FOREST ALLIANCE

B.C. is not the "Brazil of the North"

A Preliminary Report on Forests and Forestry in B.C. and Brazil

by

the Forest Alliance of B.C.

The following is a preliminary overview of the Forest Alliance of B.C. fact-finding mission to Brazil October 12-22, 1993. A more detailed report will follow as the large amount of information gathered on the mission is organized, translated and compiled.

November 1, 1993

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Main conclusions, impressions and observations

1. **There is no basis for the slogan "Brazil of the North".** It is an undeserved insult to both B.C. and Brazil and does nothing to promote understanding or advancement in sustainable use of the land in either country.

2. **The Atlantic rainforest along the Brazilian coast is the most endangered ecosystem in Brazil.** Only 4-7% of the native forest here remains after 400 years of urbanization and agriculture, and conservation groups are not satisfied with government efforts to protect these remnants from development.

3. **The Brazilian Amazon rainforest is not in danger of extensive deforestation.** Only 5% of the Amazon has been deforested and legislation is in place to control the type of development that took place a decade or more ago.

4. **Brazil is addressing land use issues and sustainable forestry in a proactive and progressive manner.** Legislation and policy are in place to improve restoration and protection of native forests.

5. **Forestry practices in Brazil and British Columbia are very different.** There are a number of general areas where B.C. and Brazil can learn from each other such as biodiversity protection and land use planning.

6. **There should be far greater exchange of information and expertise between B.C. and Brazil.** Both regions have extensive native forests and a common interest in sustainable forestry and trade issues involving forest products.

7. **Brazil is not a major exporter of tropical hardwoods as it accounts for only** 1.4% of international trade in tropical timber. The fact that the Amazon forest is far larger than any other tropical forest makes their relative trade position even smaller. Canada accounted for 17.3% of all trade in forest products in 1991, according to FAO documents.

8. One of the main differences between forestry in Brazil and in B.C. is that in **Brazil the solid wood products industry and the pulp and paper industry are completely separate.** In B.C. the pulp and paper industry is based on the waste from the timber industry. In Brazil the timber industry is based on native tropical hardwoods while the pulp and paper industry is dependent on plantations of exotic pines and eucalyptus. The pulp plantations are grown on land that was already cleared for agriculture.

9. **Plantation forestry is a proven technology in the south of Brazil and on the Atlantic coast.** In the Amazon, plantation forestry is in a newer stage at Jari, 450 kilometres northwest of the mouth of the Amazon River. But it appears eucalyptus will be a success at Jari thus opening up the possibility of more plantations in the Amazon region.

10. Another major difference between B.C. and Brazil is that there are no **publicly owned commercial forest lands in Brazil.** Essentially all lands except parks are privately owned. Forest land owners must file a land use plan and receive government permission to implement it. There is more state control over private land use in Brazil than in B.C. In B.C. there is total control over public land.

Purpose of the mission:

In recent years the term "Brazil of the North" has been used frequently by some environmentalists to describe forestry practices in Canada and particularly in B.C.

Images of fires and deforestation in the Amazon Basin have been compared with clearcut logging in B.C.'s coastal rainforests. In general, the comparison is meant to be negative and insulting to both Brazil and British Columbia. Both are accused of ecosystem destruction by the forces of human need and greed.

The Forest Alliance of B.C. is dedicated to finding a balance between the environmental and economic wealth provided by B.C.'s forests. We are concerned that slogans such as "Brazil of the North" give our province an undeservedly bad reputation both at home and abroad. Calls for boycotts of our forest products and negative publicity about our environment can only hurt trade and tourism, damaging our already fragile economy. The Forest Alliance decided to see for itself if there was any validity to the comparison with Brazil and indeed if either area had been justly accused.

Only a first-hand visit to Brazil could give us the basis on which to judge the accusations. We arranged to visit representative areas of the region to meet with industry, government and environmental groups.

The central purpose of the mission was to examine Brazil's land use, forestry, nature protection and general social and economic conditions in order to make an objective comparison of B.C. and Brazil.

The Participants:

Jack Munro - Chairman, Forest Alliance - Vancouver
Stuart Lang - President and COO, Crestbrook Forest Industries Ltd. - Cranbrook
Patrick Moore - Chairman, Alliance Forest Practices Committee - Vancouver
F.L.C. (Les) Reed - Forest Policy Consultant and Alliance Director - Vancouver
Mike Morton - Executive Director, Share B.C. - Ucluelet
Terry Tate - Chairman, Save Our Jobs Committee - Williams Lake
Tom Tevlin - Executive Director, Forest Alliance - Vancouver
Cathy Groenewald - Media Relations Manager, Forest Alliance - Vancouver

It is important to note that Stuart Lang is a former resident of Brazil who spent almost 20 years working on pulp and forestry ventures in the coastal and southern regions of Brazil. His contacts in Brazil allowed the group access to knowledgeable and high-level representatives of government, environment agencies and industry, and provided the group with detailed information regarding environment, forestry and land use over a broad range of forest sector issues.

