Cheese is Culture and Soy is Commodity: Environmental Change in a Bolivian Mennonite Colony

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> Here cheese is a regulator. For us, the money that we earn in the harvest, we see it like…, well with Wilhelm, he has his harvest, he buys another tractor. The money from the harvest you spend it by blows. And then after, to live, it's milking cows [laughs]. It's almost like a regulator, every fifteen days the cheque comes from the cheese factory.
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> – Mennonite colonist, Jakob Buhler[1]

In 2012, the Director of the Bolivian National Archives and Library invited me to attend the opening of a special exhibition on the history of the country's immigrant communities. Unlike the massive waves of nineteenth and twentieth century migration destined for the neighboring republics of Brazil, Argentina and Chile, Bolivia attracted few foreign settlers since its independence. Touring the exhibit hall, I viewed placards dedicated to the small groups of Japanese and Okinawans who came to Bolivia during the turn-of-the-century rubber boom followed by larger numbers in the post-World War II era. The exhibition also documented the ar-

rival of Jewish refugees in the 1940s under the sponsorship of Bolivian tin-baron Mauricio Hochschild. Additional displays outlined the contributions of smaller migrant communities from the former Yugoslavia as well as British technicians that helped construct much of the country's railway system. In a sense, the exhibition performed what it set out to document: the incorporation of foreigners into a Bolivian national identity. Curious to see how one of the country's largest and most conspicuous ethnic minorities, Low-German-speaking Mennonites that had emigrated from Mexico, Paraguay, Belize and Canada, would be represented in the exhibit, I was surprised to find no mention of them after an initial pass through the hall. Finally, at the bottom of a concluding placard, I stumbled across a single sentence noting that some Brazilian and Mennonite farmers had settled in the country's eastern lowlands.

Why the muted recognition? While migrant communities have often fallen out of national narratives, it seemed strange that an exhibit explicitly designed to rectify this silence might produce further omissions. Several hundred expatriate Brazilian soy-farmers began to arrive in Bolivia in the 1990s. Priced out of the soy boom in the Brazilian state of Matto Grosso, they crossed the border and created massive agro-industrial operations on the eastern plains of Bolivia's Santa Cruz Department – the largest of the country's nine territorial divisions.[2] The recentness of this migration or its small size could account for the near exclusion of Brazilians from the exhibit. In contrast, Mennonites first settled in Bolivia in 1954, the same year as many Okinawan and Japanese migrants. Since then their community had expanded to over seventy-thousand people in seventy farming colonies concentrated in Santa Cruz.

Absences can be telling. Perhaps the 1962 settlement agreement with Bolivia, freeing Mennonites from participation in the military, politics and public education made Bolivians uncertain about how to best incorporate these autonomous Anabaptists into a narrative of national inclusion? The following day, while the director of the archives and I chatted about the exhibition, I posed the question. She explained that while other immigrant communities made important contributions to Bolivian urban politics and cultural production, Mennonites had remained, by design and law, farmers at the margins of the nation-state. I countered by suggesting that from their rural vantage, Bolivian Mennonites made critical economic contributions to the country. Together with Brazilians, they produced the majority of Bolivia's soybeans, the country's most valuable export crop. Mennonites were also prominent dairy farm-

ers. I noted that their cheese (*queso menonita*) was available throughout the country. "But cheese is not culture [*pero queso no es cultura*]," the director quipped in response.[3]

The comment stuck with me, and not simply for its succinct alliterative pairing of *queso* and *cultura.* In *The Social Life of Things: Commodities in Cultural Perspective*, Arjun Appadurai and others respond to these questions by arguing that the meaning of goods change as they circulate through communities of production and consumption.[4] Agro-environmental historians have employed oral history to demonstrate something slightly different but complimentary, how the logic of particular commodities is inscribed in both memory and landscape.[5] This article brings together those methodological approaches, drawing on oral histories with farmers in Riva Palacio, Bolivia's oldest and largest Mexican Mennonite colony. My interviewees – Old Colonist, "horse-and-buggy" Mennonite farmers – spoke at length about what milk and soy production meant for their colonies as they transformed a forested frontier into a zone of intensive agricultural production. They told of transplanting a dairying industry from Chihuahua, Mexico to Santa Cruz, Bolivia and described how the emergence of soybean farming had altered livelihood and landscape in their colony. Their accounts reveal a profound tension between the evolving cultures of dairy and soy-based agriculture in Riva Palacio. On one hand, dairying in the Mennonite fashion often appears traditional, intimate, artisanal and subsistence-driven. On the other hand, and according to interview respondents, soy production is presented as novel, agro-industrial and speculative. These twin production strategies are sometimes complimentary as well as contradictory, as exemplified by the undergirding of speculative cash-cropping with stable dairying. At other times, their meanings invert entirely. For example, as Mennonite-produced milk began to feed an industrial dairy system, Mennonite farmers expressed a nostalgic and affective yearning for the halcyon days of soy production.

I argue that an ethnographically informed history of dairy and soy makes two important contributions to environmental studies. On the one hand, this narrative provides an environmental history of Mennonite farming practice, an emerging subfield in Mennonite studies.[6] On the other hand, historicizing the Mennonite presence – absent from most national histories of Bolivia – can also offer a deeper understanding of the paradoxes of food security and export agriculture in late twentieth-century tropical Latin America. I begin by thinking through the broader cultural implications of

dairy and soy in Bolivia before delving into Mennonite farming practices and production on the semi-tropical plains of Santa Cruz.

The Meanings of Dairy and Soy in Bolivia

At its most basic of course, cheese is nothing if not the result of a "cultural" process in which starter bacteria is introduced to "ripen" milk and transform sugar into lactic acid. Moving beyond the biological meaning of "cultural" and seeing it in social terms of family, community and production, dairying has resulted in a number of compelling farming cultures around the globe.[7] Dairy production is often carried out in migrant diasporas and thus the account of Mennonites bringing dairying from Ukraine to Canada, Mexico and Bolivia is not unusual.[8] Dairy consumption, on the other hand, follows a different cultural logic, not one of ethnic transplantation as much as national integration through dietary reform. As historian Deborah Valenze points out, drinking milk emerged in the twentieth century as a decidedly "modern" practice linked to physical health, development and the progress of individual bodies and national economies.[9] In Bolivia, where milk supply and consumption remained low, politicians, boosters and reformers imagined increasing national production and indigenous consumption of dairy in similar ways. Along with the promotion of wheat consumption, the consumption of milk was part of a broader cultural project to transform "deficient" subjects into "modern" ones.[10] In propaganda films of the era, young indigenous children drinking milk stood next to images of mechanized agriculture as keys to national progress.[11]

Mennonites arrived in Bolivia in the midst of this drive to refashion indigenous foodways and attain national food security through internal production of previously imported crops. They found themselves at the heart of the "March to the East", a national program to colonize the nation's eastern lowland frontier. It was, in many respects, a global phenomenon. Throughout their history of migration in Prussia, Ukraine, Siberia, Canada, the United States, Mexico, Paraguay, Bolivia and Belize, Mennonites continuously positioned themselves as model farmers, producers for the nation, and oftentimes as settlers of "marginal" landscapes. This cultural capital, reflecting a resume of successful frontier agricultural production, was the reason that diverse monarchical, democratic, revolutionary and authoritarian regimes were willing to grant exemptions to Mennonite settlers.

