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# Post-Frontier Towns of Rondônia, Brazil

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I spent three months in 1996 studying the Rondônia landscape, enjoying its people, and trying to find out how its cities are connected to deforestation. Because of the nature of my research, I spent most of my time in Porto Velho, but I also visited smaller towns and several ranches. Remarkably, during an entire season in the Amazon, I spent only a few hours in the rain forest itself.

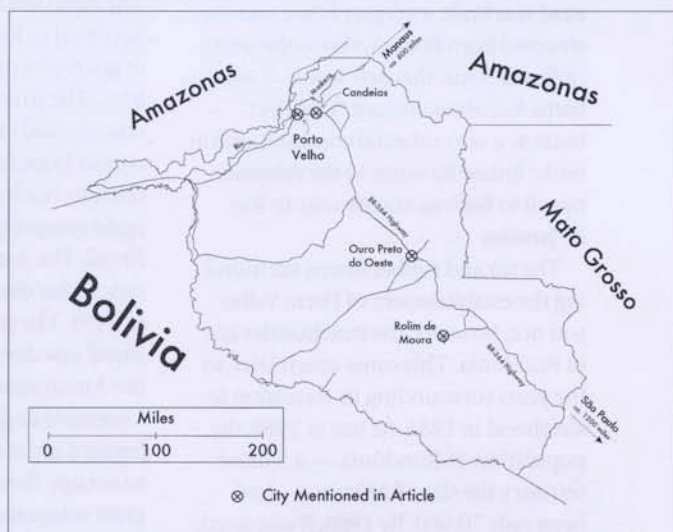
The capital of Rondônia is Porto Velho, situated on the Rio Madeira one thousand kilometers from its confluence with the Amazon River and a total of 2,200 kilometers upstream from the Atlantic Ocean. It is located near the Santo Antônio Cataract, a series of some twenty waterfalls that marks the effective head of navigation on the Rio Madeira. In 1907, the U.S. firm of May, Jekyll & Randolph began construction of the legendary and infamous Madeira-Mamoré Railway in order to gain access to tin reserves located further upstream in Bolivia. The railroad was built at considerable human and financial cost, but it did not operate for more than a few years. As in frontier regions elsewhere, however, the railroad played a critical role in the development of the region, and is still a prominent

# POST-FRONTIER TOWNS OF RONDÔNIA, BRAZIL

BY JAMES HAYES-BOHANAN

**T**he name *Rondônia* may invoke an image of a mythical kingdom, perhaps a place sprung from the imagination of a Tolkien or a Lewis. It is in fact a very real place in the heart of South America: one that at the close of the twentieth century is undergoing a fitful

transition from frontier to former frontier. This transformation is both reminiscent of the closing of North American frontiers in the nineteenth century and perhaps instructive in relation to those few frontiers that will remain in the twenty-first century.



*Rondônia* includes some 625,000 square miles, making it about the size of the U.S. state of Arizona and approximately five percent of the land surface of the Amazon region. It is bordered to the north and east by the states Amazonas and Mato Grosso, and to the south and west by the country of Bolivia. The lowland terrain of the valleys of the Rio Madeira in the north and the Rio Mamoré in the west give way to rolling hills in the center of the state. The eastern and southern portions of the state are dominated by river valleys. Despite the lush vegetation throughout most of the state, the majority of soils are of extremely low fertility and are highly erodible once exposed. The climate is hot, humid, and seasonally wet, with a relatively dry season from June through August.



*Near downtown Porto Velho, as elsewhere in Rondônia, access to global culture, including the latest Hollywood releases, is increasingly available.*

symbol of Porto Velho. The rail station was placed at the main port in Porto Velho, where it remains as a historical museum and departure point for afternoon family excursions on a short-line railroad. In the same year that the railroad was built, a telegraph line was constructed from Porto Velho to the south of Brazil. Thus this new town — whose name has always meant “Old Port” — became a very unusual communication node: linked by water to the Atlantic, by rail to Bolivia, and by wire to Rio de Janeiro.