The Mission:

A detailed itinerary of the Mission is attached as Appendix A.

The 11-day visit took us through eight of Brazil's 26 states in the Atlantic (coastal), southern and Amazon forest regions. We toured through the heavily-populated states of Sao Paulo and Rio de Janeiro, through the vast farmlands of the south, the plantation forests of the north and south, and the native forests of the south, Atlantic rainforest and Amazon rainforest.

The group observed four of Brazil's intensively managed eucalyptus and pine plantations. Brazil's pulp plantations comprise some four million hectares of Brazil's 850 million hectares (Brazil is about nine times the size of B.C., and almost the size of Canada). These plantations and the pulp mills they support are often responsible for the existence of entire communities like Telemaco Borba in the south which was visited by the group. A further 3 million hectares has trees growing for charcoal production.

We met with representatives from government, forestry, engineering, research, environmental groups, heavy industrial machinery manufacturers and conservation organizations.

The group also visited Itaipu, the world's largest hydro-electric plant, (12,600 megawatts) as well as Iguaçu Falls National Park and Brasilia, capital of Brazil and headquarters for most government operations.

The Comparison Between B.C. and Brazil

The Environment

Geography and Climate:

Brazil is 850 million hectares while B.C. is 95 million hectares; Canada is 910 million hectares.

Brazil straddles the equator at the Amazon and it is entirely tropical. The south is sub-tropical. The coldest areas in Brazil are equivalent to northern Florida. **There is no area in Brazil that is similar to B.C. in climate.**

The majority of the Brazilian land mass is low elevation rolling hills and flatland. The majority of B.C is mountainous with only a fraction of the land in valley bottoms suitable for agriculture.

Forests and Forestry:

Just over 60% of B.C. is forested with the balance of the land in alpine, snow fields, grassland and bush. About one half of the forested area, or 27% of the total land base, is considered suitable and available for commercial forestry. **To date less than one half of the commercial forest or 13% of the land base has been harvested by the forest industry.** Virtually all the harvested area has been reforested with native species, either by natural regeneration or a combination of planting and natural regeneration. Only a small percentage of land (3%) is occupied by human settlement and agriculture.

In contrast, **Brazil was originally almost fully covered by forest and savannah** grassland. During the 450 years of European occupation the southern sub-tropical forests, including the Atlantic rainforest and the Auracaria pine forests, have been decimated for firewood, timber and farmland. **Only 4-7% of the Atlantic rainforest and 15% of the total southern forest remains in its natural state.** Much of this is in small fragments and has been cut over or high-graded for timber in the past. Most of the land in the south has been cleared for agriculture long ago. Some of this area is heavily degraded and eroded, especially along the Atlantic coastline where much of the population is concentrated.

In contrast to the southern forest, the Amazon rainforest is mostly in its natural state with only 5%* having been deforested, according to IBAMA, the national agency responsible for implementing sustainable resource policy. Again, the clearing was primarily for agriculture and cattle grazing. The limited extent of land clearing in the Amazon is the most widely misunderstood fact about land use in Brazil. Recent legislation has greatly increased the protection of the rainforest and there is no chance that deforestation on the scale that has occurred in the south of Brazil will be repeated in the Amazon. At the present time, deforestation has been drastically curtailed by strict legislation.

The primary forest land use in B.C. is for commercial forestry, followed by reforestation with native species. Historically, the predominant land use in Brazil was for agriculture where the native species are entirely displaced. Much of the agricultural land was originally grassland or savannah type open forest. The Amazon rainforest remains about 95% in its natural state and is simply not as threatened as the rest of world has been led to believe. Some of the land cleared for agriculture in recent decades has already reverted to natural forest conditions.

Given these facts, how is it possible that B.C. and Brazil could be so closely compared as to call B.C. "Brazil of the North"?