As a fragile good prone to spoilage, milk production *per se* made for a poor commodity in frontier regions consisting of limited transport infrastructure and imperfect markets.[12] Still, through the consumption of milk at home and the local sale of dairy surpluses in the form of cheese and butter, Mennonites ensured that dairying had its place in their households. It was more complicated with crops whose sustainability required profits. On the Ukrainian Steppe, Mennonites cultivated Turkey Red Wheat, a crop they brought with them to the Canadian and American prairies. In the move to Mexico in the 1920s, however, Mennonites switched to corn, beans and oats. In Bolivia, they initially planted corn but soon pioneered and embraced soybeans, a novel cash crop for the region. Developed in Asia and brought to the United States, it took a number of seed adaptations on the part of United States and Brazilian plant scientists to create a soybean variety that thrived in the shorter equatorial days, semi-tropical climate and challenging soil conditions of the South American interior.[13] Intensive soy production began in Brazil in the 1960s and spread to neighboring Paraguay and Bolivia over the following decades accounting for "one of the most rapid landscape alterations of the last thirty years."[14] With over fifty-seven million hectares in production, South America generates fifty-four percent of the global supply of soybeans in an area spanning five countries that are often referred to collectively as the "United Soy Republic" or "Soylandia."

While we may assert that Mennonite cheese is "culture," Mennonite soybeans face a greater challenge regarding their status as a "food." Soybeans signified something different than the wheat that Mennonites grew in the northern hemisphere. Within the Bolivian context they also represented a departure from the rice, corn, cattle and sugar cane that had been the focus of earlier waves of agricultural development and colonization programs in the frontier department of Santa Cruz. Those early colonization initiatives and their attendant commodities were explicitly linked to fostering Bolivia's food security in which settlers were seen as "feeding the nation," a narrative of agrarian citizenship, embraced by farmer and state alike. Ostensibly an edible crop, less than six percent of South American soy is actually consumed by humans directly.[15] Typically, crushed for oil, or fed to cattle, soy enters the food chain indirectly, or it is exported in whole bean form and the subject of global futures markets. Both realities place soy production out-of-step, or even in direct contradiction, with the logic of dairy. Soy, for example, does little to re-fashion indigenous food ways or reduce food imports. Yet in another way it had a cultural impact. By

the 1980s and 1990s the goal of agricultural production in Bolivia's eastern lowlands, had also shifted definitively from food security to generating export income.[16] Thus, even if they were no longer "feeding the nation," Mennonites and other Bolivian soy-producers could remain "model farmers." The economic model driving Bolivia's frontier policy had simply changed.[17]

In narrating the history of Mennonite soy production I seek to respond to recent calls for a cultural history of soy production, that is, an ethnographic, actor-centered approach that disaggregates and situates the soy complex.[18] Current scholarship on soybeans tends to emphasize the transnational corporations and large-scale agribusiness that dominate the industry. It is a familiar viewpoint whether one is writing about Iowa or Matto Grosso. However, representation of the soy boom as a powerful wave of anonymous capitalist expansion has tended to obscure local historical relationships and processes. Up to the closing years of the twentieth century, it was small-scale horse-and-buggy Mennonite farmers, not the familiar agricultural giants that produced the majority of Bolivia's soybeans. Farming fifty to one hundred hectare (ha) plots rather than extensions of several thousand hectares, Mennonites continue to produce between one-third and two-fifths of this billion-dollar export crop and thereby offer us a strikingly distinctive narrative of soy.

Transplanting Production and Tradition

The immigration of Mennonites from Mexico to Bolivia in 1967-68 was implicated in a dramatic national project intended to modernize Bolivia by developing the country's eastern lowlands. Yet, Mennonites also brought their own meanings to the making of this frontier. Ironically, many Mexican Mennonites explain that they left the state of Chihuahua in northern Mexico for precisely the opposite reason – to protect and maintain their traditional ways. As Johan Buhler, a preacher in Pinondi, a Mennonite colony, states, "the religion we have is that you don't work with rubber tires, and the people started to work with them, and everything fell apart and we left [Mexico]. We wanted to have it like our fathers before."[19]

Mennonites might have traveled to Bolivia as part of what historian Royden Loewen describes as an "anti-modern" pilgrimage, one that, in this instance, was centered on the use of steel wheels rather than rubber tires and the horse-and-buggy rather than cars and trucks.[20] But even as they left Mexico for religious reasons,

Mennonites were deeply concerned with the farm products that would sustain them both culturally and economically in their new home. Farmer Abram Thiessen's memories of Chihuahua and hopes for Santa Cruz recall the centrality of milk production in his family. "We were always dairy farmers [lecheros]," he recalls, and while his parents, "weren't rich," the income from milk ensured that "we never wanted [for anything]." Remembering his migration to Bolivia he explains:

> For me there was no way to buy land [in Mexico], only with a lot of money. And so I worked as a teacher and one day I said to my parents, we are going to Bolivia. My mother said, 'you are going to suffer a lot, you won't be able to drink milk like you always like to.' I never lacked it. Never. Up to now I drink a lot of milk and I have done so for my whole life. And for this reason, we did not suffer here.[21]

For Thiessen, transplanting milk production from Mexico to Bolivia was intimately linked to his survival and prosperity in a new land. Other Mennonite farmers also stress the connection between their current dairying practices and those their parents maintained in Mexico.[22] Isaac Peters admits that he remembers almost nothing from Chihuahua except that, "my parents worked with a few milk cows, [and] just like I do now…they would send milk to the cheese factory."[23]

Despite these narratives of continuity, transplanting milk production to Bolivia was far from seamless. Arriving in Santa Cruz, Mennonites found only "creole cattle [that produced] very little milk."[24] A study by the Center for Tropical Investigation in 1969 found that of 130 dairy operations within 44 kilometers of the city of Santa Cruz only ten included Holstein or Swiss Cattle meaning that the average daily production of local dairy cattle was a paltry 2.5 liters.[25] Recalling his first year as a young boy in Bolivia, farmer Enrique (Heinrich) Siemens remembers the time he drank powdered milk because there were no dairy cattle for sale in local markets. In 1969, his father travelled with a friend to neighboring Paraguay and returned with the colony's first Holstein. It took the pair forty days to travel eight hundred kilometers into the Gran Chaco, a semi-arid bushland with no permanent roads, to the long established Paraguayan Mennonite colonies of Fernheim and Menno. "When I arrived back [from school] the cow was already there," Siemens exclaims, "and oh[!] after that we were happy, then we had milk."[26]

