

**RECENT SETTLEMENT IN BRAZILIAN AMAZÔNIA:  
LABOUR MOBILITY AND ENVIRONMENTAL DEGRADATION**

**Olga Maria Schild Becker**

Department of Geography and Environment  
London School of Economics and Political Science.

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To all migrants, but in particular:

- to those who had the courage to emigrate pursuing a dream, like my great-grandfathers Albert Krause and Laurent Schild, and who devoted their work to building a new society overseas;

- to those migrants that took on the citizenship of the new land, like my father, Willy Becker, and were not warmly received as true children;

- to those millions of workers forced to migrate because they lost their illusions and, above all, because they have lost their previous means of production, losing their cultural references in the process;

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## ABSTRACT

The context of this thesis is Brazilian Amazônia and the subject is the discussion of labour force mobility and immobility as well as environmental degradation following current occupation process of this natural resource frontier. The overall aim is to identify the forms and mechanisms of the capitalist occupation process which has taken place in Amazônia in the 1960-1990 period.

I consider the issues of increasing labour force mobility and environmental degradation as a question of changes in the relationship between people-nature. These changes in Brazilian Amazônia relate to an expansion of the territorial limits of capital and are a consequence of the occupation process encouraged by the Brazilian State.

The central research question of this thesis is why and how does a regional development policy for Brazilian Amazônia, designed with the aim of promoting the 'occupation of the empty spaces of the frontier', lead to a progressive expulsion of the previous inhabitants of those areas. In the same way, why did government programmes not ensure a settling of the new colonists (landless migrants) on the land in these frontier areas where, by definition, we would suppose there are huge expanses of land available.

The argument is that the Brazilian State, taking it for granted that the Northern frontier areas should be occupied, promoted a sort of occupation in which the frontier was to be expanded following a pattern of 'urbanised jungle', where the urban space was the support of this process. According to this strategy, the circulation (mobility) of the labour force was seen to be more relevant than the settlement of small landless producers. In this way, migration (as a mechanism in producing the labour force) played a crucial role in creating a regional labour market in frontier areas. Moreover, this thesis will discuss the Extractive Reserve model presented by the so-called traditional inhabitants as a proposal for rainforest productive conservation and counter-mobility of the labour force in Brazilian Amazônia.

The present study analyses specific spaces in the Amazônia: the Pre-Amazônia Maranhense (Eastern Amazônia), considered an earlier frontier area from the 1960s, and the Acre River Valley (Western Amazônia), that represents a newer frontier area from the 1970s and 1980s.

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## GLOSSARY OF PORTUGUESE TERMS USED IN THE TEXT

<i>Acreano</i>	Native of Acre state.
<i>Agregado</i>	The recent migrant worker who temporary lives in the establishment and is usually part of the workers' household.
<i>Ambulante</i>	Small street hawker.
<i>Associação de Moradores</i>	Neighbour Association.
<i>Atravessadores</i>	The intermediaries in the chain of commercialisation.
<i>Aviamento</i>	Debt peonage: The credit system of rubber collection and export that linked the direct producer to the industrial and commercial houses via a chain of intermediaries by debt relations; the system is characterised by its highly exploitative nature and the direct coercion applied to the collectors.
<i>Bagrinhos</i>	Small ranchers.
<i>Barracão</i>	The hut/store/office of the master of the rubber estate.
<i>Barrageiros</i>	Dam workers.
<i>Brabos</i>	Greenhorn workers without family who were ready to work on the rubber estates.
<i>Bóia-fria / volante</i>	Casual rural waged worker who lives in a small town or on the outskirts of a large one, and who is contracted in gangs on a daily or piece-work basis for work in the interior.
<i>Borracha</i>	Rubber, especially that produced from <i>Hevea brasiliensis</i> .
<i>Capatazes</i>	Estate foremen.
<i>Casa Aviadora</i>	Principal credit agency in the <i>Aviamento</i> chain.
<i>Centro</i>	Small rural hamlets set up spontaneously on public-held land alongside roads and rivers in frontier areas, by pioneer families who came from the same region.
<i>Cerrado/campo</i>	Savannah.
<i>Coivara</i>	Traditional indigenous system of slash and burn to plant crops.
<i>Colocação</i>	Sub-unit of the seringal consisting of the tapper's hut, <i>tapiri</i> , and a number of rubber trails.
<i>Comboeiro</i>	Person who transports the merchandise from the company store to the rubber tapper's home.
<i>Corrutela</i>	Villages accompanying mining sites installations.
<i>Derrubada</i>	Felling of trees (to clear the land.)

<i>Diária</i>	Payment by the day.
<i>Empate</i>	In Acre it has come to mean a united show of force by rubber tappers to prevent (or to block) deforestation being carried out; stand-off.
<i>Empregado</i>	Hired worker.
<i>Empreita</i>	System of work which uses payment by task.
<i>Empreiteiro</i>	A contractor of labour; usually one who hires gangs for work on the large estates of the interior.
<i>Encauxados</i>	Plant leather.
<i>Estrada de seringa</i>	Rubber trail consisting of up to 200 rubber trees; circuit explored by one tapper in collecting latex.
<i>Folha defumada</i>	Smoked sheet rubber.
<i>Garimpeiro</i>	Small-scale miner.
<i>Garimpo</i>	Mineral prospecting.
<i>Gato</i>	Literally cat; colloquial for <i>empreiteiro</i> , hiring agent.
<i>Grileiro</i>	Land grabber; land speculator.
<i>Jagunço</i>	Hired strong-arm man; thug.
<i>Lata</i>	Literally a tin can but which in Acre has come to signify a measure of 2 litres. The term derives from the use of empty dried milk tins as containers.
<i>Laterita</i>	A resistant layer of iron-aluminium close to the surface (A horizon.)
<i>Latifúndio</i>	Large estate defined by INCRA in terms of its dimension (over 600 times the rural module) or by exploitation (less than 70% utilized.)
<i>Mangues</i>	Ecosystem of flooded fields.
<i>Marreteiro</i>	Middlemen businessman; small trader.
<i>Mata</i>	Forest.
<i>Minifúndio</i>	Small property that is generally regarded as insufficient to maintain the family unit that lives on it.
<i>Mini-usina</i>	Small plant for processing latex.
<i>Município</i>	Municipality (division of local government in Brazil corresponding roughly to a county), which is divided in turn into <i>distritos</i> (districts.)
<i>Noteiro</i>	The boss's spies; person who visited the <i>colocações</i> and brought news of the rubber tappers.
<i>Pantanal</i>	Ecosystem of swamps.



<i>Patrão</i>	Master (Spanish-Patron.)
<i>Paulista</i>	A native of São Paulo state. In Acre the term is used to describe any non-Acrean especially a Southerner.
<i>Peão</i>	Peon; an agricultural wage-labourer.
<i>Peão rodado</i>	Literally roving peon; labourer who made innumerable migrations in search of work.
<i>Pela</i>	Large ball of rubber produced during the traditional smoking process.
<i>Posseiro</i>	A person who lives and works on the land although he does not hold the ownership.
<i>Poronga</i>	The small lamp which a rubber tapper wears on his head to illuminate his path through the forest.
<i>Povoado</i>	Village; rural areas with a grouped population.
<i>Queimada</i>	Burning the cut vegetation (to clear the land.)
<i>Seringalista</i>	Rubber baron. Master of the rubber estate.
<i>Seringueiro</i>	Rubber tapper. Also ‘-brabo’ greenhorn, ‘-manso’ experienced, ‘-cativo’ captive, ‘-autônomo’ independent.
<i>Sertão</i>	Back lands.
<i>Soldados da Borracha</i>	Migrants from Northeast recruited by the President Getúlio Vargas to become rubber tappers during the Second World War.
<i>Tapiri</i>	Small palm thatched hut with roof sloping down to ground level that is used by rubber tapper as a smokehouse.
<i>Terras devolutas</i>	Unclaimed public lands.
<i>Trincas</i>	A leader and 3 or 4 others who formed a labour contractor’s band.
<i>Usinas familiares</i>	Family plants.
<i>Vaqueiro</i>	Cowboy.
<i>Várzeas</i>	Flood plains.
<i>Zona de colonização</i>	Colonial zone
<i>Zona pioneira</i>	Pioneer zone.

## LIST OF ACRONYMS

<i>AC</i>	Acre/ Acre state.
<i>AM</i>	Amazonas/ Amazonas state.
<i>AP</i>	Amapá/ Amapá state.
<i>BASA</i>	Banco da Amazônia S.A./ Bank of Amazônia.
<i>CAEX</i>	Cooperativa Agroextrativista de Xapuri/Agro-Extractive Co-operative of Xapuri.
<i>CAPINA</i>	Cooperação e Apoio a Projetos de Inspiração Alternativa/Co-operation and Support for Projects with Alternative Inspiration.
<i>CEBs</i>	Comunidades Eclesiais de Base/ Base Christian Communities.
<i>CEDEPLAR</i>	Centro de Desenvolvimento em Planejamento Regional/Universidade Federal de Minas Gerais/ Regional Planning Development Centre of the Federal University of Minas Gerais.
<i>CEDI</i>	Centro Ecumênico de Documentação e Informação/Ecumenical Centre for Documentation and Information.
<i>CEDOPE</i>	Centro de Documentação e Pesquisa da Amazônia/ Centre for Documentation and Research in Amazônia.
<i>CNBB</i>	Conferência Nacional dos Bispos do Brasil/ National Conference of Brazilian Bishops.
<i>CNPq</i>	Conselho Nacional de Pesquisa/National Research Council .
<i>CPT</i>	Centro Nacional para Desenvolvimento Sustentável das Populações Tradicionais/ National Centre for the Sustainable Development of Traditional Populations.
<i>CNS</i>	Conselho Nacional dos Seringueiros/ National Rubber Tappers' Council.
<i>COLONE</i>	Companhia de Colonização do Nordeste/ Northeast Colonisation Company.
<i>COMARCO</i>	Companhia de Colonização do Maranhão/ Maranhense Colonisation Company.
<i>CONAMA</i>	Conselho Nacional de Meio Ambiente/ National Council of the Environment.
<i>CPT</i>	Comissão Pastoral da Terra/ Pastoral Commission to Land-Related Issues.
<i>CTA</i>	Centro dos Trabalhadores da Amazônia/ Amazonian Workers Centre.
<i>DSN</i>	Doutrina de Segurança Nacional/ Doctrine of National Security.
<i>FNO</i>	Fundo Constitucional do Norte/ Constitucional Fund for the North.
<i>FUNAI</i>	Fundação Nacional do Índio/ Indian National Foundation.
<i>FUNTAC</i>	Fundação de Tecnologia do Acre/ Acre Technological Foundation .
<i>GO</i>	Goiás/ Goiás state.

<i>GTA</i>	Grupo de Trabalho da Amazônia/ Amazônia Working Group.
<i>IAP</i>	Ilha de Alta Produtividade/ High Productivity Island.
<i>IBAMA</i>	Instituto Brasileiro de Recursos Naturais e Meio Ambiente/ Brazilian Institute of Renewable Natural Resources and Environment.
<i>IBDF</i>	Instituto Brasileiro de Desenvolvimento Florestal/ Brazilian Institute of Forestry Development.
<i>IEA</i>	Instituto de Estudos Amazônicos/ Institute of Amazônia Studies.
<i>IBGE</i>	Instituto Brasileiro de Geografia e Estatística/ Brazilian Institute of Geography and Statistics.
<i>ICMS</i>	Imposto sobre Circulação de Mercadorias/ Tax on Goods and Services Circulation.
<i>IMAC</i>	Instituto de Meio Ambiente do Acre/ Acre Institute of Environment.
<i>IMAZON</i>	Instituto do Homem e Meio Ambiente da Amazônia/ Amazonian Institute of Man and Environment.
<i>INCRA</i>	Instituto Nacional de Colonização e Reforma Agrária/ National Institute for Colonisation and Agrarian Reform.
<i>ITERMA</i>	Instituto de Terras do Maranhão/ Maranhão Land Institute.
<i>LO</i>	Licença de Ocupação/ Licence of Occupation.
<i>MA</i>	Maranhão/ Maranhão state.
<i>MEC</i>	Ministério de Educação e Cultura/ Ministry of Education and Culture.
<i>MINTER</i>	Ministério do Interior/ Ministry for Internal Affairs.
<i>MST</i>	Movimento dos Trabalhadores Sem-Terra/ Landless Workers' Movement.
<i>PA</i>	Pará / Pará state.
<i>PAD</i>	Projeto de Assentamento Dirigido/ Directed Settlement Project.
<i>PAE</i>	Projeto de Assentamento Extrativista/ Extractive Settlement Project .
<i>PCAT</i>	Projeto de Colonização do Alto Turi/ Project for the Colonisation of Alto Turi.
<i>PEA</i>	População Economicamente Ativa/ Economically Active Population.
<i>PGC</i>	Projeto Grande Carajás/ The Great Carajás Project.
<i>PNRA</i>	Plano Nacional de Reforma Agrária/ National Plan for Agrarian Reform.
<i>PMACI</i>	Programa de Proteção ao Meio Ambiente e Comunidades Indígenas/ Programme for Protection of the Environment and Indigenous Communities.
<i>PNAD</i>	Pesquisa Nacional por Amostra de Domicílios/ Brazilian National Household Survey.

<i>POLAMAZÓNIA</i>	Programa de Polos Agropecuários e Agrominerais da Amazônia/ Programme of Agricultural and Mineral Poles for Amazônia.
<i>POLONOROESTE</i>	Programa de Desenvolvimento Integrado do Noroeste do Brasil/ Northwest Brazil Integrated Development Programme.
<i>PRA</i>	Projeto de Reforma Agrária/ Agrarian Reform Project.
<i>PRODEX</i>	Programa de Apoio ao Desenvolvimento do Extrativismo/ Programme for the Development of Extractivism.
<i>PROTERRA</i>	Programa de Redistribuição de Terras e Estímulos á Agroindústria do Norte e Nordeste/ Programme of Land Redistribution and Stimuli to Agro- Industry in the North and Northeast.
<i>RESEX</i>	Reserva Extrativista/ Extractive Reserve.
<i>RO</i>	R Rondônia/ Rondônia state.
<i>RR</i>	R Roraima/ Roraima state.
<i>SEFE</i>	Secretaria Executiva de Florestas e Extrativismo/ Executive Secretariat for Forest and Extractivism.
<i>SP</i>	S São Paulo/ São Paulo state.
<i>SUDAM</i>	Superintendência de Desenvolvimento da Amazônia/ Superintendency for the Development of Amazônia.
<i>SUDENE</i>	Superintendência de Desenvolvimento do Nordeste/ Superintendency for the Development of Northeast.
<i>SAF</i>	Sistema Agroflorestal/ Agroforestry System.
<i>TD</i>	T Título Definitivo/ Definitive Title.
<i>TORMB</i>	T Taxa de Organização e Regulamentação do Mercado da Borracha/ Tax on Organisation and Regulation of Rubber Market.
<i>UDR</i>	U União Democrática Ruralista/ Rural Democratic Union.
<i>UFAC</i>	U Universidade Federal do Acre/ Federal University of Acre.
<i>UFRJ</i>	U Universidade Federal do Rio de Janeiro/ Federal University of Rio de Janeiro.
<i>UNB</i>	U Universidade Federal de Brasília/ Federal University of Brasília.
<i>UNI</i>	U União das Nações Indígenas/ Union of Indigenous Nations.
<i>ZEE</i>	Z Zoneamento Ecológico Econômico/ Ecologic Economic Zoning.

## CHAPTER 1

### OVERVIEW: METHODOLOGICAL CONSIDERATIONS AND THE RECENT PROCESS OF OCCUPATION IN BRAZILIAN AMAZÔNIA

#### 1.1. INTRODUCTION

This thesis is aimed at analysing the importance of the concepts of mobility and immobility of the labour force in the recent process of appropriation of the Brazilian Amazonian frontier, that is, since the late 1960s. The environmental degradation which came as a consequence of this current model of occupation will be considered here from the viewpoint of the disintegration of the previous relationship between society and nature.

The present chapter, besides serving as a general introduction to the subject of this thesis, identifies some methodological aspects: its central research question, hypothesis, objectives, approach and key concepts. Comments on sources and field research procedures will also be included here. This chapter also introduces a simplified scheme of the recent process of Amazonian occupation, presenting an overview of the part the Brazilian Government played in the expansion of their frontier areas. As it will be demonstrated, governmental policies have heavily contributed to the current 'ecological disorder'. The regional impact of these policies are the subject of succeeding chapters. Nonetheless, in order to put this discussion into the right perspective, a brief contextualisation of the Brazilian Amazônia is deemed necessary.

Up until the 1980s, the vision of Amazônia was linked to a series of myths. These myths sprung both from widespread ignorance of the region and from the developmental ideology of the Brazilian military governments in power from 1964-85. The intrinsic characteristics of Amazônia were held to be the richness of its soil, the endless availability of unoccupied state-held land (expressed in the term *empty spaces*) and the non-existence of local cultures. If they did exist, these cultures were seen as 'traditional and backward' when compared with the new capitalist forms (cattle ranching, mining and colonisation projects.) In this sense, Amazônia was empty, cut off from the rest of the country and from the modern economy. Its history and people were denied or overlooked by military ideology in order to justify the new strategy of occupation by the new economic order in expansion.

Throughout the years, the dominating image of Amazônia has been that of an inexhaustible source of natural capital (especially timber and ore.) Within today's

international debate, however, Amazônia is also seen as a climate regulator and as an important source of raw-material and of frontier knowledge (passed on by local traditional populations), both for medical research and for the world's pharmaceutical industry, since the area is still an immeasurable biological reserve of animal and vegetable species. Thus, it is a natural and cultural reserve in danger of extinction within the following decades, if the intense economic pressures on the forest (the outcome of the rhythm of its appropriation and of its current model of regional development) persist. The challenge is to find ways of reaching a compromise between the present model of economic expansion demanded by national and international markets and the sustainable socio-environmental aims required by other social groups at local, regional or international levels.

Equally, for a long time the mobility of Brazilian workers was treated as if it were a spontaneous form of movement and, as such, an option of free choice, taken at a personal level for purposes of self-betterment. However, the current capitalist process, in course in Brazil from the 1950s onwards and intensified in Amazônia in the 1970s, allows us to prove that such mobility was, first and foremost, forced upon the population by the demands of capital. In addition to the production factors already available – land and capital–, the labour force was needed in order to make the capitalist process work. In this sense, migration played a basic role in production.

The history of Amazônia allows us to perceive it as having performed, during different phases, an important role on the international stage, starting with the development of the extractive production of native rubber, of which it was the world's largest producer for a long time. At national level, it also performed the basic function of absorbing (in different periods) significant contingents of landless and jobless workers, refugees from the droughts and latifundia. It was a safety valve for serious social tensions that had arisen in other parts of the country as a result of the increasing concentration of land tenure, especially in the Northeast, and the effects of farm modernisation in the Central and Southern regions of the country.

During these different periods, Amazonian society was taking shape, composed of different socio-economic strata and articulated in differing degrees to the national and international economy. Thus, when the new occupants arrived in the late 1960s, they did not find a totally empty frontier. The new socio-economic order was installed by the military governments (1964-75) according to the *Doutrina de Segurança Nacional* – DSN (Doctrine of National Security), as expressed in the *Plano de*

*Integração Nacional* – PIN (Plan of National Integration.) Fiscal incentives and credit lines were made available for big land-projects in the Amazônia and put into effect through the *Programa de Polos Agropecuários e Agrominerais da Amazônia* POLAMAZONIA (Programme of Agricultural and Mineral Poles of Amazônia.) From then on, Amazônia witnessed a diversification in the exploitation of its ecosystem.

This new phase in the occupation of Amazônia, with its integration to the national capitalist economy, was characterised, among other aspects, by the speculation of frontier land (instead of its productive use), by the emergence of social conflicts caused by forest clearance and, mainly, by the 'clearance' of its previous inhabitants, as a form of increasing land value. As a result, the conflicts over the use of land as a factor of production escalated between the traditional small family production unit and the large ranches.

However, another basic production factor was needed for the capitalist appropriation of the frontier: labour force, the human capital of the frontier. With the motto then used: 'Manless land for landless men' – the expression of an interiorisation policy of development, the military government promoted settlement projects destined for a temporary absorption of migrant rural peasants responsible for social tension in other areas of the country. It was in the production of this factor that the mechanism of migration played such an important role.

In view of the above, two particular contexts were chosen as research areas (Figure1) in Brazilian Amazônia: the Pre-Amazônia Maranhense (Eastern Amazônia), considered an earlier frontier area from the 1960s, and the Acre River Valley (Western Amazônia), that has represented a new frontier area from 1974 on. The reason for such choices is that they illustrate different moments, strategies and forms of the recent occupational process of Amazônia, besides being good examples of processes of intense populational mobility (e.g. Maranhão state) and immobility, i.e., of resistance to mobility (e.g. Acre state.) Despite their differences and peculiarities, these areas have presented common traces: From 1990 on, both were awarded with the creation of Extractive Reserves linked to rubber and nut extraction in Acre, and babassu extraction in Maranhão. They have also been the stage for extractive social movements, such as that of the Rubber-Tappers' in Acre and that of the Babassu Female Extractors in Maranhão.

Some typical regional features responsible for the choice of these areas also deserve mentioning. The state of Maranhão is characterised by the traditional mobility

of small landless rural producers (originated from neighbouring Northeastern states escaping from drought-ridden areas and expelled by large land-holders.) From the 1940s on, these migrants propagated across the wet valleys of the Munim, Itapecuru, Mearim, Grajaú, Pindaré, Turiaçu and Gurupi rivers. According to Keller (1984:13), this mobility is related to the geographical position of the state of Maranhão, which has turned the forest area of the state into the gateway for the demographic expansion frontiers that advanced across Western Amazônia. Since the 1980s, the Maranhão area (which has 77,20% of its overall population in the migrant category) has been the rear guard for the new frontier areas, feeding the demographic fronts on their way to the West (states of Pará, Amazonas, Rondônia and Acre) and to the Northwest (Roraima and Amapá states.)

Another typical aspect of the occupational process of areas in the Maranhão borderline, and which has met the interests of the present research, is the rapid growth of the so-called '*povoados*' and '*centros*<sup>1</sup>', typical forms of concentrated rural habitat developed spontaneously on the rims of the forest.

In the early 1980s, the state of Acre began to attract the attention of national and international media because of the resistance spurred by the Rubber Tappers' Movement against deforestation, new forms of predatory occupation of Amazônia and, consequently, against emigration of its rural extractive population. Thus, by means of the study of these two sample areas, I believe it is possible to characterise typical spaces and social groups related to this recent process of capitalist occupation of the Brazilian Amazonian frontier.

In order to connect the issues presented above, this thesis was organised in eight chapters, together with an appendix presenting models of questionnaires used in the field research.

The next chapter discusses the migration-environment-development equation, the issue of migration as forced mobility and the immobility embryo performed by social movements alongside concepts of sustainable development. It is the aim of this

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<sup>1</sup> A '*centro*' is the term used for the small rural hamlets set up spontaneously (in contrast to planned colonisation) on publicly-held land alongside roads or rivers, by migrant families related to each other or who came from the same region. According to Ianni (1978), the founders became leaders and generally gave their name to the place. They organized forest clearing for new plantations, the submission of requests for land title and contacts with merchants and local politicians.



chapter to review theories and to shed some light on some basic concepts and concerns, in order to illustrate the debate on Amazônia in course throughout the past two decades.

The third chapter considers Amazônia as the setting for the current process of capitalist occupation of the frontier. The importance of the rainforest frontier is examined both in relation to the international and national debate and in connection with its physical, economic, and political dimensions.

The fourth chapter presents a case study of Pre-Amazônia Maranhense, one of the early frontiers (1960s) of Eastern Amazônia. This chapter seeks to identify the origins of the mobility of the peasant farmer population within the local and regional process of installing a capitalist enterprise. It also sets out to show how the capitalist process of appropriating land and evicting those who live on is reproduced, successively and in a short space of time, along the new regions of the frontier.

The fifth and sixth chapters analyse the dynamics of capitalist occupation in regions of Western Amazônia, which were previously occupied by populations of forest dwellers. This corresponds to a case study of the Acre River Valley, a more recent frontier area dating 1970-90. This new occupation occurred principally through the expansion of cattle-ranching over regions previously occupied by rubber tappers, causing serious conflicts and an intense rural exodus. Thus, the object of the fifth chapter is to investigate the new forms of occupation through the eyes of the main agents involved, that is, the ranchers and the colonists.

The sixth chapter aims to show that the available labour force (that was scarce in Western Amazônia in the 1970s) increased in the 1980s, fed by the regional migrant population swelling the outskirts of frontier towns. For this purpose, the relationship between the appearance of a surplus population in Acre state and the structuring of a regional labour market is examined.

A study of street vendors in the town of Rio Branco in 1990 identified the origin of these workers and showed the existence of a floating labour market where urban jobs were scarce and rural jobs, seasonal. Through the growth of informal urban activities in these frontier regions, the study sets out to show the failure of the formal employment market in absorbing migrants forced out of rural Amazônia.

The seventh chapter deals with the extractive social movement in the state of Acre, focusing on the endurance of the locals against the government's developmental model of occupation taking place in the Brazilian Amazônia since the late 1970s. Its objective is to present the Extractive Reserve as a proposal for rainforest productive

conservation, as well as for the immobility and counter-mobility of the extractive social groups.

The eighth chapter will bring into focus the conclusions and policy implications derived from this thesis. Among the basic questions that have emerged from the present study are those related to: a) the characteristics of the general process and the specific forms and mechanisms of the current capitalist occupation of the Brazilian Amazonian frontier; b) the role of migration in the creation of regional labour markets; c) the discussion of a new order in the defence of environment.

## 1.2. GENERAL METHODOLOGICAL ISSUES

In the 1980s and 1990s, I had the opportunity to undertake various journeys to the Brazilian Amazônia in the course of my work as a researcher for the Brazilian Institute of Geography and Statistics (IBGE), and also as a PhD student collecting relevant data to the present work. In those occasions, it was possible for me to witness several conflicts related to the new forms of appropriation of this frontier, mainly represented by cattle-raising, mining and the directed colonisation projects. From then on, I was forced to revise my idea of Amazônia and the concept of migration.

Therefore, because of the various experiences encountered in different frontier contexts and involving distinct social groups, I came to realise the need for considering those issues within a particular developmental model (the current capitalist occupation in Amazônia from the late 1960s onwards.) Thus, the issue of migration could be regarded not only as an analysis of demographic flows in relation to origin and destiny, but also as linked to the production of labour force, that is, the human capital of the frontier associated with the recent process of appropriation of Amazônia.

Such considerations help us draw attention to two important points: First, the fact that the theoretical concepts will be used as tools to make sense of reality. Our concern is to establish a progressive articulation between theory and practice. Likewise, I intend to raise awareness of the need to integrate physical and human (social) aspects in the understanding of environmental degradation. Secondly, that one of the contributions of this study lies in the wealth of original empirical data I collected for this thesis during the 1980-1990 period, and which may provide the groundwork for future discussions.

