

Farm & Fortune: A South American Tale

By Phillip Day

In the year 1500, a new land was discovered by a Portuguese Mariner named Pedro Alvares Cabral. Five hundred years later covering an expanse of 8.5 million square kilometres, the Federative Republic of Brazil is the fifth largest country in the world, and occupies nearly half of the continent of South America.

It's first human inhabitants were South American Indians, a prosperous and land loving people who never took from the land more than they required and who for thousands of years lived within the jungle that covered the vast majority of the continent. However following colonisation by the Portuguese in 1534, the natives lost their land and their freedom, and became slaves to the farming of Sugar cane. In the past 500 years the native Indian human population has crashed from about 4 million to just 200 thousand. The majority of the population now inhabit the deepest regions of Brazil's Jungles.

The arrival of the European Farmer lead to acres of jungle falling to make way for the vast plantations that grew so readily in the Brazilian climate. When the Indians became scarce, African people were enslaved to work the land. In 1690 the state of Minas Gerais was found to have very rich Gold reserves which sparked off one of the worlds largest gold rushes, and the network of slave workers became unprecedented.

Eventually in 1822, Portugal lost its grip on its tropical paradise and Brazil became an independent empire. However the plight of the country was not removed and following the introduction of the coffee plant, the rainforest's demise accelerated. Slavery was abolished, however the resulting immigration from Europe lead to the formation of hundreds of coffee estates known as fazendas. By the end of that century the coffee aristocracy supported a military coup and the Brazilian Empire was toppled. Governments supervised by the armed forces dominated Brazilian politics until finally in 1929, the global economic crisis hit Brazil. The coffee planters lost their hold on the government and under the power of Getúlio Vargas the military took complete control.

His fascist regime was ended in 1954 and under new leadership the new Capital City of Brasília was established. Built in the centre of the country in the space of just 3 years using millions of peasants working around the clock it is regarded as an architectural masterpiece. However this lead to the country being battered by inflation and with the fears of encroaching communism, Brazil's fragile

democracy was once again subject to a military coup.

Following more huge expenses supported by loans from foreign banks, including the building of the worlds biggest damn, Itaipu in Iguaçu, the military finally handed back power to the civilians in 1989. Unfortunately in 1992 the new president Collor de Mello was indicted and thrown from office for sucking over US\$1 billion from the economy in a wave of corruption, bribery and extortion⁽¹⁾.

Ordem e Progresso. Three words that forever seem to haunt a country currently in the seizure of serious economic decline. A country with the third largest City in the World, yet one where the overwhelming majority of its population live in poverty either in the immense favellas of the big cities or on economically plummeting farm lands where they strip the already poor soils of nutrients and minerals in the vain attempts to grow crops in order to gain an income to support their families.

These farms occur throughout Brazil. The major crop is still coffee, however with the dramatic devaluation of the Brazilian Real in 1999, increasingly huge areas of land are having to be farmed in order to stay afloat. This creates a very significant problem as the farmland expands at the expense of the rainforest.

This has lead to a very alarming environmental threat to the once boundless rainforest, and no more so than in the Atlantic Rainforest (Mata Atlântica) region of the country. This region is an area of exceptional environmental biodiversity and beauty which due to mass deforestation now only covers 7.5% of its original extent. The land has been given special environmental protection by the government, however this has been unsuccessful in preventing its continual destruction. The strict laws and punishment for perpetrators is a solution that does not address the real problem at hand. The real solution lies in taking measures that address the problem of land degradation and not just the symptoms of deforestation. It is along these lines that a small private company has decided to take the initiative and address this problem of land degradation...

In the wilds of Minas Gerais, 8 hours drive from Rio de Janeiro through some of most beautiful mountain scenery that I have had the pleasure to witness, lies the beautiful little Fazenda Iracambi. Located in the município of Rosário da Limeira, adjacent to the Serra do Brigadeiro State Park, Iracambi is the home of Robin and Binka LeBreton, the research directors of Iracambi Recursos Naturais Ltda., which is

coordinating a new conservation scheme, tackling the problem of rainforest depletion at its very roots.

Since 1989 Robin and Binka have been running the 500 hectares of land as an agricultural business. A fish farm, dairy farm, eucalyptus plantation and hundreds of hectares of rainforest are all incorporated into the fazenda which employs local workers, both male and female, to work in various capacities on negotiated structured salaries. During the first 10 years, Iracambi made important links, not only with the local farming community, but also with the local councils. In fact their influence has been so successful, that both Robin and Binka are now on the committee for the management plan for the neighboring Serra do Brigadeiro State Park.