In the memories of Siemens and Thiessen, milk may have been linked with nourishment and happiness but it was not just for internal consumption in Riva Palacio. Bolivian customs documents capture the vibrant trans-border cattle trade engaged in by colony Mennonites.[27] As their dairy herds grew, Mennonites were soon producing a substantial surplus. One poor colonist began to purchase the extra milk to make cheese to sell in the nearby city of Santa Cruz. At that time, as Jakob Buhler points out, dairying was a household industry in Bolivia and one could not even find the rennet that was necessary to curdle milk. The industrious colonist would butcher a calf and extract the rennet himself. Despite these hurdles and the difficult, often unsurpassable road into Santa Cruz, this first cheese plant in the colony prospered. Soon larger cheese plants began to operate in various villages and Mennonite colonists also turned to raising laying hens and pigs to supply the city. Initially trade took the form of slow, laden wagons trips travelling forty kilometers to Santa Cruz. After selling their goods, Mennonite would spend the night in a local garage near the central plaza before exiting the city on its unpaved muddy streets. However, the colony quickly established contracts with Bolivian entrepreneurs who began collecting cheese directly from Riva Palacio. In his memoire from those years, Johan Wiebe describes how he and other colony officials wishing to conduct business in the city often hitched a ride into town on these regularly departing trucks.[28] The results were noted by Bolivians who confirmed that by the mid-1970s, Mennonites were producing approximately fort-two percent of the city of Santa Cruz's milk (sold as butter and cheese) despite only owning twenty-seven percent of the region's cattle.[29] Dairy also formed part of Mennonites' early narratives of model agrarian citizenship. When a Mennonite Central Committee official wrote to Bolivian Minister of Agriculture Natusch Busch in support of Mennonite colonists in 1974, he sent Busch, "a token of gratitude…fresh cheese" as an emblem of the settler's progress.[30] Dairy had acquired both an economic and a cultural meaning.

An Unfamiliar Crop in an Unfamiliar Environment

Unlike dairy farming, soybean production was more singularly economic and its adoption more complex. In the first years after arrival, Mennonites were slowly opening up the dense bush of Riva Palacio and often employed Bolivian labour to fell the forest and burn the under-brush. Between the debris and charred stumps of

those newly-cleared fields, settlers planted corn. It was a crop they had grown, with mechanization, in Mexico but it was much more difficult in Bolivia and in the first years in the country many Mennonites worked the land with horse teams and by hand. Cornelio Peters remembers the first corn harvest when "everyone, our sisters too" would be out in the field with each child working two rows at a time on either side of the horse-drawn cart.[31] In addition to requiring a high degree of labour, corn had a low value in the city of Santa Cruz where the market was flooded with production from both small-scale national colonists and newly arrived Mennonite farmers on the eastern lowland frontier.

Mennonites were still engaged in the search of a profitable cash crop when, almost by happenstance, they stumbled upon soybeans. In the early 1970s, Silvio Marinkovic (who arrived in Bolivia from Croatia after the Second World War) constructed an oil-seed processing plant in the city of Santa Cruz where he initially had crushed cottonseed. Cotton production in Santa Cruz Department expanded dramatically in those years but in 1974 the price collapsed and regional production never recovered. With no cottonseed for his processing plant, Marinkovic was soon in search of a new oil-seed and a new supplier. Identifying, the Mennonites of Riva Palacio as a potential source, he began by offering them soybeans as a "test crop" and the entrepreneur – a migrant himself – soon forged a relationship with the colonists.[32]

Memories of this nascent soy production focus on the low level of mechanization in the colony: "We didn't know how to harvest it," exclaims Abram Reimer. Enrique Siemens laughs as he recounts being enlisted to help a neighbor planting soy for the first time. Working alongside his brothers trying to pull the plants up by hand, they were stymied by the long roots and were forced to wait for the crop to dry so stalks would break more easily. The piled soy was then fed by hand into a stationary de-graining machine and placed in storage while the neighbor searched in vain for somewhere to sell the harvest. When a buyer was finally located, Siemens was enlisted once more to load the truck by shovel as the colony did not have a grain conveyor. Despite the excruciating labor, the neighbour grew soy again the next year. Siemens remembers that Marinkovic's oil factory purchased all the soybeans produced by the Mennonites and Marinkovic was soon providing them with credit and a reliable market.[33]

The potential, as well as the clear limitations, of a non-mechanized soy harvest soon had an economic consequence and created a demand for specialized equipment in Riva Palacio. Johan

Boldt states this development most clearly: "In '76 we started more or less with the soy…and then we started to make a little money…[and] from there people realized they could make money and they started to bring machinery" into the country.[34] Most Mennonites were well-equipped to do so. Much like cattle buyers that traveled to neighboring countries in search of dairying breeds, the colony boasted several entrepreneurs with experience in importing machinery. As they had done in Mexico, brothers Peter and Johan Friesen travelled to the U.S., this time by airplane, and scoured the countryside for old bulldozers to clear the land and farm equipment to produce soy. Disassembling the equipment to be packed into wooden, handmade crates, they shipped it to Bolivia to be sold to fellow Mennonite settlers. As a result, by the late 1970s, Mennonites already had a substantial arsenal of farming equipment at a time when the rest of the state of Santa Cruz and Bolivia still relied heavily on manual labor.[35]

Over the following decade, mechanization levels increased further as the Friesens enlisted their sons-in-law to bring back North American machinery – from grain conveyors to combines – demanded by the Bolivian soy harvest. According to Enrique Siemens, a feedback loop emerged where soy earnings drove mechanization and allowed more land to be put into soy the following year. Many colonists narrate those years as a succession of new machinery purchases. Cornelio Peters remembers that some of the first tractors Mennonites used were humble two-cylinder John Deeres but the colonist who acquired such a machine was considered "a rich man" by his neighbors. For elderly Peter Wall, the chronology is hazy but he marks time by reciting his own progression from a little Allis-Chalmers that could hardly pull a two-disc plow to a Minneapolis-Moline, and, at last, a two-cylinder John Deere. "Then I [really] started working," he concludes.[36] Abram Thiessen "had a lot of luck with soy," and boasts, "in those years I had two of everything."[37] From pioneers who had carved homes out of the bush in the late 1960s, Mennonites had emerged by the mid-1970s as "mechanized" but also "diversified" farmers whose earnings were divided more-or-less evenly among egg production, dairy and crops (the latter a mixture of corn, soybeans and sorghum).[38] Over the following decade soy-driven mechanization altered this picture, in the process, changing both the nature of labor in Mennonite colonies and the environment of the lowlands.

Fields Without Labour

Early corn and soy production required adaption in different ways. As labour-intensive work it often brought the whole family out onto the field at harvest time. As Mennonites mechanized and incorporated chemical sprayers, their labour demands changed. Initially they employed Bolivians to fell and clear the brush but bulldozers imported by the Friesen brothers decreased the need for manual land clearing. Combines reduced labour demands during harvest. "In the first years, when I opened the bush I worked with [Bolivians], and also [with them] for harvesting corn. When we started to plant soy, we stopped employing the workers… we didn't need them," remembers Isaak Peters.[39] In comparison to the intense labor of corn, he saw this change as desirable and described soy as, "the best harvest that I know. Clean. Easy. Good." "It was amazing," agrees Cornelio Peters, "the soy that we harvested in that time, it seemed like it was *done without labor* [emphasis added]."[40] Work that once occupied an entire family or team of hired hands could now be done by a pair, with "one to harvest, the other to haul."[41]

Mennonites also found that, much like their imported Holstein cattle, which were harassed by ticks and other insects, soy was a fragile crop in the tropical environment requiring regular fumigation. The initial use of agro-chemicals reflected low levels of mechanization. Some Mennonites remember sprinkling granular herbicides by hand as children. One colonist smiles at the memory of a wide make-shift wagon that allowed four seated individuals with backpack sprayers to cover multiple rows at once.[42] But, as with grain elevators and combines, colonists were soon importing old spraying trailers from the U.S. or turning to individuals who fashioned them in private colony workshops.