### 1.2.1. Hypothesis, Objectives and Approach

The **central research question** was defined as follows: why and how did the so-called regional development policy for the Amazônia, drawn up with the aim of promoting the ‘occupation of empty spaces’ (in the words of the Doctrine of National State Security) lead to the progressive expulsion of the traditional inhabitants of those areas? We also investigated why the governmental population programmes failed to settle the new colonists (landless migrants) definitively on the land in these frontier regions where, by definition, we may suppose that huge expanses of land were still available?

The **hypothesis** examined was that one goal of the State in promoting population settlement in frontier regions (besides defending national sovereignty and eliminating the danger of occupation of the Amazônia by neighbouring countries) was the creation of a regional labour market. For this, it was more important to have a mobile and available labour force than to settle the population of small agriculturists firmly on the land. Thus, I considered the issues of environmental degradation and increasing mobility of the labour force as results of the changing society-nature relationship. In the Brazilian Amazônia, these changes:

- a) were related to an expansion of territorial limits of capital;
- b) were a consequence of the occupation pattern encouraged by the State in order to appropriate the resource frontier;
- c) brought about forced mobility (spatial and occupational) to the previous inhabitants of these areas.

The **general aim** of this thesis is to identify, via two distinct areas of Brazilian Amazônia (Figure 1), the forms and mechanisms characteristic of the recent process of frontier occupation which have encouraged increasing mobility of the labour force and environmental degradation.

The following **specific objectives** are sought:

- a) To have a better understanding of the significance of migration in producing the labour force necessary to capitalist accumulation. This will be attempted by defining the patterns of spatial mobility of the population in the two frontier areas studied here, and by identifying transformations taking place within the productive economic structure as well as changes in the social relations of production;

FIGURE 1  
 LOCATION OF RESEARCH AREAS IN BRAZILIAN  
 AMAZÔNIA



SOURCE: Organised by the present author for this thesis.

b) To identify some aspects of the environmental degradation which has resulted from the recent occupational patterns of the Brazilian frontier region. This will be done by looking at:

- the consequences of the recent occupation process in the disintegration of the previous relation between society and Nature, such as the uprooting of the previous inhabitants through the loss of their means of production (land, forest), and the disarticulation of their previous cultures, leading to an increase in the landless population;

- the perception of the emergent social conflicts (the concept of immobility), that is, people's reaction to the social and physical degradation imposed on their environment, through the presentation of proposals that allow them to remain in their native regions.

The study is based on an approach linked to the migration-environment-development equation, where it is assumed that the way the physical environment is consumed depends on the development model adopted by that particular society. In other words, the relationship between physical environment and society is not 'natural', but political. In this sense, there is a relation between environment and the spatial mobility of the labour force (migration), considering that labour is the link between society and nature.

To deal with such issues (namely, nature appropriation and labour force mobility), particularly in that portion of the Brazilian territory (the Amazonian frontier) and at that period of time (the late sixties, the seventies and the eighties), the neo-Marxist approach was considered the most suitable one. The value of such a theory will be authenticated by reality, as the concepts of mobility and immobility are proven effective in explaining such circumstances. It is known that the two dominant frameworks of thinking and action - neo-classicism and Marxism - are no longer seen as consistent in that they have been unable to set in motion positive processes of social changes in the South 'that ensured material well-being to large numbers and were both participatory and humane' (Wignaraja, 1993: 4.)

However, in order to develop the present study, analytical categories borrowed from the Marxist theory have been used, since it is assumed that they are still valid to explain the dynamics of specific spaces, such as Amazônia, when compared to other available tools and in the absence of a new, settled paradigm. This thesis, in its treatment of experiences undertaken by social groups at the micro level and in its

discussion of their survival strategies in Amazônia, may ultimately help to provide elements for the search of a so-called ‘new paradigm of development and democracy.

The choice of the historic-structural approach to the present case will be justified in chapter two, by means of the discussion of a few key concepts. In the light of the present paradigm of globalisation, this theory might not be the best instrument, but I consider it appropriate to the analysis of the state of affairs underlying the present investigation.

### 1.2.2. Key concepts

There are several key concepts underlying this thesis that should be identified, and which will be dealt with in further chapters:

**Migration** – In this thesis, the meaning of migration is connected to the concept of ‘spatial mobility of the labour force’ (Gaudemar, 1997.) Migratory flows, however, can present diverse characteristics, as diverse, in fact, as the approaches aimed at studying them. In terms of internal migration, which is the scope of our study, the types of displacements have been diversified, reflecting the structural and circumstantial transformations that took place in society.

Historically, in the Brazilian instance, there were intense rural-urban migratory flows in the 50s and 60s, resulting from a period characterised by growing industrialisation of the major urban centres of the Southeastern region, together with an increase in land tenure concentration in the countryside. In the 70s, however, several long-distance inter-state migration flows took place, involving migrants from the Northeast to the Southeast Region, headed towards urban conglomerations in Rio de Janeiro and São Paulo, as well as migrants from the Southern Region travelling to the agricultural frontier of the Mid-West and Amazônia. This represented the expansion and consolidation of the labour market at a national level. However, the temporary displacement of rural waged workers (the so-called *volantes* or *bóia-frias*) multiplied, especially for monoculture crops such as oranges and sugar-cane, revealing seasonal underemployment and informal labour relations generated by new market demands caused by capitalist modernisation in the fields. Other sorts of migratory flows were also encouraged, such as the successive displacements of dam workers (*barrageiros*) to build the massive energetic infrastructure in international (such as the Itaipu dam on the border with Paraguai) and national (Tucuruí and Balbina, dams in Amazônia) border areas.

As a consequence of the progressive reduction in the offer of land for the small producers and of the increasing expansion of forms of temporary waged work, a new extract of surplus population emerged, and both rural-urban and rural-rural mobility were intensified throughout the country.

Other scales and forms of mobility should not be forgotten, such as daily migration for work and/or study (commuting), as well as residential mobility, that is, displacements within a city. They also reflect the expansion and the multiplication of the focal sites of poverty and violence: the rearrangement of the urban pattern due to changes in the social tissue (Becker,1997.)

As regards the theoretical aspects of population spatial mobility, it can be said that mobility has been subject to different interpretations throughout time. The analysis of people's spatial mobility, that is, the migratory phenomenon, was carried out up to the mid-seventies within a predominantly descriptive and dualistic (urban-rural, industrial-agricultural, modern-traditional) approach. Such a perspective largely dealt with migration through the measurement of demographic flows and their association with individual characteristics of the population. From the spatial point of view, statistical analysis of flows (lines) and agglomeration (points) was favoured, instead of a historical-geographical vision of social formation. This led to a reductive model of reality, where society was considered from an atomistic standpoint: each person was attempting to maximise his/her satisfaction, that is, the decision to migrate was seen as based predominantly on free will instead of being strongly constrained or produced by external socio-economic forces (Becker,1997.)

In the mid-1970s, the migratory phenomenon was (re)considered from a neo-Marxist point of view, of which Gaudemar's (1977) work is a good example. He believed that the strategy of capital is what determines the allocation of labour. In this sense, migration started to be considered as forced mobility promoted by the needs of capital, rather than an act of personal decision.

Still according to Gaudemar (1977), the mobility of labour embodies two dimensions: the spatial (horizontal) and the social (vertical) ones. As spatial mobility, or migration, mobility can be regarded as the capacity of the labour force to conquer large spaces (the geo-economic space), that is, the space through which labour expands in order to compose the labour market. As the labour force extends over space, it has to be concentrated on specific places, those which are more useful for capitalist production. Thus, mobility of labour may be regarded as determined by the needs of capital. These

needs are then reflected through different and alternative spatial forms of migratory flows (centrifugal or centripetal, respectively.)

In the present work, migration as forced mobility will be considered an essential mechanism in the expansion of monopoly capitalism within a so-called 'peripheral reality' (Slater, 1978), as is the case of Brazil. In spite of the restrictions presented by the neo-Marxist method, the study will make use of this approach, as we believe it to be the most adequate one to the analysis of the process of occupation of the Brazilian Amazônia up to 1990. An in-depth discussion of such concepts will be developed in the following chapter.

**Immobility of the labour force** - that is, people's resistance to mobility: if the labour force were immobile, the accumulation of capital would be damaged. In terms of its logic, resistance to mobility is seen as a strategy employed by workers against the use of their labour force and their life spaces (whether rural or urban) as mere instruments to increase the value of capital (Gaudemar,1997.) Such immobility has two diverse causes: a) spatial (resistance to migration); b) occupational (unwillingness to engage in other activities. In the case of this study, this reluctance is linked to embracing new occupational forms, for instance, cattle-ranching and agriculture), and is expressed by means of social movements (in the case of the present study, the Extractivists' Social Movement.)

In Brazil, it is admitted that 'immobility' had a certain expression in the country's recent period of capitalist growth. On the one hand, with the occurrence of urban labourers' strikes, such as those organised by the metallurgists in the state of São Paulo since 1978 (Gohn,1995.) On the other hand, with the emergence of land conflicts from the mid-70s onwards, as a result of the expansion of latifundia and of territorial boundaries within the capital. The latter conflicts arose from both modernisation of the agriculture (in the most developed areas of the country) and from recent forms of appropriation of new areas of the Amazonian agricultural frontier (Martins, 1980.)

In terms of the Brazilian Western Amazônia, among the instances of 'immobility', we may quote the example of the *empates*, that is, the struggle fought since the 1980s by the 'Peoples of the Forest' (traditional populations of small extractive producers in the Acre River Valley) to remain in their natural habitat, the tropical forest (Menezes,1989.) This movement provides an important embryo for immobility; it is a singular example of the resistance of the 'locals' to the recent capitalist expansion in frontier areas, embodying a new model of occupation imposed



‘from without’, that is, not adapted to the natural and social conditions of regional groups regarded as traditional. It will be further examined in Chapter 7 of this thesis.

**Counter-mobility** –It represents a struggle not to leave the land, but rather to return to the land. In Brazil, at a national level, it has been consolidating into a popular organisation: the *Movimento dos Trabalhadores Sem-Terra* - MST, Landless Workers’ Movement (see Fernandes,1996; Gohn, 2000.) Participants include workers who now wander the land from which they have been expropriated, and unemployed immigrants concentrated in urban peripheries, most of them, of rural origin and tradition.

Both the example of the ‘Peoples of the Forest’ and of MST represent strategies of resisting mobility, seeking agrarian reform according to regional characteristics. They differ, however, in the means of production sought: the former group fights for the forest; the latter, for land. While the ‘Peoples of the Forest’ challenge the local/regional processes of production of the capitalist territory in an attempt to prevent them from expanding even more onto their vital space, the MST seek to recover small parts of capitalist territory historically constructed on the expropriation of small land producers.

In the case of the sample area in Western Amazônia, this counter-mobility began in 1990, with the creation of Extractive Reserves (RESEXs.) These groups not only aim at the permanence of rubber-tappers/nut-gatherers in the forest, but also fight for the return of those who have been pushed out of the area – and into regional urban outskirts (especially the city of Rio Branco, capital of the state of Acre) by the intensification of cattle-ranching. This topic will be further explored in chapter 7.

**Sustainable development** – According to Nayar (1992), sustainable development became the link between development and environment when recognised as the global imperative to redress the prevalent dichotomy between development on the one hand and environmental protection on the other.

When the concept of sustainable development emerged, it was widely adopted by researchers, politicians, governmental and civil entities as well as by social groups from all shades. Consequently, a diversity of definitions became manifest and since then the concept has been criticised on different grounds. Although it recognises the links between issues such as poverty, affluence and environmental degradation, it fails to address the complex relationship and root causes underlying those links.

The ‘Caring for the Earth’ Report (IUCN/WWF, 1991) presents some basic definitions on the subject. As stated in that document, ‘sustainable development’ means improving the quality of human life while living within the carrying capacity of

supporting ecosystems; ‘sustainable use’ is applicable only to renewable resources, meaning their use at rates within their capacity for renewal; and ‘sustainable economy’ is the product of sustainable development (such an economy maintaining its natural resource basis, and continuing to develop by adapting, and through improvements in knowledge, organisation, technical efficiency and wisdom.) This report also stresses that we cannot continue to gamble with survival by living as we are now, and by pursuing our usual business policy. The persistence of the current pattern of world economic growth has led to an increase in the gap between poor and non-poor populations. Critiques of the dominant development model have arisen and a new focus was put on the environment, in the context of social and economic changes. This can be seen as the roots of the sustainable development concept.

Within a North-South framework, while in the North sustainability as ‘development-without-destruction’ comprises concerns especially related to the search for welfare, in the Southern reality, the sustainable use of natural resources is much more related to the struggle for basic needs and for the preservation of one’s cultural identity. Many groups in Southern countries (as exemplified by the Movement of the Peoples of the Forest, in Acre, studied in this thesis) have been practising sustainable development to protect the natural environment, their source of subsistence. In this sense, sustainable development policies for less developed countries (and less developed socio-economic groups) need to be regarded from an approach which considers natural resources not only as a source of richness, but also as a source of subsistence and of cultural reference. A more extensive discussion of the concept of ‘sustainable development’ will be presented in chapter 2.

The concept of ‘productive conservation’ (coined as a variant of the wider notion of sustainable development) will be considered in discussing alternative forms of exploring the Amazonian frontier by local/traditional groups. According to Hall (2000:106) ‘it refers to situations in which the productive use of natural resources to promote economic growth and strengthen local livelihoods goes hand in hand with the conservation of those resources for the benefit of present and future generations’. In this sense, the active involvement of resource-users in the process of environmental management and economic production is seen as a veritable prerequisite for sustainability.

**Environmental Degradation** – The way the environment is utilized depends on the development model adopted by that particular society. Throughout time, the environment has been exploited in different ways by different societies and by different

groups in a society. 'The way people relate to their environment, is created by culture, and bounded by social relations, and by structures of power and domination' (Adams,1990:83.) Hence, environmental degradation (physical and human) reflects the nature of consumption patterns as a consequence of the developmental model chosen by each country as well as by their position in the North-South framework of relations. By considering the existence of different socio-economic groups within the countries themselves, at intra-national level the 'environmental crisis' (Redclift, 1984) can also reflect the confrontation between those groups on their way to appropriating or preserving Nature.

This study will analyse environmental degradation as being closely linked to the current stage of capitalist expansion in the Amazonian frontier. In opposition to most authors, who argue that the physical-environmental degradation of ecosystems is largely due to demographic pressure and to the intense spatial mobility of poorer populational groups, we believe that other groups and particular forms of appropriating the Brazilian Amazônia (especially cattle ranching and mining) should be carefully taken into consideration when analysing the patterns and the extent of Amazônia's degradation.

**Extractive Reserve (RESEX)** – It represents the regularisation of areas occupied by social groups that have native products of the forest as their source of subsistence, and who exploit them on a sustainable basis. It was conceived as an alternative proposal for the development of Amazônia, one adapted to fit local conditions. By means of a local/regional model of self-sustainable exploitation of the forest, the extractive populations have been fighting to preserve the forest and to remain in it. At regional and national levels, the RESEXs represent a proposal for ecological agrarian reform, constituting a means of legalising collective tenure (or household) in areas designated as having extractive potential.

This strategy is adapted to, rather than destructive of Amazônia's natural resources; an economic and ecological alternative to the deforestation. It also represents the resistance organised by the 'locals' against the disintegration of the cultural identity of local groups, perceived, and at the same time, questioned as a social movement of 'productive conservation' (Hall, 1998.) It is important to consider the socio-ecological function of the RESEX, as rubber tappers, along with the indigenous populations, have been viewed as 'natural preservers' of the tropical forest habitat, since their lifestyle is based on a symbiotic relationship with the environment. From the rubber tappers' point of view, this strategy should be considered within the context of class struggle for surviving. The Extractive Reserve foresees the improvement in the rubber tappers'

living standards, through technical improvements introduced to rubber estates. Therefore, it supports a policy of incentives to improve technology, education, commercialisation and prices, and to develop co-operatives in great areas of extractive potential.

This is obviously not a model to be adopted in all rainforest areas because of their diversity in term of their vegetation and geomorphology, but it should be seen as an attempt to solve some of the problems related to environmental degradation, as well as to the growing mobility of local populations in large portions of the Brazilian frontier areas characterised by high extractive potential.

### 1.3. CHARACTERISTICS AND OBJECTIVES OF THE FIELD RESEARCH

Because the Amazonian reality is multi-faceted in its habits and peoples, it became important to identify the different aspects of its recent appropriation. Thus, different data sources and distinct social groups needed to be considered. Moreover, the main aim of the field research was to understand the 'logic' of the distinct social agents involved in the occupational process of the Brazilian Amazônia in the last three decades.

The research for this thesis was carried out during two separate periods in two different regions with different target populations. The first one was a region of colonisation in a "background" frontier area – Pré-Amazônia Maranhense – studied in 1983 and 1984. In 1987 and 1990, research was undertaken in a new frontier area, the Acre River Valley, in the Western Brazilian Amazônia. Both areas were studied during the North Region's 'dry season' (summer), that is, from May to October.

It was thus possible to study the recent process of Amazonian frontier occupation through interviews and through the analysis of social groups belonging to distinct sections of Brazilian society, who hold different values and have different purposes in their use of natural resources. These groups were especially represented by colonists (migrant rural smallholders from Pré-Amazônia Maranhense and from the Acre River Valley), by forest dwellers, whose livelihood depends on rubber-tapping and gathering Brazil nuts in Acre, and by ranchers, the main representatives of the new economic order of the Amazônia.

The interpretation of all the information collected for this thesis was further enriched by my earlier experience in the Amazônia, acquired as a researcher for the

which involved the study of the migration phenomena in the frontier region on three different occasions (1985, 1987 and 1988.)

In terms of the written style of this thesis, it is relevant to point out that in many instances direct quotations from mainly original sources were used, since the actual words of the main actors (or other sources, such as local newspapers) were the best way of expressing the specific point in question.

It is also appropriate to note that, like many other field studies, this research was of an analytical exploratory nature.

### 1.3.1. Instruments of Research

The instruments of research consisted of primary and secondary sources of information.

a) PRIMARY SOURCES (original information collected by the author for this thesis):

- A **sample** of 422 smallholding migrant families in ten municipalities in Pre-Amazônia Maranhense. This was carried out by means of a questionnaire (see Appendix 1) designed to obtain multiple information: the migratory and labour history of the heads of households; how they had obtained the land on which they were currently working (such as, land tenure, squatters' rights, sharecropping or leasing); and the forms of paid work these families took on as a strategy of survival. It attempted to identify the causes and the mechanisms that characterise the mobility of the labour force on the old frontier.

This research was carried out under my direct supervision, using a group of seven people, hired for that specific task, and took place in Amazonian summer, from September to October 1983 in the COLONE (Northeastern Colonisation Company) region and, from August to September 1984 in the COMARCO (Maranhão Land Company) region. The research had financial support from CNPq, Brasil.

- A **survey** of the informal trade sector in the town of Rio Branco, Acre state, interviewing 324 street peddlers during the last two weeks of August, 1990. All the street sellers who worked in the informal urban economy in the centre of the town of Rio Branco were interviewed by myself and by another researcher hired by me to perform this task. The object of this research was to identify the origin of these workers and their links with the recent forms of appropriation of the new frontier region.

The questionnaire I designed (see Appendix ) tackled issues such as the migratory status of the workers, their gender and age, previous occupation, the year they entered

The questionnaire I designed (see Annex 1) tackled issues such as the migratory status of the workers, their gender and age, previous occupation, the year they entered the informal market and their current sphere of trade. In the case of those who were migrants, an attempt was made to find out their origins and the year they arrived in Rio Branco City. They were also asked the name of the rubber-tapping estate from which they had come (in the case of former rubber-tappers), and required to give an estimate of the number of rubber-tappers who had migrated at the same time as themselves.

- **Interviews with representatives of different social groups in the Amazonian region.** The interviews were carried out in a semi-structured style with a set of topics guiding the dialogue. The interviewer began by giving a brief description of the structure of the thesis, followed by questions as to how the interviewee perceived the role and importance of his social group (or entity to which he belonged) within the current development process of the region. In the case of rural producers, specific questions were asked in relation to origin (his/her migratory and working history) and the dynamic of his current activity. In the 1990 interviews, a discussion of ecological issues was incorporated.

- Interviews carried out with the technicians and politicians of the colonisation regions in Maranhão. In 1983 the following subjects were interviewed (all from COLONE): Dr. Valdecy Urquiza (then chairman of the company), Professor Amilcar Tupiassu (the technical advisor), José Macedo de Lima and Manuel Emilio Burlamaqui (the technical supervisors of COLONE's I and II sub-districts), Carlos Borges and Luisa Gonçalves (the social-workers in charge), and in 1987, Ananias Silveira Guimarães (technical co-ordinator.)

- Interviews with rural smallholders in Maranhão (1983): Manuel Lucas (founder of the 'Lucas Centro' in the municipality of Cândido Mendes), José Guilherme (founder of the 'Guilherme Centro', Godofredo Viana municipality), Raimundo dos Reis (small farmer and trader at the 'Guilherme Centro', Godofredo Viana municipality), Waldemar Souza (leader of the Limão 'Centro', Carutapera municipality), Benedito de Araujo Luz (long-time resident of the Zé Doca settlement, Monção municipality), Luis Francisco da Silva (Representative of the PIV3 Community in the Buriticupu Project, Santa Luzia municipality), Antonio Souza Neto (colonist and waged worker of the Floresta settlement, Santa Luzia municipality), Raimundo Moreira Paiva (sharecropper in the Barraca Cercada settlement, Santa Luzia municipality), Manoel Alves da Silva (long-time resident of Esperantina village, Santa Luzia municipality.)

- Other interviews in Maranhão: Father Diniz – priest belonging to the Progressive sector of the Catholic Church – in Presidente Medici village, Turiaçu municipality, in 1983; the Manager of the Aimasa Farm, Santa Luzia, in 1983; Father Ferdinando Caprini – priest belonging to the Progressive sector of the Catholic Church – in the village of Santa Luzia do Paruá, Turiaçu, in 1987.

- Interviews with ranchers in Acre (1990): the intention was to interview 14 ranchers, chosen according to their migratory category (natives of the region or originating from another part of the country); if they were migrants, the year they arrived in the region (pioneering settlers or recent arrivals) and ranked according to the size of their holding (small and medium-sized farms.) However, it was only possible to interview seven ranchers, as the others cancelled the appointment on the grounds of previous commitments or journeys. Thus, in the period from 6 to 30 August 1990, seven ranchers gave comprehensive interviews in Rio Branco: J.T.C., J.B., R.B., S.Z., J.M., S.F. and L.S. (They requested anonymity.)

- Interviews with representatives of extractive groups in Acre state: in June 1987 and 1988, Chico Mendes (the then president of the CNS, National Council of Rubber Tappers); Gomercindo Rodrigues (the then President of the Amazonian Workers Centre/CTA, Council of Agrarian Workers and official of the CNS), and Osmarino Amâncio (the then President of the Brasília Rural Workers Union, Brasília, Acre.) In 1990, Zé Peruano (Secretary of the Brasília Rural Workers' Union), and Julio Barbosa, the then President of CNS.

- Interviews with representatives of Acre's technocratic and political classes: in August and September 1990, the Regional Delegate of IBGE (João de Oliveira Avelino), the acting State Superintendent of INCRA (Vicente Brito), the President of FUNTAC (Gilberto Siqueira), the Managing Editor of the local newspaper *Varadouro* (Elson Martins da Silveira), the Managing Editor of the local newspaper *A Gazeta* (Silvio Martinello), officials (such as Antonio Alves) of IMAC (*Instituto do Meio Ambiente do estado do Acre.*)

- Other interviews about Acre: in 1987, Mary Allegretty (the then President of the Institute of Amazonian Studies, IEA, a Brazilian NGO headquartered in Curitiba, Paraná); Mario Menezes (official of INCRA, Brasília), both of them members of the I Group of Studies on Extractive Reserves created by the Brazilian government in 1986; in 1990, Rosa Maria Roldán (the then Secretary of the National Council of Rubber

Tappers); in 1994, Rafael Pinzón (Representative of the National Centre for Sustainable Development of the Traditional Populations/CNPT, Brasilia.)

#### b) SECONDARY SOURCES

Besides bibliographical material, mainly from Brazilian and English literature, local newspapers were used as the principal sources of secondary information, especially for 'reported dialogue'.

*Jornal Varadouro*, also known as 'the jungle newspaper' is worth special mention. From May 1977 to December 1981, only 24 issues of this newspaper were published in the town of Rio Branco. According to the editors (Elson Martins da Silveira and Silvio Martinello) the newspaper intended to report on the historical momentum of the state of Acre and its people, at a time when the ranchers' invasion made inroads on the old rubber estates. For five years, journalists (Celia Rodrigues Alves, Elson Martins da Silveira, Luiz Carneiro, Rosa Maria Carcelen, Silvio Martinello and Terry Valle de Aquino) made interviews with local people. In many situations, the actual words of these actors were the best expression of the local reality. In this way, we expect that the heavily use of the particular newspaper *Varadouro* has been justified.

It should also be noted that the author of this thesis is one of the few people in Brazil who owns a complete collection of this local newspaper. 7

Recent information about the experience of the extractive populations of Acre was obtained from the Newsletter of the National Council of Rubber Tappers, published monthly from January 1993 onwards.

#### 1.3.2. Field Research Procedures

##### a) **Research in the Region of Pré-Amazônia Maranhense**

- Definition of areas - Three areas in Maranhão state were marked out according to their type of occupation:

(i) OLD DIRECTED COLONISATION AREA (245,000 ha) situated in the municipalities of Monção and Pinheiro, which corresponds to the oldest areas of *Projeto de Colonização do Alto Turi* - PCAT (Alto Turi Colonisation Project), originally managed by SUDENE (1962-1971) and subsequently (from 1972 onwards) by the *Companhia de Colonização do Nordeste* - COLONE. This area is also known as 'area de Zé Doca', the region's largest settlement, inhabited by 30,000 in 1984.



(ii) OLD AREA OF SPONTANEOUS OCCUPATION UNDER CURRENT PROCESS OF TENURE LEGALIZATION, corresponding to the settlements situated in the municipalities of Altamira do Maranhão, Santa Inês, Pindaré-Mirim and Santa Luzia, many of them belonging to the *Companhia de Terras do Maranhão* – COTERMA (Maranhão Land Company), and characterised by a spontaneous land occupation process began in the 1970s.

(iii) FRONTIER AREA OF RECENT POPULATIONAL EXPANSION (448,000 ha), which in 1983 represented the most recent demographic frontier in the Pre-Amazônia, located on the border of the states of Maranhão and Pará, encompassing the municipalities of Turiaçu, Cândido Mendes, Godofredo Viana and Carutapera. These areas present *povoado*-like settlements (rural aggregate habitats) located along the BR-316 road in Maranhão state, in the stretch from Nova Olinda to Boa Vista do Gurupi. They are also characterised by the presence of ‘centros’, that is, the very first form of settlement in the newly-cleared forest areas.