The first distortion of the facts is the use of the word "deforestation" to compare B.C. with Brazil. In order to support the "Brazil of the North" claim, the Valhalla Society has stated that "clearcutting is deforestation regardless of whether new trees are established on the site." This erroneous statement forms the basis for its entire comparison of the two regions. It implies that an area in B.C. that has been successfully reforested with native species is a "deforested" area. In Brazil, deforestation is almost always associated with either agriculture or human settlement. Brazil has a great deal of both of these developments in the south, and very little in the north. B.C. has had very little clearing for either agriculture or human settlement. There are localized areas such as the Fraser River delta, the Peace River country and the Okanagan Valley that have been impacted more heavily.

*Documented at 5%. Some undocumented sources estimate 5-10% has been converted.

The second false impression created by the slogan "Brazil of the North" is that both the tropical Amazon rainforest and the coastal B.C. rainforests are endangered, and will be eliminated if present trends continue. As previously mentioned only 5% of the entire Brazilian Amazon has been converted from its natural state. Most of this development has been in the States of Para and Rondonia. In the central rainforest in the state of Amazonas less than 1% of the area has been deforested. The state of Amazonas is 156 million hectares, an area over one and one half times the size of B.C.

According to all the authorities visited in Brazil, including the Brazilian Nature Fund (Fundacao Brasileira para a Conservacao da Natureza) the World Wildlife Fund (Fundo Mundial para a Natureza) and the Ministry of the Environment (IBAMA) there is no possibility that the Amazon will be heavily deforested in the foreseeable future. Certainly there are environmental concerns about mining developments. Limited selective cutting is carried out for mahogany and other higher value species in the Amazon Basin. **But the Amazon is not disappearing and is probably more secure than any other tropical rainforest on earth.**

The coastal forests of British Columbia cover an area of 7.9 million hectares compared to 358 million hectares of the Brazilian Amazon (the total Amazon forest is 500 million hectares).

To date about 2.2 million hectares of the B.C. coastal forest has been harvested and nearly all this area is reforested and growing back as second growth forest that has been planted or naturally regenerated with native species. Another 3 million hectares of the 7.9 million hectares are considered non-commercial or inaccessible and there are no plans for harvesting in these areas. About 700,000 hectares are either in parks or in study areas pending the doubling of the parks from 6% to 12%. This includes some of the very best of the old growth along the western coast of Vancouver Island. The remaining 2 million hectares of coastal forest that is considered commercially operable and available for harvest is being harvested and reforested at the rate of 50,000 hectares per year. (It was 46,000 hectares in 1991-92 and that is declining. It will likely fall by 15-20% by 2000, as more land is set aside, allowable annual cuts are reduced and selective logging and commercial thinning become more widespread)

Therefore the prospect for the coastal forest of B.C. is that at most, about 4,200,000 hectares will be managed as commercial forest land with native tree species and that about 3,700,000 hectares will remain in its natural state. It is diffucult to imagine that this will cause "ecological collapse" or "devastation" as has been suggested by some environmental groups.

The third, and perhaps most dramatic, distortion of public understanding has been the use of films and photos showing burning of the forests in Brazil and B.C. The inference is that "the Amazon is burning" and that it will never grow back. **The truth is the Amazon rainforest can grow back, as easily and more rapidly than the coastal rainforest of B.C.** As an example, the Trans Brasilia highway was constructed in the 1970s to cross the Amazon from east to west. According to Brazilian officials, eight or so years after construction, the road was so heavily impacted by the encroaching Amazon that it became impassable and remains so today.

Burning is used in Brazil and B.C but for quite different reasons. In Brazil burning is generally associated with agriculture. Sugar cane fields are usually burned. Grazing land is burned to keep down encroaching vegetation. Small farmers practicing shifting agriculture burn the vegetation to establish their crops. Most of this burning is done regularly on the same or adjacent lands year after year. At the present time there is little new natural forest being cleared on a large scale.

In B.C. burning is usually associated with forestry rather than agriculture. In general there is much less burning today than five or ten years ago. It is still considered necessary to use burning in some areas to remove excess woody debris, to control tree disease and to improve grazing land for wildlife and livestock.

Forest Land Use Policy in Brazil:

In recent years Brazil has adopted a number of land use reforms. There are now three basic regimes in the country that are designed to protect native forest while allowing some development.

1. The Atlantic Rainforest is the most endangered ecosystem in Brazil. It was originally a thin coastal strip of closed canopy rainforest with a similar richness in species to the Amazon forest. Only 4-7% of the Atlantic rainforest remains in its natural state due to deforestation for human settlement and agriculture. The government has passed legislation forbidding any further development on the remaining forest land. The World Wildlife Fund, Brazil, does not believe the legislation is being fully enforced and considers the Atlantic rainforest remains in danger.