Mechanization and the use of agro-chemicals to control weeds reduced the need to hire Bolivian labourers but it also changed the gendered nature of Mennonite labour. Cornelio Froese clearly remembers this transition. He contrasts a time when he and his first wife worked together in the fields planting by hand, to the present when a colony woman is "just in the house."[43] Jakob Buhler confirms that women would previously work cutting sorghum or harvesting corn; "now it is almost all with machine, there is really no more of that."[44] Furthermore, Johan Boldt adds to this narrative, reflecting that "without machines it was different, now…the women stay more in the house."[45] With less need for the whole family to work in the fields, to weed or harvest, the division between house

and field heightened. This mirrored, albeit on a much smaller scale, a simultaneous mechanization-induced shift on Canadian and U.S farms.[46] Even housing and house-cleaning chores changed as soy income helped Mennonites build modern brick and concrete buildings with abundant windows. They replaced the wooden houses constructed from local hardwood that colonists had felled and milled in their first years on the land, structures which allowed for the entry of pests and wind-driven sand.[47] Affecting gender as well, was the contrast between a new, highly profitable and thoroughly mechanized soy crop produced by the men, and old Mennonite dairying practices in which milking machines were prohibited compelling the entire family to work together to milk cows by hand. Social class further infused this gendered order. For poorer Mennonites who remained outside the wave of mechanization in Riva Palacio, family field labour continued to be the norm.[48]

A Vast Treeless Plain

While mechanization led to increased wealth and declining labour needs, the most far-reaching consequence of soy farming was not immediately apparent to Mennonites. The region of the Santa Cruz lowlands in which they settled sat at the nexus of two distinct environmental systems – the humid, tropical Amazon basin to the north and the semi-arid Gran Chaco to the south. In a 1931 book, adventurer Julian Duguid introduced audiences to this landscape known by outsiders as the "green hell" for its dense bush cover.[49] When Mennonite survey commissions visited the land in late 1960s, they found a region that remained covered in a seemingly impenetrable wall of brush. The only entrances to their thirty-thousand hectare colony were through crude *brechas* (openings), overgrown exploratory oil-drilling roads that bisected the colony east to west every four kilometers. Farm villages were laid out along the *brechas* and they allowed Mennonites and their Bolivian workers to access forested lots, clear the land and set up their first houses. The roads were "a huge help to us," emphasizes Peter Klassen who acknowledges that without the *brechas* the settlers would not have known where to begin.[50]

Nearly every Mennonite I spoke with had a story about the "bush." The process, of transforming forest into productive farmland, lies at the heart of the Mennonite narratives of place-making. "We had to get to know, to understand the land," explains Cornelio Froese, "because the Bolivians themselves didn't even know [it].

They would say that this was an area with nothing; that it was useless…."[51] Other farmers explain that Bolivians simply did not understand agriculture. According to Cornelio Peter, "in those days, Bolivians didn't really know farming,"[52], while Johan Fehr stresses that the poverty of Bolivia in those years stemmed from "so much land and no farmers" and feels that Bolivians, "did not have the head for this type of agricultural work."[53]

These assertions are linked to a second claim made by many interviewees; that while they may have received some advice from their new neighbors, ultimately Bolivians learned from Mennonites. Large-scale sugar and cotton production, along with smallholder corn and rice growing, was well underway in the north of Santa Cruz Department when Mennonites arrived. The Mennonites' self-aggrandizement is linked in part to their broader claim to pioneer or "model farmer" status in the region. It also stems from the specific realities of the land they purchased which, largely due to the lack of available water, had not been turned to farming prior to their arrival. The scope of Mennonite capital investment in well-drilling, land clearing, machinery and animals was simply financially unthinkable for most Bolivian farmers. According to a Mennonite document, the "Minimum Plan of Work", which was presented to government authorities in 1967, they were to invest approximately half a million U.S. dollars in the development of Riva Palacio and neighbouring colonies, a strategy that represented a significant shift from surrounding capital-scarce agricultural practices.[54] Despite this considerable investment, over their first decade (1967-1978) on the land, Mennonites managed to clear only sixteen percent or 4,800 hectares of Riva Palacio colony.[55] Individual properties appeared as little more than homesteads in the forest with ample bands of bush separating adjoining fields. Yet, even then on the verge of the soy boom, agronomist Jesús Bolívar noticed a worrying trend. He found land usage by the Mennonite colonies to be efficient, but was concerned that, "lately the windbreak curtains are being taking down to be used [for] farming."[56]

With the profits from soy, increased mechanization and the desire for more land, deforestation proceeded on a dramatic scale. In just seven years, from 1978 to 1985, Riva Palacio cleared nearly all of the remaining eighty-four percent of colony land. While the result of a dramatic environmental change, this cleared landscape looked like home to many Mennonites who had grown up on the arid valleys of northern Mexico. "Chihuahua was open," acknowledges Johan Boldt, "I didn't know bush like that."[57] Mennonites initially misread the landscape – a region with constant north-

south wind that increased during the dry season – and failed to recognize the value played by the dense forest cover. Reflecting back, Wilhelm Buhler remembers the warning signs: "You would just see open fields with one farm extending into the next without a single tree."[58] Johan Fehr who operated a bulldozer and helped clear the last of the colonies bush in 1985 remembers a serious drought the following year. Common in Bolivia, this dry spell led to new problems on the open landscape. "It really hurt the land," recalls Buhler, of the land-clearing and ensuing erosion.[59]

Rather than reducing the land under cultivation, Riva Palacio farmers continued planting more soy in those years. With high input costs for diesel, agrochemicals, seed and machinery, this practice became a risky proposition, but increasing economic incentives drove them forward. In the midst of the 1985 drought, Bolivia initiated a series of structural adjustments famously instituted at the advice of neoliberal economist Jeffrey Sachs. Chief among them was the end to agricultural export restrictions, thereby opening up the local soybean market to international prices. For Bolivian Mennonites, who had long chaffed at price controls, this new policy proved irresistible.

Abram Enns was a latecomer to Bolivia. Arriving from Mexico in 1988, his first impressions are indicative of the scope of environmental and economic transformation, and a new uniformity in Riva Palacio.[60] He remembers finding no windbreaks in the colony. The land was homogenous and open as far as the eye could see and, with advance credit from Marinkovic's oil-seed processing plant, nearly everyone farmed soybeans. The colony population had also grown to 6,800 in a settlement designed to hold 5000 individuals. In his first year planting soy, Enns and his neighbors experienced a catastrophic drought. He vividly remembers 178 days of strong winds in which drifting sand dunes invaded homes and fields. Even the pasture failed. Desperate colonists bought surplus sugar cane to feed their dairy herds and fed their families with food obtained on credit from colony stores. Perhaps the best illustration of the severity of the drought is offered by several colony Mennonites, who had obtained external credit from lenders in the city of Santa Cruz and were eventually sent to debtors' prison for their inability to repay these high-interest loans.