- **Sampling procedure** - the design of the sample was carried out by the statistician Alice Dora Vergara in 1983, specifically for this thesis. The methodology used is described below:

A stratified random sampling proportional to the size of the units was chosen. This classification process has diminished the probability of not including typical elements of the population.

According to Cochran (1977:89), in stratified sampling the population of  $N$  units is first divided into subpopulations of  $N_1, N_2, \dots, N_L$  units, respectively. These subpopulations are nonoverlapping, and together they comprise the whole population, so that,

$$N_1 + N_2 + \dots + N_L = N$$

The subpopulations are called *strata*. To obtain the full benefits from stratification, the values of  $N_1, N_2, \dots, N_L$  must be known. When the strata have been determined, a sample is drawn from each, the drawings being made independently in different strata. The sample sizes within the strata are denoted by  $n_1, n_2, \dots, n_L$ .

Stratification may produce a gain in precision in the estimates of characteristics of the whole population. It may be possible to divide a heterogeneous population into subpopulations, each of which is internally homogeneous. If each stratum is homogeneous, in that the measurements vary little from one unit to another, a precise

estimate of any stratum mean can be obtained from a small sample in that stratum. These estimates can be then combined into a precise estimate for the whole population .

The method of sub-sampling was adopted by imposition of the costs and the difficulties of travel in the regions of recent occupation. The selection and identification of households was carried out 'in loco'.

Because of the specific characteristics and strategic nature of the research, seven census sectors were considered to be self-representative, corresponding to five *centros* (small villages in areas of recent spontaneous occupation, dating from 1980) and two *Sudene quadros* (the earliest areas of directed colonisation, dating from 1962.) The remaining sectors were stratified, taking into consideration the number of inhabitants of each sector established by the 1980 demographic census (IBGE) as the variable of stratification.

In this first stage of sampling, twelve strata of census sectors were set up (three sectors in the areas of directed occupation and nine sectors in the areas of spontaneous occupation), corresponding to the municipalities which made up the chosen region. In both populations, coefficients of variation (0.01 to 0.15) were obtained and the tests of stratification were  $T2D / TD = 0.03$  and  $0.10$ , respectively.

For the first population group (areas of directed occupation) the size of the sample was set in seven sectors and the division of these sectors by stratum was carried out according to the criterium of proportion by size:  $N_h = N_n \cdot n$ , because the strata proved to be highly homogenous. An identical procedure was applied in the second population group (areas of spontaneous occupation), with the size of the sample set at 24 sectors.

In the second stage, the starting point was the proportion of each stratum within the total population and these proportions were applied to the size of the sample set for the households. The next step was to redistribute the sample proportionally according to the selected sectors. The sample fractions were:

$$\text{In the first stage: } F1 = \frac{1}{N_h}$$

In the second stage:

$$F2 = \frac{\text{n}^\circ \text{ households in the sample of h strata}}{\text{total n}^\circ \text{ households in h strata}}$$

Thus, in the final fraction, its inversion gives the expansion of the sample:

$$f^{-1} = f1^{-1} \cdot f2^{-1}$$

The coverage of the sample, in terms of number of households, was 0.0456 in relation to the total number of households in both regions (the self-representative sectors and the areas of directed and spontaneous occupation.) The margin of error of the sample was estimated at 0.02 and 0.01 to the level of significance of 0.05, respectively ( $\alpha = 0.05$  .)

- Estimate of number of questionnaires per area

The number of questionnaires to be filled in was defined according to the total population who lived in the three sub-regions covered by the study (see Table 1.1.)

TABLE 1.1  
SAMPLE SPECIFICATION BY NUMBER OF QUESTIONNAIRES ACCORDING TO KINDS OF RESEARCH AREAS. MARANHÃO STATE. 1983 - 1984.

Kinds of research areas	Number of Municipalities 1980	Total Population 1980		Number of questionnaires
		Research area	Selected area	
Old directed colonisation area	2	7890	5313	120
Old spontaneous occupation area under current process of tenure legalization	4	23177	8991	175
Frontier area of recent populational expansion	4	29431	12797	185
<b>Total</b>	<b>10</b>	<b>60498</b>	<b>27101</b>	<b>480</b>

SOURCE: Field research carried out under the supervision of the present author. Maranhão state. 1983 - 1984. Sample designed by the statistician Alice Dora Vergara especially for this thesis. 1983.

(i) **OLD DIRECTED COLONISATION AREA:** corresponds to areas of Monção and Pinheiro Municipalities, in the Alto Turi Colonisation Project. According to the information relating to the census tracts of the 1980 Demographic Census, the total population of COLONE's *colonisation nucleii* was 7890 inhabitants, and the number of questionnaires to be filled in was 120 (Table 1.2.)

(ii) **SPONTANEOUS OCCUPATION AREAS UNDER CURRENT PROCESS OF TENURE LEGALIZATION:** corresponds to areas of Altamira do Maranhão, Santa Inês, Pindaré-Mirim and Santa Luzia Municipalities. The population of this sub-area was 23,177 inhabitants in 1980, and the number of questionnaires to be filled in, 175 (Table 1.3.)

(iii) **FRONTIER AREAS OF RECENT POPULATIONAL EXPANSION:** corresponds to the settlements (*povoados* and *centros*) located along the BR-316 road in Maranhão, in the stretch from the small villages of Nova Olinda to Boa Vista do Gurupi (in the Municipalities of Turiaçu, Candido Mendes, Godofredo Viana and Carutapera.) The total population of this sub-region was 29,431 inhabitants in 1980, and the number of questionnaires to be filled in, 185 (Table 1.4.)

TABLE 1.2  
 SAMPLE SPECIFICATION BY NUMBER OF QUESTIONNAIRES ACCORDING TO  
 MUNICIPALITY AND CENSUS TRACTS. AREAS OF OLD DIRECTED OCCUPATION.  
 MARANHÃO STATE. 1983 - 1984.

Municipality	Selected areas		Overall population	Total number of residences	Number of questionnaires
	Census tract (1980)				
	Nº	Name			
Pinheiro	77	Núcleo 12	326	55	12
Pinheiro	80	Núcleo 8	442	69	15
Monção	77	Núcleo G2	335	57	13
Monção	79	Núcleo G1	432	71	15
Monção	94	Núcleo CC	460	89	16
Monção	100	Núcleo AD	584	104	16
Monção	106	Núcleo CS	571	81	13
Monção	97*	Quadra Sudene	904	148	8
Monção	98*	Quadra Sudene	1259	222	12
	Total		5313	896	120

SOURCE: Field research carried out under the supervision of the present author. Maranhão state. 1983 - 1984.  
 Sample designed by the statistician Alice Dora Vergara, especially for this thesis. 1983.  
 (\*) Self-representative sector.

TABLE 1.3  
 SAMPLE SPECIFICATION BY NUMBER OF QUESTIONNAIRES AND BY THE CHARACTERISTICS  
 OF AREAS ACCORDING TO MUNICIPALITY AND CENSUS TRACT. AREAS OF SPONTANEOUS  
 OCCUPATION UNDER PROCESS OF TENURE LEGALIZATION. MARANHÃO STATE. 1983 - 1984.

Municipality	Selected Areas		Total Population 1980	Total Number of residences 1980	Number of questionnaires
	Census tract (1980)				
	Nº	Name			
Altamira do Maranhão	19	Brejo da Areia	865	137	18
Altamira do Maranhão	16	Igarapé do Meio	799	139	20
Santa Inês	44	Boa Vista	461	63	10
Santa Inês	46	Bom Futuro	461	114	10
Santa Inês	34	Piquizeiro	254	70	6
Pindaré-Mirim	26	Água Bela	279	67	6
Pindaré-Mirim	39	Militão	391	88	7
Pindaré-Mirim	29	Santa Tereza	366	70	7
Pindaré-Mirim	35	Tufilândia	674	142	13
Pindaré-Mirim	23	Morada Nova	579	130	9
Santa Luzia	59	Buriticupu 1º	1050	259	17
Santa Luzia	26	Esperantina	982	248	18
Santa Luzia	87	Floresta	549	122	9
Santa Luzia	62	PIV3	537	124	9
Santa Luzia	68	Buriticupu 2º	463	110	10
Santa Luzia	19	Barraca Cercada	281	61	6
	Total		8991	1944	175

SOURCE: Field research carried out under the supervision of the present author. Maranhão state. 1983 - 1984.  
 Sample designed by the statistician Alice Dora Vergara, especially for this thesis. 1983.

TABLE 1.4

SAMPLE SPECIFICATION BY NUMBER OF QUESTIONNAIRES AND BY THE CHARACTERISTICS OF AREAS ACCORDING TO MUNICIPALITY AND CENSUS TRACT. FRONTIER AREA OF RECENT POPULATIONAL EXPANSION. MARANHÃO STATE. 1983 - 1984.

Municipality	Selected Areas		Total Population 1980	Total Number of residences 1980	Number of questionnaires
	Census tract (1980)				
	Nº	Name			
Turiiaçu	91	Nova Olinda	908	205	18
Turiiaçu	76	Santa Luzia	892	192	19
Turiiaçu	69	Parauá	887	189	19
Turiiaçu	61	Presidente Médici	375	80	7
Turiiaçu	89	Nova Olinda	782	174	18
Turiiaçu	93*	Centro	2163	347	20
Turiiaçu	95*	Centro	91	19	10
Cândido Mendes	13	Encruso	1045	204	16
Cândido Mendes	21*	Centro	2500	557	22
Godofredo Viana	13	Maracaçumé	683	218	14
Godofredo Viana	18*	Centro	690	113	14
Godofredo Viana	19*	Centro	1200	277	3
Carutapera	25*	Centro	281	156	5
	Total		12797	2731	185

SOURCE: Field research carried out under the supervision of the present author. Maranhão state. 1983-1984.

Sample designed by the statistician Alice Dora Vergara especially for this thesis.

(\*) Self-representative sector

Evaluation and treatment of data In the course of the study, it was decided to reduce the number of questionnaires to 422, rather than the 480 originally planned for the sample. The homogeneity of the characteristics of populations of sub-regions I and II, areas of former occupation, showed that an exhaustive study of all the units planned was unnecessary and a reduction would not affect the representativeness (95%) of the sample. But in sub-region III, characterised as a region of recent spontaneous occupation, and consisting of different types of rural habitat, the original number of questionnaires was maintained. The analysis of the information obtained in this research was carried out after the data was organised into cross-correlation tables.

#### b) SURVEY CARRIED OUT IN THE TOWN OF RIO BRANCO/ ACRE.

This research, characterised as a survey, took in all the street sellers working in the informal trade in the urban perimeter of Rio Branco City in August 1990 and resulted in the variables related below.

- Variables

- Migratory status

- Native born = those born in Rio Branco City

- Migrant = those not born in Rio Branco City

- Structure by gender and age:

- Age groups

- 14-19 years old

- 20-24

- 25-29

- 30-34

- 35-39

- 40-44

- 50 years and over

- Type of trade:

- Fruit and vegetables

- Clothing

- Snacks (sweet and savoury snacks, local specialities)

- Trinkets

- Cigarettes and chocolates

- Shoes and bags

- Toiletries and haberdashery

- Other articles (sun glasses, dolls, handicraft, plastic utensils, pottery, ironware)

- Year starting informal activity

- 1971-1980

- 1981-1985

- 1986-1990

- Note:** It was not possible to keep track of the 1971-75 period, as few *ambulantes* appeared in it.

- Year of arrival in Rio Branco City

- 1955-1975

- 1976-1980

- 1981-1985

- 1986-1990

- Note:** It was not possible to keep the 5 years interval for the 1955-75 period, because of the very low incidence of migrants.

- State of last residence

- Acre; Amazonas; Rondônia; Other Brazilian states

- Municipality of last residence

- Rural area of Rio Branco

- Acre Valley (Assis Brasil, Brasileira, Plácido de Castro, Xapuri.)

Other municipalities Acre state (Sena Madureira, Feijó, Tarauacá, Feijó, Manuel Urbano, Cruzeiro do Sul, Mâncio Lima.)

Other municipalities of Legal Amazônia.

Other municipalities of Brazil.

Previous category of residence

Rural; Urban

Previous occupation

Agriculture (colonist, rural waged worker.)

Extractivism (rubber tapper, fisherman, prospector.)

Trade (merchant, street seller, sales assistant.)

Service (boatmen, civil servant, soldier, office boy driver, bus conductor, stevedore, porter, painter, glazier, shop assistant.)

Industry (carpenter, bricklayer.)

Housework

Other (student, no fixed occupation.)

Questions for former rubber tappers:

Year of leaving rubber estate

Name of the rubber estate they left

Number of rubber tappers who had migrated by that time

- Treatment of data

Two types of statistical procedures were applied to the variables above:

- Cross correlation tables for the general description of the variables;
- Estimate of the significance (p') for pairs of variables in order to define their level of association.

Having characterised the population of street hawkers in Rio Branco City through the manipulation of the few basic variables described above, it was inferred that there was a link between the activity of the street hawker and the exodus of the small rural producers in Acre. So, it was postulated as a general hypothesis that there was an association between the migratory process and the rise of the informal urban market in frontier areas. In order to evaluate this issue, an effort was made to measure the degree of association existing between pairs of the variables analysed that were judged to be important in explaining the process of forming the labour market in Acre.

It was also assumed that we would work at a 5% risk. By this we mean that if we get a significant result we are observing a much larger association than we would

expect if the variables were really independent. For this purpose we have utilised the Chi-square, the Degree of freedom and the Significance (p) values.

It must be said that, since we have made so many tests (between 31 pairs of variables), the 'P' values should be treated with caution. Moreover, it should also be said that 'P' is in most cases very much less than 0.05, the conventional cut-off point for significance (see Table 6.20.), a sign of the association between those variables.

### 1.3.3. Problems in the Obtention of Data

The main problems encountered in the course of field research were the result of the fact that the study was being carried out over vast reaches of the Amazonian frontier – a tropical rainforest – where levels of safety were very rudimentary.

Parallel to the technical procedures of the research, extra precautionary measures were necessary: advance contact with different levels of authorities in the political and technical fields in order to ensure safe access to the regions, information as to the basic characteristics of the local ecosystem, forward planning for food supply and lodging, especially when travelling with a group of assistants for the questionnaire interviews. Other aspects of personal safety were related to travelling through areas where forest burnings were in progress (as happened in 1983 in the regions of forest clearing in the municipality of Carutapera, Maranhão) and in making contact with antagonistic social groups in a phase of open conflict, such as in the case of ranchers and the extractive populations of Acre, in 1987 and 1990.

Another problem was the difficulty to obtain information on the colonisation projects in Acre. It was not possible to obtain access to the Humaitá Government Colonisation Project in Brasiléia municipality, Acre River Valley, in 1987/88. At that time, all information was denied by the INCRA local authorities, as well as the access to the colonists' plots. The little information that was obtained came forward two years later, from INCRA itself, in the form of a general interview with the then Regional Superintendent, in Rio Branco City, and a formal general request submitted in 1991 to the federal capital, Brasilia. As concerns the interviews with ranchers in Rio Branco, Acre, despite the high quality of the interviews which were carried out, it was not possible to follow the original interview plan because half of the prospective interviewees refused to co-operate.

The financial question also needs to be evaluated: the research carried out in Pré-Amazônia Maranhense (1983 and 1984) for this thesis was totally paid for by CNPq Brazil. Part of the information (some interviews) on the Acre River Valley was obtained for the purpose of this thesis, in 1987 and 1988, during the author's journeys as a geographer for IBGE. However,



the most recent journey to Amazônia, especially to Acre state (1990), was paid for by the author herself, and made during two holiday periods. It should be noted that despite the amount of difficulties encountered, the author herself visited almost all the regions researched. This was done not only in the capacity of thesis research co-ordinator but personally carrying out many of the questionnaire interviews and all the in-depth interviews for this thesis.

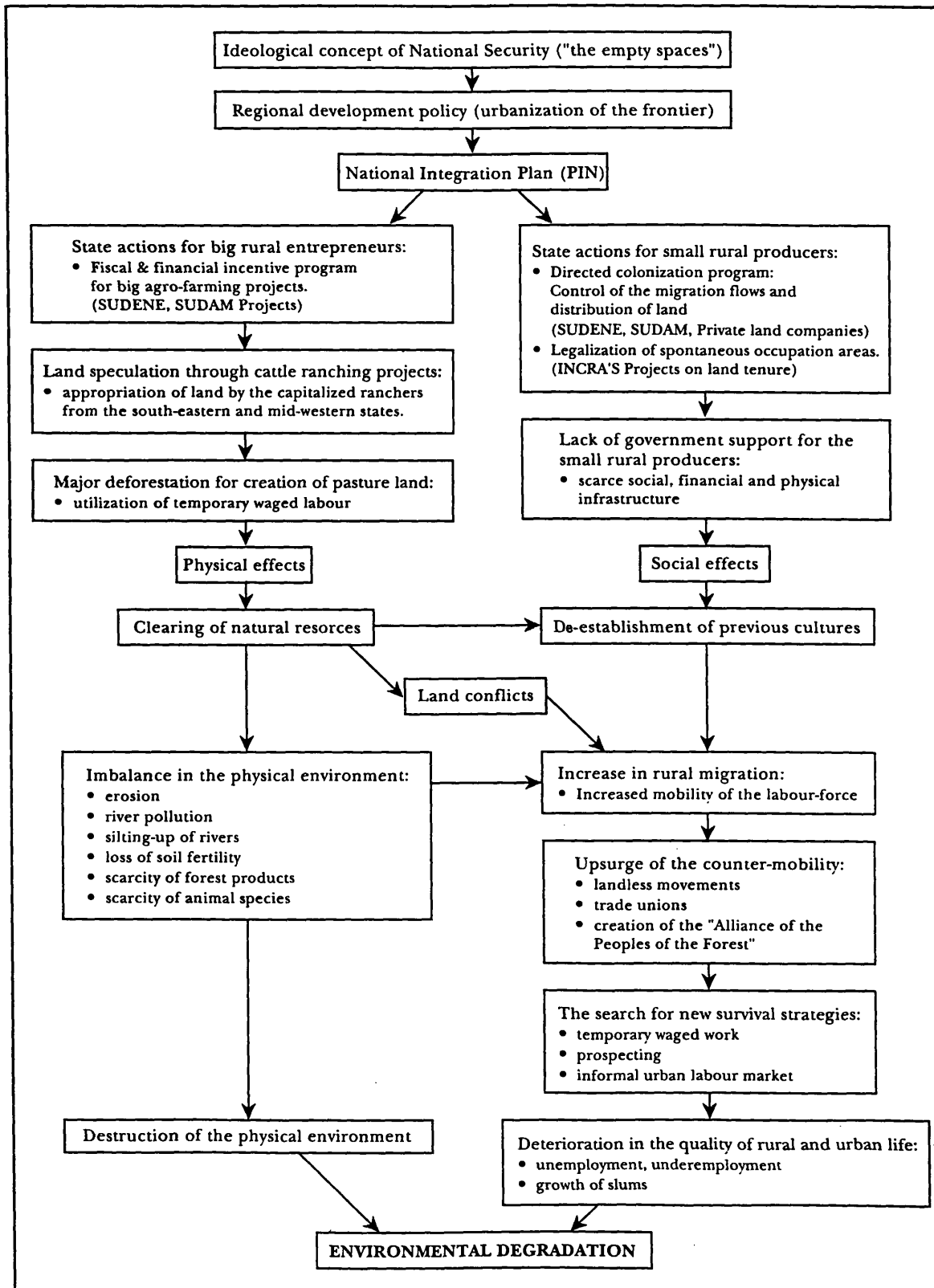
#### 1.4. THE CURRENT PROCESS OF CAPITALIST OCCUPATION IN AMAZÔNIA: A SIMPLIFIED MODEL.

A general scheme of the recent (1960-1990) process of occupation in Amazônia (Figure 2) is outlined here in the attempt to establish a link between the theoretical issues and the empirical work developed in subsequent chapters. This procedure aims at calling attention to the controversial model of development drawn up for Amazônia, where government strategies and actions, compared with the results of these actions, revealed the degradation of physical environment, the impoverishment of populations of small producers and the emergence of serious social conflicts.

This new occupational model, consolidated in the period of the military government (1964-1986) with a view to the expansion of capitalism in Amazônia, was the expression of a new era: a partnership between the Estate, the foreign and national capitals. Such a capitalist development model was adopted on the basis of what the American sociologist Peter Evans (1980) named 'the triple alliance'. Mahar (1979) comments that the new regime treated Amazônia not as a depressed area in need of development aid, but as a resource frontier to be exploited. In this sense, a State practice facilitated capitalist expansion.

This model had at its centre a preoccupation with national security. From the point of view of the State's political actions in the process of the recent occupation of Amazônia 'the strategy was encapsulated in nationalist doctrine, in the Doctrine of National Security (DSN) ... which offered a structural function' (Machado, 1987:196.) The fundamental objective was to continue and to accelerate a radical re-structuring of the country through economic modernisation and spatial change, whilst the infrastructure of national security controlled real and potential conflicts. Bakx (1986:116) notes that the slogan the Government adopted, 'social instability with economic dynamism', showed their commitment to economic growth and social control. Therefore, most of the 20th century movements into Amazônia were closely connected to the actions of the State as either its facilitator or regulator.

**FIGURE 2**  
**SIMPLIFIED MODEL OF THE RECENT PROCESS OF OCCUPATION IN THE**  
**BRAZILIAN AMAZÔNIA. (1960-1990)**



SOURCE: Organised by the present author for this thesis.

This strategy was based on the assumption of the 'empty spaces' of the frontier. In this sense, 'a space empty of past forms could represent an advantage' (Machado, 1987:190) in choosing some points for the concentration of production forces. It is important to remark that this statement only takes into account typically capitalist production forms. On the economic level, it brought the application of capital to Amazônia and was made possible as the State granted enormous financial advantages (in the form of cash and credit incentives) and developed a road and energy infrastructure. The building of the infrastructure was, for the most part, financed by international bodies such as the World Bank (International Bank of Reconstruction and Development) as part of a strategy to attract foreign private capital.

According to Oliveira (1997), the business occupation of Amazônia was represented by interests of different groups (e.g., financial, industrial, farming and cattle-raising.) Such groups saw the fiscal incentives, the credit legislation, and the institutional establishment of a support physical infrastructure as invaluable opportunities for the appropriation of millions of acres of land preceding the arrival of several pioneer demographic fronts. Besides, at that time (the 1960s) in Western Amazônia, the failure of old extractive areas - the rubber estates - paved the way for powerful economic groups to buy extensive tracts of land at a bargain price. The traditional extractive population had been living in these areas for generations, and most of them had become small autonomous producers since the end of the Second World War.

But for economic activities to develop, another basic resource was necessary in addition to a physical infrastructure and finance capital: the labour-force. Hence, the establishment of a road network linking Amazônia with the rest of the country not only stimulated the investment of capital but also created conditions for a migratory influx from other areas. In the same way, the colonisation projects set up by the *Instituto Nacional de Colonização e Reforma Agrária* - INCRA (National Institute for Colonisation and Agrarian Reform) constituted a powerful mechanism in attracting a population of small rural producers who would be later transformed into labour force for the great enterprises to be established in the region (cattle raising projects, building projects on roads and power supplies.)

It could be said that, in the 1970s, Amazônia rose as a frontier due to the State's initiative in fostering the migration of people and capital to the region. In this sense, several phases of regional economic policies for Legal Amazônia can be distinguished.

The first phase (from the early 1960s to 1970), represented by the so-called *Operação Amazônia* (Operation Amazônia), was conceived to reinforce national security and to ensure the geopolitical incorporation of the frontier region to the rest of the country. Because of this, a massive road-building program was launched in the sixties and expanded in the seventies. The *Superintendência de Desenvolvimento da Amazônia* – SUDAM (Superintendence for the Development of Amazônia) was created in 1966 to manage the system of credit and fiscal incentives proposed. A centralised, planning apparatus was established.

The *Programa de Integração Nacional* - PIN (National Integration Programme) was launched under Decree 1106 of 16.06.70. From an integrative view of the nation, this was intended to improve conditions for capital expansion and to ease the unemployment and land-tenure crises in the Northeast and South by settling migrants from these two areas in colonisation projects. Physical integration and occupation were intended to play a vital role in combining the immense resources of the Amazônia Basin within the country's economy. There was heavy investment in the motorway infrastructure, leading to the construction of important arterial roads such as the Transamazônica (BR-230) and the Cuiabá-Santarém motorway (BR-165.)

The second phase (1971-1974) emphasised social integration: landless rural workers, especially from the Northeast, became the main target. The Decree 1178 on 01.06.1971, launched the *Programa de Redistribuição de Terras e Estímulo à Agroindústria do Norte e Nordeste* - PROTERRA (Land Redistribution Program), which complemented PIN and had as its official objectives the aims of facilitating the acquisition of land and promoting agro-industry in the Northeast and Amazônia. These programmes still considered Amazônia as a 'problem area', although the succeeding government (1975-1979) came to see it as a 'resource frontier'. This was the period of the small-scale colonisation programs implemented by the federal Government.

From the geographical point of view, the State's strategy to guide and control the occupation was to 'superimpose federal territories over state territory' (Machado, 1987:198.) According to this view, the federal government created territories by decree, over which it exercised jurisdiction and/or ownership rights. This strategy may be perceived through the development of some initiatives such as the establishment (1970-71) of the 'development axis', that is, the determination that a strip of 100 km to the side of each road planned or built with federal grants would thereafter belong to the public sector. The official justification for this measure was the creation of a land reserve that would

allow its supervised distribution to migrants. Some title deeds were issued, but the principal reason for this was the manipulation of the migratory influxes and the distribution of land; that is, 'the manipulation of territory' according to Machado's view (1987:199.) Under this strategy, the priority was agriculture and small landowners.

The third phase (1974-1979) was characterised by the creation of the *Programa de Polos Agropecuários e Agrominerais da Amazônia* - POLAMAZÔNIA (Programme of Agro-ranching and Mineral Poles of Amazônia) in 1974, and its 'development poles.' Investment was to be directed into fifteen regional poles. However, the emphasis then shifted to mining and agro-industry, with benefits offered to rural large-scale private enterprises and migrants with capital. This programme supported an alliance between the State and private enterprise, whether national or foreign. Its aim was to encourage the exploitation of the region's natural resources and to conquer the external market. The expansion in cattle ranching (the mainstay for economic integration) and mineral exploitation (bauxite, gold, etc.) dates from this period. Meanwhile, industrial growth was geographically concentrated in two big cities of Amazônia: Belém and Manaus. According to Yokomizo (1989), 70 % of the industrial projects approved by SUDAM from 1966 to 1989, were located in those areas.

