<基調講演>

BRAZIL, a general Overview

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1. ***General profile*** :

Area : 8,511,965 sq km ; Population 1991 : 155,356,000;
Popul. growth : 1.8% ; Population density : 18/sq km ; GNP 1990 (millions) : US $ 387,901 ; GNP per capita US$ 2,582.

2. ***Demographics*** : (Population)

1980=121,286,000; 1991=155,356,000; 1992=158,152,000; 1993=160,999,000; 2000=182,414,000 ; Population growth : 1.8% ; Population density : 18/sq km ;

3. ***Major cities*** : (Population, Latitude and Longitude)

São paulo =10,063,000 23.33S, 46.39W ; Rio de Janeiro =5,603,000 22.53S, 43.17W ; Belo Horiszonte=2,114,000 19.55S, 43.56W ; Salvador =1,804,000 12.58S, 38.29W ; Fortaleza =1,584,000 3.45S, 38.35W ; Brasilia (capital city) =1,568,000 15.45S, 47.55W ; Nova Iguaçu =1,319,000 22.45S, 43.28W ; Recife =1,288,000 8.06s, 34.53w ; Curitiba =1,279,000 25.25S, 49.25W ; Porto Alegre =1,272,000 30.03S, 51.10W : Belém =1,117,000 1.27S, 48.29W ; Goiania =923,000 16.40S, 49.16W ; Campinas =841,000 22.54S, 47.05W ; Manaus =810,000 3.08S, 60.01W ; São Gonçalo =728,000 22.51S, 43.04W.

4. ***Languages, ethnic groups & religions*** :

Languages : Portuguese (97%) ; amerind. languages (1%) ; other (2%). Ethnic groups : White (53%) ; mulatto (22%) ; mestizo (12%) ; black (11%) ; japanese (1%) ; other (1%). Religions : Roman catholic (88%) ; protestant (6%) ; afro－amer. spirit. (2%) ; spiritist (2%) ; atheist (1%) ; other (1%).

5. ***Gross national product(GNP)*** :

GNP 1989 (millions) US $ 357,146 ; GNP 1990 (millions) US $ 387,901 ; GNP 1991 (millions) US $ 401,090 ; annual GNP growth (3.4%) ; GNP per capita US $ 2,582 ; % GNP for agriculture (9%) ; % GNP for industry (36%) ; % GNP for services (55%) ; % GNP for defense (0.3%).

6. ***Imports & exports*** :

Major imports : minerals, petroleum, chemicals, fertilizers, machinery, vegetables, animal products, cereals, electrical products, electronics, vehicles, metals, photographic apparatus, surgical instruments, scientific equipment. *Major exports* : processed foods, cocoa beans, seeds, juices, fruit products, meat, animal products, vegetables, metals,

vehicles, machinery, animal feed, textiles, footwear, petroleum products. *Balance of trade* US $ 16,112,000,000 (1989).

7. ***Natural resources, agriculture, industries*** :

Natural resources : iron ore, manganese, bauxite, nackel, uranium, gems, petroleum, phosphates, tin, gold, platinum, timber, hydroelectric power, granite, limestone, clay, sand. Agriculture : sugarcane, corn, cassava, soybeans, oranges, wheat, dry beans, coffee, cotton, tomatoes, potatoes, cocoa, peanuts, rice, beef, cattle, pork. Major industries : iron & steel, chemicals, petrochemicals, machinery, vehicles, consumer goods, cement, wood products, shipbuilding, metal products, fertilizer, foodstuffs, textiles, clothing, paper products, plastics, pharmaceuticals.

8. ***Mining & quarrying(1989)*** :

Aluminum 874,000metric tons, bauxite 8,750,000m.t., copper 43,000m.t., diamonds 610,000 carats, gold 60m.t., Iron ore 145,040,000m. t., lead 19,000m.t., phosphates 4,672,000 m.t., salt 4,600,000m.t., silver 64m.t. tin 50,000m.t., uranium 35m.t., zinc 103,000m.t.