Much like the initial accounts of opening up the bush, the stories of farming soy in the late 1980s and early 1990s recount an environmental narrative about the relationship between settlers and the land. Yet, here the narrative of triumphalism is inverted. Rather than speaking about Mennonite taming and re-shaping of a

frontier into an agricultural landscape, they present themselves as victims of an increasingly unpredictable climate." They outline how they were forced to respond, changing the way they farmed the land in the drought years and thereafter. They describe how colony leadership placed restrictions on the advance preparation of soil during certain parts of the dry season. Other decisions were also not made by choice: a 1996 Forestry Law mandated the planting of new windbreaks along the edges of fields and thus government officials arrived in Riva Palacio to ensure that the open landscape was broken up by hedges visible today.[61]

These treed curtains took time to mature and in a 2001 report, local agronomist Grover Añez Castillo still noted the near "absence of windbreak curtains" in Mennonite colonies.[62] Most colonists also recognize that the windbreaks were a poor substitute for the dense native brush and often less tolerant to drought conditions. "If we had known we would have left windbreaks," explains Abram Thiessen.[63] The effectiveness of the treed curtains was also reduced through a decision made in the interests of expediency during the 1960s. As noted above, one of the reasons Mennonites were interested in the thirty-thousand hectare parcel was because of the existence of the *brechas* that cut west-east through the dense bush. Colonists established the majority of Riva Palacio's thirty-five villages along the *brechas* with long, narrow properties extending north-south off of these arterial roads. The decision allowed for the easy establishment of the traditional street-villages or *Strassendorf* that Mennonites had known in Russia and Canada but it ignored the environmental logic of the region in which prevailing winds exclusively run north-south. On north-south aligned fields, Mennonites found it highly inconvenient to fully comply with Forestry Law as established by Supreme Decree 24453 that dictated such barriers be constructed perpendicular to prevailing winds. Meanwhile, the north-south windbreaks that they did plant were simply ineffective at reducing wind speeds.

Many farmers I interviewed were entering their productive primes in those years and told a personal crisis narrative of the 1990s. "Those were dry years," says Jakob Buhler, "and we lost almost everything we had earned before."[64] Peter Klassen remembers watching his heavily indebted father over the course of several failed harvest seasons: "He lost, and lost and lost, earned a little, and then lost again. He ended up poor because of his farming."[65] Reflecting on his own decision to keep farming, Klassen acknowledged, "of course I was scared, but there's nothing more to be done. One has to work and see if you have luck."[66]

Like Klassen, many other Mennonites also talked about farming in those years as a matter of chance rather than agricultural expertise.[67] "I lost, lost, lost" says Abram Thiessen. He continued farming soy occasionally through the 1990s, but after a total loss in 2000, he gave up the crop for good. Abram Enns planted soy again after his first disastrous attempt in 1989-90, but "had no luck with the crop", and remembers there were always "payments which he couldn't make."[68] In 1995, he lost fifty hectares of soybeans to drought. The following year he planted fifty-five hectares taking in eighty-five tons. But this successful harvest barely covered his debt from the previous year. After another significant loss, Enns sold his machinery and rented his land to a less risk-averse farmer. The detailed ledger of Jakob Knelsen is also illustrative of the times. Knelsen dutifully recorded his area under production, the yields, and rainfall for every year that he farmed. Records show he steadily increased his area under soy production through the late 1980s, from eleven hectares in 1984 to a high of fifty-three hectares in 1988. Thereafter, witnessing a catastrophic loss in the drought year of 1989-90, followed by a reasonable return the next year, he continued planting soy for a few years in the early 1990s before abandoning it altogether.[69]

The Return of the Cow

Enns, Thiessen and Knelsen shared experiences of environmental and economic crises in which they became disillusioned with soybean farming. They responded in similar ways. Faced with the uncertainty of farming in this newly-cleared tropical landscape, these men and many other Mennonites auctioned off their more expensive machinery to pay debts, and subsequently turned their fields to pasture. "We became cattlemen in those years," explains Wilhelm Buhler. He estimates that more than half of his fellow colonists no longer farm cash crops, relying exclusively on dairy and beef cattle. Reports indicate that between 1994 and 1999, the area under annual soy cultivation fell from ten thousand hectares (a third of all cultivated land) to four thousand hectares.[70] Knelsen's accounting clearly indicates this switch to dairy production and feed crops. Yet, the growth of the Mennonite population in the department of Santa Cruz, which by 1990 was nearing twenty thousand, complicated the shift back to milk. Back in the late 1970s, the newspaper *El Mundo* had reported that "because of the low price of milk in urban areas [Mennonites] prefer to dedicate themselves

to the production of cheese that has a very good acceptance in the markets of La Paz and other cities."[71] By the early 1990s, oversupply of Mennonite cheese from new colonies reduced the price to where "it didn't suffice for anything."[72] Tellingly many interviewees are able to pinpoint the nadir of the market at thirty-three Bolivian centavos per liter

For most of the decade, Mennonite farmers remained trapped between unpredictable harvests and steady, but low-value, milk production. It was at the end of the decade, after two consecutive crop failures in which soy yields had plummeted from 1.7 to 0.2 tons per hectare, before Mennonites made perhaps their most important economic decision.[73] They negotiated with PIL Andina, S.A., the sole large milk processor and distributor in Bolivia, for the installation of refrigerated tanks in colony stores and established daily milk collection. Previously all milk had been sold in the form of cheese to distributors in the city of Santa Cruz. The option to sell milk directly to the factory at a good price "improved things for us," says Peter Klassen, and adds, "now we can live better."[74] Recent colony tax records support this assessment and indicate that in the 2000s milk money often equaled or surpassed the harvest as a source of income.[75] This resulted in an increasing number of Riva Palacio colonists that "make do" with a small plot of twelve to fifteen hectares on which they grow sorghum for feed and pasture their cattle. A booming beef cattle market provides colonists with yet another option, with the distinctive, humped, white zebu cattle (another Brazilian import) becoming increasingly more common on Mennonite farms in Santa Cruz.

The return of milking – which in reality had never disappeared but was simply obscured by the soy boom – once again changed the way Mennonites lived. As Jakob Buhler explains laughingly, "milk money is to get by, harvest money, you spend by blows."[76] For some this "getting by" means increasing security and stability. Abram Thiessen celebrates labour-intensive dairying on a scale unimaginable in the United States. "The people of the U.S. they don't want to milk. They have one or two kids [who] want to study and sit at the desk with the computer." There, dairy farming is not meant "for a person with five or ten cows; you have to have a big dairy with machines to milk."[77]

Still others who abandoned soy production after repeated poor harvests remain nostalgic about cash-cropping. The repetitive, daily labour in the milk barns seems a profound contrast with what Cornelio Peters called a "harvest without labour." Isaak Peters also wistfully remembers soy as "clean" and "the best harvest I

know" in opposition to sorghum, the principal fodder crop grown by Mennonites, which still requires a large degree of physical labour to pile, dry, transport, stack and mill. Unlike market-destined soy, Peters' sorghum is "all for my cattle."[78] He also recognizes that dairy farming comes with distinct limitations: "It's not to save money [but just] to live happy while always being careful." In contrast to the rapid soy-driven mechanization of earlier years he acknowledges that with his dairy earnings, "I could not buy a new tractor." Many other dairy-dependent farmers lament their inability to purchase land for their children.