The tin and rubber boom surrounding the establishment of Porto Velho was not, however, the true frontier era in Rondônia. This came much later, in the years surrounding its transition to statehood in 1983. As late as 1960, the population of Rondônia — a federal territory the size of Arizona — had been only 70,000. By 1980, it was nearly five hundred thousand, and continuing to grow rapidly. Most of the one-and-

a-half million current residents of Rondônia were not present during a pioneer era that began in earnest only in the 1970s.

#### RONDÔNIA'S FRONTIER ERA

The rapid landscape change that has occurred in Rondônia has its origins in government policies at the national level. The Amazon region had been economically important during the rubber boom of the early twentieth century, but by the 1950s it was once again economically insignificant to Brazil. The Amazon regained significance after the military took power in 1964. The military regimes in Brazil saw development projects in the Amazonian regions of Peru and Venezuela as geopolitical threats, and began a series of programs intended to occupy the region. The promise of great mineral wealth also contributed to renewed government interest in the region. The integration of Amazonia with the rest of the country was to be achieved primarily through road construction, agricultural colonization and industrialization.

The national government provided funds for the construction of almost 10,000 miles of roads. In addition to the highways, side roads built at regular intervals would make land available throughout a 30-mile swath along each highway. Brazil's “March to the West” echoed frontier expansion in the United States in the nineteenth century. Just as the Homestead Act provided land to farmers willing to settle the North American frontier, so were the colonization projects in Brazil intended to make land available for family farms.

In Rondônia, the frontier-settlement program followed an existing corridor: the service road connecting stations along the old telegraph line was upgraded and paved to invite migrants to the territory. The Northwest Pole program provided 250 acres of land to each family that would commit to farming it. The government also created small rural service centers where families could obtain medical and educational services. In some cases, existing settlements that had grown up around the telegraph stations served these functions.

Settlement projects throughout the Amazon were intended to relieve population pressure in the Northeast, where the inequitable distribution of land was increasingly problematic. Rather than address the land tenure issues directly, the government chose to offer subsidies to people who would leave the Northeast and settle in Amazonia. Ignoring the presence of indigenous people, Brazil's president promoted the Amazon as a “Land without men for men without land.” Programs intended to absorb modest numbers of migrants from the Northeast had the unintended consequence of encouraging massive migration from the South and Southeast.

As a result of the unexpectedly strong response to the regional development programs in the 1970s, rapidly growing populations emerged along the entire

axis of BR-364 in Rondônia. Although many migrants to the frontier settled on small parcels as intended, poor soil conditions frequently led the original settlers to abandon their property after only a few years. It has come as a surprise to many that the soils found under rain forests are unsuitable for settled agriculture. In fact, some of the most nutrient-poor soils in the world are found in rain forests. Because of high temperatures and abundant precipitation, most nutrients are rapidly metabolized in rain forest environments, but these same conditions prevent their accumulation in soil. Rain forests have evolved to these conditions by storing nutrients almost entirely above ground. In contrast, agricultural crops such as corn and wheat rely on the storage of nutrients in soil, as they are not able to process nutrients directly from their stalks and leaves. Farmers clearing rain forest by burning will typically enjoy one or two years of bumper crops, as the ash from the burned biomass has enriched the soil. Once the initial store of nutrients is depleted, however, cultivation of crops is extremely difficult.

As the small farms failed, they were consolidated into the larger holdings of ranchers, many of whom were wealthy urban Brazilians who were holding land as a hedge against inflation. Cattle ranches frequently served merely to mark the territory as part of a land-speculation scheme. As a result, up to 85 percent of the land cleared in Rondônia has been used to graze cattle, saturating the market for beef. Combined clearing of land for agriculture and ranching destroyed at least seventeen percent of the rain forest in the state.

Land speculation and consolidation of farms resulted in the rapid growth of extremely large farms while the average size of small farms declined rapidly. This combination favored wealthy land owners, allowing them to control both local land and labor markets, and to

pay extremely low wages. As a result, the labor surplus led to the dislocation of new settlers, and their subsequent migration to urban places. In many cases, the rural service centers began to increase in population quite rapidly.