2. The Southern inland forest covers a much larger area than the Atlantic rainforest. This area has also been subjected to extensive deforestation for agriculture so that only about 15% of the original forest remains. In the southern forest landowners are required to set aside 20% of their land area as natural reserves. This must include streamside protection as well as any areas of ecological significance. All private landowners must file a management plan showing where the reserve areas are located. No native forest can be cut without government permission. While it is theoretically possible to cut natural forest if it covers more than 20% of the land, this is not likely to occur given the fact that very few areas have that much forest remaining. In practice, the application of the 20% rule will result in a larger area of land being restored to nature.

3. The largest area of Brazil is the Amazon region - over three and a half times the size of B.C. Over 350 million hectares of the Amazon rainforest are in Brazil. Until about 1960 there was no extensive deforestation of the Amazon forest. Beginning in the 1960s and extending through to the 1980s, the government built roads and encouraged settlement in the Amazon, particularly in the States of Acre, Para and Rondonia, as part of a National Integration Program to bring the enormous north portion of the country into mainstream Brazil and to provide an outlet for the almost 100 million people living in the south. This resulted in a dramatic increase in deforestation for cattle ranching and subsistence agriculture.

As a result of concern, both international and domestic, that the rate of Amazon deforestation should be checked, the subsidies for development were eliminated in the mid 1980s. There are no large road building projects underway and trends show people are moving back toward the urban centres such as Belem and Manaus.

No matter how the data are interpreted there is widespread agreement among government, industry and environmentalists that the Amazon forest will be protected in the foreseeable future.

Legislation allows for a maximum of 50% of the Amazon on privately held land to be developed. However, government enforcement agencies feel that if all lands that were suitable for shifting agriculture were deforested, at most only 20% of the Amazon would be cleared. This is due to the very large riparian (streamside areas covering 35% of the Amazon Basin) zones which must be protected, and vast wetlands associated with annual flooding in the Basin. Even this 20% maximum will not occur in any foreseeable future, due to difficult access, sparse population, remoteness and government policies.

Advances in Sustainable Forestry in Brazil:

One of the most interesting aspects of the mission was the participants' introduction to sustainable forestry as it is evolving in Brazil. After centuries of treating the forests as limitless, a number of Brazilian companies have pioneered a new model for wood production while protecting the natural ecology.

The Brazilian forest industry is structurally very different from B.C.'s. In Brazil the lumber industry is not very large and is characterized by numerous small sawmills. The lumber industry is based on native hardwoods, now predominantly from the Amazon region. Until a few years ago the industry was entirely extractive and there was little legislative control. Now the industry must replant native trees and enforcement is becoming much more effective.

There is a growing amount of research, much of it through the National Institute for Research in the Amazon, aimed at developing sustainable forestry in the native forests of the Amazon. There has been considerable success in propagating native tree species in nurseries for planting out in native forests.

The Brazilian pulp and paper industry is unlike B.C.'s in that it is not based on the waste from sawmilling. In Brazil forest plantations have been established to supply pulp mills directly with fast-growing exotic species of pine and, increasingly, eucalyptus. The area of forest required to support a pulp mill in Brazil is far smaller than in B.C. due to the much higher growth rates of the trees.

Some eucalyptus plantations where the science of cloning (vegetative propagation) is highly advanced are approaching a yield of 50 cubic metres per hectare per year compared to 2-5 cubic metres per hectare per year in most B.C. forests. **Eucalyptus usually reaches harvestable age at 7 years for use in Brazilian pulp mills compared to 60-120 years for sawlogs in B.C.**

The Forest Alliance group visited four pulp and paper projects that are all on the leading edge of incorporating plantation forest with restoration and protection of native forest in their vicinity. It is now the practice to create a mosaic of natural forest within the plantations. In general the plantations are established on the higher ground with the native forest occupying the riparian zones, steep slopes and areas of ecological significance. The native forest occupies 20-35% of each company's landscape and provides a storehouse of biodiversity in the midst of the plantations. Birds and insects from the native forest help keep down pests, and native plants invade the plantations thus making them more biodiverse.

The opinion of WWF, IBAMA, FBCN and other independent sources is that this kind of intensive management, combined with nature restoration and protection, is a step in the right direction, although improvements can be made.

Social - Economic Comparison

History:

Plantation forestry is a relatively new industry in Brazil. It began on a large scale in the early 1970s. Extraction of mahogany products for export goes back to 1917. Much of the coastal area has been cleared in the last 200 years for coffee and other agricultural crops, as well as for domestic cattle grazing. At the time, trees were considered more of a hindrance than a benefit, and cleared land was worth more than forested areas. Until ten years ago, Klabin, in the state of Parana, was the sole producer of newsprint in Brazil.