Many researchers have demonstrated the inadequacy of the new model of occupation with its base in the expansion of cattle-ranching. The ineffectiveness of the policy in encouraging cattle-ranching in Amazônia, or the economic lack of productivity of stock raising, may be seen in the study carried out by Yokomizo (1989), in which the author analysed the progress of various stock raising projects established through the fiscal incentives offered by the *Fundo de Investimentos da Amazônia* – FINAM (Investment Fund for Amazônia.) It was shown that 'of the 766 ranching schemes approved in the period from 1966 to 1988, only 15% were considered to be fully established, 8% had been cancelled, 4% were not begun and 73% still remained in the implementation stage, after periods which ranged from 10 to 20 years' (Yokomizo, 1989:13.)

The fourth phase of regional policies began in 1979, with a State strategy based on increasing exports, reducing public expenditure and encouraging mechanisation. This stage was characterised by the creation of the *Projeto Grande Carajás* - PGC (Greater Carajás Programme), associating iron smelting with agro-industry, which acted as a catalyst for all the national financial resources and had the function of attracting capital from international financial markets. This period was characterised by the creation of joint-ventures, projects in which the major share was taken by state

enterprises and the appropriation of Amazônia space by transnationals. Margulis and Reis (1990) pointed out that there was a fifth phase in regional policies, started in 1985:

‘The background of regional policies is given by the hyperinflation and fiscal crisis of the Brazilian State and by an increase in foreign pressures as a result of the world-wide perception of an ecological crisis, where deforestation in Amazônia arises as one of the important issues. Both reasons lead to small rates of frontier expansion’  
(Margulis and Reis, 1990:11 .)

The new occupational forms promoted devastating changes in the balance of socio-economic relations and in traditional demographic patterns, stable until then. In demographic and social terms, it could be argued that these policies have led to the private appropriation of land by investors and to the control of unclaimed public lands by the government. These facts hindered the spontaneous movement of small landless producers towards occupation and settlement, giving rise to increasing conflicts over access to land (see examples in following chapters.)

It is also important to highlight that urbanisation on the frontier should not be perceived purely in demographic terms of the growth of towns (the urban question), but particularly in respect to the displacement of the population from rural to urban areas (the rural exodus.) This results, on the one hand, from the weak settlement of the people on the land, and on the other, from its importance in the formation of a regional labour market. This fact is also explained by the need of waged workers for the expansion of the capitalist economy.

If we take the view of the previous local populations, despite their abandonment by government authorities and contrary to the widely promulgated view that Amazônia is unpopulated, we will find another logic: they continue to live in poverty, but also in relative harmony with the forest and fighting for its survival. They believe that there is ‘an order of forest peoples’ threatened by the intrusion of new forms of occupation. This has led to the establishing of strategies of ‘immobility’: the resistance exhibited on the part of different groups who have felt a need to preserve their identity as a primary form of survival. The existence of this ‘previous model’ is a reality that the current model of occupation is intended to annul and reverse. The territorial occupation model that has been adopted in Legal Amazônia in the last three decades is based on the idea of a multifaceted frontier. This gave rise to the diversity of Amazônia under capital and State guardianship, with the cattle raising program, the colonisation projects and the transnational corporations, the latter particularly directed towards the exploitation of mineral, and on a minor scale, of

timber resources. Still, from the mid-90s onwards, the (not always legal) exploration of timber destined to international markets has become an important economic vector, with serious environmental consequences.

This model was responsible for setting the scene for the so-called 'ecological disorder,' which has been a subject of discussion in the region. According to Lenna (1990), the present situation in the Brazilian Amazônia is the result of a model of occupation marked simultaneously by authoritarianism and *laissez-faire*; this may appear contradictory, but the combination does exist in Amazônia. In this context, particular interests of every kind are able to stretch their limits, often beyond institutional control.

The State's official rhetoric has been using the terms 'migratory disorder' and 'ecological disorder' on several different occasions to defend the implementation of its policies related to redistribution of the population, boosting of capital and environmental preservation. The last one is especially aimed at supporting the biodiversity demanded at international level.

Therefore, the seemingly migratory disorder that characterised some stages of the Brazilian economic route was emphasised to justify the implementation of a certain policy of occupation for the Amazonian region: the disorderly migratory flows of small agriculturists that needed to be channelled towards the 'empty spaces' of the frontier. Likewise, the idea of a so-called ecological disorder was presented through images of an accelerated devastation of the forest, although no emphasis was placed either on the cultural disarticulation of the traditional inhabitants of the region, or on the deterioration of their lifestyle. Such images aimed at preserving one of the last two rainforests in the world, due to its role as a climate regulator and as an international source of geoplasm.

In reality, this physical and population 'disorder' does not exist but is a characteristic of the current model of development: it results from the ways in which different social groups appropriate land, natural resources and labour. Its inevitable consequence is the escalation of social conflicts.

The 'disorder of progress' (Buarque, 1990) is expressed by enormous changes in the environment and social conflicts. Among other examples, some can be especially noted: the expansion of cattle-ranching over traditional extractive areas or subsistence cultures, the advance of hydroelectric power stations that submerged large portions of the forest which were the habitat of the indigenous populations, and the presence of gold-prospecting polluting rivers, degrading the soil and exterminating Indians. It is also manifested in the implementation of colonisation projects over previous rubber-tapping areas, the free

extraction of hardwoods for Northern markets, and the burning of forests in Eastern Amazônia to produce charcoal for pig-iron and cement factories in the Great Carajás' Project.

In fact, instead of being nefarious to the present economic order, this environmental and population disorder is useful to it. It constitutes the other face of the capitalist development model that has been in force in Brazil since World War II, and in Amazônia since the 1970s. This apparent disorder is simply the embodiment of the population movements in time and space, complying with the interests of capital whether at a national or an international level.

In this sense, this chapter introduces the question of the 'apparent ecological disorder' that characterises the present model of occupation. The seeming contradictions of this model, in fact, serve the interests of capital. In this thesis we seek to identify the mechanisms behind such 'disorder' that make this model work in terms of capitalist logic.

The two areas (Figure1), which will be the subject of empirical analysis in further chapters are placed in this complex and diversified reality of Amazônia. They are the Pre-Amazônia Maranhense (an old frontier area regarded as one of the entry points into Amazônia for the migrants from the Northeast), and the Acre River Valley, a new frontier area in which the traditional population (forest dwellers) was dispossessed from their means of subsistence in the course of the expansion of the cattle-ranching sector.



## **CHAPTER 2**

### **MIGRATION, ENVIRONMENT AND DEVELOPMENT**

#### **2.1. INTRODUCTION**

This chapter aims at reviewing some basic concepts and concerns about migration, their relationship with development and environment, addressing them in terms of the North-South debate launched throughout the past decades, as well as to place them within the theoretical framework of this thesis. A question to be approached is that of people being the main element in the degradation of nature, and the role of migration in this process. It means that social dimension of development has to be particularly considered in the discussion of environmental issue.

For that purpose, migration, considered as mobility of the labour force, will be presented as a significant element in the discussion of environment as a whole, especially in Southern countries, as is the case of Brazil. In this sense, it is essential to understand not only the role of migration in the process of labour force production but also the meaning of migration in developing countries, particularly related to the less favoured social groups.

As many authors, scholars, practitioners and institutions argue, the Earth's' finite natural resources have been exploited for centuries. However, only within the last three decades has public concern about resource depletion become an important feature in the discussion of development at an international level. Likewise, awareness of environmental aspects is not recent, since ideas about the conservation of nature were considered as much in earlier as in contemporary times by many social organisations. What is new is the rate and the style of the appropriation of nature, that is, the pace at which natural resources are being depleted (following the idea of 'making a quick profit') and the way in which the environment has been used up. As pointed out by Slater (1993:2), what is new is that we have built up a global economic system, 'the make, take, throw-away society', whose very nature seems to lead to ecological destruction.

As a consequence, the speed and intensity in devouring natural capital, as well as the forms (land use and land tenure) in which land has been appropriated, has lead to the progressive scarcity of natural resources and to the emergence of masses of people with growing mobility and poverty.

Analyses of the environmental issues had been based on different assumptions about the forms of appropriation and use, or abuse, of resources by society. Therefore, environmental problems (related to the depletion of natural and human capital) became the outcome of the way people have managed the environment. This reflection also concerns people's roles as **agents** and **victims** of the transformations going on in the environment. Sustainable development will also be taken into consideration, as it constitutes a serious issue linked to the current international and national debate on the degradation of the tropical rainforest.

Finally, this chapter will focus on the labour force mobility as an essential mechanism in the creation and expansion of the labour market in developing societies and in the deterioration of life conditions of some (the poorest) segments of the human capital in the South. This mobility has been subject to different interpretations according to, among others, neo-classical and neo-Marxist approaches. In this chapter I will examine both approaches and argue that the neo-Marxist theory is still the most adequate to support the analysis of the recent process of occupation of Brazilian Amazônia up to 1990.

## 2.2. THE MIGRATION-ENVIRONMENT-DEVELOPMENT EQUATION

Migration can be seen as an important factor in population distribution, and consequently, in resource use. It follows that spatial mobility performs a specific role in environmental degradation. Being a mechanism of population displacement, it reflects changes in the relationship between people themselves (the relations of production) and also, with their physical surroundings. Therefore, the disintegration of previous livelihood links between people and their environment (which in most cases leads to a decline in the quality of life and to a disruption of culture) can be understood as a cause and consequence of the innumerable migratory stages people have undergone.

If the people are the central element in the interaction between the components of the environment, it follows that people are the main agent in the transformation of nature. In this sense, the history of nature is strongly connected with human history. As Engels pointed out:

*'Nature does not just exist, but comes into being and goes out of being'*  
(Engels, 1875:59.)

Thus, it is because of human interference in nature that this movement of continued change was accelerated. This initial approach was developed by Marx (1887), whose concept of nature, according to Burgess (1974), rests on the philosophical platform of man's self-creation, as reality itself is 'man-made'. The Marxist concept is not, as in the classical view, that 'man' is a part of nature, but rather that 'he' shapes nature.

Once we accept that the link between people and nature occurs through labour, as pointed out by Marx (1887), then the process of environmental degradation has a social meaning because, by changing nature, people establish interrelationships not only with nature but also with themselves. Then, to understand the socio-environmental decay in some particular region, we should first consider the social relations of production characteristic of that society, and, consequently, their process of labour force production.

Historically, this process can be regarded as the disruption of the previous people-nature relation by the subjection of labour to capital, a feature of the capitalist mode of production which characterises present world relations. This system reinforces the idea of dominion over nature, and that technology is essential for the life of all human beings. Consequently, it implies that people should own and dominate nature. Thus, in capitalism, the relation between nature and society is subordinate to capital.

This process begins with people's alienation from their means of production, especially previous sources of natural resources (in the case of extractive populations) and land (for the small rural producers), which in turn promotes their spatial (migration) and occupational mobility.

The capitalist logic proclaims that nature is a source of wealth that must be exploited, and the Marxist theory stresses that, in that system, people can convert nature into a commodity through labour, in order to obtain profit. Therefore, capitalism reinforces the idea of dominion over nature. On the process of destroying Nature, Engels states the difference between 'man' and 'animal':

'The animal merely uses external nature, and brings about changes in it simply by its presence; man by his changes makes nature serve his ends, masters it. This is the final, essential distinction between man and the other animals, and once again it is labour that brings about this distinction' (Engels, 1875:75.)

Capitalism also stresses that technology is essential for the life of all human beings. This implies a depreciation of the values of the so-called traditional societies, which have been subsisting in a sustainable way, in close contact with nature, throughout time. In several situations, such as in the case of rainforest dwellers, this traditional form of exploitation has not produced the profit envisioned by capitalism, which the intensive use of the natural capital would have enabled. However, such a sustainable way of exploring the environment has contributed to maintain the biodiversity and the balance of the physical environment by means of the preservation of its natural resources.

The meaning of the element 'development' in the present equation can be introduced by Adam's considerations (1990), when he argues that:

'The way people relate to their environment, as well as the way they understand it, is created by culture, and bounded by social relations, by structures of power and domination. Development itself is a product of power relations, of the power of the states, using capital, technology and knowledge, to alter the culture and society of particular groups of people. States co-opt cultures while the world system engages indigenous economics. We call the result of this process development. Development is therefore about control of nature and people' (Adams, 1990:83 .)

In other words, it may be assumed that the relation between people and their environment is not 'natural' but political. It means that the way the environment is consumed depends on the development model adopted by that particular society. Throughout time, the environment has been consumed in different ways by different societies and by different groups in a society. From the clash between different modes of appropriating nature, many spatial, social and environmental movements arose. In this sense, an important point to be considered in the migration-environment-development equation is the question of 'resource crisis' in its class character. This means the analysis of the development process in terms of the benefits and costs they carry for different groups.

At this point, environmental degradation (physical and human) not only reflects the nature of consumption patterns as a consequence of the developmental model chosen by each country, but also their position in the North-South framework of relations.

'The resource crisis in the South is also a development crisis... the environment has not, in fact, been interpreted within the framework of global economic relations. It has not been part of the political dialogue about development and the analysis of underdevelopment' (Redclift, 1984:2.)

Thus, the 'environmental crisis' in the South appears to be a consequence of a historical process which links the rise and diversification of consumption patterns in the industrialised countries in the North, with the increase in exploitation of natural resources in Southern countries. Besides, by considering the existence of different socio economic groups within the countries themselves, at intra-national level this environmental crisis can also be seen as the confrontation between those groups on their way to appropriating or preserving nature.

The concerns for conservation and ecological balance developed by the Northern countries, recognised as being originated from an environmentalist perspective, have contributed to the emergence of varied manifestations. It was launched in 1961 by the World Wildlife Fund (WWF) whose primary objective was the world-wide conservation of the natural environment, but with little concern for sustainability. In 1968, the Paris Biosphere Conference highlighted that the development and use of natural resources had to recognise the biosphere as a system, the whole of which could be affected by activities in any one part of it. Some environmental research programmes were presented such as UNESCO's 'Man and Biosphere' (1971) and the 'World Conservation Strategy Report' (1980), the latter issued by the WWF and by United Nations Environmental Program (UNEP.)

However, the United Nations Conferences on Human Environment were considered the main world events. The first one held in Stockholm in 1972, and the last, the Earth Summit (the United Nations Conference on Environment and Development/UNCED 1992), held in Rio de Janeiro twenty years later. This last Conference encouraged large participation in the debates on development and sustainability and recommended changes to the environment-economy indicators used for guiding human progress.

One important achievement of the Stockholm Conference was the creation of the UNEP, aimed at global environment problems. However, such a Conference did not define measures that could lead to narrowing the gap between poor and non-poor societies, a result of the current pattern of world economic growth. The deterioration of the living conditions of Southern populations, with the consequent aggravation of their levels of misery, has been perceived just as a cause and not as an effect of the process of environmental degradation. Such a process has followed the model of economic growth of Southern countries.

A new strategy of development and the adoption of the concept of sustainable development was only launched in 1987, by the 'Our Common Future', the World Commission on Environment and Development Report. But it was in Rio (UNCED, 1992) that environmental goals and development goals were put together in discussion. According to Slater (1993:4), 'the Rio Conference itself studiously maintained the original ambiguity in the Brundtland definition [of sustainability], liberally sprinkling the word sustainable all over its final documents'.

But, in spite of this vagueness pointed out by Slater, the Rio Conference opened new paths in the discussion of sustainability. Principle 12 of the Rio Declaration on Environment and Development (UNCED, 1992) declared that 'States should co-operate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation'.

Another concern which has given impulse to the environmental position is that represented by the limits to the growth thesis. According to Meadows (1972), even before the industrialised countries were faced with economic recession, the continuing viability of the growth model had been questioned on other grounds. However, 'to appreciate the limitations of development as economic growth... we need to look beyond the confines of industrialised societies in the North. We need to look at other cultures' concept of the environment and sustainability, in historical societies... and in the technologically 'primitive' societies which present-day development serves to undermine' (Redclift, 1987:4.)

Although there was a consciousness of the limits to growth, demanded as a brake for the world's current model of development, the general and international tendency has been to characterise the environmental conflict as linked basically to population growth (and their spatial mobility) in the South, and its role in the degradation of natural resources. This issue has been strongly supported by the neo-Malthusian view, which emerged particularly in the USA, where a dark vision of the Third World's future was presented in order to legitimate the proposition of population control policies.

Related to the link created between environmental degradation and poverty/landlessness in the South, the argument used by most authors and entities is that, usually, the destruction of forests and the deterioration of soil and the corresponding ecosystems are due to demographic pressures obliging the poorest and landless population to over-exploit the poorer-quality lands and to incorporate and over-exploit increasingly marginal land or agricultural frontier territory.

In reality, this degradation of natural resources, considered an outcome of the

demographic pressures over the land, may have another interpretation as well. To Repetto (1985:145), 'it is a consequence of the gross inequality of access to resources between the rich and the poor' (author's translation<sup>2</sup>.) The problem seems to be less related to the neo-Malthusian view (which focuses on the relationship between population and environment as resulting from the pressure of numbers over resources), and more closely linked to the problem of the social inequalities generated by a developmental model begotten by the world's current economic order.

With the growing exclusion of the small producers from the land, the issue of land tenure structures is usually on the basis of the problems of environmental degradation attributed to the poor populations of the countries of the South. The launching of agricultural policies is among the key factors of the increase of the poverty levels and of environmental degradation in less developed countries. Such strategies are aimed at substituting traditional subsistence agriculture by modern monocultures of export, and by cultures linked to agribusiness. As it may be expected, these actions might entail important changes in the labour relations, promoting serious spatial and occupational mobility.

Therefore, the environmental problem would be analysed under a whole new perspective: the demographic pressure itself would have a supporting role in the degradation or in the impoverishment of natural resources, while basic factors such as the framework of economic policies at international or national levels, the patterns of land access and the growing social inequalities resulting from this would stand out.

'In the course of time ... it began to be admitted that the social problem did not only consist in the backwardness of the social sectors, but went deeper: its solution required structural changes and the redistribution of wealth and power, particularly on land ownership' (Sunkel, 1980:5.)

As regards the North-South approach on environment, the UNDP's Human Development Report (1991:28) states that it is ironic that significant environmental degradation is usually caused by poverty in the South and by affluence in the North. However, taking into consideration the environmental question, one has to highlight who are the losers in this process. 'It is the poor who are the losers in the process of environmental degradation, whether this process is initiated by large-scale capital or whether they themselves act as the agents of resource depletion' (Redclift, 1984:2.)

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<sup>2</sup> All quotes are author's translation unless otherwise stated.

Nevertheless, it is necessary to stress the risk of general conclusions and propositions for large areas and different countries, as well as the importance of the analysis of the 'singular aspects' (and not only the general processes) within regional level. This means that it is important to understand the differences going on in the appropriation of nature by specific socio-economic groups, even within the same country. It is essential to recognise, as Sunkel (1980) pointed out, the great ecological heterogeneity which characterises Latin America and each of the countries of the region, and the large-scale differences existing between them in terms of the volume of natural resources, the density and distribution of the population, the geographical dimensions and other aspects relating to the constructed environment.

Hence, it is not physical environmental depletion in the South - usually the main matter of environmentalist concerns - what has to be regarded first. In fact, what needs to be urgently considered in those areas is the increasing mobility and degradation of the quality of life of the people, besides the emergence and quick expansion of poverty, of the so-called 'excluded population' increasingly concentrated at urban peripheries.

In the Brazilian case, it is not only 'the precarious conditions of subsistence of the marginalized and landless peasants and their generally high rates of reproduction (that) create an abundant supply of rural wage earning labour' (Sunkel, 1980:20), but rather the new forms of capitalist appropriation and land use. Thus, in both cases, local people have been pushed off the land and thrown into the urban market as a potential labour force because of the introduction of rural modernisation in the Southern and South Eastern regions (the more developed areas of the country), and of the deforestation of extensive areas in the Amazonian region (Brazilian rainforest frontier.)

Regarding the (un)sustainability of the current model of Latin American development, Goodman and Redclift (1991) argued that 'today we cannot speak of what is being lost in Latin America, whether tropical forests, biodiversity, the knowledge and rights of indigenous peoples or social justice, without speaking of global problems, and global challenges. The crisis of development in Latin America is inextricably linked to wider, global issues' (1991:2.)

According to Slater (1993), sustainable development has the potential to become a new paradigm or intellectual framework and even a new ideology. 'However, the fact that sustainable development is a disputed territory should not be of concern. The speed with which politicians have moved to appropriate it, is really a testimony to its power. Sustainability matters. Sustainable development is a part of that family of concepts like democracy, equality or justice whose meaning is a matter of intellectual and political contestation, part of a process of social construction' (Slater, 1993:1.)



By this time, concerns with sustainability were deeply linked to the 'save the rainforest', pollution and whales campaigns, being strongly supported in developed countries. Sustainability also began to be used as a new jargon phrase in the development business. However, in relation to natural ecosystems, such as rainforests, the main care was still related to the preservation of the natural resources and the wild life: little mention was usually made to the people who inhabit them. In fact, there was a broader commitment to Nature rather than to people. As Adams (1990) has stated, 'concern for Third World environments simply reflects the growing integration of the global village, and environmentalist pressure is, at least in part, an extension of traditional concerns about environmental quality in that village's new countryside, in the Third World' (Adams, 1990:1.)

An important point for understanding the mainstream concept of sustainability is the consideration of sustainable economic development, originally presented as the interaction between the biological, the economic, and the social systems. For economists like Pearce (1986), importance was given to the trade-off between systems or between present and future needs. However, in their report 'Our Common Future', the Brundtland Commission (1987) placed the emphasis of sustainable development on human needs rather than on the trade-offs between economic and biological systems. For them sustainable development meant 'development which meets the needs of the present without compromising the ability of future generations to meet their own needs' (Brundtland, 1987:43.)

In discussing sustainability from a political perspective, Nayar (1992) highlighted the concept of development as meeting needs, and emphasised the central role of participation at all stages of the development process, firmly rejecting 'top-down' approaches to development. So,

'Sustainable development can be taken to mean a process whereby conditions for grassroots empowerment, for regaining the right and responsibility of individuals within communities to shape their own destinies, can be achieved' (Nayar, 1992:2.)

Another question brought out in this discussion of sustainability is its role as a precondition for the availability of resources. While traditional approaches deal with environmental deterioration at the macro-level 'as something external to development ... the reality at the micro level is that environment forms an integral part of daily life. Sustainability, therefore, becomes not an issue to be divorced from subsistence resource' (Nayar, 1992:3.)

As a result, what has to be stressed is that sustainable development is used to refer to 'levels of both production and consumption... it also refers to both the resource itself and the livelihoods which are derived from it' (Goodman and Redclift, 1991:3.)

Development, therefore, has been differently measured. For a long time, development has been defined principally in terms of economic growth, and the gross national product (GNP) has been widely used as the crudest indicator of development. The limitations of GNP as a measure of development, which neither considers the distribution of income and wealth nor the existence of informal activities, or the distinction between groups of people within a country, reveal a lack of importance ascribed, up to a recent past, to the social dimension of development.

Another issue misrepresented by the use of a global measure such as GNP is countries' heterogeneity. As Redclift (1987:16) argues, societies may be both developed and underdeveloped at the same time; most countries in the South are like this, but the extent to which wealth is geographically and socially concentrated needs explicit attention. Nowadays, the use of other indicators which consider social and economic aspects of development, as for instance those used by the UNDP and the World Bank (IBRD), shows that it was understood that a basic human concern had become necessary for the achievement of development goals.

The 1991 UNDP's Report introduced the concept of human development defined as the process of enabling people to have wider choices. Therefore, in addition to income, emphasis was placed in real improvements on human welfare through the incorporation of health, education, a good physical environment and freedom of expression and action as forming part of the range of choices in human life. Together with the Human Development Index (HDI), which offers a more realistic statistical measure of human development, another index was created, the Human Freedom Index (HFI), representing an advancement in assessing development. 'High levels of human development tend to be achieved within the framework of high levels of human freedom' (UNDP, 1991:3.)

Nayar (1992:3), relating development to human rights, defines the HDI index as a measure of the satisfaction of economic, social and cultural rights, while the HFI index represents a measure of the protection of civil and political rights, providing useful empirical tools with which a comprehensive picture of development may be drawn.

What emerged from all these concerns is the vision of sustainable development as development without destruction.

In terms of the dominant development model, sustainability appears as an alternative to unsustainable development; thus, it 'should imply a break with the linear model of growth and accumulation that ultimately serves to undermine the planet's life support systems' (Redclift, 1987:4.) However, as Slater (1993:14) pointed out 'what is still lacking is any willingness to restructure the world order such that the poor of the world are given the opportunities to begin to satisfy basic human needs'.

As we are living in a world ruled by capitalist principles, in the stage of globalisation of the economy, the extent to which sustainability could serve their purposes has to be called into question. In relation to countries in the North, it is known that it suits the needs of environmental preservation primarily linked to the improvement of lifestyles; in realities in the South, it can be mainly perceived as a strategy to deal with poverty. Hence, in the latter, sustainability becomes linked to the availability of subsistence resources.

Nevertheless, sustainable development has been criticised on different grounds. Most of the critics refers to the vagueness of its concept, as meaning different things to different people.. It has been largely criticised because of its lack of consensus:

'There is no consensus about sustainable development, and that differences reflect disciplinary biases, distinctive paradigms and ideological disputes' (Redclift, 1991:38.)

Despite its constraints, this concept allows the possibility of enlarging the debate on development by considering new dimensions for environmental policy intervention, especially for those realities in the South. Thus, within the economic and political dimensions, new paths have been opened. One such path is, for instance, the 'sustainable livelihood security' (Chambers, 1988) in order to meet basic needs. This new approach on sustainability becomes particularly important for strategies which are oriented to the problems of poverty and misery.

Poverty has been considered from the viewpoint of two basic premises: the one emerging from the precarious local conditions (depletion and/or impoverishment of natural resources), and that arising from low wages (insufficiency of financial resources because of job and salary-related policies.) Both are characterised by the difficulty of access to basic survival goods, especially food. In this sense, the building of a theoretical framework for discussing the question of hunger in the Southern countries may resort to the concept of 'livelihood security', linked to the access to food and inserted into an approach to developmental economy.

Therefore, there is an urge for a revision of the patterns of growth of the Southern countries and for the inclusion of the notion of livelihood security to the concern for social justice. According to Maluf (1994), the notion of 'livelihood security', like the ones of sustainability and of social equity, has the potential for being crucial in the definition of public policies. At this point, the role of the State in plotting and supervising development policies aimed at providing for the basic needs of deprived populations is quite patent.

As we relate the sustainable development approach from the viewpoint of 'human rights on basic needs', as supported by Nayar (1992), to the notion of 'livelihood security' stressed by Maluf (1994), it is possible to understand the meaning of the notion of 'livelihood citizenship', that is, the right of every citizen to claim access to the bare essentials for their survival. This entails that the whole of the population should have access to basic goods.

Such has been the theme of recent campaigns started by NGOs in Brazil, designed to face the problem of hunger and misery. Thus, sustainable development in poor contexts of the South bears a relationship to social equity and to its social expression. Hence, it is important to reinstate the idea of citizenship in public policies, perceived as the right of access to essential supplies. Consequently, designing economic policies oriented to the provision of the internal supply market is not enough, as long as only a limited part of the population has ample access to them. The revival of economic growth should then be followed by the resurgence of the purchasing power of the poorer populations, by means of more jobs and better salaries, as well as better formal instruction.