The unique location of Riva Palacio, where the semi-arid Gran Chaco meets humid Amazonia, is agonizingly apparent to its farmers today. Less than ten miles separate the villages along "Brecha 7" on the northern edge of the colony and "Brecha 9" on its southern border. Yet along the former, and in the neighboring Mennonite colonies to the north, farmers benefit from a soil with higher clay content which retains moisture and supports continued soy-farming, while those working the sandier soils of the latter have almost entirely converted to dairy and ranching. At present the distinction between grain farmers and those who live on dairy alone, roughly an even split within the colony, is also inflected with class distinctions. While wealthier Mennonite farmers continue to farm soy and, in the south of the colony, have also turned to new drought-resistant crops like peanuts, sesame and chia, poor families are typically entirely dependent on milk production. Abram Redekop manages a bookstore in the colony and survives on 18 milk cows and 25 hectares of land, 10 of which is planted with sorghum for his herd. "[You can save] a little bit but not much," he reflects, "when you want to plant another crop like soy you need more land."[79] More critically, one young Mennonite man who looked for off-colony work, derisively described dairying as a form of captivity and a way that colony leadership keeps poor Mennonites in place by tying them to their milk-pails morning and evening.[80]

Finally, some Mennonites worry that the disillusionment with crop farming, and the subsequent turn to cattle, particularly the new practice of fattening beef cattle for sale, is eroding the cultural basis of Mennonite farm knowledge. Cornelio Peters who depends on dairy and a small shed construction business speaks with admiration about a nephew in Manitoba Colony, a new settlement purchased by Riva Palacio in the 1990s. After a few poor soy harvests, the nephew turned his fields to pasture and brought in cattle. The man was doing quite well, "but after several years," explains

Peters, "he was looking around and thinking 'what is it that my children are learning?' Better if he sells his cattle and returns to farming so that they learn; it is worth the trouble."[81] Yet, the majority of colonists are more practical in their assessment of this new era of daily milk tanker trucks and zebu cattle. Abram Reimer simply says, "the milk has a good price, so it works. Before there was only cheese [but] things are good now if you have a few cattle."[82] Abram Enns who "never had any luck with soy" and fattens cattle on his land agrees: "You sell the white ones [zebu], once per year you have to see if the money will last."[83]

Model Farmers in a new Millennium?

In economic terms, by 2014, Riva Palacio appeared to be a stable community of relatively small farms (the largest with perhaps 150 hectares) with some continuing to cash crop and milk simultaneously while others had turned entirely to dairy and beef cattle. After initially viewing the bush through the eyes of the pioneer as an obstacle to be cleared, the Mennonites were more sensitive to the environmental issues of farming in the tropics and the need to alter certain techniques, particularly the importance of preventing erosion as well as soil compaction. "We learned to work the land so that the wind wouldn't break it," explains Abram Thiessen.[84] Others acknowledge increasing problems with pest, disease and weed control yet are proud that they continue to farm without irrigation or fertilizer. Despite environmental adaptations and an insistence that crops grow well "if it rains", the former image of Old Colony Mennonites as "model" farmers has suffered. "[We] really hurt the land," acknowledges Wilhelm Buhler.[85] He elaborates by explaining that while his Mennonite neighbors feel they manage the land well; "our [Bolivian] countrymen" are asking us to change agricultural practices. Here he refers to attempts by agricultural extension agents to encourage colony Mennonites to adopt "no-till" farming in place of frequent plowing of the soil and to replace steel wheels on their tractors with rubber tires [a practice prohibited by Old Colony Mennonites].

Increasingly, these debates about agricultural practice are taking place beyond the confines of Riva Palacio. Since 1989, the colony has purchased land for four new colonies to accommodate an expanding population. Two of these "daughter" colonies, Manitoba and Nuevo Mexico, are further out on the frontier on the east side of the Rio Grande River in what is known as Santa Cruz's "expan-

sion zone." While soy production has declined in Riva Palacio, it is booming across the river among Bolivians as well as foreign farmers including the large-scale Brazilian agro-industrialists that began to arrive in the 1990s. As a result deforestation rates quintupled from the early 1990s to 2000.[86] In those new colonies, Mennonites have laid out fields perpendicular to the prevailing winds and, as mandated by Bolivian law, left twenty-meter swaths of bush between the fields. Despite acknowledging the environmental challenges they experienced in Riva Palacio, they also express frustration at new government restrictions on land clearing limiting farmers to opening five hectares per year.

Old Colonists are not the only Mennonites farming in the eastern expansion zone. Along with Brazilian and native Bolivian farmers, other Mennonites who own cars and use rubber-tired tractors also settled in the area. In the early 1990s, one "rebel" group of Old Colony Mennonites led by brothers Abram and Franz Rempel, broke with the Mennonite colony of Swift Current ,on the northern side of Riva Palacio, to form Campo Chihuahua. Along with rubber tires, the colony embraced many other technological changes including no-till soybean production. Whereas government officials once viewed Riva Palacio as a model for the region's farmers, extension agents now hope that the Mennonites in Campo Chihuahua can act as a model for Mennonite agriculture.[87]

Unlike colonists in Riva Palacio, Campo Chihuahua farmers operate large parcels of land, from several hundred to over a thousand hectares. Some Old Colonists express their reservations: "We entered [this country] as small farmers, and it seems like that it has already changed in several parts," explains Cornelio Peters. He points to Mennonites that now farm two hundred or three hundred hectares and implies that while different than Brazilians farming ten thousand hectares, even this medium-scale farming is incompatible with Mennonite farming culture.[88] While Peters refers to this as "keeping the faith" Jakob Buhler, who helped survey Nuevo Mexico colony in 2004, discusses this more pragmatically. He is critical of a few Mennonites who have acquired parcels of several hundred hectares in the new colony, and explains that large landholding erodes the possibility for proximity to one's neighbors, making it difficult to form village schools, churches and to collectively maintain infrastructure. "It's too quiet," he concludes. He feels, like Peters, that Mennonites can live easily off fifty hectares and that the Mennonites like those in Campo Chihuahua are essentially "businessmen" with employees and homes in Santa Cruz.[89] It is a criticism that Campo Chihuahua founders

Abram and Franz Rempel, would eagerly embrace, viewing their colony as a modern agro-industrial enterprise that is experimenting not only with soy but also with value-added products like processed poultry. They acknowledge that dairying has ceased to become an important activity for their colony of farmers, many of whom manage farms of several hundred to over one thousand hectares with large machinery. "There [in Riva Palacio] a family lives with [dairying]," Franz acknowledged, "we don't have that here [anymore]."[90]

