earl Bell and sociologist A. D. Edwards in the 1930s, documenting the social attitudes that emerged from the devastation of the Dust Bowl years. He finds the peculiar social attitudes they documented ninety years ago reflected in widespread attitudes among deepwell irrigation farmers today. The problems they identified echo Bessire’s analysis of the complex of attitudes, interventions, technical innovations and “fixes,” and investment in myths in the face of recalcitrant facts that underpin today’s doomed, losing game.

Edwards and Bell found “a social psychology peculiar to the area,” marked by “speculative ambition, willingness to gamble, and a fanciful optimism that they found nearly unbelievable. ‘The faith in luck is reflected in their entire personality organization,’ Bell wrote, ‘and is indicative of their inability to develop a method of agriculture adapted to the environment’” (88). A couple of quotations from 1940 and 1941 exemplify these attitudes: “This is good country. All it needs is water and it will produce better than any land in the world.” “We know our land is still a garden spot if there’s water” (cited in Bessire, 88-89). When sociologist William Mays revisited Haskell County in 1965 to update Bell’s work, he found that the rise of irrigation was the biggest difference, and he agreed with the residents that “irrigation offset uncertainties of the environment and market.” “The population now accepts as their

ideal-type the farmer-capitalist, or agri-businessman, who has won out against great odds” (89).

Such desperate optimism and investment in myth feed the fantasies of technological miracles that are a recurrent feature of schemes to deal with the intractable problems posed by the inadequacy of available water resources in the region. Bessire notes salvation schemes as far back as 1896, when a former immigration agent touting development of the area for the Santa Fe Railroad proposed creating huge underground reservoirs to irrigate all the arable lands in the arid West. In 1894, the South Fork Irrigation Corporation was formed to divert forty cubic feet of water per second from the Cimarron River. The Chivington Canal Company drained Sand Creek’s waters in 1908 (115). More recently, in 1967, two schemes were floated: the Army Corps of Engineers explored a plan to pipe water from the Canadian Rockies to the Plains, and “the so-called Beck Plan proposed diverting water from the Missouri River to a canal that would stretch from Nebraska to Texas.” Numerous other schemes were noted; all failed. However, even in 2013, like a zombie boondoggle that refuses to stay buried, the Missouri River scheme resurfaced. Recognizing that “available water supplies were inadequate to develop the area’s production potential,” the Southwest GMD commissioned a study that showed that the projected losses from depletion of the water supply over the fifty years from the date of the study, 2013, would be “exactly the same amount that it would cost to build the aqueduct now”—that is, to realize the pipe dream of an aqueduct to draw water from the Missouri River in northeastern Kansas all the way diagonally across the state (uphill all the way, incidentally) to supply agribusiness in southwest Kansas when the aquifer had been used up (109-110).

It is easy for outsiders, who have no skin in the game, to blame the denizens of the High Plains for willful blindness to obvious facts on the ground, for “me-first” disregard of community good, for entertaining fantasies of magical salvation by unheard-of technology, for looking to the government for rescue, for obsession with near-term profits without regard for assured long-term prospects of disaster, or just for stubborn, selfish “cussedness.” Such a blame-game disregards entirely the very human tendencies to surrender to the inertia of custom and inherited ways of doing things, rather than face the terror of a leap into the unknown; the powerful impulse, when faced with an overwhelming problem, to look away or distract oneself with minor fixes; the immense pressure to go on as one always has, owing to cultural inheritance and social connections; the risks run by any member of a beleaguered group who attempts to break ranks and challenge the group’s ways of doing things, even when those ways are manifestly not succeeding.

Let alone the question of curbing corporate greed and outsider profiteering, can these very human traits among the population who are the victims of the depletion game be somehow addressed and corrected? Bessire’s analysis of the magnitude and social complexity of the problem is daunting. Understanding the limits of technological fixes, and their unintended consequences, might arrest investment in some fantasies of magical solutions, while calling out wrong-headed, counterproductive administrative

and political regulations might focus regulatory reform, if the obstructive opposition of powerful interests could be overcome. But the rooted human attitudes and refusal of many of the victims of the crisis to face unwelcome facts and make hard changes in behaviors and practices will perhaps be the hardest challenge to overcome.

Bessire does provide a few glimmers of hope. He cites one prominent farmer who faced financial ruin and social ostracism from his neighbors’ outrage over his attempts to champion conservation measures, but managed to save his family farm by switching from intensive deepwell irrigation of corn to raising hemp for oil, a crop much more adapted to arid conditions, and with all expenses considered, more profitable. He contrasts the Northwest Kansas GMD with the Southwest GMD on which his research has focused. For the former, the first step was getting two proconservation farmers elected to the GMD. Then, working with local farmers, the Northwest GMD developed a LEMA (Local Enhanced Management Area) to reduce extraction rates and extend the life of the entire area’s aquifer. They divided the entire LEMA into zones based on the rate of decline. Through careful research on net irrigation requirements for crops and average past usage, they calculated a five-year total allocation for each farmer, specific to calculated rates of decline for their zone. The plan survived a legal challenge, and constitutes “an important start” in approaching zero-loss agriculture. Bessire opines that the difference between the approach of the Northwest LEMA and the Southwest GMD “may correlate with corporate ties and influence” (241). Wider knowledge of the success of the Northwest LEMA might attract imitators. However, “even the best of existing policy solutions do not call for democratizing groundwater management or address the indirect injuries of depletion. They do not question how the pursuit of profit seems to hold an overwhelming allure; one that exceeds its actual conditions of possibility on the Plains” (174).

This review presents a very selective extract from the many narratives that make up *Running Out*—the elements that seem to me pertinent to the conservation concerns likely to be shared by readers of *Prairie Wings*. I have not touched on the intimate family history that has been a crucial formative influence on Bessire’s understanding of the deep social roots of the beliefs, hopes, and attitudes of his family and neighbors. But I recommend that readers who want more consult the book, hard going as it occasionally is when anthropological theory guides the narrative, painful to read at other times, when the historical destruction of the buffalo and the native peoples, analogous to the contemporary rampant depletion of the water resource, are uppermost in Bessire’s agenda. It is a timely, indeed essential contribution to the urgent discourse of conservation and the preservation and management of a shrinking resource in a time of climate crisis.