From all the above, it follows that there is necessarily a close association between the devastation of the physical environment and the degradation of some segments of human society (particularly the poorest.) Once the environment exists as a reflection of the interaction of physical surroundings with society, the understanding of the questions related to development and environment requires the concomitant analysis of the way nature (natural capital) and society (human capital) have been approached and exploited by the current capitalist model of development in different realities, especially those of the South. However, this analysis has to lie on the concept of labour, for the ability for changing nature (according to Marx, 1887) occurs through human labour. The view of migration as mobility of the labour force, a basic concept for this thesis, follows this trend.

The problem of increasing poverty and environmental degradation in the South reflects the failure of conventional models of development along with an inability to establish a democratic polity. Wignaraja (1993) believes that many negative consequences have occurred when the South has attempted to imitate the development paths of industrialised societies. In this sense it is necessary to rethink both the development and the democratic processes in the South, as elements in the formulation of a new paradigm.

'What is new about this emerging paradigm of fresh thinking is the attempt to conceptualise a positive synthesis of ideas with social praxis. It views the process of social change in its totality, when development and democracy are integral components. It also introduces to the debate the missing elements in conventional paradigms: culture, values, democracy, participation and people's mobilisation.' (Wignaraja, 1993:3.)

The author also states that the failure of the dominant model of development is producing a grassroots response in the form of people's movements and experiments. The variety and richness of the cultural and socio-political context in which these movements are emerging, particularly at the micro level, has to be considered as manifestations of a new pluralistic paradigm of development and democracy.

### 2.3. ON THE MEANING OF MIGRATION

The displacement of populations in varied contexts, and involving along time different spatial scales, entailed a growing complexity to the concept of mobility as an expression of social organisations, and particular labour relations.

Historically, each new global political order corresponded to a new economic order, with the emergence of new demographic waves. Since the invasions of barbarians from Asia to present-time migrants, groups have displaced themselves: they fight for hegemony over new territories, they flee from ethnic persecutions and multiple repression, they believe in the possibility of more promising labour markets or they simply wander about in search of tasks that will provide them mere subsistence (Becker, 1997.)

Contemporary events such as the fall of the Berlin Wall, which took place in 1989, the Persian Gulf crisis, the wave of African refugees caused by tribal and dictatorial conflicts, and nationalistic fights, of which the civil war in Yugoslavia and Albania are tragic examples, evidence the disintegration of the world map (in terms of

both countries and people) established after the Second World War. The world has been redefined by the emergence of the so-called economic blocks: EEC, NAFTA, APEC, MERCOSUR, ALCA, etc. The combination of this new political-economic geography and extreme poverty in Africa and Latin America gave rise to migratory waves of considerable magnitude, which characterised the migratory phenomenon in the 90s.

However, the threat of growing flexibility in labour markets and increasing social exclusion, together with changes in the ethnic and cultural configurations of the in migration areas, have lead to the building of new 'walls'. The phobias that have been leading to the construction of different sorts of protective 'walls' against the arrival of immigrants in Northern countries are also worth remarking. With globalisation, the number of protectionist social mechanisms linked to national identity grows. For international migrants, entering the labour market of rich countries becomes increasingly difficult. Migration extrapolates the academic context and becomes a political issue: in developed countries, governmental actions are taken to uphold the rights of native labourers, that is, to defend their priority of access to the labour market in their own countries.

When analysing the creation of this apparatus of social protectionism, we verify that developed countries are growing more apprehensive, for what has started as a temporary wave of international migration tends to become more and more permanent. As far as Latin-American immigration to the USA is concerned, people are beginning to talk of 'frontier militarisation, as a way of barring their entry to the country. In the case of the European Common Market, besides the growing restriction on foreign immigrants (especially the Africans, Turks, former Yugoslavians, Albanians, and so on) it is important to mention the progressive wave of segregationist movements (for instance, the neo-nazi organisations) against minority groups (immigrants, blacks, homosexuals.)

Arbex (1991) argues that these walls are represented by movements contrary to the migratory waves and lead to the formation of barriers between rich and poor: the new 'power blocks' are no longer ideological, but essentially economic. Simon (1991), on the other hand, sees migration as a reflex of society's political issues:

'Population displacements reveal the traits of contemporary societies. It is their 'function as a mirror' that is found in all levels of analyses. As everything else that plays an important role in revealing something, international migration is a disturbing issue. It bothers the societies from where people migrate, because of the evaluations it brings, the

'verdict from the feet', which confirms the dictatorship or the incapacity of a regime. It also bothers the receiving countries. What should be done with the Albanians lodged in Brindisi port in Italy, or with the Vietnamese confined in refugee camps in Hong Kong? What should be done in face of a ghetto? Having supported the right of emigration for Eastern Europeans under the communist regime, do we have the right to prevent Western Europeans from living and working in this part of Europe?' (Simon, 1991:4.)

In view of the above, some questions seem to arise. What has been the significance of population mobility according to the different theoretical conceptions? What is the role of migration in the historical construction of the spaces organised by capitalism? What are their faces and interfaces at different times, contexts and scales? What is the present trend in labour force mobility? This study tries to approach some topics in the discussion of these issues.

Mobility plays different roles according to different modes of production. Therefore, in primitive societies, mobility was a means of survival for the itinerant populations that moved in order to find food and fertile land for their common cultivations. In contrast, in capitalist society, mobility underlies a way of life for capital because the 'free' and 'mobile' labour-force is essential to the accumulation process. In this sense, a mass of unemployed and underemployed labourers following the movements of capital could be seen as particularly indicative of capitalist development, rather than (as is so often assumed) as only an index of under development.

However, due to the new demands of globalisation as an expression of economic neo liberalism, especially financial, new forms of labour organisation emerge, aiming at quality control, while also producing the progressive exclusion of the worker. Production and market profiles reorganise themselves in terms of new labour journey and new salary scales. The structure of capitalist society as a labour society faces a crisis.

'There does not seem to be a previously known solution for the present crisis, which is revealed by the reduction of waged work, the widening of non-waged labour forms, the reduction of the number of trade unionist, the weakening of trade unions, the high rate of unemployment and the very crisis of the Welfare State' (Carleial, 1994:300.)

Capital may choose the labour force where it finds best and most profitable, for the number of surplus population increases at an alarming rate. This category has been historically recognised structural in the economies of the South. According to Arendt (1993:13) 'what we now face is the possibility of a society of workers without work'.

Will there arise a new form of immobility of the labour force due to lack of work? What will be the working population's new strategies of mobilisation, and their salary, trade union and political fights? A new paradigm of migration is under way, resulting from the present internationalisation of economy; it develops in a conjuncture where on the one hand there is technological restructuring and, on the other hand, an increase of social exclusion. Despite the new trends, it must be acknowledged that:

‘There is a certain agreement regarding the difficulties faced in dealing with the category of labour... the changes taking place in world capitalism show a deep labour crisis. However, we still do not have analytical categories that enable us to incorporate such changes. Meanwhile, we use the ones we have with caution’ (Carleial, 1994:301.)

The following sections will deal with the concept of population spatial mobility, a crucial theoretical element in this thesis, according to the approaches then available: neo-classical and neo-Marxist.

### 2.3.1. Concepts and representatives of the Neo-classical School

The leading studies on migration under this approach were those developed from the classical work of Ravenstein (1885), see, for instance, Lee (1966) and Todaro (1969.) They emphasise economic characteristics of migratory movement and identify some of its conditioning factors, conceptualised as ‘push-pull factors’. The push factors are those life situations that give one reasons to be dissatisfied with one's present locale; the pull factors are those attributes of distant places that make them seem appealing.

It is now more than one hundred years since the geographer Ravenstein presented his ‘Laws of Migration’ to the Royal Statistical Society of London, on March 17, 1885. He analysed the internal migration phenomena in the United Kingdom within the industrial revolution context, stressing the pull factors of the cities.

Ravensteins' report, in discussing basic topics on migration (such as migration and distance, migration by stages, stream and counter stream, urban-rural differences in the propensity to migrate, predominance of females among short-distance migrants, technology and migration, dominance of the economic motive), remains the starting point for work in migration theory. While there have been hundreds of migration studies since then, few additional generalisations have been advanced. This lack of generalisation in migration theory has been noted by Lee (1966), who argued that due to the development of equilibrium analysis, economists have abandoned the study of population, while most sociologists and historians have grown reluctant to deal with



masses of statistical data. At the same time, demographers have been largely content with empirical findings but unwilling to generalise.

Consequently, up to the 1930s there was little development in migration theory: most of the studies were conducted without meaningful reference to the reasons for migration in areas of origin or to the assimilation of the migrants at destination areas. According to Thomas (1938), the only generalisation that could be made was that regarding differentials in internal migration, stating that migrants tended to be young adults or persons in their late teens.

From the 1940s on, most studies have dealt with migration and distance, and advanced mathematical formulae for relationship, as exemplified by Stouffer (1940), and later by Dorigo and Tobler (1983.) These authors outlined a mathematical model of migration that incorporates several of Ravenstein's laws as direct and simple consequences. Their 'push-pull migration laws' formulated the old idea in algebraic form: thus, migration became 'the resultant sum of the push-factors and the pull-factors, discounted for distance effects. This distance effect was interpreted as intervening obstacles to be overcome' (Dorigo and Tobler, 1983:2.)

However, another general schema for migration had sprung up in the 1960s, as outlined by Lee (1966.) His conceptualisation of migration involved a set of positive and negative factors at the origin and destination areas, a set of intervening obstacles, and a series of personal factors. Based on principles derived from Ravenstein, Lee (1966) formulated a series of general hypotheses about the volume of migration under varying conditions, the development of stream and counter stream, and the characteristics of migrants, as follows:

Hypotheses on volume of migration: 1) The volume of migration within a given territory varies with the degree of diversity of areas included in that territory; 2) The volume of migration varies with the diversity of people; 3) The volume of migration is related to the difficulty of surmounting the intervene obstacles; 4) The volume of migration varies with fluctuations in the economy; 5) Unless severe checks are imposed, both volume and rate of migration tend to increase with time; 6) The volume and rate of migration vary with the state of progress in a country or area.

Hypotheses on stream and counter stream: 1) Migration tends to take place largely within well defined streams; 2) For every major migration stream, a counter stream develops; 3) The efficiency of the stream (ratio of stream to counter stream or to net redistribution of population effected by the opposite flows) is high if the major factors in the development of a migration stream were minus factors at origin; 4) The efficiency of stream and counter stream tends to be low if origin and destination are similar; 5) The efficiency of migration streams will be high if the intervening obstacles are great; 6) The efficiency of a migration stream varies with economic conditions, being high in prosperous times and low in times of depression.

Hypotheses on characteristics of migrants: 1) Migration is selective; 2) Migrants responding primarily to plus factors at destination tend to be positively selected; 3) Migrants responding primarily to minus factors at origin tend to be negatively selected, or, where the minus factors are overwhelming to entire population groups they may not be selected at all; 4) Taking all migrants together, selection tends to be bimodal; 5) The degree of positive selection increases with the difficulty of the intervene obstacles; 6) The heightened propensity to migrate at certain stages of the life cycle is important in the selection of migrants; 7) The characteristics of migrants tend to be intermediate between the characteristics of the population at origin and the population at destination. (Lee, 1966:52-57.)

These studies do not, however, have a social context. In particular, they have not considered the chronic problem of urban unemployment and underemployment in contemporary developing countries. That is the proportion of the urban labour force which is not absorbed by the so-called modern economy.

In response, Todaro (1969) formulated an economic behavioural model of rural-urban migration which recognised the fact that the existence of a large pool of unemployed and underemployed urban workers must certainly affect a prospective migrant's probability of finding a job in the modern sector. He argued that, when analysing the determinants of urban labour supplies, one must look at the rural-urban 'expected' income differential, that is, 'the income differential adjusted for the probability of finding an urban job. This probability variable should act as an equilibrating force on urban unemployment rates' (Todaro, 1969:138.)

Another issue to be stressed was the occurrence of structural changes in the economy of contemporary developing countries. This has become particularly significant where economic development has often been defined in terms of the transfer of a large proportion of workers from agricultural to industrial activities. For Todaro (1969), this process of labour migration would be one that views migration as a two-stage phenomenon.

The first stage finds the unskilled rural worker migrating to an urban area and initially spending a certain period of time in the so-called urban traditional sector<sup>3</sup>. The second stage is reached with the eventual attainment of a more permanent modern sector job. This two-stage process permits us to ask some fundamentally important questions regarding the decision to migrate, the proportionate size of the urban traditional sector, and the implications of accelerated industrial growth and/or alternative rural-urban real income differentials on labour participation in the modern economy' (Todaro, 1969:139.)

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<sup>3</sup> For Todaro, the urban-traditional sector will encompass all those workers not regularly employed in the urban modern sector, i.e., the overtly unemployed, the underemployed or sporadically employed, and those who grind out a meagre existence in petty retail trades and services.

In this neo-classical view, migration was regarded as an equilibrium generating mechanism for changing economies, especially in less developed countries. Throughout most of these studies, industrialisation had been considered as a propelling mechanism for migration. Migratory flows would then derive from modernisation (that is, from the introduction of technical changes in the process of production) and, consequently, from the deepening in the social division of labour, particularly between rural and urban spheres. This neo-classical view regards migration as a mechanism which provides balance to changing economies, especially poorer ones. Mobility was therefore considered as a wave of adjustment, a sign and factor of economic progress of individuals. Gaudemar (1977:18) questions this concept while discussing 'the mobility of men as a strategy to perpetuate spatial differences' since in the capitalist dynamics, this space is not changed to meet the needs of its population.

'Migration is a phenomenon that allows to reach a possible set balance... at a minimum cost... since this avoids the cost of a harmonious arrangement of territories'  
(Gaudemar, 1977:18.)

In his criticism of the neo-classical concept, Gaudemar (1977) argued that according to this logic only the flows from the 'underdeveloped' sectors or regions (flexible salaries, low productivity, intense pattern of labour force) to the 'developed' sectors or regions (fixed salaries, high intensity of capitalist production) constituted a process of adjustment to an optimum balance. Contrary flows caused imbalance and were, therefore, damaging to the system.

Finally, the neo-classical vision of migration was based upon a deterministic approach to causation: the migratory phenomenon was reduced to the identification and quantification of a few causes and effects. When we consider migration in an isolated and punctual way, this approach becomes non-historic and pretentiously apolitical, in stark contrast with the historic and dialectic method.

### 2.3.2. The historic-structural approach to migration

The context of analysis of population mobility has been expanded in discussing its historic character. Migration was then characterised by Singer (1976:217) as a 'social phenomenon historically conditioned, and became the result of a global process of changes apart from which it should not be considered'. Hence, the first step towards the analysis of such a phenomenon appears to be the identification of the limits of its historical configuration.

According to Singer (1976), there are two different types of push factors leading to migration: 'factors of change' and 'factors of stagnation'. The first ones would derive from the introduction of capitalist relations of production (with the expropriation of peasants and the expulsion of the small rural workers from the land), the very objective of this process being the increase of labour productivity and reduction in employment level. The latter ones would be related to the increasing demographic pressure over available land for subsistence crops, this availability being limited by its monopolisation by big landowners.

Also departing from a structural model, Peek (1978) inserted the analysis of population mobility in the broader context of agrarian reform. He related migrations to the process of agrarian changes in developing countries, as he believed that agriculture in Latin-American was going through a transition from non-capitalist to capitalist production. He considered that the growth of the capitalist sector was greatly dependent on other economic sectors, especially on those still not ruled by the capitalist production mode.

'Here, rural out migration is considered a result of the proletarianisation of labour which goes with such a transition. In the latifundia (large landed estates), it is the conversion of servile labour into waged labour, while in small estates proletarianisation is the process through which peasants increasingly need to sell their labour to big landowners. Thus, rural migration is explained by the analysis of the causes of proletarianisation in the various forms of non capitalist production' (Peek, 1978:2.)

To Slater (1978), migration has become an important mechanism in the expansion of monopolist capitalism in the so-called 'peripheral' realities. To Moreira (1978), labour mobility in general, and spatial mobility in particular, were simultaneously determined and determinant of the process of capital accumulation. As such, they could not be properly understood out of this context. Hence, the process of capitalist growth both broadened labour demand and created the labour offer it needed.

Under the neo-Marxist approach, Gaudemar (1977) discussed mobility as promoted by the movements of capital, that is, a forced mobility. In opposition to the neo-classical view of migration as an act of personal decision, a response to urban-industrial differences of expected income as stated by Todaro (1969), migration was then understood as an expression of increasing subjection of labour to capital. Mobility is introduced as a condition for subjecting labour force to capital, a requisite for labour

to become a commodity whose consumption will generate value and, consequently, capital.

One assumption of this theory was that 'spatial balance is incompatible with migration whatever theoretical approach we follow, because it is a synonym of spatial immobility of the factors, especially of people' (Gaudemar, 1977:50.)

Migration should be understood not as a free personal decision, but as **forced mobility**, determined by changes in the organisation of the capitalist system. In this way, migration is, simultaneously, the consequence of uneven development and an instrument that reinforces the conditions that gave rise to it.

As spatial inequality does not result from a natural distribution of productive factors, but from the strategy of capitalist development, mobility of labour force may be perceived as being determined by needs of capital.

According to Peet (1977), the essence of the materialist argument is that 'inequality is necessary to produce a diversified labour force, because of its role in the production of an expropriate surplus, and because of its function as an incentive to work. Unemployment, underemployment and poverty are inevitably produced by mechanisation, automation, and the uneven course of economic development. Inequality underlies our whole economic way of life' (Peet, 1977:116.)

Besides rural exodus, whether destined to urban areas or other rural ones, spatial mobility of labour force would also be manifested by migratory flows from peripheral areas to their hegemonic centre, as a consequence of regional differential accumulation.

The other dimension of mobility, namely the social, is related to the hierarchy of labour, brought in initially with manufacturing and later, with large industry. The social mobility of the workers occurs among sectors and branches of production, as well as between functions inside the productive process.

Still according to Gaudemar (1977:230), the expropriation of small producers from their means of production (especially land) and their change from peasant to proletarian, 'constitute elements of social mobility, but are produced at the spatial level of the transformation of labour'. The discussion presented by Gaudemar was partly criticised by Peliano (1990:148), who argued that author refers to the mobility of labour force in too generic a way. In fact, labour force is what is truly liable to mobilisation: 'labour is labour force in action; thus, it would be pointless to speak of labour mobility, instead of the mobility of labour force'.

However, in order to better understand migration in the neo Marxist view, it is useful to review some aspects in the production of the labour force. This implies an

emphasis on the way, and under which circumstances, labour becomes a commodity. This is the primary form of generating wealth in the capitalist system.

‘By labour-power or capacity for labour is to be understood the aggregate of those mental and physical capabilities existing in a human being, which he exercises whenever he produces a use-value of any description’ (Marx, 1887:145.)

The ownership of money, means of subsistence, machinery and other means of production, does not convert a person into a capitalist if there is no available labour in the market. But,

‘... in order that [the] owner of money may be able to find labour-power offered for sale as a commodity, various conditions must first be fulfilled ... on this assumption, labour-power can appear upon the market as a commodity, only if ... the individual whose labour-power it is, offers it for sale, as a commodity ... and ... he should sell it only for a definite period. The other condition ... is that the labourer instead of being in the position to sell commodities in which his labour is incorporated, must be obliged to offer for sale as a commodity that very labour power, which exists only in his living self’ (Marx, 1887:146,147.)

Consequently, this basic characteristic of labour-power emerges when it becomes ‘free’ and ‘movable’, that is, when detached from the means of production and placed in the market, becoming a ‘commodity’.

‘For the conversion of his money into capital, the owner of money must meet in the market with the free labourer, free in the double sense, that as a free man he can dispose of his labour-power as his own commodity, and that on the other hand he has no other commodity for sale’ (Marx, 1887:147.)

What must also be considered is the kind of ‘freedom’ necessary for the accumulation process. Marx claims that:

‘Capitalist production, therefore, of itself reproduces the separation between labour-power and the means of labour ... It incessantly forces him [the labourer] to sell his labour-power in order to live. In reality, the labourer belongs to capital before he has sold himself to capital. His economical bondage is both brought about and concealed by the periodic sale of himself, by this change of masters, and by the oscillations in the market price of labour-power’ (Marx, 1887:591.)

The labourer's freedom, thus, appears as a consequence of her or his detachment from the means of production, particularly the land, if we consider it in relation to the prior nature. So, when an individual appropriates natural objects for her or his livelihood, no one controls it but themselves. As materialist theory pointed out, ‘definite

historical conditions are necessary that a product may become a commodity. It must not be produced as the immediate means of subsistence of the producer himself, but for capital' (Marx, 1887:517.)

According to Wakefield (1833),

'Mankind has adopted a much more simple contrivance for promoting the accumulation of capital, and the use of capital, when required, both in large masses and in a fixed shape: they have divided themselves into owners of capital and owners of labour. But this division was, in fact, the result of concert or combination. The capitals of all being equal, one man saves because he expects to find others willing to work for him; other men spend because they expect to find some men ready to employ them'  
(Wakefield, 1833:327.)

However, one thing is clear:

'Nature does not produce on the one side owners of money or commodities and, on the other, men possessing nothing but their own labour-power. This relation has no natural basis, neither is its social basis one that is common to all historical periods. It is clear the result of the extinction of a whole series of older forms of social-production'  
(Marx, 1887:147.)

Nevertheless, as capital reproduces this relation, it also creates a surplus population. According to Marx, this is a relatively redundant population of labourers. Peet (1977), while discussing the Marxist theory of poverty, asserts that for their day-to-day, year-to-year operation, capitalist economies need an 'industrial reserve army' (as presented by Marx), a pool of poor people who can be used and discharged at the capitalist's will.

'Economic development does not proceed smoothly under capitalism. There are sudden bursts of expansion as new markets open up ... In such a situation the economy needs a quick transfusion of labour; a labour reserve is necessary, to be pulled into the labour force when needed, and discharged just as rapidly when demand slackens or mechanisation proceeds. The use of labour reserve at times of rapid economic development prevents surplus value from being diverted from capital accumulation to labour' (Peet, 1977:115.)

As discussed by Marx, the 'industrial reserve army' could take three forms: the floating, the latent and the stagnant reserve armies. The floating portion of the surplus population corresponds to workers sometimes repelled, sometimes attracted, to modern sectors of production. This population is already in a capitalist sphere, but is sometimes expelled because of the restructuring process. Nowadays, this could correspond to the number of workers who have been losing their jobs or changing their labour sector owing to the new world-wide order.

The latent labour reserve acts as a surplus rural population from a pre-capitalist sphere (for example, peasants, share-croppers), constantly on the point of passing over into an urban or manufacturing proletariat. In those areas where subsistence production is predominant, the capitalist, through land expropriation, creates a 'free' labourer at the market by changing the previous conditions (previous people-nature relations) of the small producers. Thus, the constant movement of rural out migrants towards the towns presupposes the existence of an increasing latent surplus-population in the countryside. This latent labour also appears outside the capitalist mode of production in modern forms (named women previously in domestic mode of production) in the so-called First World.

The third category of the relative surplus population - the stagnant - is a part of the active labour army, which has extremely irregular employment. The conditions of life for this group, according to Marx, sink below the norm for the rest of the working class. This 'stagnant labour', a pool of potential cheap labour, in Marx's days was mainly employed by irregular, small-scale domestic industries, while today it is employed in certain groups of the 'peripheral economy' or 'informal sector', where workers have substandard wages and unstable jobs.

At this point of the discussion an important issue should be considered, that is, we are dealing with abstract concepts, which means that when we argue about reproduction of the labour force, we are talking about a particular stage of social production of the individuals. So, the discussion of every situation needs to be referred to a certain historical period, to a specific mode of production and to a particular area.

Despite the validity of all these classic concepts at a general level, sometimes they are insufficient to explain the reality of contemporary social formations. As Slater (1978) pointed out, it is essential to recognise the historical specification of capitalism in developing societies. As noted by Harvey (1974), the progress of accumulation depends upon, and presupposes, the existence of a surplus of labour which can feed the expansion of production.

'Mechanisms must therefore exist to increase the supply of labour power by, for example, stimulating population growth, generating migration streams, drawing latent elements, labour power employed in non-capitalist situations ... into the work force, or by creating unemployment by the application of labour-saving innovations' (Harvey, 1974:264.)



Then, the redistribution of population represents an answer to changes in the geography of accumulation. Migration becomes an important mechanism for the production of the labour force; thus, migration links areas at different spatial levels (regional, national, international) in order to expand the labour market.

For the creation and expansion of the labour market, the production and reproduction of labour force is required. This occurs when the worker becomes a 'commodity' and acquires 'mobility'. In this sense, we get a new dimension of migration, that is, the mobility of the labour force.

The meaning of mobility in the creation and reorganisation of the labour market in developing countries, which is the case of Brazil, will be brought into focus in the following section.

Another theoretical-methodological question needs also to be discussed in analysing the migratory phenomenon in Brazil. It is the one related to the definition of migrant as a 'category of analysis'. According to Brazilian Demographic Census, all individuals showing at least one change of place of residence, that is, from one municipality to another (movement across an administrative border) or from a different category of domicile (rural to urban or vice-versa), even if within the same municipality boundary, are included in the 'migrant category'. Besides this administrative definition, however, another one could be considered, based on the neo-Marxist theory: 'migrants' would be those who follow the movements of capital under the conditions of waged, or potentially waged, labour force.

Thus, while in the neo-classical approach the category 'migrant' refers to that of individual, in the neo-Marxist perspective it relates to a social class, or to certain socio-economic groups. From the neo-classical standpoint, migration was investigated as a movement of individuals, at a certain period, and between two geographical points. The neo-Marxist analysis, in its turn, searches above all for movements of the subordinate groups. Singer (1976:237) pondered that 'when a social class moves, it creates a migratory flow that may be a long-term one and that may follow a trajectory encompassing several points of origin and destination'.

### 2.3.3. Looking for an approach to explain the migratory phenomenon in Brazil.

The migration studies in the neo-classical approach, have been looking for the identification of migratory trajectories, the measurement of population movements, the comparison of population sub-groups according to migratory status (migrant versus native) and/or the time of residence in the city of destination. The overall assumption,

following a choice of individual approach, was that there was a remarkable improvement in the socio-economic conditions of the migrants proportionally with the increase in their time of residence at the place of destination. The assumption was that migration is successful by itself, performing an act of personal liberty in search of a better socio-economic status.