#### PORTO VELHO TODAY

If Porto Velho is known to outsiders at all, it is mainly as the gateway to rural Rondônia. If the city is mentioned in an article, it is likely to be only because the airport was closed by the smoke of burning rain forests as a writer was trying to get to the “real” story somewhere in Rondônia’s interior. Even within Brazil, this capital city of almost 250,000 — the third largest in the Amazon region — is barely known. Scouring six months of *Veja* (Brazil’s major news weekly) page-by-page may not reveal a single mention of Porto Velho. Sometimes Porto Velhenses themselves do not even seem to believe it is a real place. The fact that I had traveled to Brazil specifically to spend three months in their adopted city was sometimes met with disbelief and even a measure of annoyance that I had bypassed other regions of Brazil that my hosts were certain I would have found more interesting.

Migration to urban areas began as a process of stepwise migration from other regions via rural areas of the state, but by the time of my visit in 1996, urban growth had taken on a life of its own. Migrants were beginning to arrive in Rondônia’s cities directly from other parts of Brazil. This is increasingly true in a neighborhood on the periphery of Porto Velho by the name of *Cidade do Lobo*, literally City of the Wolf, after a rancher named Lobo whose land had been invaded to create the neighborhood.

Land invasions are a common occurrence in growing Latin American cities, but in Porto Velho as elsewhere, they create a number of difficult problems

for local officials. For this reason, the municipal government has created at least two neighborhoods of single-family homes for new migrants. These neighborhoods are well-organized grids of very small houses, each on its own lot. The neighborhoods are known as Pombal (Dovecote) I & II because of the tiny size of the houses and the minimal provision of infrastructure. Because the houses are simple and the lots are relatively big, the program provides a way for families to obtain basic housing and then make improvements as they are able. Although land invasions continue as Porto Velho grows, many areas of the city are by now well established.

The outside world may continue to be unaware to Porto Velho, but the opposite is certainly not true. The people of Porto Velho are rapidly becoming “plugged in” to the world economy and to the world of information. Just as the telegraph system of the nineteenth century allowed the most remote towns in North America to remain connected, so too do broadcast media and the Internet serve to bring the world to Porto Velho. Recent Hollywood releases are available for rent, and even smaller cities in the interior of Rondônia now have make-shift video parlors with *Mortal Kombat* and other North American games. Household computers remain rare in Rondônia, partly because of high tariffs. I arrived in Porto Velho soon after the first Internet connections, but already individuals were scrambling to find ways to get connected. State-of-the-art computers could be found in the back rooms of houses in fairly modest neighborhoods. The high price of telephone communications actually makes the Internet a very attractive alternative for those trying to maintain connections outside the region. In fact, I encountered several foreign visitors who had never used the Internet *until they got to Rondônia!*

## OURO PRETO

Ouro Preto do Oeste, located near the center of Rondônia, began as a telegraph relay station, as did the other major towns on the BR-364 highway. It is difficult to conceive of a better name for a frontier town than one which means "Black Gold of the West." Although Ouro Preto's modern growth did result from gold mining, it is actually named for an eighteenth century mining town in Minas Gerais. Unlike its namesake, which had grown rapidly with gold mining and then declined rapidly, Ouro Preto actually grew substantially after the local gold resources had literally panned out.

The former municipal airport in Ouro Preto is the site of perhaps the most unusual residential settlement I encountered during my field work. Even some of its earliest residents are unaware of its history. During the gold rush in Ouro Preto, an air strip had been located in the midst of the rain forest near the town. It ceased operation when the gold was exhausted, at the beginning of the dry season in 1985. In August, at the end of the dry season, the rain forest along the air strip was burned and massive trees were removed. Unlike other settlements in the region, this land was never used for agriculture, but rather was cleared specifically for urban, residential use. The land invasion was well-organized, and now a large neighborhood is oriented on a very regular grid oriented along an extremely long and straight boulevard that was the original landing strip. The axis of that strip is now one of the major arteries of the city, and the neighborhood surrounding it is known as "Airport Garden." For this reason, visitors to the town who board a bus marked "Airport" might ride in vain, never finding an air terminal. Today, another kind of "gold" appears to be supporting the economy of Ouro Preto. Because a road ending in Ouro Preto

connects the Bolivian frontier to BR-364, evidence suggests that coca from Bolivia is transshipped through the city.