Conclusion

In Franz Rempel's explanation, soy and dairy represent opposing cultures of Mennonite farming. The former operates on a seasonal basis involving intense mechanization; advance credit, high value-inputs and industrial processing. The latter is undertaken daily and is labour-intensive and low-tech. The Riva Palacio colonists that still farm soy, acknowledge the contrast between and the inextricability of these two forms of labour. Even as they generate a profitable, machine-dependent export-oriented commodity, nearly all Mennonite families in Riva Palacio rise early in the morning to milk their herd of dairy cattle by hand. Buckets clang and wooden stools are set down as the entire family – men, women and children – take part in this laborious daily activity which will be repeated again in the evening. By the time the last cow is milked the sun is usually rising. One member of the family pushes a cart laden with brimming homemade metal jugs to the street for collection by milkmen, who travel through the village by horse cart. If the first practice – soy farming – appears industrial, the second – milk production – strikes the observer as intimate. For scholars of Old Colony Mennonites, the latter is also historical. Mennonites from Mexico had never produced soybeans before arriving in Bolivia, however, they have successfully transplanted a dairying culture from Chihuahua to Santa Cruz.

What to make of this dual – and in some ways, contradictory – agrarian economy? Daily family milk production seems to stand in opposition to the capital-intensive cash-cropping of export commodities like soybeans. Harvest income might be invested in new land and machinery to expand one's operations, while milk money provides regular access to credit at colony stores and a cheque that arrives every fifteen days. The two goods also serve very different markets. While Mennonites continue to produce close to half of

Bolivia's billion-dollar soy crop, scholars do not typically identify soybeans with Mennonites. Through the towering silos of agro-conglomerates like Cargill, Bunge and, Archer Daniel Midlands, that form the most prominent landmarks on the Santa Cruz lowlands, Bolivian and South American soy appears linked to transnational capital. In contrast, you can still purchase "queso menonita" in stores and markets across Bolivia, and even from some colony Mennonites who flock to the city of Santa Cruz every Wednesday to sell cheese from baskets at busy intersections.

Like other products from the Bolivian lowlands such as indigenous "Guaraní" honey or packaged rice that proudly displays its origins in the "Japanese colony of San Juan Yapacani," Mennonite cheese maintains its ethnic signifier. It also sets its claim, in line with the logic of Bolivia's half-century of lowland development, to the feeding of the nation. Meanwhile, soybeans seem to float free from place, production, and history as a versatile industrial good that, despite its claims to food status, is typically a secondary input in a global market characterized by feedlots, processed food and bio-diesel. Ironically, as an increasing percentage of Mennonite milk now finds its way to the PIL dairy processing plant in the Warnes industrial park of Santa Cruz and is transformed into any number of goods from yoghurt to powdered milk for export, it also seems to lose its cultural signifier and its tie to a particular community and landscape even if those underlying conditions – daily small-scale hand-milking – remain the same.[91] Fittingly, the PIL dairy plant, which is currently doubling its capacity to account for booming Mennonite production, sits directly across the highway from IOL-SA, the country's largest soybean crushing facility. The latter is still owned by the Marinkovic family that helped pioneer Mennonite soy production in the 1970s, though one former employee admits that the next generation no longer maintains a personal relationship with Mennonite colonists.

These industrial sites of production elude the Mennonite economies – the "cultures" of Mennonite cheese and soy – that undergird their output. This article has sought to resist that form of alienation by arguing, in line with environmental historian William Cronon, that Mennonites and Bolivia, or "city and country shared a common past, and had fundamentally reshaped each other."[92] In a special edition of the *Journal of Peasant Studies* devoted entirely to the rise of South American soybean production, authors Susanna Hecht and Gustavo Oliveira introduce us to this new global order while reminding us to be cautious. They call on scholars to "demonstrate that despite the technical homogenization and omni-

presence of transnational actors at every link of soybean production chains, place-specific material relations – particularly social relations of trust and familiarity…remain crucially important." They urge scholars to rethink the soybean complex and consider it within particular localities, driven by "local actors" within: "specific ecologies and social relations."[93] In narrating how Mennonites have transformed the ecology of the Bolivian lowlands to become both "soyeros" and "lecheros" over the last half century I have sought to do precisely that, to locate the unique cultures of Mennonite production at the center of this profound environmental and economic transformation at the heart of South America.

Notes

1 Jakob Buhler interview with author July, 2014.

2 Bolivia's nine territorial divisions are known as departments rather than as states. The capital city of Santa Cruz Department is Santa Cruz de la Sierra – also commonly referred to as Santa Cruz. Where necessary I refer either to the department of Santa Cruz or the city of Santa Cruz.

3 Ana María Lema Garrett (Director of Bolivian National Archives) in conversation with author July 2012.

4 Arjun Appadurai, *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge: Cambridge University Press, 1988).

5 Thomas D. Rogers, *The Deepest Wounds: A Labor and Environmental History of Sugar in Northeast Brazil* (Chapel Hill: University of North Carolina Press, 2010).

6 See Royden Loewen, "The Quiet on the Land: The Environment in Mennonite Historiography" *Journal of Mennonite Studies* 23 (2005), 151–164.

7 See Michael A. Little, Sandra J. Gray, and Benjamin C. Campbell "Milk Consumption in African Pastoral Peoples in I. de Garine and Valerie de Garine, eds. *Drinking: Anthropological Approaches* (New York: Berghahn Books, 2001).

8 Heidi Tinsman, *Buying into the Regime: Grapes and Consumption in Cold War Chile and the United States* (Durham: Duke University Press, 2014), and Sidney W Mintz, *Sweetness and Power: The Place of Sugar in Modern History* (New York: Viking, 1985).

9 Deborah M Valenze, *Milk: A Local and Global History* (New Haven: Yale University Press, 2011) 239.

10 I draw on Tania Li, *The Will to Improve: Governmentality, Development, and the Practice of Politics* (Durham: Duke University Press, 2007) for a critical reflection on modernization's construction of a "deficient subject."

11 Mary J Weismantel, *Food, Gender, and Poverty in the Ecuadorian Andes* (Philadelphia: University of Pennsylvania Press, 1988). Across the Andes, the introduction of other non-traditional foods was also linked to modernization and cultural change in indigenous societies.

12 Kenneth F Kiple and Kriemhild Coneè Ornelas, *The Cambridge World History of Food.* Vol.1 (Cambridge: Cambridge University Press, 2008), 692.

[13] Susanna B Hecht and Charles C Mann, "How Brazil Outfarmed the Americans – After a Half-Century of Dominance, the U.S. Is Losing Its Edge in Agriculture to a Booming Latin American Powerhouse. Its Secret Weapon? Soybeans." *Fortune* 157, no. 1 (2008), 92.

[14] Gustavo de L. T Oliveira and Susanna B Hecht, "Sacred Groves, Sacrifice Zones and Soy Production: Globalization, Intensification and Neo-Nature in South America." *Journal of Peasant Studies* 43, no. 2 (2016) 251–85, 252.

[15] Ibid.