However, neo-classical studies of migration developed in Brazil during the 1960s and 1970s showed contradictory results. For certain authors, (Spindel,1974; Castro,1976), the native populations were generally found in a much better socio-economic condition than were the migrants; for other authors (Da Mata,1973; Costa,1975), the migrants themselves presented a superior socio-economic situation, for they represented a selective labour force. Theoretically, the youngest and most capable were those who migrated. Other authors (for example, Martine and Peleano,1975; Keller,1976) found differences in the results obtained according to the type of migratory flow and to the level of development of the in migration places. Finally, some researchers (Moura,1975; Merrick & Brito,1974) defended the idea that the migrant category was not significant in the characterisation of socio-economic groups. Hence, such disparate empirical results could not allow one to confirm the premises raised in the present theoretical approach.

It was Martine (1976) who brought the hypothesis of the 'selective retention of migrants' into the discussion. It means that success in migration was supposedly much more subject to the survival of the strongest ones (migrants originally more capable) than to the progressive adaptation of the migrants to the reality of the destination areas. Consequently, it was assumed that the expulsion of the less capable migrants occurred in the urban labour market, giving rise to a movement of successive re-migration, that is, onward migration. The so-called passive proletarianisation was considered an important factor in intensifying such recurrent flows, particularly present in the poor areas of Southern countries. This expression was coined by Lenhardt & Offe (1984) and discussed in Mitschein, Miranda and Paraense (1989:23) as being 'the dissolution of traditional forms of re(production), which, for most direct producers, does not result in perspective waged labour opportunities in the formal market'.

FIGURE 3

COMPARISON BETWEEN THE NEO-CLASSICAL AND THE NEO-MARXIST APPROACHES TO MIGRATIONS

NEO-CLASSICAL APPROACH	NEO-MARXIST APPROACH
<p><u>Reason for migration:</u></p> <ul style="list-style-type: none"> <li>♦ An individual act, out of his/her own free will, undetermined by external factors.</li> <li>♦ An atomistic approach focused on the individual; pretentiously neutral and apolitical.</li> </ul>	<p><u>Reason for migration:</u></p> <ul style="list-style-type: none"> <li>♦ Migration as mobility forced by the need of capital valorisation, and not as an autonomous personal choice.</li> <li>♦ An act conditioned by the structural transformations of the system.</li> </ul>
<p><u>Meaning:</u></p> <ul style="list-style-type: none"> <li>♦ An element of balance in underdeveloped economies, especially in the poor ones.</li> <li>♦ Industrialisation and modernisation as positive driving forces of migration.</li> </ul>	<p><u>Meaning:</u></p> <ul style="list-style-type: none"> <li>♦ Product of unequal development.</li> <li>♦ The result of a global process of changes.</li> <li>♦ An expression of the growing subjection of labour to capital.</li> </ul>
<p><u>Methodology:</u></p> <ul style="list-style-type: none"> <li>♦ Descriptive, dualistic and sector analyses of the phenomenon.</li> <li>♦ A causal, isolated and punctual approach.</li> <li>♦ Individual characteristics of migrants taken into account.</li> </ul>	<p><u>Methodology:</u></p> <ul style="list-style-type: none"> <li>♦ Structural and historical analyses of migration. A procedural view.</li> <li>♦ Dialectical approach.</li> <li>♦ Trajectory of social groups taken into account.</li> </ul>
<p><u>Category of analysis:</u></p> <ul style="list-style-type: none"> <li>♦ The individual</li> </ul>	<p><u>Category of analysis:</u></p> <ul style="list-style-type: none"> <li>♦ The social groups</li> </ul>
<p><u>Time-spatial Dimension:</u></p> <ul style="list-style-type: none"> <li>♦ Dislocation of the individual between two points in space (waves, lines, points.)</li> <li>♦ Fixed view of a homogeneous and punctual market.</li> </ul>	<p><u>Time-spatial Dimension:</u></p> <ul style="list-style-type: none"> <li>♦ Movement of a group of individuals, in a certain period of time, over the geographical space. The trajectory may present various points and be of long duration, as it represents a process, instead of simple, isolated, waves.</li> <li>♦ Multidimensional labour market in transformation over time and space.</li> </ul>

SOURCE: Becker, O.M.S. 1997.

Another global point in discussion is the perception of migration as a positive or negative element. This seems to derive from an ideological stance, rather than from a methodological result. Therefore, while the Brazilian government propaganda voiced the successful side of population movements under the point of view that 'those who change, improve their situation', in 1980 the progressive Church, represented by the National Conference of Brazilian Bishops (CNBB) adopted the slogan 'those who move, wither'. This was a clear reference to the expulsion of populations from rural areas promoted by new forms of production and land use.

The positive view of migration was spread through research which tried to demonstrate the improvement in the socio-economic conditions of migrants along with the increase in their time of residence in the urban centres of destination. But such subgroup comparison by time of residence was not methodologically efficient, for the population segments used in studies such as the ones presented by the Brazilian demographic census represented not the same group of individuals through different decades, but distinct populations. It is thus impossible to study their evolution.

The positive discourse on migration also stated that upward social mobility was a result of geographical mobility. Hence, migration would be playing a very important role in the process of social modernisation, acting as a mechanism through which traditional agricultural society would be transformed into an urban-industrial society. Such a statement has been questioned by Martine (1976), while discussing 'onward migration', with the emergence of nomadic sub-stratum that wander around in search of transitory survival opportunities. In cases like this, the neo-Marxist approach is likely to be more adequate due to its bigger explanatory power.

The neo-classical migration model has been criticised at several levels but the main objection, according to Standing (1980), is that its explanation does not account for the social relations of production and consequently, relations of domination.

Space, even though 'unique' as a physical element, does not mean the same to all individuals who dwell in it. According to Pinto (1973), the type of social formation will determine the form of interaction between people and environment. Thus, the social relations of production, here mainly considered by the property and non-property of the means of production (the land, particularly), would lead to a much clearer understanding of the migrants' trajectories and their repeated retention and expulsion along the places, commanded by the advance of capital.

Regarding the nature of the relationship between migration and the environment, Davies and Bernstam (1991:129) argue that it varies greatly across developing countries, as countries differ in natural resources and climate, level of development, government policies, social institutions, and customs.

In synthesis, a better explanation of population migratory patterns and the characterisation of the regional labour force in Southern countries must take into consideration the historical economic momentum and the diversification of areas in which the migratory phenomenon occurs, that is, the capital accumulation pattern at local, regional, and national levels.

‘Although continuing population growth (with migration especially to urban areas and marginal lands), and the nature of development are widely considered responsible for the increase of environmental problems, analyses of data to sort out underlying causes in particular ecological contexts are needed.’ (Davies and Bernstam, 1991:143.)

#### 2.3.4. On the resistance to mobility of the labour force

People's resistance to mobility could perform a strategy against the expansion of capital. If the labour force were immobile, the accumulation of capital would be damaged. In this sense, the social movements against the mobility imposed by the capitalist economy on workers gained expression.

Historically, this resistance has appeared in different forms. On the one hand, urban labourers' struggles against dismissals by factories, against the reduction in salaries or against the contemporary division of labour, particularly in assembly lines, the greatest expression of workers' submission in industry. On the other hand, struggles for international immigration, involving clandestine labour force, less qualified and temporary, absorbed only as a circumstantial complement by receiving countries. In the instance of Brazil, there has been the struggles of traditional extractive populations of the Northern Region to remain in their original areas and the struggle of landless workers to return to rural areas. There are also the struggles of excluded urban minorities, as for example, the homeless fighting to settle in unoccupied properties in central urban areas (Gohn, 1991), aiming at a different social space division. For each reality, there is a particular strategy of refusing capitalist forms of mobility.

To throw light on this issue, I shall start with the theoretical discussion presented by Gaudemar (1977) on the ‘immobility’ or ‘auto mobility’ of the worker, terms which have a different connotation from ‘counter mobility’. While the former

refer to the labourers' struggles against labour mobility in companies, the latter represents the return to the land. However, all show resistance to the progressive segmentation of people and spaces by the capitalist system.

Regardless of whether workers have moved spatially (within the functions performed in a factory or within the spaces in a country) or remain for years performing the same task in an assembly line, the logic of capitalist growth 'anticipates the possibility of planning workers' movements as an inevitable axiom. One day movable, the other immovable, but always submitted to the rules of capital accumulation... Forced mobility is here a global policy of multiple forms, policy of optimum management of flows produced in the context of a permanent division of labour' (Gaudemar, 1977:38-39.) It is against this logic, based on subdivision and mobility of labour, that a strategy of immobility and/or counter mobility gains its meaning.

Another theoretical point brought in by Gaudemar (1977) relates mobility of the labour force, that is, its subjection to capital, with the 'body docility' of workers. He sought to understand how capitalist power subjects labour forces (that is, the bodies of the people who contain the labour force), and which the system intends as permanently docile. He extends to economics the topic introduced by Foucault (1977) in his study of penitentiary institution, that is, the issue of discipline and power. 'A body which can be submitted, which can be transformed and improved is docile' (Foucault, 1977:138.) Thus, the political economy constituted what Foucault called a 'political anatomy' covering up a 'mechanism of power'. 'Discipline produces submissive bodies ... it dissociates power from the body ... the economic exploitation separates the labour force and the work product' (Foucault, 1977:140.)

Not only the penitentiary system but also the political economy would function as power mechanics, and labour mobility would be the broader economic dimension of the docility seen in workers' bodies, since it assures the division of individuals in space. In this way, labours' mobility can be linked to a capitalist discipline which, while setting the labour force in motion, controls its circulation and distribution: 'discipline, the art of queuing up and of the technique of transforming arrangements, individualises the bodies in a location which rather than implant them distributes and circulates them in a web of relations' (Foucault, 1977:147.)

Against this growing circulation of the labour force (reflecting increasing exclusion from jobs, or in the instance of emigrant rural workers, distancing them ever more from the land, their original means of production) arise the so-called 'imperfect forms of mobility' that is, movements which resist mobility. Gaudemar (1977) regards them as 'imperfect' when compared with the theoretical hypothesis of the perfect

mobility, where they would always constitute an instantaneous adaptation of the labour force to new demands of the capital. Thus,

‘Every imperfect form of labour mobility may arise as an expression of resistance to the extension of the capitalist field, a resistance of institutions or ideologies which may be old-fashioned, but frequently also a resistance of natural forces and spaces, and a resistance of men and peoples opposing themselves to being reduced to economic objects, productive machines’ (Gaudemar, 1977:59.)

Nevertheless, the crucial issue raised in terms of the future of these struggles lies in the present situation of the globalised world, with the absolute search for competitiveness and the drastic reduction in the role of the State. This is mainly seen in the countries of the South and in our particular instance of Latin America bases itself on an industrial activity which has been weakened since the 1980s and which at present shows a feeble industrial policy. The inequality between capital and labour increases, so does inequality at work among skilled and unskilled labourers. In this context the contingent of workers in informal activities increases, characterised by workers' complete lack of protection, past and present. These labourers are mainly located in sectors non-exposed to international competition, such as services and civil construction. In the Brazilian instance, official statistics (IBGE/DEPIS, 2001) register the disappearance of almost 900.000 formal jobs and 1.5 million rural occupations since 1995, revealing a worsening of the country's already bleak social situation.

This growing exclusion of workers from economy and society, has impelled the search for any temporary activity that will assure them mere subsistence. According to Salama (1998), globalisation tends to be increasingly excluding, producing integration zones in certain places and disintegration zones of the social tissue in others. This picture, which reflects the victory of capital over labour, has been undermining collective attempts at resistance promoted by workers.

Recent proposals of the Brazilian government which aim at ‘providing flexibility’ of the labour legislation (reduction in working hours with a reduction in salary, part-time labour contract which allows for the inclusion of women and students and makes official the hiring of temporary rural workers, the non-obligation of compulsory trade union contribution) has entailed the progressive demobilisation of trade unions and the loss of workers' capacity to demand their rights.

Counter mobility, however, has been gaining expression in Brazil in the *Movimento dos Trabalhadores Sem-Terra* (MST), which rose in the 70s as a process of

resisting the agricultural policies of the golden age of the military regime (1964-1981.) In the last years, MST has been developing several strategies: 'marches' to attract the attention of the media; pitching of temporary camps along the roadsides, and *ocupações* (invasion of big rural properties considered as unproductive latifundia or of land belonging to the government, by a large number of landless families) almost all over the country (Fernandes,2000.) These fights for land have been promoted by different social agents: the small rural land-squatters, former sharecroppers and leaseholders no longer needed to form and to maintain farming and cattle-raising latifundia, rural temporary hired workers made increasingly redundant by mechanisms of export monoculture, the population of areas flooded by dams, as well as urban unemployed of rural origin.

'It is, thus, a fight of expropriated people, who most of the time experienced urban or rural proletarianisation, but who decided to build the future by denying the present ... As a product of this denial, they have organised themselves to fight for a stretch of land, to be able to regain the labour autonomy they have lost ... It unveils the relation between the struggle for land and the conquest of democracy by these excluded people' (Oliveira, 1996:13. Preface to the work of Fernandes, 1996.)

Under the slogan 'occupy, resist and produce' this new form of opposition sees the land as 'labour, food and freedom' (A Pastoral, 1987:1-3.) Fernandes (1996) examines this movement through the concept of the territorialisation of the struggle for citizenship.

As Oliveira (1996:11) points out 'if the economic globalisation gives rise to new social agents and new articulations, paradoxically it also gives rise to the struggle of new social actors'. This corroborates the point of view of Mushakoji, former Vice-Rector of the United Nations University, in his foreword to the studies on the new social movements in the South, edited by Wignaraja (1993), when he considers these social movements as new actors, performing multiple functions - political, economic, social and cultural.

'They ... represent a new breed of actors, interested not in state power but rather in creating a free space from where a democratic society can emerge. The term 'civil society' is often used to represent this space that is not dominated by the state. A corollary is that, whether or not power is an objective, these movements do represent a form of countervailing power' (Mushakoji, 1993. Foreword to Wignarajas' work. 1993.)

In this sense, these movements are part of a continuing process of changes, presenting both temporal and cultural specificity. If we consider that they reflect dissent from more conventional approaches - neo-classical and Marxist - their emergence



allows rethinking of the concepts of development and democracy, providing the search for new paradigms.

#### 2.4. MIGRATION AND DEVELOPMENT IN BRAZIL.

The debate on migration has a strategic character in unveiling the relationship between population dynamics and the process of accumulation of capital (Damiani, 1991:39.) In this section the discussion is related to the main contexts of the recent Brazilian economic and political history in which migration movements fit in.

From the perspective of the demographic magnitude of the population shifts, an increase in migration has been noticed since 1950, owing to the process of industrialisation of the central and southern regions of Brazil: according to census data from IBGE, the number of Brazilians who were not living in their hometowns increased from 3,4 million (in 1940), 12,5 million (in 1960), 46,3 million (in 1980) to 53,3 million (in 1991.) The percentage of migrants in relation to the total population has thus increased from 8,5% in 1940 to 36,3% in 1991. In 1980, 33,4% of the population was already recent migrants, that is, had moved less than two years before.

Such mobility intensified among rural migrants since the 1970s, a landmark in the modernisation of agriculture and agrarian capitalism, which caused important dislocations of labour force with the multiplication of casual rural waged labourers (*volantes*.) These flows arose from the introduction of mechanisation in the countryside and of the expansion of cattle-ranching, both responsible for expropriating large contingents of small rural producers so far connected to subsistence crops. Another reason for such flows was the demand for temporary labour-force by monocultures, especially those geared towards exporting. According to Soffiati (1987:68), the expansion of cultivated areas, the modernisation of agriculture and the desire to increase profit in the agro industrial sector created ‘a mass of temporary peasants unconnected to the land, underwaged, disorganised, overexploited and selling particles of their lives day by day’.

‘In 1980, 11,5 million families had no land to cultivate, that is, about 40 million people were in permanent migration in the country. In 1996 there were more than 16 million hectares of productive land unused and 1,3 million rural establishments ran by groups who did not have deeds to the land, i.e., renters (*arrendatários*?), partners and rural squatters. According to the Pastoral Commission to the Land (CPT), there were 622 land-related conflicts in the Brazilian territory in 1997’ (Santos e Silveira, 2001:212.)

From a political-spatial perspective, research on migration in Brazil was based on a dualistic vision of the social structure, placing the 'problem' essentially in the urban sphere. The chief preoccupation with urban immigration flows produced a certain bias in the analyses. As a result, the emergence of population flows from and to rural areas, and especially the socio-economic process that created such displacements, have all been underestimated (Singer, 1976.) In general, the state adopted a similar belief. Consequently, government policies were especially designed for the urban immigration areas and concentrated on problems related to accelerated urban immigration, even though both urban and rural areas were showing a progressive deterioration in the life conditions of their populations.

The emphasis given to the study of urban migration in the 50s and 60s and, consequently, its perception as a positive phenomenon for individual as well as national development were a result of the country's growing economic expansion. It was a period of intense absorption of the urban labour force, especially due to the growth of São Paulo industrial sector, when imported goods were being substituted as part of an industrial policy post-Second World War, and also because of the *Plano de Metas* (Plan of Aims) for the 1956-61 period, set by the Kubitschek Administration. At this period, other context that became popular as the stage of historic population dislocations of long distance was the Brazilian Central Plateau - with the construction of Brasilia, the new capital - in the late 50s, which attracted important streams of northeastern labourers.

However, according to Miró and Rodriguez (1982), migration cannot always be regarded as functional for the Brazilian accumulation pattern, even though it has probably been so during certain stages of the country's urban-industrial growth. If the practical aim of migration was once a valuable argument to explain low urban wages within a stage of industrial capitalism, it was no longer acceptable at a later stage, when the rates of natural growth presented by the urban population were sufficient to maintain the reported wage 'equilibrium'. At that point, migration became an undesirable phenomenon in big metropolitan agglomerations, although necessary for the expansion of capitalism in areas of advancing agricultural frontiers. Government action in re-directing migratory flows toward these other types of rural areas began to indicate new areas of interest for capital.

In the late 70s and 80s, the historical context of migrations had changed: it corresponded to the proliferation of immense contingents of surplus population,

unemployed or underemployed. That was the beginning of a wave of ‘return migration’ to the Brazilian northeast and temporary waged labour also grew in frontier areas. The latter, symbolising the deepening of capitalist production relations in the Amazônia, was a consequence of the progressive ‘frontier shutdown’, that is, of the growing difficulty small rural producers had in gaining access to land in Amazônia..

In academic terms, the neo-classical model of migration started to be questioned, as it was losing its general explanatory power. A new theoretical landmark then emerged, trying to make sense of those contexts: the structural-historical studies on migration (Singer, 1976.) Since the 90s, however, with the expansion of globalised economy, we are experiencing a revolution in the labour market, as the contingent of excluded labourers has inordinately grown. Now there is surplus population everywhere, and it is no longer necessary for the capitalist forces to promote huge dislocations of labour force. The geography of migrations is changing again, but we cannot precise its new patterns yet.

#### 2.4.1. The main contexts of mobility in Brazil

Although the question of urban migration was emphasised in the 50s and 60s, when natural growth was subordinated to a migratory analysis (Damiani, 1991), one must remember that the preceding decades had already witnessed policies for redistributing huge amounts of population to rural areas.

The 1929 world crisis led to the failure of the Brazilian coffee crops, a culture characterised by intensive use of labour and the main responsible for the migration of approximately 1,207,683 Italians to southern Brazil in the period 1887-1914 (Carneiro, 1950.) During the 1920s, their main destination was the coffee plantations of the state of São Paulo (Tavares et al., 1972.) This international flow was originated by the extinction of ‘peasantry’ in its areas of origin, and by the collapse of slave labour in Brazil (Martins, 1973), which made big landowners involved with export crops face an ever growing need for workers. Such immigration was encouraged by the national Government through a policy aimed at “whitening the Brazilian population,” since the ethnic structure of the Brazilian society at the end of the 19<sup>th</sup> century was strongly influenced by the high percentage of black slaves. From the 1930s onwards, the crisis in the coffee crops led to the reversal of the immigration trend, and a period of intense rural migration began in the country. This fact made the Government redirect waves of unemployed rural workers to avoid social tension in the Southeast, promoting the

occupation of rural areas which thus far represented a new agricultural frontier - the West of Paraná state in the south of the country, in the 30s, and the Mid-West Region of Brazil, in the 40s.

According to Martins (1980), three big internal migratory flows have marked contemporary Brazil and behind them there would stand the history of the reproduction of capitalism in the country, as well as its exploration of large portions of the population. The oldest (beginning in the early 50s), encompassed eastern northeast labourers (from the states of Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Sergipe and Bahia) and moved towards the Centre-South region (particularly São Paulo, Rio de Janeiro and Paraná.) A second flow (late 60s and 70s) left the South of the country (states of Rio Grande do Sul and Paraná) and made for new frontier areas (Mato Grosso and Rondônia.) From the western northeast another migratory flow departed, this time headed for the Legal Amazônia (north and central-western regions), especially during the 70s and 80s.

As for dislocations towards the urban areas, Martine (1989) estimated that approximately three million people (10% of the total rural population) migrated from rural to urban areas in the period from 1940 to 1950, because of the country's industrialisation process. The 40s and 50s, then, were characterised by stimulating migration to the wealthiest urban areas, the industrial axis São Paulo-Rio de Janeiro.

The rise of the so-called 'social urban marginality', related to the increase of urban surplus population in the 1950s and 1960s, was pointed out as the main effect of migratory phenomena, even though the importance of migration was acknowledged in terms of preserving accumulation patterns. During the stage of Brazilian urban-industrial growth, the emergent surplus population acted as an element for stabilisation, that is, for keeping low wages in the cities.

Such dissociation between rural and urban spheres appears not only in the sectional approach of government policies but also in research activities through a tendency to separate the urban from the global reality. Mingione (1981) discussed this point when he considered that the urban could become an ideological instrument used to isolate a part of reality (allegedly separated) from the social complex. Therefore, when social problems exist both in the cities and in rural areas, it becomes difficult to take just the urban question into account and ignore the rural one:

'We should assume that it is impossible to isolate 'urban' needs from 'non-urban' ones. The consumption process itself is not definable in a purely territorial context, it does not correspond to any 'urban question', but is rather an important part of the general social question' (Mingione, 1981:67.)

Reality showed, however, that since the 60s urban industrialisation and the modernisation of agriculture were phenomena that ran together in the country, promoting another phase of striking migratory flows toward urban contexts. For a better understanding of this global dynamics of migrations, we must stress that it is through an integrated view of urban/rural as capital reproduction features that, for example, the phenomena of de-ruralisation and metropolisation in Brazil can be more clearly understood. So, during the 1960s and 1970s, especially in the more capitalised regions of the country (the central and southern ones) the rapid growth of urban areas was a phenomenon that developed alongside the population decrease in the rural sector. It is worth remarking on what happened in the state of Paraná <sup>4</sup> (in the South of the country), in which two opposing movements occurred: the expulsion of 2,5 million migrants in the 1970s and 1,5 million in the 1980s (Martine,1994) – most of whom were rural labourers from areas affected by the modernisation of agriculture, and the emergence of rural (agricultural frontier of the extreme West of the state) and urban (medium-sized towns and metropolitan areas) “attraction” areas in the very same state.

It is also important to stress here that, as a result of the different policies adopted by the State for different areas of the country in the period 1950-70, population movements have been originated from both smaller urban centres and rural areas toward regions of capital interest, whether they lay in urban-industrial centres or in the agricultural frontier (Becker,1983.) According to Martins (1973), there was a decrease of 1,5 million jobs in the country during this period, as subsistence agriculture was dislocated from the most fertile lands (later occupied by capitalist agriculture, and used for the production of exportable goods and industrial raw materials) onto less fertile ones, more isolated from consumers' markets.

Simultaneously with the intense urbanisation process on Brazil's East coast in the 1970s, important foci of demographic attraction have emerged in the so-called 'empty spaces' of the Amazonian frontier, spaces only marginally occupied by capital

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<sup>4</sup> The main destinations for migrants from Paraná state in the 1970s were the states of São Paulo (53%), Mato Grosso and Mato Grosso do Sul, Rondônia, Acre, Roraima and Amapá. 82% of these migrants had been in Paraná for less than five years (*Fôlha de São Paulo*, 24.03.1982.)

until then. This reflected the expansion of capitalist agriculture in areas of capital concentration (out migration areas in the southern region of the country,) associated with the spread of the agricultural and demographic frontiers, localised in Amazônia (immigration areas in northern part of the country.)

Estimates of net migration in Brazilian micro-regions for the 1960-1970 period, and the consequent identification of immigration and out-migration areas, developed by Becker, Frias and Brito (1979), have shown that 4,958,543 migrants made for highly urban areas, namely, metropolitan region (4,146,767 migrants), urban-industrial axis in the southern region (381,562 migrants), the federal capital (253,609 migrants) and state capitals (176,605 migrants.) Contrarily, 1,858,724 people migrated to rural areas connected to the capitalist expansion in the country, which is linked to the expansion of internal and external markets, land availability, and to the construction of important interregional motorways axes. Among the chief rural destinations (a flow of 1,075,215 migrants) one can point some micro-regions located in the last agricultural frontier areas in the states of Paraná and Santa Catarina, in the southern region (e.g. micro-regions of the Extreme West of Paraná, Norte Novíssimo de Umuarama, and Campo Mourão), dedicated to coffee, wheat, soybean, cotton, rice, bean, peanut crops, to cattle and hog-ranching and to the food industry (particularly pork produce.)

In parallel with this migratory dynamics in the Centre-South regions of the country, new areas of population attraction emerged in the Brazilian Amazonian frontier during the 1960s-1970s, especially in the states of Pará, Goiás and Mato Grosso. Such areas received approximately 783,509 migrants. These last migratory flows were fomented by the penetration of capital from the South/South-eastern regions, in response to fiscal and credit governmental incentives given rural companies dealing with commercial cattle-ranching, mining and timber extraction, and to Directed Colonisation Programmes (with the creation of state and private agricultural colonies.) Such flows also led to the emergence of a pioneering fringe of small rural producers (Paragominas, Capitão Poço and Tomé-Açu regions in the state of Pará, and Imperatriz and Alto-Vale do Mearim regions in the state of Maranhão), set off by the opening of the Belém-Brasília, Transamazon and Brasília-Acre motorways (Becker, Frias e Brito, 1979.)

In the period 1970-1980, one could draw a global portrait of the mobility of the Brazilian population based on the migratory balance of its macro-regions (Taschner and Bogus, 1986.) While the northeastern region confirmed its emigrating tendency (-

2,058,499 emigrants), the Southern (states of São Paulo, Rio de Janeiro, Minas Gerais, and Espírito Santo) and South (states of Rio Grande do Sul, Santa Catarina and Paraná) regions, which have the most urbanised and developed states in the country, presented immigration balances of 1,883,639 and 1,038,784 people, respectively. The Centre-West and northern regions, presented a migratory balance of 640,249 and 573,297 people, respectively.

Considering the difficulties in gaining access to data on net migration in more detailed spatial levels, the importance of migratory flows could also be inferred through the high rates of micro-regional demographic growth occurring during the 1970-1980 period. According to Becker (1983) this happened both in micro-regions of predominantly urban characteristics as well as in Amazonian areas of recent frontier occupation. In absolute terms, such rates represented an increase of population of 10,680,250 people for metropolitan areas, 1,831,591 people for the urban-industrial axis of São Paulo and 1,565,047 people for the Amazonian areas of frontier expansion in Brazil.