## ROLIM DE MOURA

Rolim de Moura is a genuinely new city, which was built by the Brazilian government as a rural service center in 1975. Even at its inception, the town was built on a grand scale. The main boulevard is over 300 feet wide, and all of the secondary arteries are 100 feet wide. Since none of these streets was paved in the early years of the settlement, a red dust obscured visibility in the town during the dry season. Dust was once almost unheard of in the region, but a pall now hangs continuously over the city throughout the dry season. Despite its grandiose street plan, Rolim de Moura in 1996 retains one symbol of its pioneer days. A local history features on its cover one of several difficult ferry crossings required to gain access to the town. As of 1996, one of those crossings remained, but a bridge to replace it was under construction.

Frontier regions are frequently littered with "boom towns," which grow rapidly and then disappear once a local resource has been depleted. Although its population appears to have stabilized, Rolim de Moura is as close to a boom town as I encountered in Rondônia. Local elites with whom I met lamented declines in population, the timber industry, and the productivity of agriculture since they had arrived in the 1980s. Unlike many other parts of the state, where forests have typically been cleared by small-scale agriculturists, the timber harvest itself has usually been the driver of deforestation. Because of the great diversity of tree species in the rain forest, many acres would usually be cleared in order to obtain only a few specimens of highly valuable trees such as mahogany. At

one time this harvest occupied 180 saw mills in the city; in 1996, I was able to visit one of only three mills that remained. This mill was now processing lower-valued species of trees, and trees harvested from indigenous reserves. Still, the trees currently being harvested are so large that each eight-foot section of a tree can build an entire, if modest, home. After my visit, I learned that the município (county) of Rolim de Moura has experienced more extensive deforestation than any other, losing 87 percent of its original forest in a fifteen-year period.

The effects of deforestation are many. They include the interruption of the carbon cycle and the hydrologic cycle, both of which may contribute to climatic changes such as global warming and desertification. Rain forests are host to an unusually diverse collection of plant and animal species, many of which are extremely localized. Deforestation not only results in the extinction of many species, but it also replaces a complex ecosystem with new ecosystems that are far simpler, and far less resistant to disturbance.

During a visit to a ranch near Rolim de Moura, I experienced this personally. The owner of the ranch, who lives in town, allows members of a local apian cooperative to use his land in exchange for a bit of the honey. I joined the beekeepers as they tended their hives, which are located in a large opening among grazing cattle and a large number of charred tree trunks. We all put on beekeeper's suits as a precaution, although I had to improvise with my own khakis and work gloves because a full suit was not available. Once the hives were opened, I had the unforgettable experience of being swarmed by the bees for several minutes. They were very aggressive, and I was greatly relieved that the face guard of the suit held securely. I subsequently learned from another geographer studying in the region that the bees



*The Palace of the Pioneers is the town hall in Ouro Preto do Oeste. The cities and towns of Rondônia exhibit strong nostalgia for a frontier past, although the frontier period was no longer ago than the 1970s, or even the late 1980s in many areas.*

in this area had originally been as diverse as the rain forest itself, but that deforestation had greatly reduced their variety, allowing Africanized bees, an invader strain, to dominate the bees of the region.

#### ART IN THE FOREST

Near the end of my trip, I had the privilege of visiting Anká, an artist renowned in Porto Velho. To visit his home and studio, I began by taking a bus downtown, where fortunately I purchased a fruit juice and roll from a street vendor, to fortify me for what was to be a long journey. I disembarked in Candeias do Jamari, a small town that grew up around a station where taxes are collected from trucks bringing goods along BR-364 into Porto Velho. Anká met me as planned, and we ducked behind the office, crossed a field, went behind a house, and climbed down some steps cut into the soil of a very steep bank down to Rio Candeias.

We got in his little motor-canoe, which has a very small engine and only a very minor leak. We putt-putted upstream past mile after mile of forest.