The active roles that Iracambi plays in community development has put the company in a position to tackle first hand some of the more pressing environmental problems effecting the surrounding region.

In seeking to achieve their aim of uniting rainforest conservation with improved agricultural methods in the local community, Iracambi set up a project in 1999 called Amigos de Iracambi. This new non-profit organisation had a list of objectives drawn up which it has incorporated into the following programs:

- Research on forest regeneration and sustainable land management at the Iracambi Atlantic Rainforest Research and Conservation Center
- The Forest Futures program, which buys degraded land and reforests it, creating more habitat for wildlife and extending the existing rainforest
- The Environmental Education program, teaching local children about the forest, and working with farmers on improving land management
- The development of income-generating activities for small farmers, using renewable forest resources, such as bee-keeping and medicinal plants.

“Iracambi’s mission is to forest the farm and farm the forest. Hand in hand with Amigos, Iracambi aims to assist local development and rainforest conservation for years to come.”

On the 4th July 2001 I arrived at Iracambi to document how the project was going, now in its second year of rainforest conservation. For 28 days I experienced the very heart of the Farmland - Rainforest debate alongside 15 other volunteers, over 2 hours walk from the nearest village and bus stop...

After experiencing the thrills and spills of trying to drink coffee in a Brazilian bus where the driver knows only 2 speeds, fast and faster whilst hurtling around the Mountain roads past Tijuca for 8 hours, I was

more than happy to stagger off the bus holding my stomach and take a taxi to the place that would be mine and my two companions’ (Frosty and Sean) home for the next month. The “road to Iracambi” from Limeira is one fraught with pot holes and decorated with overly large rocks which for a 6ft tall Englishman does not make for a comfortable ride, especially when his head is violently thrust against the ceiling on more than one occasion.

If the state of the roads were not a clear indication, the house to which we were driven was enough to make us realise exactly what we would have to cope with for the remainder of our visit. We were staying in what could be described as a typical farmhouse for that region. We arrived in the dark, exhausted, and having paid for our taxi, installed our belongings into Casa Graminha. Thin streams of light pierced the night sky from between the wooden shutters and door. The electricity we learnt, came from a small hydroelectric generator, which could power the light supply from around 5 o’clock at night to 8 o’clock the next morning. Just enough overlap between the short but warm winter hours of daylight and the intensely dark and cold night.

The house was a small bungalow with flat, cold walls segregating the 3 bedrooms from the toilet and kitchen. I placed my bags on the stone floor of mine and Frosty’s new bedroom and went to examine the rest of the house. The kitchen was furnished with a large wooden table, a set of wooden shelves, a gas powered cooker and stone sink, from which water was constantly siphoned in from a stream higher up the mountain.

All the food in the kitchen was home grown, and any special extras such as chocolate, ketchup or Coke could be ordered once a week from Muriae, the local town, 2 hours drive from the farm. The staple diet in the area was rice and beans, and not a single day passed without it.

The rest of our meals were made up of a variety of vegetables, dairy products and if we were lucky, one of the local chickens. Cakes were also duly baked by the employed cook Carminha using mainly fruit that grew on the surrounding trees (bananas, oranges, lemons and pineapples), although a polite dabble in Portuguese could tempt her to use cocoa powder. The amount of food was never a problem, and thanks to Carminha’s wonderful talents neither was the variation.

The lack of home comforts in the house really did grind, especially when you walked in late having trekked 45 minutes from the main farmhouse to check emails, soaked to the skin by the rain. There was no heating to speak of, and if you wanted a warm shower, you first had to heat up two pans of

water on the rather inefficient stove, before pouring their contents into a bucket with a plastic nozzle attached to the bottom which was hung from the ceiling of the bathroom. There were 6 of us sharing one bucket. Needless to say showers were not the most regular occurrence at Casa Graminha.

The world of Iracambi presented itself over the coming weeks. Placed as it was in the heart of the Atlantic Rainforest, the fazenda was situated in a large bowl shaped valley dominated on all sides by a sea of tall green mountains that stretched away far into the distance. From the top of the highest hills, the sense of enormity of the area was driven home. Only there could you actually see beyond the reaches of the fazenda, it was the first of many humbling experiences that I would have whilst out there.

The valley bottom of the fazenda varied between forest and farm land. Sugar cane was harvested in many areas whilst in others, cows and horses wandered, feeding off the grass. The hillsides were mostly forested, with a few areas laying bare. In adjacent fazendas, coffee could be readily seen growing, although as Robin informed us, the plantations generally don't last for many years.