These numbers could not be solely attributed to the country's vegetative growth, as there has been a decline in total fertility rates (6,0 children per woman in 1960; 5,8 children in 1970; 4,3 children in 1980; 2,6 children in 1991 and 2,3 children in 2000), which indicates that Brazil is about to end its demographical transition, with the progressive decrease of birth rates and, consequently, of the rate of its total population growth. This annual rate has fallen a significant decline, from 2,4% in the 1970s, 1,9% in the 1980s (Martine, 1994) to 1,4% in the 1990s (IBGE, 2001.)

All the migration figures have already shown the existence of strong inequalities at inter and intra-regional levels. Such inequalities in development and in population displacement appeared to be an expression of the unequal accumulation process in Brazil. By 1970, the increase of these inequalities, and the emergence of a new surplus population created by capital growth, appeared through the increasing spatial mobility of the labour force across the country.

The accelerated growth of this migrant labour force made available (the surplus population) may be subjected to different interpretations, according to the stage of economic growth and to the characteristics of the spatial context (rural traditional agricultural areas, urban-industrial areas, recent frontier areas, etc.) in which that labour force is taken into consideration. However, most of the studies on migration made at the time did not reflect such circumstances, presenting a dual and predominantly

descriptive character. Investigations on the metropolitan areas usually embraced the hypothesis that the longer migrants in urban destination areas stayed, the more socio-economic conditions would improve. Hence, migration was always assumed as a positive phenomenon.

Martine (1976) alerted that if such a premise were accepted, it would prove the existence of a healthy process of social mobility, engendered by geographical mobility. According to such an approach, migration would be performing an important role in the modernisation process, as it would work as a mechanism through which a traditionally agrarian society would become an urban-industrial one.

#### 2.4.2. Contemporary Migration in the Amazonian frontier context

The inter and intra-regional migration trends in the 1950s and 1960s, related to the Brazilian north Region, were particularly analysed by Carvalho and Moreira (1976), Keller (1977) and Becker et al. (1979), especially using net migration estimates. During those periods, net immigration did not significantly contributed to the north region's total population growth, and the region demonstrated a limited ability to absorb populations from other areas of the country. Instead, intra-regional redistribution trends indicated greater spatial instability over those two decades, when more people concentrated in the major cities of Belém, Manaus, Porto Velho and Amapá, thus reaffirming a pattern of strong urban supremacy in the frontier. Migrants also came from more densely occupied areas such as western Maranhão, northern Goiás and Mato Grosso (Mougeot, 1985:64.) Likewise, a comparison of 1950-60 with 1960-70 municipal rates of rural and urban population change, reveal that the North met with an ever-accentuated depopulation of its territory during those decades: a growing share of the Region's 144 *municípios* suffered absolute rural and urban population losses (Keller, 1977:267.)

In the period 1970-1980, the total population growth in the northern region was of 2,276,408 people, 62% of these in urban areas. The migratory balance totalled 573,297 people, and the states of Rondônia (268,389 migrants) and Pará (255,784 migrants) were the main recipients in the decade. In relation to inter-regional migratory flows, the northern region absorbed 256,865 people from the northeast (37,12% of the overall number of immigrants it received), 169,301 immigrants from the central-western region, 138,358 immigrants from the southern region, and 127,523 immigrants from the southeast. The migratory balance shows that 82, 62 % of the flows (a total of



564,691 people) had an inter-regional character (66,62% intra-state and 16,18% from the various states of the northern region), while 118,752 people (17,38%) left the north to other regions (Taschner and Bogus, 1986.)

Studying the urban growth in Amazônia in the period 1970-96, Becker (2000) verified that the urban spaces – where 35,5% of the population lived in 1970 – became increasingly more populated (61% in 1996), as a reflex of an accelerated rate of urban growth, which presented decentralising characteristics in the 1980s. The historic pattern of intense urban growth concentrated on state capitals left room for medium-sized cities or for small frontier towns (those with less than 100,000 inhabitants, but especially cities with a population between 20,000 and 50,000), except in the states of Amazonas, Roraima and Amapá, less populated and still undergoing a period of expansion of their demographic and economic frontiers. It seems, however, that such an accelerated urban process is likely to decrease, as a consequence of the reduction in inter-regional migration towards Amazônia, and the tendency to avoid the creation of new municipalities in the area.

Regarding the main destinations for recent migratory flows (1991-96), the dislocations from the state of Maranhão towards the states of Amapá and Amazonas continue, as well as people's dislocations from the Southern to the Central-Western regions. In the extreme North, new areas of attraction are emerging in the state of Roraima (an area bordering Venezuela and the axis of motorway BR-174) and in Amapá (bordering the state of Pará and the Guyana.) This way, from Mato Grosso and Rondônia towards Manaus and the BR-174 motorways, and from the north of Pará to Amapá, new settlement corridors are being outlined, due to the growth of agricultural economy in forest areas – a result of the reproduction of forest-clearing cycles, predatory timber exploration and cattle-ranching (Becker, 2000:57,59.) In this new stage, however, timber companies normally anticipate the arrival of small rural migrant producers. Another important characteristic of recent Amazonian development refers to the expansion of capitalised soybean agriculture by modern agriculture entrepreneurs – especially those from the south of the country – in medium-sized and big rural properties, particularly throughout the states of Mato Grosso, Tocantins, Maranhão and Rondônia, stretching towards the Madeira River Valley and Amazonas. This new crop, initially established in savannah areas, begins to expand more and more, and may well become responsible for accelerated and uncontrolled forest devastation, besides being

an important factor in the growing expulsion of small rural producers, who will then become an even larger itinerant labour force in frontier areas.

The contemporary demographic dynamics of the Brazilian Amazonian frontier has its origins linked to movements of occupation (or re-occupation) of the so-called 'empty spaces' pursued in the frontier in the 1970s, and stimulated by governmental policies (fiscal, credit, and population ones.) In the 1970s, under the Médici administration, the State announced a colossal system of road and energy infrastructure in the Amazônia, as part of the National Integration Plan (PIN.) In addition to the important motorways opened, like Transamazônia, Cuiabá-Santarém and Belém-Brasília, (see Hébert and Acevedo Marin, 1979), big projects such as the hydroelectric power plant of Tucuruí and the Great Carajás Project were launched (Pinto, 1982; Carneiro, 1989; Hall, 1991.)

The implementation of these gigantic works, however, required abundant labour force, a missing factor in the region at that time. Coincidentally, the National Institute of Colonisation and Agrarian Reform (INCRA) launched the Policy of Official Colonisation in 1970. Alongside this road-building scheme, land would be made available to landless peoples from all over Brazil, with special preference to North easterners. 'INCRA and the Ministry of Agriculture projected that at least 100,000 families would settle along the margins of the Transamazon motorway' (Moran, 1985: 92.)

As inter-regional and intra-regional growth imbalances deepened, increasing the total of surplus population in the country, migratory flows in search of labour and land multiplied, and population mobility became visible at national level. This 'free' and mobile population was ready for being redirected.

In the case of the Brazilian Amazônia, the production of the necessary labour force firstly became possible through planned colonisation. The immigration flows developed during the initial stages of rainforest deforestation were replaced by the out-migration flows in later stages of occupation when, for example, the pasture areas were already set up, and in the case of failed official colonisation projects.

During the 1970s and 1980s, high rates of urban growth in different levels of the urban system in the Amazonian frontier were verified (Becker and Botelho, 1988.) This happened not only in the old regional capitals of Belém, Manaus and São Luís, but in capitals and urban centres in the states of Rondônia (Porto Velho), Acre (Rio Branco), Maranhão (Imperatriz, Itapecuru, Santa Luzia, Açailândia), Pará (Marabá, Santarém, and urban centres in the Bragantina and Guajarina regions), but also in small

centres throughout the Cáceres-Mato Grosso, Cuiabá-Porto Velho, Cuiabá-Santarém, Transamazônia and Belém-Brasília motorways.

This urbanisation was fed by the migration of small rural producers, who had no access to land, as well as by the demobilisation of labour forces connected to large regional infrastructure projects (for instance, those of the Tucuruí power plant, the Carajás Railway, and the PA-275 and PA-070 motorways, in the state of Pará.) It is worth remembering the urbanisation process set off by the opening of the Carajás Railway (900 km long), inaugurated in 1985, which crossed extensive and diversified spaces in the states of Maranhão and Pará (Valverde, 1989; Becker, 1989; Hall, 1991.)

Analysing migration along the Carajás Railway, Becker (1989:24) concluded that both the labour force discarded by civil construction, and those workers expropriated from the land in the region headed towards peripheral areas of important regional urban centres (Marabá, PA had a population growth of 206% and Imperatriz/MA one of 65%, a total of 265,900 people, only in the 1980/85 period.) Members of both groups also made for small villages located along the main motorways that served gold-mining areas (for example, the localities of Rio Verde, Parauapebas, Curionópolis and Eldorado, in the Carajás region – state of Pará.)

It became clear that gold was an important factor in setting off migrations in the Amazônia in the 1980s, especially in the states of Pará and Roraima. According to Cleary (2000:58), the modern stage in the history of *garimpagem* can be linked to a rapid rise in the price of gold, which triggered a gold-rush throughout the Amazônia basin, and reached particular intensity in Brazil in 1979; the rapid growth of the informal mining sector happened in the 1980s and its almost equally rapid decline, in the 1990s. Still according to that author, the *garimpagem* is characterised by a large number of small producers working more or less beyond the purview of the State, by a very mobile workforce, by fluctuating output and by unpredictable environmental implications.

It was thus established a close relationship between small-scale mining and intense mobility (spatial and occupational) of a significant portion of the labour force in areas of demographic and economic frontier expansion in Amazônia. From the 1960s on, the *garimpos* advanced over Legal Amazônia, beginning the gold-rush in the Tapajós River Valley (Pará state), followed by the cassiterite extraction in Rondônia state in the following decade, the alluvial mining “boom” throughout the region in the 1980s, and the penetration, in search of gold and diamond, into “the last frontier” –

represented by Roraima, and nowadays overflowing out of the borders of the national territory.

As he studied Roraima, Furley (1994:62) argued that ‘*garimpeiros* are migratory adventurers... at times in Roraima’s recent history, gold and diamonds have attracted waves of immigrants from other parts of Brazil or have lured labourers away from ranches and farms. But as soon as rivers yield declines the prospectors move on, often across frontiers into Venezuela or Guyana.’ Describing the *garimpeiros* as nomads and adventurers, symbols of extreme spatial mobility, following itineraries and settling down for periods of time that follow no definite patterns, makes this social group sometimes be regarded with suspicion, not only by local authorities but by the population as a whole. Such mobility would be associated to an “uprooting” that would disqualify them from a “stable” pattern of social life. ‘This disqualification may, in some cases, turn them into targets aimed at by repressive policies against unwelcome migration, implemented by towns that receive the so-called itinerant workers’ (Póvoa-Neto, 1997:43-4.) The migration to mining, however, is not always a spontaneous choice; it may have been induced by failure in other activities and by the impossibility of access to other sectors of the labour market. Barrow and Paterson (1994:182), studying the limitations to agricultural development in Roraima, recognise that ‘many of the smallholders and colonists in both forest and *cerrado* areas are disheartened by the lack of assistance from the government and are leaving the land ...many have become *garimpeiros*, either temporarily or permanently.’

Besides the search for adventure and fast fortune, these migratory flows to the *garimpo* may also present a merely temporary character in certain situations, a complementary subsistence strategy for small rural producers. According to Abers and Lourenço (1992), as an insurance against the hazards of smallholder farming, and the inconsistencies of government agricultural policy, a large percentage of colonists have adopted alternative sources of ‘off-farm income’; the *garimpo* and the expanding urban economy have been the most attractive options throughout the past decade. In the state of Pará, the Serra Pelada *garimpo* became an important focal point of temporary migration in the 1980s. Becker (1989:22) states that 49% of the migrants dislocated to Serra Pelada from 1984 to 1986 were temporary ones: smallholders from the state of Maranhão, looking for survival in the period between crops. Other places of origin of these migrant seasonal miners were the states of Pará, Goiás and Piauí.

Discussing this sort of migration from another viewpoint ‘reveals that qualifications that evoke a continuous pattern for miners’ spatial mobility can only partially describe the reality of the *garimpo* today, since there are now areas where the activity is spatially stabilised’ (Póvoa-

Neto,1997:46.) This may occur because larger mines require a settled population, working not only in mineral extraction, but also in activities that gravitate around it (such as the processing and commercialisation of minerals, general infra-structure services to the *garimpo*, provision of food and transportation, etc.), originating the so-called *corrutelas* (small mining villages.)

In an attempt to establish a difference between forms of spatial mobility in mining, the author distinguished the *garimpos* located in demographic and economic “expansion fronts”, and the ones in “consolidated settlements.” The former, the usual focus of research, are those that advanced in areas previously unmarked by mineral extraction, and which are characterised by a concentrated habitat in small mining villages and by frequent conflicts with past occupants of the area (in the case of Amazônia, Indians.) In those mining sites, one can find labourers who have abandoned agriculture or who alternate between that and mining, periodically moving from one to the other (Póvoa-Neto, 1997:47.) In Amazônia it is common for miners to alternate “wet periods”– in which they work their crops – with “dry periods” – in which they resort to the “mining crop”, assisted by the low level of rivers, which makes prospecting in river banks easier.

Estimates on the number of informal sector miners are problematic, but some available figures exist. According to Cleary (2000), data from a detailed census of the single *garimpo* of Serra Pelada peaked at 80,000 miners in 1984, revealing the rapid expansion of urban centres near mining zones. MacMillan and Furley (1994:185) also related Roraima’s spectacular population growth in the 1980s (higher than that of any other Brazilian state) to the rapidly expanding *garimpos* over the lands of the Yanomami Indians, absorbing capital and labour from the ranching and agricultural sectors and accentuating a pre-existing trend towards urbanisation. Furley and Mougeot (1994:63) argued that the discovery of gold in 1987 brought a massive gold-rush flooding in from all parts of Brazil, and provoked both national and international attention, leading to a final settlement of the Yanomami land question early in 1992. At this peak, this gold rush attracted up to 40,000 prospectors and their uncontrolled clandestine flights made Boa Vista the busiest airport in South America.

The gold fever, however, declined and ‘certain areas dominated by alluvial mining in the 1980s and early 1990s, such as Roraima, the Cumarú region in southern Pará state and the Madeira River, are now almost devoid of miners’ (Cleary, 2000:61.) A field survey carried out in Amapá state in 1996, where the officially estimated *garimpeiros* count was 5,000, located only

around 1,750 (Cleary and Priester, 1997.) The Tapajós goldfield now has a maximum of 20,000 miners, and parts of the urban periphery of Itaituba, the main urban centre of the Tapajós, in state of Pará, have been abandoned in recent years. A reasonable estimate of the current number of miners in Brazil would be 30,000, with around 10-20,000 more Brazilian miners working in neighbouring Amazonian countries, notably Suriname and Venezuela (Cleary, 2000: 61,62.) The decrease in the number of *garimpeiros* in the 1990s has revealed a decline in the capacity of the informal mining sector to absorb the unemployed and underemployed, taking away yet another scapegoat for the landless. It is thus associated to an intense occupational mobility, leading to increased agrarian tensions and an increase in deforestation, part of the former miners's attempt to enter (or to go back) to activities such as timber extraction and subsistence agriculture.

Thus, when it comes to mining, the connection between the spatial mobility of the population and environmental degradation seems clear. The gold rush attracted world attention and provided a focus for international and social impacts of resource exploitation in Amazônia (MacMillan and Furley, 1994:186.)

‘The 10,000 Yanomami of Roraima, barely contacted until recently, are daily suffering shootings, deadly viral infection and the pollution of their rivers, the consequences of a gold-rush that has swept at least 40,000 desperate prospectors into their lands from other exhausted diggings’ (Treece, 1990: 264.)

If, on the one hand, the process of (re)occupation of the “empty spaces” in Amazônia took place as a result of colonisation policies, of fiscal and financial incentives, and of the findings in important mines, on the other hand, this happened simultaneously with the uprooting of rural populations, who faced increasing difficulty in obtaining land, a reflex of the concentration of land tenure in the migrants origin areas. Such areas were located in the north-east (especially in the states of Piauí and Maranhão), in the south (particularly in the state of Paraná), or even in other areas of Amazônia itself (especially in the state of Pará), where the processes of deforestation and pasture-formation had already been completed. The municipality of Marabá, in Pará state, is a good example of this growth, as its population increased from 24,5000 (in 1970) to 60,000 people in 1980 (Coelho and Cota, 1997.) It also portrays the formation of a surplus population in frontier areas, since the town, neighbouring villages and settlements served as reservoirs of cheap labour, harbouring a rising migrant population of miners, prostitutes, small business people, temporary rural waged

labourers (*volantes*), smallholders and unemployed labourers (Becker, 1989.) A growing process of labour mobility was set in motion in the frontier from the 1980s on, consisting of a labour force that was no longer in demand, or just partially so (Miró and Rodriguez, 1982.)

Another topic related to forced mobility in the Brazilian Amazônia refers to population resettlement as a result of large planned hydroelectricity-generating projects and their related infrastructure. Estimates of population dislocated by reservoirs proposed in the Araguaia-Tocantins river basin<sup>5</sup> and along major southern tributaries of the River Amazonas (basins of Xingu, Tapajós and Madeira Rivers) amount to figures between 85,000 and 156,000 residents (Mougeot, 1990:96.) According to this author, this will be the single most disruptive development action in the near future, being significant both in terms of the population disturbed and in terms of water and land resources they will deny or make available to human communities.

'Population directly ousted are those losing access to land and water-based investments and areas, natural resources and work opportunities due to site requirements of reservoirs, construction campus, raw material procurement, roads and transmission lines. But people can also be uprooted indirectly (in space and time), by changes these actions bring about in the bio geophysical environment and in land valuation and utilization patterns, as well as by new diseases, adverse social changes and economic behaviour which outsiders might introduce' (Mougeot, 1990: 98.)

A crucial point to be stressed is the particular type of communities most likely to be displaced. For the main part, they are made up of vulnerable social groups such as native indigenous people, subsistence peasants or small-scale immigrant rural producers, dependent on the original ecosystem for their survival. In the case of Tucuruí (see Mougeot, 1987:387,389,393,395), some of these populations had been seasonally dependent on river-based resources and employment for their subsistence, being connected to a system of agro-extractive exploitation that would encompassed areas of *terra firme*, beaches, fluvial islands, lakes and waterfalls. Most of the times, they were displaced to areas with different characteristics (isolated drought-ridden lands, far from watercourses, with poor access to motorways, exposed to market economy, and frequently with an urban, non-rural character.) Such displacements were followed by

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<sup>5</sup> The Tucuruí Hydro-electric Complex has begun a large-scale system of dams and reservoirs in the Brazilian Amazônia (...). It is the first of a set of 27 projects for the exploitation of the 25,3 MW of the Araguaia-Tocantins fluvial basin. In 1975, the construction of the first phase began. In 1989, production of energy in a commercial-scale began (ELETRONORTE, S.A. s.d. p.p.2-3.)

serious administrative and financial problems in the case of the Tucuruí Re-Settlement Programme (up to 4-year delays in resettling displaced families, reduction of rural and urban destination sectors originally planned, and changes in the distribution/location and implementation timetable of the new urban centres.) These facts seemed to contribute to the social-cultural and economic uprooting of these populations, forced to migrate and to become low-wage labourers. This is a very good example of how surplus and mobile labour forces are created in the frontier, followed by environmental degradation.

Representing another analytical approach, Mougeot's work (1985) made valuable contributions to an understanding of the migratory process in Amazônia, by linking alternative migration targets to socio-economic advancement and residential stability during Brazilian frontier developments. He selected four study areas in Brazil's northern region to represent a cross-section of the frontier development process. These areas were chosen according to urban functional hierarchy of the centres (ranks previously defined by IBGE, 1972): Humaitá (sub-local town in Amazonas), and three centres in the state of Pará (Altamira, local town; Marabá, sub-regional center; Conceição do Araguaia, town in advanced frontier.) Mougeot's findings (1985:71,73,78,79) suggested that the occupational status of leavers generally falls during frontier urban evolution, and that the socio-economic quality of repeated migrants worsens during frontier development. Migrant retention declines during these processes as a result of vanishing opportunities for the more destitute socio-economic groups. In relation to geographic and socio-economic migrant selectivity, the author argued that migrants at the selected cities come from both rural and urban areas at lower orders of the hierarchy; however, those from urban centres travel greater distances and come from higher socio-economic levels than those from the countryside or lower-order areas. Furthermore, the former improve their previous occupational positions much more with frontier-cityward migration than do the latter. Concerning stagewise differences, with equal education, frontier cityward migrants attain lower socio-economic levels than their counterparts in other urban centres. However, with more education, the former improve their status to a greater extent than the latter.

In spatial and economic terms, the most unstable segment of the population is made of those who form the so-called "labour reserve", that is, partly-employed or unemployed people who form a surplus front in any given region (Kowarick, 1975.) In Brazil, destitute groups predominate in cityward migration flows (Mougeot, 1985:58.)



In 1970, almost 60 per cent of urban migrants with less than 5 years' residence in their census district earned about one minimum wage (Martine, 1976.)

This poor migrant labour force has been indispensable for the incorporation of new areas when pushing the physical frontiers of capital into barely occupied regions of *Amazônia*. Nowadays, in the stage of capitalist intensification in rural areas, the role of migration seems to be distinct, presenting specific forms. Reference is being made to semi-proletarianisation and to temporary employment, responsible for seasonal migrations of short, medium, and long distance. Thus, migrant populations have used a new survival strategy, namely, the combination of their subsistence activities with the partial selling of their labour force.

Some representative studies on population dynamics in the *Amazônia* in the 1970s (related to the colossal migratory phenomenon towards the *Amazônia*, the policy of colonisation, the initial impacts of big new projects and the conflicts over land) and 1980s (the intense urban growth and the frontier retraction to small rural producers) should be mentioned. Such are the cases of the study on the magnitude of migration to the Brazilian frontier done by Wood and Wilson (1984), and the demographic nature of the CEDEPLAR projects (1977, 1979) on the volume and characteristics of internal migrations in the Marabá region in Pará, and in the state of Acre. Also relevant are Hebette and Marin's studies (1979a, 1979b, 1982) on the attraction and production of a migrant population incorporated to the colonisation projects of Pará and Rondônia States, analysed from the standpoint of the logic of capitalist accumulation and of the role of the State in the social reproduction of migrants. The same could be said of Turchi's revelation of the internal contradictions of the occupational model in settlement projects of migrants in the state of Rondônia (1980); of Martine's studies (1978, 1982, 1987, 1991) on the colonisation projects inserted in the regional growth and analysis of the impact of huge government projects on migratory movements; and of Oliveira's investigation (1985) into the migratory process in the state of Acre and of the intense and premature urbanisation of its capital, the city of Rio Branco.

Other renowned studies are that of Mougeot (1984) on alternative migration targets in the Brazilian *Amazônia*'s closing frontier, Aragón and Mougeot (1986) on the data gathering methodology on migration from the starting point of a network family kinship, and Bentes' s exploration of the migratory process towards the Free-Trade Zone in Manaus (1983), focusing on the relationship between demographic and socio-economic processes.

The intense urbanisation of the frontier was studied by Becker and Machado (1982) and by Sawyer (1987.) The former discussed the interrelationship between labour and population mobility in the Amazônia, aspects that were tackled again by Becker (1990) in the context of the urban frontier in the 1980s. Torres (1992) examined the impact of the migrant from urban areas in the frontier.

Other themes related to migration and pointed by Oliveira (1997) refer to the social pressure over small autonomous rural producers in general, and to the coexistence of modern businesses with primitive modes of labour exploration. This tendency is also seen in the works of Hebette (1991), and Lenna and Oliveira (1992), who approach the progressive loss of identity on the part of native regional populations, that is, the transformations suffered by local groups in parallel with conflicts with other groups, and the consequent migratory movement then entailed. The population resettlement caused by hydro project developments in the Brazilian Amazônia was studied by Mougeot (1990) and the questions of agrarian conflicts, violence and the forced exodus of peasants in the Amazônia were brought to light by Almeida (1992.)

Castro (1995) analysed the impacts of industrialisation in frontier areas (Marabá and Parauapebas in the state of Pará, and Açailândia in the state of Maranhão), focusing not only on the increasing number of waged migrants of rural origin, but also on the social and ecological costs of this process.

We should also mention important studies by Sales (1991, 1992, 1994, 1996) on the role of Brazil in international migrations, and more recently on migrations at the border of member countries of MERCOSUR (Argentina, Uruguay and Paraguay.) Still considering Latin American frontiers, Becker (1997) analysed the question of migration and immobility of the labour force, relating it to the issue of productive environmental preservation, while discussing the creation of the Extractive Reserves in the Brazilian Western Amazônia. The author saw this proposal as a counterpart to the urban management in frontiers areas since it allowed a discussion of the increasing rural exodus in the areas where it originates.

To close this section, one other issue should be mentioned, as it is considered relevant for the discussion of migration in the Amazônia: the fact that its characteristic 'disorder' has been associated to 'ecological disorder' in the recent occupational model in the frontier. The apparent 'migratory disorder' is simply the result of population movements (in time and space) complying with the interests of capital at national and international levels.

## 2.5. FINAL REMARKS

Some points can be raised from our discussion in this chapter:

1) The question of people as being the main element in the degradation of Nature calls for an approach which considers the relation society-nature from a global, holistic, perspective. People themselves have to be perceived both as agent and victim of the transformations going on in the environment. In this sense, we believe that the depletion of natural resources, having different social groups as its main actors (according to different socio-economic realities), should be analysed in an integrated form and based on a global and historical approach.

On the other hand, it is important that the physical-environmental deterioration be studied in relation to the decrease in the living conditions of the population, as well as to the increase in the world's poverty levels, especially in the South. Thus, in designing a global agenda for environmental development, both the analyses of the impacts on environmental degradation (usually focused on physical impacts) and on the living standards of the different socio-economic groups should be considered. Likewise, special attention should be given to the role of human behaviour as a forcing factor on replotting environmental policies.

2) As for the relationship between migration and environment, migration is assumed to perform a specific function in environmental degradation (reinforcing the pressure of population on resources and services), while it also constitutes a mechanism which reflects transformations going on in the contemporary societies as much in political issues as in the labour market (that is, changes in the social relations of production.) This becomes particularly significant when related to the occurrence of structural changes in the economy of developing countries.

Another point to be raised as an outcome of onward migration in capitalist societies (especially at poor realities in the South) is that about the disintegration of the previous livelihood link between people and their environment, leading to a disruption of their previous culture and to a decline in their life conditions.