The river itself was a beautiful, opaque green, and forest reached down to the banks almost continuously. At one point, a tannin-stained, black-water tributary entered from our left, creating a miniature “wedding of the waters,” similar to the famous confluence of the Solimões and Rio Negro, where they meet near Manaus to form the Amazon. We saw quite a few birds, including some very fast black-and-white swallows which live in the river banks, a blue heron, and quite a few others. Shining blue morpho butterflies traversed the river, and were so enormous and bright that one is actually visible in a photograph I took from a considerable distance.

In this way we passed through meander after meander of the river. From time to time we saw people swimming or fishing. We passed only a dozen houses, all of which were on high bluffs and difficult to see. We saw three or four gold mining dredges, pumping sand from the bottom of the river

up onto the bank. These mining operations are a considerable environmental hazard, as the mercury used to separate the gold is easily concentrated in the tissues of local fish.

After an hour and fifteen minutes, Anká pointed to the top of a very high bluff — his home. He and his wife Estela have been there since 1975, on a government land grant of 450 acres. Unlike most grantees, however, they have removed almost no forest from their land. Their house is among the trees, with a beautiful view of a great loop in the river. The house is 100 feet above the water, and is reached by steps cut by hand into the river bank. The way we came is the only way to reach the house. They have built the house themselves, transporting every bit of it from town by boat. For the first five years, they did not have a motor, and the trip from the highway took six hours. The house has all of the ordinary fixtures, including a refrigerator, a generator, tile, and a variety of furniture. Power is from a 12-volt battery and generator. Everything in the house comes either from the land itself or from Porto Velho. I was incredulous and impressed. I asked repeatedly how they got these things to such a difficult location. Anká’s response was nonchalant, even the refrigerator was “not really that heavy,” for example.

The main room of the house is probably 12 feet square, with a cathedral-type ceiling and a balcony in one corner. On all of the walls are his art. It is a combination of painting and carving that is wonderful and unique. All of the works depict fantastic visions of the forest, although some also include the railroad that has come to symbolize Porto Velho. Anká explains his technique as the result of a voice coming to him and forcing him to do art. He argues that being an artist in a wilderness where people do not appreciate art is crazy, and that therefore he would not do it if he did not have to. Art is suffering, he says. Actually, Anká is a pseudonym, and he has a little flier

describing the birth of Anká as the hearing of this voice. I asked him several times where he was literally born, and he said this kind of thing is stupid details for the police or the government. Where one is born makes no difference in what a person is. As a geographer, I did not agree, but was not about to argue the matter with this wonderful artist. After we had lunch, we returned to his canoe and began the journey back to Porto Velho — with a carefully-wrapped piece of his artwork on my lap.

#### FRONTIERS ELSEWHERE

A visit to Rondônia invites comparisons to the frontier era of North America a century and more ago. Is the environmental destruction this time more severe than in the past, or is it just more immediately and widely known? Ranchers I met in Rondônia were keenly aware of North Americans'

concern for the rain forest, but they also argued that the parallels to our own frontier development were being forgotten. Similarly, both frontiers had been considered empty territory, despite the presence of indigenous civilizations.

Just as in North America, transportation routes and nodes are the focus of frontier growth. Just as Louisville, Kentucky grew around the riverside terminus of a railroad, so too has Porto Velho. The towns of Rondônia engage in a competition for resources and attention that was common in the American West. In the United States, boosters hoping to promote their towns would seek to have them named as county seats. In Rondônia, this strategy has been pursued, but with an interesting twist. Because resources flow from the federal government to município (county) seats, the state has

allowed an unprecedented proliferation of counties, which have increased in number from seven to fifty-two in the space of twenty years.

Even as deforestation continues in Rondônia, for most of its citizens the frontier era has passed. Elsewhere in the Amazon Basin, however, new settlement continues to occur, both in Brazil and in the other countries with Amazonian territory. It can be hoped that the experience of Rondônia will lead to more balanced change in such new frontiers.

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*Bee keeping provides a means of recovering some value from degraded land. Because of the loss of diversity among native bee populations, however, hives are increasingly likely to contain Africanized "killer" bees, as does this one on a ranch near Rolim de Moura.*