He explained to us that with the summer would come rain, and torrential rain at that. The soil in the area was already very poor, and required the finely balanced natural mineral cycles that the resident animals and plants of the forest would give. Once the minerals of the coffee plantation were used up, there was nothing to rejuvenate it and the crop would die. Worse, the heavy rains would also wash away the top soil, which lacked the secure anchorage of the trees. The hillside would therefore quickly erode away, leaving a scar on the landscape, that would take a very long time to heal.

Coffee is essentially not a good crop for the area. However there are currently no alternatives, and the farmers have to feed their families. Despite the protection laws, the forest will still mysteriously disappear due to "freak" fires. The farmers insist that they might as well use the cleared land to grow their crops, what else could they do?

Robin is working very hard with the farmers to try and find alternatives. Already he has influenced some of his neighbours to grow Eucalyptus trees, which can then be farmed and replanted. The benefits to the environment of this practise are huge, and the benefits to the farmer are growing. Robin is actively promoting the use of Eucalyptus trees in his Forest Corridors scheme, the objective of which is to replant trees so that they join together the few remaining islands of forest in the area.

Creating corridors between these forest fragments has the effect of enlarging the habitat range of insects and animals as well as increasing the potential for biodiversity conservation. This is essential, as the reduction in the size of islands leads to a reduction in the number of species at an exponential rate. At Iracambi, they are trying to convince the farmers to replant trees along the borders of their lands, as this is an area that won't really effect the farmer's cultivation plans. Further, a forest corridor just 20m wide on each side of a boundary, if planted correctly, will enable the network of pollinators, which are so critical in tropical ecosystems, to re-establish themselves.

With a large diversity of pollinators, a large diversity of plant types can flourish. In order to attract such a diversity of pollinators, requires the planting in corridors of a variety of species of plant. Obviously, some need to be fast growing (which is why eucalyptus that grows at 2m per year is ideal), some need to have flowers to attract insects, and fruit to attract birds and mammals as seed spreading agents. The one problem with eucalyptus however, is that their fast growth rate tends to use up the soil nutrients very quickly which will have to be replaced in a few years time.

By creating corridors around all of these boundaries, a forest network will develop connecting all the local farm forest fragments in the region around Iracambi to the Serra do Brigadeiro State Park. In this way it is hoped that the huge biodiversity that was once so prevalent in the area will return.

Brazil as a whole is an area of outstanding biodiversity and natural beauty. The country's rainforests hold the third highest number of mammals and birds in the world, the fourth highest number of reptile species and the greatest diversity of Amphibians, many of which have not yet been identified. Within Brazil, the Atlantic Rainforest maintains the richest area of biodiversity and the UN ranks it amongst its neotropical forests of globally outstanding importance.

Within the state of Minas Gerais alone there are 780 bird species compared to 450 in the whole of the USA. Ten thousand plant species inhabit the Atlantic Rainforest alongside the highest number of neotropical primates on the planet. Eighty per cent of the species on Brazil's Red list of endangered fauna are found here. Conservation therefore is at a critical stage and of highest priority in this region.⁽¹⁾

Robin insists that although planting Forest Corridors is a good start, and will undoubtedly bring about an initial rejuvenation of fauna, far more important is the mass replanting of trees and shrubs

on the bare hillside. He showed us how local farmers are already starting to replant and conserve their forests. In particular he showed us that many farmers have now learnt to leave forested areas around water springs and small rivers. He explained that the root systems will provide sufficient anchorage to keep the river in place, and therefore provide the farmers with a constant supply of fresh spring water.

We were shown many areas where the forest had been cut down and all the springs in the area had subsequently dried up. We were also driven through some of the adjacent farms in Robin's land rover. We saw coffee plantations in various stages of demise, and it was shocking to finally meet a hillside that had all but eroded away. He told and showed us how the coffee bean crops had been badly planted by the farmers, causing mass deforestation. This had led to severe erosion, and during the rain season had led to the hillsides simply crumbling. All the fertile topsoil slides down the hills into the river and is swept away by the bulging waters. One farmer had removed the grass around the roots of his crop with herbicide, thus removing the last bits of anchorage in the soil. There are now heavy fines for deforestation.

About 20 minutes into the tour, Robin stopped the land rover and pointed out some Coffee beans in the adjacent field. He asked if we had ever tried raw coffee. We replied that we hadn't and so took a couple of berries each and had a nibble. I was rather dissatisfied to discover a maggot in the first one I tried and unfortunately it was the sour taste that first alerted me followed by the image of my bean emitting a small writhing larvae. I checked my second bean carefully and tried again.

"Of course" Robin continued "I personally wouldn't eat the beans following the amount of pesticides the farmers around here have to use....." I wasn't amused and neither were the others as 4 very well aimed coffee beans were projected out of the land rover and back into the fields from whence they came. Robin cheerfully drove on.