One challenge facing Brazil is how to market its many varied tropical hardwood species to the world. The majority of harvesting in the Amazon forest is for mahogany wood only, which comprises only a fraction of the forest. If a market were to be found for the more than 150 potentially commercially viable species which grow in the Amazon, the government feels better forest management could be attained. In contrast, B.C. has found markets for virtually all the native species growing in this province, and little is left after harvesting.

As an aside, wood products are not a popular home-building material in Brazil. Wooden houses are considered inferior to brick houses, as brick implies permanence and wealth. Wood appears to be used extensively for interior finishing and furnishings in Brazil. This is the opposite to B.C., where wood is the preferred building material in new homes.

In B.C., forestry for export began over 100 years ago and it continues to be a major contributor (27.6% of our GDP) to our balance of trade. The forest sector contributes only 3% of Brazil's GDP.

In the last 35 years, Brazil has experienced an explosion in population and economic growth. It now ranks as the world's eighth or ninth economy, and the population has almost doubled from about 90 million in 1958 to 150 million in the 1990s. In the 1960s and 1970s the government encouraged some of the population to move into the largely undeveloped Amazon basin. This was in part an attempt to alleviate poverty among landless citizenry. **Brasilia**, the capital, was created, roads were built and fiscal incentives were offered to those willing to move. By all accounts this initiative was not entirely successful. Farmers lacked the necessary tools and experience, and development of the Amazon is not easy. Many roads and farms were quickly overtaken by the encroaching jungle. By the early 1980s the program was suspended and people have returned in large numbers to the urban centres in the north and south.

Land Ownership:

Except for the sparsely populated Amazon, most of **Brazil is privately owned.** Private land owners are subject to government rules and regulations concerning preservation and forest management. In the Amazon, land owners may cut trees on up 50% of their very limited land holdings, and riparian zones must be protected. In the south, 20% must be preserved. (See forests and forestry)

B.C. is almost all public land - only a small portion being held by private land owners. Government regulations do not control activities on private land in B.C. to the extent they do in Brazil.

While there is a huge gap between the 100 million people of Brazil who live a European lifestyle, and the 50 million who live in comparative poverty, **Brazil should not be considered a developing country.** It possesses technology and science at least equal to Canada's and has built some of the world's largest power generators and industrial complexes. In addition, unlike B.C., much of its economy can be considered domestic. Televisions, automobiles, industrial equipment - including most forest industry machinery - and agricultural products from coffee to cocoa are produced and sold in Brazil. Inflation in Brazil has been reduced, although it is still estimated at 1%/day, compared to 3-4%/year in B.C.

Most of the population is clustered around the southern and coastal regions of Brazil. In the city of Sao Paulo alone, the industrial hub of the country, 18 million people make their home. Rio claims another 10 million. These two metro regions contain more people than all of Canada. Colonized around 1550, these regions of Brazil have since been virtually stripped of original trees, farmed and settled.

Canada, which is larger than Brazil by 60 million hectares has a population of only 27 million. The differences in our Gross Domestic Product per capita is also stark. In 1990, the GDP per capita in Brazil was 1,980 (US$) while in Canada it was 21,813 (US$), more than ten times that of Brazil.

Employment:

In B.C., the forest industry accounts for about one in five jobs, while in Brazil, it plays a relatively insignificant role, employing an estimated one in 500 - 1000 people. Only 1.4% of international trade in forest products comes from Brazil.

There are great differences between B.C. and Brazil in the treatment of the labour force in the major companies visited. Champion, Klabin, Jari and Aracruz all provide meals, on-site medical and dental facilities, transportation, education in the form of schools and university grants, recreation and subsidized housing for some or all of its workers. Wages are generally low by B.C. standards (a skilled technician earns $800-$1200/month plus benefits at Voith) but high by Brazilian standards.

It is worth noting that this model would probably not work in B.C. or Canada, as labour negotiations have proved workers would rather earn a higher wage and spend their earnings as they choose.

One of the more interesting benefits to the community was a plant medicine centre at Klabin. About 10,000 local residents have access to low-cost natural plant medicines from Klabin's laboratory to treat everything from sunburn to indigestion. The scientists claim the herbal remedies gathered from native plants produce few side effects and are preferred by the workers to brand name pharmaceuticals, which can cost two to three times more.