9. ***Agriculture*** :

Barley (1989) 223,000m.t., coffee (1989) 1,510,000m.t., corn (1989) 26,508,000m.t., cotton (1989) 756,000m.t., eggs (1989) 1,100,000m.t., meat (1988) 2,868,000m.t., milk (1989) 13,609,000 m.t., natural rubber (1989) 40,000m.t., oats (1989) 170,000m.t.,potatoes (1989) 2,104,000m.t., rice (1989) 11,107,000m.t., soybeans (1989) 24,044,000m.t., sugar (1988) 7,905,000m.t., tea (1989) 9,000m.t., tobacco (1989) 445,000m.t., wheat (1989) 5,407,000m.t.

10. ***Manufacturing***.

Beer (1989) 28,928,000 hectoliters, butter (1989) 80,000m.t., cenebt (1989) 25,329,000m.t., cheese (1989) 60,000m.t., cigarettes (1989) 160,000,000p, merchant vessels (1988) 269,000 gross registered tons, newsprint(1989) 247,000m.t., paper and paperboard (1989) 4,392,000 m.t., passenger cars (1989) 782,000, radios (1989) 6,769,000, televisions (1989) 2,190,000, wine (1989) 2,856,000 hectoliters, wool(1989) 32,000m.t.

11. ***Energy***.

Electricity : capacity (1988) 49,080 1000s kilowatts, production (1988) 214,117million kilowatt－hours, consumption (1988) 232,060 million kilowatt－hours, consumpion per capita 1,589 kilowatt－hours. Coal : rserves (1988) 1,245 million metric tons ; production (1988) 7,331 1000s metric tons ; consumption (1988) 16,419 1000s metric tons ; consumptions per capita 0.1metric tons. Natural gas : reserves (1990) 116 billion cubic meter ; production (1989) 3,440 million cubic meters ; consumption (1988) 2,701 million cubic meters ; consumption per capita 18cubic meters ; crude petroleum : reserves (1990) 2,795million

barrels ; production (1989) 217 million barrels ; consumption (1988) 432million barrels ; consumption per capita 3.0barrels.

12. ***Education*** :

Primary : schools 201,541 ; teachers 1,055,170 ; students 26,821,134 ; stududents per teacher 25. Secondary : schools 10,244 ; teachers 206,111 ; students 3,339,090 ; students per teachers 16 ; Third level : schools 855 ; teachers 122,486 ; students, 1,418,196 ; students per teachers 12. GNP for education : 4.5%, literacy rate 81%.

13. ***Cultute*** :

Oficial language : portuguese, english widly spoken ; health : tapwater not potable ; malaria suppressants and rabies, hepatitis, and typhoid fever shots recommended, yellow fever shot may de required ; sights : Rio de Janeiro, Brasilia, Salvador, Recife, the Amazon, tne Iguaçú Falls (seventh largest in world ; climate : tropical to semitropical, spring and summer clothes generally suitable, seasons reversed from northern hemisphere.

14. ***History***.

Prior to discovery and settlement by Europeans, theregion was sparsely inhabited by diverse Indian tribes.

1500—Portuguese Admiral Pedro Alvares Cabral, first European to reach Brazil, initiating Portugeese colonization.

1808—Pontuguese king, fleeing Napoleoh's army, transfers seat of government from Lisbon to colony of Brazil.

1815— Dom João VI declares Brazil a kingdom, equal with Portugal.

1822—Dom João returns to Potugal, his son Pedro declares Brazil an independent empire and assumes throne as emperor.

1888— Slavery of black Africans abolished.

1889— Secon emperor, Dom Pedno II, deposed, republic proclaimed.

1930— Military coup, Getulio Vargas seizes power as dictator.

1954— Democratic civilian rule restored.

1960— Capital moved from Rio de Janeiro to new city of Brasilia.

1964— Militatary coup, censorship imposed, political opposition quelled.

1985— Civilian rule restored, José Sarney assumes presidency.

1989—Brazil announces large-scale environmental plan for Amazon Basin to control destruction of this globally important ecosystem.

1994— Actual government leader : president ITAMAR FRANCO.

BRAZIL, Forest Sector (historical background and actual situation).

Historical background and actual foest situation are veny well reported to ITTO by O.P.J. HALTIA (1992).