We also learnt that it not just coffee that is unsuitable for these regions. The practise of grazing cattle on the cleared grasslands, apart from killing more of the flora, is bad for the animals themselves.

The local grass has a very low protein content and is therefore unable to sustain the symbiotic bovine rumen flora over a long period of time. They subsequently die starving the cows of cellulase enzymes. The cows would then die having produced a very poor milk yield.

The amount of cleared forest was staggering. You could climb to the top of a forest trail, come out of the forest and for miles and miles all you would see

were barren hillsides, some had crops but most were bare and discarded. In the last twenty years most of the gargantuan forest in the area has been cut down leaving isolated patches of trees on the tops of the hillside and mountains. This trend will continue as farmers have to clear more forest in order to support their crops. It was really driven home to us at Iracambi that the farmer is not greedy, he's just poor and needs to support his family.

We met nearly all the farmers working at Iracambi, and some of their neighbours as well. They lived as we did, if not worse, in little houses on the fazendas. Yet they were among the most friendly and cheerful people that I have met. With our limited grasp of Portuguese, which was mainly enunciated with finger pointing, we somehow managed short conversations, or asked questions, and the majority of times got the right answer. A simple wave and "Oi!" which means "Hi!" would be met with a smile and a returning gesture.

During our stay, we had the privilege of being invited to the 12th birthday of the daughter of one of the farmers. Her name was Meriam and when we all arrived at their house we were greeted whole heartedly by her Uncles, Aunties, Grandparents and cousins, all of whom had come to help her celebrate. They insisted on feeding us with rolls filled with a vegetable type of filling and plied us with glasses of Guarana - a Brazilian soft drink that I subsequently got addicted to. It was wonderful to see them all out in their best clothes, and all the girls were wearing beautiful dresses. We felt humbled by their generosity, especially when they brought out the biggest birthday cake that I had ever seen, and insisted on sharing it with everyone.

The next day all the family came around to see us at the volunteers research centre armed with a football. I spent the morning with some of the other volunteers trying to play goalkeeper, as bare footed, the young and old Brazilians showed us why their country is one of the best football nations in the world. We tried communicating and learnt quite a lot. Most of the children in the area get very little schooling. In fact our milk was delivered to us by an 8 year old boy and his sister, who would ride around the jungle on their bicycles, pushing it up the ridiculously steep hills. For his troubles he got R\$10 a month, the equivalent of £3. We decided that the momentous effort of bringing the milk halfway up a mountain to Casa Graminha, deserved a generous slice of cake. Our milk was almost never late.

As well as the experiences that we gained in observing the rainforest and its inhabitants, we also helped with various projects that were being run, directed by Robin and Binka. The biggest project that was in its infancy whilst we were there, was the

intensive mapping of the area using GIS. Using satellites to plot coordinates, a hand held GPS unit was taken around the fazenda to map out all the paths, trails, rivers and houses. The different forest areas were also recorded as either primary, secondary or tertiary, depending upon whether the forest was unlogged, mature or rejuvenating. Using this data, a database had been set up to record all the plant and animal species and their habitats found in specified area.

A floral survey was already chiefly under way when we arrived and an initial bird survey had also been carried out a few months beforehand. A beautifully presented survey of the lepidoptera species was being conducted as we arrived. Due to our limited time at the fazenda, myself Sean and Frosty attempted to add to a small insect survey that had been started the previous year. We each took a different forest environment, and using pitfall traps collected as many insect species as possible. I had opted to take my survey to one of the few areas of primary forest land, which as it turned out was 30 minutes trek up to the top of one of the highest hills and then down again through thick vegetation on the other side.

However I enjoyed the challenge, the exercise kept me very fit and the view from the top of the hill was just unbelievable, encapsulating the whole of the fazenda. I trekked up that same hill for 10 days including once at 05:00 with some fellow volunteers to catch the dawn rise, we were not disappointed. My insect traps did also yield results of sorts, and using the limited library resources, I was able to classify my captives into orders, and a few into families.

Leaving Iracambi at the end of my 1 month stay was a bit of a wrench as I had made 15 new friends and some, including the Brazilian workers, I would never meet again. However I had another 5 weeks of culture to experience in some of the most beautiful parts of Brazil and so with a feeling of immense satisfaction and eager anticipation for the coming weeks I packed my bags and left.