[16] As anthropologist Kregg Hetherington argues for Paraguayan soy "Beans before the Law: Knowledge Practices, Responsibility, and the Paraguayan Soy Boom." *Cultural Anthropology* 28, no. 1 (2013), 65–85.

[17] Critics refer to Bolivia's neoliberal agricultural policy as a form of neo-extractivism in which farming is conducted with a mindset not unlike the mining industry it initially sought to balance. See Linda C. Farthing and Benjamin H. Kohl, *Evo's Bolivia: Continuity and Change* (Austin: University of Texas Press, 2014).

[18] See articles in a special edition of *Journal of Peasant Studies* 43 no.2 (2016).

[19] Johan Buhler, interview with author, April 2015.

[20] Royden Loewen, *Horse-and-Buggy Genius: Listening to Mennonites Contest the Modern World* (Winnipeg: University of Manitoba Press, 2016).

[21] Abram Thiessen interview with author, April 2014.

[22] Cornelio Peters, interview with author, May 2014.

[23] Isaac Peters interview with author, April 2014.

[24] Abram Thiessen, April 2014.

[25] Oscar Arze, "Situación lechera" *El Mundo* (Santa Cruz de la Sierra) Sept.26, 1979.

[26] Abram Thiessen interview with author, April 2014.

[27] Depository, Ministerio de Desarrollo Rural y Tierras, La Paz, Bolivia.

[28] Diary Johan Wiebe, 1966-83, Copy obtained from Jakob Giesbrecht, Riva Palacio Colony, Bolivia.

[29] Jesús Bolívar Menacho, "Las colonias menonitas: aporte y participación en la producción agropecuaria regional." (MA Thesis, Universidad Autónoma Gabriel René Moreno, 1978), 123.

[30] Menno Wiebe to Minister of Agriculture Alberto Natusch Busch, Dec.10, 1974. MCC-Bolivia Files, 1974.

[31] Cornelio Peters interview with author, May 2014.

[32] Johan Fehr interview with author, May 2014. My interviewees differed on the exact year soy production started in the colony. Some also incorrectly identified Marinkovic as a "Czech."

[33] Johan Fehr and Jakob Buhler also emphasized the physicality of the labour and the lack of machinery, but also noted that soy was still more profitable than other crops.

[34] Johan Boldt interview with author, April 2014.

[35] See Bolívar, "Las colonias menonitas."

[36] Wall interview with author, March 2014.

[37] Thiessen interview with author, April 2014.

[38] Bolívar, "Las colonias menonitas," provides statistics on production.

[39] Isaak Peters interview with author, July 2014.

[40] Cornelio Peters interview with author, May 2014.

[41] Ibid.

[42] Abram Reimer interview with author, Aug 2014.
[43] Cornelio Froese interview with author, May 2014.
[44] Jakob Buhler interview with author, July 2014.
[45] Johan Boldt interview with author, April 2014.
[46] See Peggy F Barlett, *American Dreams, Rural Realities: Family Farms in Crisis* (Chapel Hill: University of North Carolina Press, 1993) and Royden Loewen, *Diaspora in the Countryside: Two Mennonite Communities and Mid-Twentieth-Century Rural Disjuncture* (Urbana: University of Illinois Press, 2006) for changing gender norms that accompanied mechanization.
[47] As an example: interviews with Cornelio Froese and Isaak Peters occurred on the porches of their old wooden houses.
[48] Abe Enns interview with author, April 2014.
[49] Julian Duguid, *Green Hell: Adventures in the Mysterious Jungles of Eastern Bolivia* (New York and London: Century Co., 1931).
[50] Peter Klassen interview with author, July 2014.
[51] Cornelio Froese interview with author, May 2014.
[52] Cornelio Peters interview with author, May 2014.
[53] Johan Fehr interview with author, May 2014.
[54] Abram Peters et al. "Minimum Plan of Work," Feb. 10, 1967. Exp. "Riva Palacio." Instituto Nacional de Reform Agraria, Santa Cruz, Bolivia.
[55] Bolívar, "Las colonias menonitas," 63.
[56] Ibid., 141.
[57] Johan Boldt interview with author, April 2014.
[58] Wilhelm Buhler interview with author, March 2014.
[59] Ibid.
[60] Abe Enns interview with author, August, 2014.
[61] "Reglamento de la ley forestal" Decreto Supremo 24453 de 1996. Listado de Decretos. Gaceta Oficial del Estado Plurinacional de Bolivia. http://www.gacetaoficialdebolivia.gob.bo/index.php/ Accessed Nov.1, 2016.
[62] Grover Añez Castillo, "Analisis socio-economico de la producción de soya en colonias menonitas del sur (las brechas) del departamento de Santa Cruz, Bolivia." (MA Thesis, UAGRM, 2001), xi.
[63] Abram Thiessen interview with author, April 2014.
[64] Jakob Buhler interview with author July, 2014.
[65] Peter Klassen interview with author, July 2014.
[66] Peter Klassen interview with author, July 2014.
[67] In that sense they again mirrored their highly mechanized contemporaries in North America, who also viewed success or failure as "luck – it was all like winning a lottery – that was just the way it was." Barlett, *American Dreams*, 38.
[68] Abe Enns interview with author, August, 2014.
[69] Jakob Knelsen, Account book 1966-2014. Personal Papers. Riva Palacio Colony.
[70] Añez Castillo, "Analisis socio-economico," 35.
[71] Arze, "Situacion de la insutria lechera" *El Mundo*.
[72] Jakob Buhler interview with author, July 2014.
[73] Añez Castillo, "Analisis socio-economico," xi.
[74] Peter Klassen interview with author, July 2014.
[75] Recent colony tax records explained by Mayor Abram Klassen, April 2015.
[76] Jakob Buhler interview with author, July 2014.

[77] Abram Thiessen interview with author, April 2014.
[78] Isaak Peters interview with author, Aug, 2014.
[79] Abram Redekop interview with author, July 2014.
[80] Conversation at entrance to Brecha 9, May 2014.
[81] Cornelio Peters interview with author May 2014.
[82] Abram Reimer interview with author, August 2014.
[83] Abe Enns interview with author, April 2014.
[84] Abram Thiessen interview with author, April 2014.
[85] Wilhelm Buhler, interview with author, March 2014.
[86] Susanna B Hecht, "Soybeans, Development and Conservation on the Amazon Frontier," *DECH Development and Change* 36, no. 2 (2005), 375–404, 380.
[87] David Cortez Vargas (ANAPO technician), conversation with author, April 15, 2014.
[88] Cornelio Peters interview with author May 2014.
[89] Jakob Buhler interview with author July 2014.
[90] Franz Rempel interview with author, June 2014
[91] Sally Ann McMurry, *Transforming Rural Life: Dairying Families and Agricultural Change, 1820-1885* (Baltimore: Johns Hopkins University Press, 1995).
[92] William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W.W. Norton, 1991), 8.
[93] Gustavo de L. T Oliveira and Susanna B Hecht, "Sacred Groves, Sacrifice Zones and Soy Production: Globalization, Intensification and Neo-Nature in South America" 43/2 *Journal of Peasant Studies* (2016), 251–85, 272.