Particulary, the trends of development in the Brazilian Forestry and Forest Industry will be here transcribed.

"First attempts to introduce forest legislation in Brazil from 1934. The legislation effort was stimulated by a rapid forest devastation caused by the land conversion into agriculture. The main target of the legislation was consequently to rationalize the use of forests. On the other hand , it also attempted to encourage forest plantation which hah been initiated by some iron mills and railway companies in the state of São Paulo for charcoal production. Based on the legislation, two governmental organs were founded to control the forst resources : the National Pine Institute ane Department of Natural Renewable Resources.

Howeve, the control was not sufficient and forest devastation continued. For instance, the area of natural forests decreased in the state of São Paulo so that in the 1970s only one-sixth of the area that was covered by forests at the beginning of the century remained and within the same period Araucaria angustifolia stands in the state of Paraná were reduced to 4% of its original area. The development of deforestation was compensated partly by small-scale afforestation so that in the 1960s there were 500,000 ha of tree plantations in Brazil of which 400,000 ha were in the state of São Paulo alone. These established forests were mainly Eucalyptus spp. (70%), Pinus spp. (10%), Acacia spp. (10%) and Araucaria angustifolia (8%) plantations . These species were used also in later tree planting programs.

A new era in the Brazilian forestry started with the reformative forest legislation 1965, which was later partly altered on several occasions in order to meet needs better. The Brazilian forests were made objects of public interest by the new legislation which limited and controlled their utilization to a certain extent. The law made reforestation of lumbered area obligatory. On the other hand, the forest owner was endowed with rights to change a natural forest into a homogeneous, man-made one if required by general economic utility.

The new legislation was followed by an effort to create a fiscal incentive for afforestation. The main goal was to produce raw material for the forest industries, but to also satisfy other aspects, such as soil conservation and fruit production. The federal service was suppored by the creation of the Brazilian Forest Development Institute, by a fusion of the early Natural Pine Institute and the Department of Natural Renewable Resources. Apparently, the set policy goals wers well met as the area of plantations increased by about one million hectares from the mid 1960s to the beginning of 1970s.

The 1970s and the 1980s were marked by tighter links between the general economic policy and the forest policy in the country. While the Brazilian economic policy (after 1964) stressed the combination of export promotion and import substitution in achieving

economic growth, the adopted forest policy in the counry was not an exception to this line of thought. Although export promotion was one of the aims of the 1974 approved National Program for Pulp and Paper, it emphasized selfsufficiency as a main target to satisfy domestic demand of paper. Furthermore, apart ftom quantitative targets aided by certain means like the federal and state tax incentives to stimulate tree planting, the program also included some social aspects like channeling more investments to the less developed regions of the country.

At the end of the 1980s the Brazilian economic policy moved with other Latin American countris towards trade liberalisation. This policy shift also carried implications for the forest sector. The comparative advantage factor for the Brazilian forest industry is naturally the cheap and fast growing domestic roundwood but as the pulp & paper industry is intensive also in several other intermediate inputs and capital, its development has not always been stimulated by restricting imports. Although the import substitution policy thus gave way to more orthodox policies of trade liberalisation, the export promotion policy remained in the agenda. The new National Program for Pulp and Paper in the year 1987 set the objective to double the Brazilian pulp & paper production before the years 1995/1996, and in the country's export promoting policy the forest industry is today seen as one of the industries with the most potential for earning foreign currency.

The actual Brazilian forest situation is :

Brazil was ranked the 8th biggest pulp producer and llth biggest paper producer in the world at the end 1980s. It was however also llth biggest pape consumer, and the total consumption was some 800,000tons less than the total production. It is remarkable that the scale relationship between the wood industry and the pulp & paper industry has not experienced radial changes during the last dacades. The size of the wood industry at beginning of 1980s was about 80% the size of pulp & paper industry when measured in monetary terms. Measured in quantitative terms (m^3), 6 % of roundwood went into pulp production, 26% to charcoal production, 15% to wood industry and 53% to fuelwood use. About 30% of the roundwood, used up in one way or another mentioned above, was provided by plantation forests, and the remaining 70% were provided by cutting natural stands".

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