Brazilian Culture

The experience of Iracambi had introduced me to the poverty of Brazil. However it also endeared me to a very colourful people, who loved their music and dancing and of course their football. I also realised how, in that part of Brazil especially, the huge influence that the Catholic Church held over the population. Their faith was reinforced by rules far stricter than those that I had grown up with as a Christian in the UK. In a country where Catholicism is the way of life for 70% of the population, alcohol is

a drug that many will not touch, and few drink in huge proportions. They do however ferment a spirit called Cachaça, which originates from Sugar cane. I had the misfortune to sample Cachaça a few times whilst in Brazil. Its translation in English is 'poison'.

Outside of Minas Gerais, things become quite different. Twenty four hours coach ride to the north is a large City called Salvador da Bahia. This is the centre of Brazil's Afro-Brazilian culture, and the influence of the Africans is immediately obvious. The very colourful city is never quiet, with samba and reggae a part of everyday life. Rastafarians can be seen everywhere playing new and bizarre instruments and engaging in a martial art called Capoeira, the object of which is to get as close to your opponent without actually touching him or her. Somersaults, flying kicks and intricate moves that just look impossible and quite painful are all part of the intricate dance which is accompanied by a multitude of drums, voices and strange stringed instruments.

A new religious sect was even introduced to us during our stay where men and women worship their Gods with intricate blind dances and bows. We were intrigued during our stay to witness the festival of female spirit, where worshippers both male and female, were dressed in regal women's clothing having fallen into a deep trance following 2 hours of dancing in a ring to the sound of beating drums. On awakening from the dance most would scream and cry out, although a few appeared to go into some sort of a seizure on the floor. We left at the end feeling rather disturbed. Travelling down south, we experienced the huge megalopolis of Sao Paulo and the beautiful city of Rio de Janeiro, which with its beautiful white beaches including Copacabana and Ipanema, tall sky scrapers and busy 4 lane high streets bring Brazil right into the Western World.

Rio is dominated by the Statue of Christ the Redeemer on the immense Mountain of Corcovado, the view from which is just mind blowing. However despite the religious overtones, the City of Rio remains one of the most vibrant in the world. The people love their Samba and football crazy way of life, and walking along the Copacabana beach front exemplifies this in its full glory. The football crazy population of Rio known as Cariocas, take allegiance to one of at least 10 different local football teams who play their home matches in the world's largest and most colourful stadium - the Maracana. Here the very vocal supporters are part of the game itself, playing samba music and constantly waving hundreds of flags.

However alongside the glitz, the city also exemplifies Brazil's struggle between third and 1st world. Nearly 1/3 of the population live in slum towns called Favellas, the biggest of which stretches for miles. The people who live there are regarded with great suspicion, however when I visited the area on a tour, I met a population of polite happy people, who have their own small schools and medical centre. The area is obviously very poor, and the houses are stacked on top of each other, however peace is kept in the area due to the rule of the Underworld drug barons. Trouble would be bad for business.

The further south you go, the more laid back the way of life becomes. Ilha Grande, a beautiful sub tropical island is the Carioca's favourite holiday retreat. The Jungle covered mountains sweep down to sandy white beaches, where amongst the mangroves you will find small huts occupied by fishermen and trades people, who sell refreshing fruits and drinks to passers by. Boats take people around the island playing typical Brazilian music, with the captains laughing and joking with the travelers and pass around Cachaça and fruit. The whole atmosphere is so relaxed that it is impossible to imagine how any work ever gets done there.

The colourful towns of Angras dos Reias, Parati, and Morretes all incorporate the same "No Stress" ethic, where walking down the cobbled side streets and around the town squares at a British walking pace will just be met with frustration. Greetings between friends are accompanied with a Brazilian style handshake and the friendliness of the majority of the people becomes apparent when for the 4th time in as many minutes you find yourself studying your map and struggling through your phrase book, only to find a smiling Brazilian face waiting patiently to show you the way back to your hotel.

All roads lead to an end, and our penultimate stay before returning to Sao Paulo to fly back home was the small town of Iguaçu, home of the Itaipu Dam (one of the 7 man made wonders of the world) and the mind blowingly beautiful, spectacularly stunning and immense Iguaçu Falls. The Hydroelectric Dam supplies electricity to 75% and 25% of the populations of Paraguay and Brazil respectively and is the major cause of Brazils economic crisis due to the vast sums of money spent on building it. The population is influenced to a small extent by the native Indian's that live deep in the forests of Brazil, Argentina and Paraguay, whose borders all cross here. This is most apparent when visiting the 8 Kilometres of Waterfalls where authentic paintings and pottery adorn many of the surrounding shops and stalls. The Falls themselves cannot be described by mere words or pictures. They were however the

dream ending to the greatest experience of my life, in a country that I previously knew very little about.

Reference List

1. Lonely Planet online:
http://www.lonelyplanet.com/destinations/south_america/brazil/