Concerning the role of migration in forming regional labour market in the Brazilian Amazônia, the existence of a 'mobile' labour force was invaluable, a basic condition for implementing the investments of the Brazilian Government, all part of its strategy for the occupation of 'empty spaces'. This migrating labour force, who was an essential element in frontier (re)occupation in the 1970s, became less important in the

1990s, when the process was consolidated. Thus, these labourers began to feed the expansion of the 'pockets of poverty' that proliferated in urban peripheries in the region.

3) Sustainable development has been recognised as the link between development and environment. However, this discussion assumes particular significance if one considers sustainability within a North-South framework. Initially, because the relation development-environment is a consequence of structural inequalities of the global system, it will reflect different objectives both at international level (poor and rich countries) as well as at intra-national level (poor and non-poor social groups.)

Hence, to the Northern reality sustainability as 'development-without-destruction' comprises concerns especially related to one's lifestyle, placing a high value on residential and leisure areas, on the maintenance of the physical-environmental quality by means of elements such as clean air, unpolluted water courses, and so on. Following such a view, their main concern with the natural resources located in the South is related to the preservation of endangered ecosystems (such as the tropical rainforests) with a view to creating genetic banks which may guarantee the maintenance of the biodiversity in the future.

To the Southern reality, however, the sustainable use of natural resources would be much more linked to the availability of subsistence resources. As a consequence, the conflicts in the North are generally linked to the search for welfare, while in the South they are usually related to the struggle for basic needs and for the preservation of one's cultural identity. Although the debate on sustainability has been originated in the North, there are signs that many groups in the South have been practising sustainable development in order to protect the natural environment, since this is their source of subsistence. According to Slater (1993:14), there are now numerous, courageous, and successful examples of groups practising sustainable development, such as the Grameen Bank in Bangladesh, the Sarvodaya Schramadana Movement in Sri Lanka, the Wangari Maathai/Green Belt Movement in Kenya, the Chipko Movement and Lokayan in India, etc.

This list must also include the People of the Forest Movement in Brazilian Amazônia. Owing to its current importance, this movement of the rubber tapper population, which emerged in the seventies, will be the subject of further discussion in this thesis. Nowadays such experiences should be retrieved, as the world's social agenda

has become sensitive to the sustainable use of natural resources as a departing point for studies and policies.

Another point addressed by many authors is that environmental preservation in the North is valued by itself, while in some contexts in the South (for instance, in the Brazilian Amazônia) its value is centred in its very destruction (because, for instance, deforested land, and not forested one, is a valuable good.)

4) From a methodological standpoint, with regard to the levels of explanation of reality, both the neo-classical and the neo-Marxist are generalising methods, since they intend to explain facts through an extremely global approach. The Marxist claim of generalisation could only enable certain levels of explanation. We are in need of studies that discuss methodological issues such as the level of theoretical abstraction and geographical scales.

Thus, it seems necessary that we descend to a lower level of abstraction, in the light of a larger amount of empirical data. Besides, by taking into consideration that the phenomena present different levels of explanation, a question has come out: the search for adequate geographical scales for their analysis. Hence, while the general processes tend to be explained at international, national and macro-regional levels, it seems that the very understanding of the specificities which characterised certain realities must be searched at micro-regional and local scale. Therefore, it seems to be appropriate to stress once again the importance of considering the 'particular' together with the 'general' in the analysis of patterns of population displacements.

5) Human rights also encompass the right 'not to migrate'. In this sense, resistance to move, that is, immobility, is reflected on the emergence of social conflicts in out migration areas, suggesting solutions concerning the structural causes of migration. Studies that link social movements of resistance to migration with the increasing number of poor and destitute migrants become then important, in different contexts and scales, not only at national, but at international level.

## CHAPTER 3

### AMAZÔNIA: THE APPROPRIATION OF A NATURAL RESOURCE FRONTIER

#### 3.1. INTRODUCTION

The subject of this thesis is the increasing labour mobility and the environmental degradation taking place in the Brazilian Amazonian frontier. The present chapter will consider Amazônia as the setting for this process, where this combined mobility and degradation emerged as a result of the recent forms of appropriation of nature. To this end, it will focus on a number of issues which relate to the significance of this rainforest frontier, both with regard to the scale of current international and national debate and the nature of the elements which combine to explain it: the natural ecosystem and the economic-political factors involved in its shaping.

Brazilian Amazônia, known as 'Amazônia Legal'<sup>6</sup>, is a region of large contrasts. Covering some five million square kilometres (4,978,247 square kilometres) and representing 58.4% of the country's land area, it had, a relatively small population (13.6% of Brazil's total population in 1980 and 11.6% in 1991.) There is also a high concentration of land tenure which represents an increasing problem for small producers, whether local or migrants, in acquiring land.

However, contradictions have arisen from forms of economic, spatial and social reorganisation taking place in these frontier areas. Thus, at the same time Amazônia is being identified and acknowledged as one of the last natural frontier regions left in the world, it is being subjected to the greatest and most rapid devastation yet known. It constitutes a reserve for various species of animal and plant life, what is of crucial ecological importance for continental and even world ecosystem, as well as for particular human cultures. Between 1975 and 1980, the rate of destruction of the

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<sup>6</sup> *Amazônia Legal*- this designation was created in 1966 by the military government of Castelo Branco for the purposes of government action. It covers the 3,5 million square kilometres of the northern states, together with those areas of Mato Grosso state which lie north of parallel 16s and those of Goiás state which lie north of parallel 13s, but excludes the part of the state of Maranhão which lies to the west of meridian 44w. This entails the incorporation of more than 1.4 million square kilometres to the original area (Northern Region), creating an overall area of 5 million square kilometres (OLIVEIRA, 1987.) However, in terms of national political division, the so-called Classic Amazônia, or Brazil's North Region, is used for statistical purposes and comprises, nowadays, seven states: Acre, Amapá, Amazonas, Pará, Rondônia, Roraima and Tocantins.

On the other hand, according to Oliveira (1987) Continental Amazônia covers two-fifths of the surface of South America (with 6.5 million square kilometres) representing one-third of the world's existing 'latifoliada' forest reserves and extends, apart from Brazil, across Bolivia, Peru, Colombia, Venezuela, Guiana, Surinam and French Guiana.

Brazilian rainforest increased by an order of 412 % ; from 1.8 million hectares cleared per annum to 4.2 million. In comparative terms, this means that every two years an area of Amazônia the size of The Netherlands is cleared. Fearnside (1998) estimates that the forest cut down in 1990 represents a loss of US\$ 2.5 billion to the Brazilian patrimony.

This indiscriminate deforestation is followed, in the majority of cases, by the creation of pasture land for extensive cattle-farming. In fact, this type of landed property investment enacted future valorisation asset, that is, land speculation.

The destruction of the natural resources also extends to mineral extraction, the major export from this area; tacitly supported by government policy, encouraging an exportation policy, whatever its consequences for the environment.

The process of the internationalisation of Amazônia's natural resources is linked to the new international division of labour which was initiated after the Second World War and first made its presence felt in Brazil in the 1960s. According to this model the main role of the South was to provide natural basic resources for the industrialised North countries.

However, for this frontier to be appropriated, another pre-requisite (other than land and capital) was essential: the labour-force. Its creation, through migration, has come to characterise the recent occupation of the frontier. As Foweraker (1981) pointed out,

*'It may be relatively and increasingly rare for pioneers on the frontier to stay on the land and farm it but nevertheless it is they who repeatedly take on the task of clearing the land and by their labour create value' (Foweraker, 1981:5.)*

The recent patterns of occupation of areas of the frontier, by national and international interests, give the grounds to examining and explaining the role played by small producers and by large capitalist enterprises in the construction of a new Amazonian environment and the gradual destruction of the previous one. In this context, the discussion of the various issues relating to the creation and mobility of the labour force, the human capital of the frontier, together with conflicts that ensue, constitutes a valid means of comprehending the dynamics of this resource frontier.

### 3.2. AMAZÔNIA AS A RAINFOREST FRONTIER

#### 3.2.1. The political issue.

Over the last two decades there has been great international concern regarding the destruction of the natural environment. This has been increasingly perceived as a global disruption of the biosphere; a problem which affects both urban and rural areas, developed and developing countries alike. As a result, a number of different approaches and strategies have been developed in relation to the environmental question. These range from the pioneering work of the Club of Rome evoking the spectre of populations overstressing the limits of resources <sup>7</sup>, the First World Conference on Environment, organised by the United Nations in Stockholm (1972) influenced by a re-emergence of Malthusian thought; the so-called Brundtland Report (1987), framing development issues as environmental ones; and the following World Conference on Environment and Development (UNCED 1992) developed in Rio de Janeiro, Brazil, where sustainable development was highlighted as a world concern.

Nevertheless, the increasing importance placed on environmental issues by the developed world is undeniable, whatever their aims. In this sense, it should be stated that the last two economic summits held by the seven largest industrial nations (the Group of Seven) have devoted large parts of their discussion to policy proposals on environmental 'protection'. The latest environmental initiative was the Global Environmental Facility (GEF) developed by the Group of Seven and administered through the World Bank (IBRD.) The main project, the Amazônia Pilot Project, represented an investment of some US\$ 1.5 billion over five years in Amazonian conservation projects.

But why was Amazônia the object of so much interest?

Since 1980, particular attention has been focused on the devastation of the world's tropical rainforests because of the alarming rate at which they are disappearing. According to Mahar (1989), these forests once occupied 16 million square kilometres of

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<sup>7</sup> 'The Club of Rome's Limits to Growth extended the Malthusian premises of Ehrlich's Population Bomb, coupling them to a critique of industrial development, pointing out that pollution as well as food was another global constraint. This technical modelling exercise...initiated what one might call the technocratic environmentalists, invoking populations pressed up against the limits of resources, generating more and more pollution. This vision of the causes of environmental destruction, largely divorced from broader social and political economic parameters, received a hostile reception among third-world countries' (Cockburn and Hecht, 'Up a blind alley'? *New Statesman Society*, 29.05.92.)



the earth's surface, but now cover only 9 million. Myers (1984) estimated that Latin America and Asia have already lost 40% of their original forests, and Africa a little more than half. An even more extreme figure is offered by Moran (1990), who claims that 'the countries of Asia and Africa are entering the final decade of the twentieth century with no more than between two and fifteen percent of their tropical forests untouched' (Moran, 1990:284.)

In Brazil's case, it was estimated by Fearnside and Salati (1985) that around 10% of Amazônia has been cleared in the last three decades. This means that the current rate of deforestation is around 3 million hectares a year. IBGE's estimates for 1988 have been used to support the government's claims that the level of deforestation has remained around 5 percent. As shown by the World Bank estimates (cited by Mahar, 1989), 12% of Amazônia had already been deforested by 1988<sup>8</sup>. Recent estimates by Fearnside (1998) attest that 13% of Amazônia has been deforested; this prior to the fire that devastated part of the state of Roraima in April 1998.

However, at the international level, according to Margulis and Reis (1990), the alarm was based on the question that Amazonian deforestation, plus the fossil fuel combustion, is responsible for the emissions of carbon dioxide to the atmosphere, leading to global warming. According to Fearnside (1990) deforestation in Amazônia releases 287 million tonnes of carbon dioxide a year, producing an ozone level of 90 parts per million (the recommended limit under Brazilian Law is 80 parts per million.) The major difference between the countries of the North and South in producing carbon lies in that the latter mainly burn biomass and the former petroleum. Statistics presented to the UNCED 1992, showed that the USA alone is responsible for the emission of 23% of world carbon dioxide.

The present high value of the Amazonian region as a common property resource is better expressed by the journalist Jobim in his article published in the newspaper *Jornal do Brasil* on 14/06/98, when he comments that Paul Krugman anticipates that in the 21st century, nature and natural resources, ever more scarce, will have a price, including clean air. As the United States Congress opposes strong resistance to cuts in the emission of carbonic gas, regulated in the Quito Treatise on Climate Change and

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<sup>8</sup> 'To deal with Amazônia in terms of percentages is, in itself, a form of mystification, inadequate to cope with the problem. Each 1% of Amazônia represents 40,000 sqkm, or 4 million hectares. Pre 1970, only some 5 million hectares had been cleared, yet in the last 18 years this area has increased to at least 25 million hectares. The figure of 5% (put forward by the Sarney government) gives the impression that the destruction is an illusion, whilst the actual numbers show that the area of devastation is greater than that of many countries' (Moran, 1990:286.)

Global Warming, there is a possibility of negotiating a reduction in fires in Amazônia in exchange for international financial aid.

The question of Amazonian deforestation as an issue of international policy was evidenced by its inclusion in both the scientific and intergovernmental agendas. The Amazonian threat received great attention at the Houston Economic Summit (1990), and a series of scientific international symposia were organised to debate problems raised by the destruction of the rainforest. Two such were the International Symposium on Environmental Studies of Tropical Rainforests (FOREST 90) held in Manaus, Brazil, and FOREST 92, held in Rio de Janeiro, Brazil. The latter constituted a curtain-raiser to the Second World Conference on Environment and Development (UNCED 1992.) The choice of Brazil to host this Conference was, undoubtedly, a result of the presence within its borders of the largest portion of the Amazonian rainforest, the current focus of interest and environmental debate on a world level.

The importance of UNCED 1992 may be summarised in the words of Maurice Strong, the Deputy Secretary General of the United Nations:

‘In Stockholm, 20 years ago, the world community embarked on this extraordinary journey of hope. Almost a generation later, world leaders and people from virtually every country will meet in Rio de Janeiro, in June 1992, to guarantee the simple realisation of that hope. This meeting is intended to establish an absolutely new basis for relations between rich and poor countries, between North and South, which will include a joint attack on poverty as the major priority for the XXI century’. (Strong, 1992. Interview given to the magazine *Revista Brasileira de Informação Ambiental*, 1992,1:5.)

This has been expressed as an imperative in terms of environmental security, as well as moral and humanitarian considerations. However, the crucial point to be highlighted is the market approach to environment issues. As discussed by Cockburn and Hecht (1992), the World Bank Development Report (1992) on the environment views market mechanisms as being central to instigating long-term strategies of environmental sustainability, with high rates of global economic growth. It means that the focus has been put on ‘efficiency factors, sustainability and technological improvement’. In other words, it could be understood to mean that the solutions for the ecological problems will come from the market.

The global emphasis given to such events has offered the Nation-States a real opportunity ‘for transition to global society which may begin to resolve socio-environmental problems through co-operation, especially on the North-South axis. However, despite this optimism, the principal

actors on the international scene are able to place many traps and difficulties in their path ' (Leis, 1991:9.)

On the basis of this vision of creating global environmental policies, a need has emerged for reflection on the real possibilities for socio-economic development and environmental conservation for the countries of the South, the guardians of important stocks of natural resources. It should be noted, above all, that the emergence of a new international order was sparked by the world petroleum crisis in 1973, which led the countries of the North to seek new sources of energy, particularly in the countries of the South. On the other hand, it is also necessary to consider the conflicts of interests which occur at the Nation-State level, as well as the diversity of foci and the alternative proposals for global action put forward by the world ecological movement.

In this sense, and concomitant with the intergovernmental events on environmental issues, a range of conservationist action has been generated, particularly that organised by non-governmental organisations (NGOs.) The 'Buy a Ring of Life for a Rainforest Tree' campaign, organised by the World Wide Fund for Nature (WWF) can be cited as one example of this type of action. The passage quoted below has been taken from the leaflet advertising this campaign and clearly expresses one view commonly held in the North regarding environmental issues in the countries of the southern hemisphere.

### **WHY THE RAINFOREST NEEDS YOU...**

In the last 80 years or so, half the world's tropical rainforests have gone, cleared by logging, mining, ranching or subsistence farming. Most of this destruction has happened since 1960. At the present rate, by the year 2000, virtually all remaining tropical rainforest in Madagascar, Sumatra, Thailand, The Philippines, Sierra Leone, Ivory Coast and Nigeria will have been cleared. Apart from a few inaccessible upland patches and protected national parks, only the great forests of the Congo and AMAZÔNIA will be left, and these may only last until about 2025.

### **AND WHY WE NEED THE RAINFOREST !**

The tropical rainforests are the richest habitat on earth - a 'Treasure Chest' of inestimable value to mankind. There are more species of plants and insect life in four square miles of forest than in all the United Kingdom. Rainforest burning currently accounts for 20% of carbon dioxide production. It is a major contributor to the 'Greenhouse Effect' that is already influencing our own and world climates with such disastrous results. The tropical rainforests regulate our climate. Trees naturally absorb carbon dioxide from the air, and give off oxygen in its place. Land cleared of tropical rainforest nearly always turns to desert. Thin forest soils are easily washed away, desertification soon sets in. Once begun, the process is very difficult to reverse. Financially, a forest is worth far more intact than cut down.' (1991- from WWF's campaign in the United Kingdom.)

From this it may be deduced that the principal concern regarding environmental problems of the rainforest areas has largely focused on issues of plant and animal species survival and conservation (the creation of National Parks, gene banks, etc..) As argued by Mahar (1989), among the more direct and visible costs of tropical deforestation are the losses of forest products such as timber, fuel wood, fibres, canes, resins, oils, pharmaceuticals, fruits, spices, and animal hides. Less direct long-term costs are soil erosion, flooding, and the siltation of reservoirs and hydroelectric facilities. For this author, however, the single most important long-term cost of deforestation is the irreversible loss of biological diversity.

As Prince Philip, the Duke of Edinburgh (WWF's President) explained in an interview with the Brazilian magazine *Veja*, 'the principal reason for preserving the rainforest is that we cannot permit the enormous biological diversity of its fauna and flora to perish' (*Veja Magazine*, 28/03/1992.) In this sense, tropical forests perform vital ecological services, as they are the repository for an incredible diversity of germplasm. Another interesting approach to appear in the debate on the rainforest issue is the attempt to create individualised strategies. According to Cockburn and Hecht (1992:19) 'one salient trend in discussions has been the elimination of the state altogether, and the emphasis on individualised consumption strategies, a sort of consumer choice model of conservation... Its popular appeal lies in the what you can do to save the world realm'.

In fact, for a long time, the tropical rainforests have been regarded in terms of their economic role: an important source of raw materials, most of them for the benefit of the Northern countries. In this sense, with the alarming rate of deforestation going on, there has been public concern about the depletion of world forest resources because of the loss of forest products, as well as because of the non-market benefits of tropical forests. The latter are currently seen as the dangers that radical changes in the tropical environment could create for the global climate. As a consequence, *Amazônia* has become a 'critical' resource area and so, much valued. From a policy perspective, the major problem is in treating critical resources (the ozone layer, the carbon cycle and *Amazônia*) 'as free goods, when in reality they serve the most basic economic function: that of enabling people to survive' (*The Economist*, Sept.2, 1989.)

However, the 'vital function' played by rainforests, has often been discussed at the international level from a purely physical point of view, commonly related to its task as a world climate regulator. In this perspective, two questions arise. Firstly, if the rainforest is not to be considered as 'free goods' for the few, because it serves the many,

then the actual question under discussion is the extension of the cost of preserving it to all of those who benefit. Secondly, there is still less motivation and commitment, both at the national and international levels, with regard to the social role of the rainforest in providing the main source of livelihood for millions of small-scale producers (forest-dwellers and landless) who inhabit it.

This doesn't necessarily mean that it would be a much more predatory mode of exploiting the rainforest resources than is currently being employed by the big enterprises (cattle-ranching, logging and mining) which are considered to be modern methods of occupying the frontier. So, better consideration could be given to other experiences, and other methods of exploiting nature, which do not conform to current capitalist practice. On this basis, it is also important to understand the knowledge of the forest peoples as suggested by Gonçalves (1989) in his analysis of the Brazilian rainforest.

*'This is not a minor issue... in that the entire process of incorporating new territory, begun in the XV and XVI centuries, stems from the denial of previous knowledge as obsolete... If today this region, with its riches, is available to us, this is due to the very history of those peoples who have survived in it, without destroying it. In this sense, the peoples of the forest are part of the enormous patrimony which is Amazônia' (Gonçalves, 1989:49.)*

Another basic issue to be considered in debates is the differences which do exist, whether with reference to the distinct realities which constitute the Third World or the multiplicity of experiences developed by the local populations, the regional inhabitants of the tropical rainforests.

In this sense, criticisms have been made of the generalist focus commonly used in the discussion of Third World issues, which do not consider the individuality of the nations which form it. An understanding of historic-geographical peculiarities in relationship between society and the environment may constitute a valuable instrument in the definition and/or prioritisation of strategies for sustainable development.

*'The structure of environmental debates and the solutions and the environmental crises of the tropical world remain embodied in an ideological framework about conservation and development that is largely excised from the historical and economic realities of most of the third world' (Cockburn and Hecht, 1992:20.)*

One could also question why Southern nations have been lead to rainforest exploitation that ensures neither its preservation nor the survival of its peoples. The

roots can probably be found in the history of its occupation and, in the multiplicity of interests expressed by the different groups which inhabit and exploit it. Alternatively, a reference to the inadequacy of development models based on external realities and interests may be found in the words of Strong (1992):

‘Substantial development cannot be imposed by external pressure, it must be rooted in the culture, values, interests and priorities of the people in question’ (Strong, 1992:12.)

For the Brazilian population, the magnitude and speed of the Amazônia's deforestation brought another discussion. That is, if it has yielded remarkable short-term benefits for some economic groups, it has, also, created long-term social costs.

‘The deforestation which has been permitted to occur in Amazônia in the last two decades has contributed little to the national wealth. To the contrary, a great part of the external and internal debt which weighs on the Brazilian people derives from the Amazonian adventure. More than 15 billion dollars have been spent by the Union in the last 25 years, an expenditure which was made possible by the country's indebtedness to the international banks and through the internal redistribution of wealth from the poorest and middle classes to the richest. In reality, the deforestation has been a transference of wealth from the Union to the pockets of a small number of national and international entrepreneurs’. (Moran 1990:284.)

Thus, from all the above it is evident that, although the model for developing the Amazônia will continue to depend on converging interests from different socio economic groups, one has to realise that it is important to consider the unity of physical and political-economic factors in analysing the relationship between society and nature. To this end it is appropriate to start the next section of this chapter examining some of the physical characteristics of the Amazonian ecosystem.

### 3.2.2. The Amazonian ecosystem

The Amazônia rainforest represents about 5.5 million square km of the total area currently covered by tropical forests (estimated between 8 and 12.2 million square km, according to the World Resources Institute, 1988.) Thus, it represents between 45 and 68 per cent of all tropical forests. Approximately 60 per cent of the Amazônia rainforest is located in Brazil. Should consideration be given only to the effects of the rainforest's environmental devastation on the physical surroundings, this would in itself be sufficient cause for great disquiet. In this respect it is necessary to recapitulate some of the peculiarities of the Amazônia forest ecosystem, which will help in understanding the dynamic of its destruction.

An important aspect refers to the recognition that the vigour of the equatorial forest 'is not the passive result of thermo-pluvial characteristics, rather, the forest itself plays a decisive role in maintaining those features' (Gonçalves, 1989:51.) The forest's equilibrium is conditional to its inter-relation with water. 'Forest and water act intrinsically together, depend on each other and are mutual expressions of each other' (Bluntschli, 1921, quoted by Sioli, 1982:58.)

In a dense forest, according to Salati (1982), 75 per cent of all precipitation returns to the atmosphere in the form of mist; 25 per cent through the evaporation of water retained by leaves and 50 % through the transpiration of plants. Furthermore, according to the same source, the rain which falls in the eastern Amazônia is caused by evaporation from the sea, which is then transported to the continent by the trade winds, whilst the rain which falls in the western Amazônia is caused by evapo-transpiration, that is, the water given off by the forest itself.

Similarly, the presence of the tropical rainforest facilitates the retention of solar energy which would have been lost if it did not exist. This evidence demonstrates that the thermal balance (retention of energy) and the pluviometric regime (redistribution of energy) of the biosphere depend on the presence of the rainforests. As one example of this, it could be argued that the enormous tracts of the Amazônia forest make the formation of the Equatorial Continental Air Mass possible and this, being hot and humid, therefore affects the pluviometric balance of vast adjacent areas of Brazilian and Central American territory.

According to Salati (1987), the general trend towards deforestation, or the replacement of forest by other types of groundcover, will lead to a modification of the water balance and, consequently, to an alteration in the energy balance. So, the major risk of this dramatic changes is that this could lead to a process of desertification of areas previously covered by forests.

Another issue to be considered relates to the recycling of nutrients. 'Despite their infertility, an exuberant forest stands on the Amazonian soils ... The answer (to this paradox) is that the living part of that forest ecosystem, the forest vegetation itself, responds to that challenge by strictly closed circulation of nutrients within the living biomass' (Stark, 1969; Klinge and Fitkau, 1972, discussed by Sioli, 1982:15.) It also has been evaluated that this constant recycling of the same nutrient molecules through generations of forests organisms must be understood as one of the basic principles in the functioning of the Amazonian forest system.

Considering that these areas of tropical forest are extremely wet, the process of 'leaching' is a common occurrence, that is, the draining of soil by rainwater. In this

process, soluble chemical elements are reduced, leading to a predominance of non-soluble elements; this creates a resistant layer of iron-aluminium (*laterita*), close to the surface (A horizon) where the humus concentrates. The difficulties experienced by tree roots in penetrating the *laterita* are off-set by the great amounts of water that are available, so that in the rainforest it is the radial rather than axial roots which predominate.

However, the most important characteristic of the wilderness area of Amazônia is its enormous biodiversity; that is, the heterogeneity of the species of this equatorial forest. Though there is a significant lack of knowledge related to the real number of biological species, estimates by Aolinvaux (1989) quoted by Gonçalves (1989), are at around 80 thousand plants and 30 million animal species, while Schubart (1989) estimates are that the Amazônia rainforest could have something between 800,000 and 5,000,000 species, representing between 15 and 30 percent of all the species in the biosphere. These figures contrast with the relative uniformity of species seen in the forests of temperate and cold regions; in this sense, Amazônia was characterised as the 'single richest region of the world tropical biome' (Myers, 1984:50.)

In the Amazônia case, the accelerated and indiscriminate deforestation taking place endangers not only the forest itself but is, on a wider scale, affecting the biosphere. This fact offers yet another reason for the interest of the Western countries in these areas, which perhaps hold the major portion of the planet's biological patrimony in plants and animal species. This biodiversity, by itself, equally explains the inadequacy of attempts to transplant to the tropical environment, experience in agroforestry which had proved very successful in the North. This had been attempted through the importation of some technological packages to encourage reforestation, with a view to dealing with the problem of deforestation from a commercial standpoint (for instance, the use of eucalyptus seemed to have been disastrous.) Nevertheless, it is also known that most of the trade companies that export and import Amazonian timber are not committed to reforestation in any form, let alone that of the high-value so called 'noble timber' like the mahogany, which takes at least fifty years to grow.

In contrast to this variety of existing plant and animal species, Amazonian soils are poor and only 7 per cent of the area covered by the tropical forest is considered to be adequate for agricultural activities (according to Sanches, quoted by Salati, 1981.) This contrast could be explained by the fact that as already mentioned above, most of the nutrient capital is held in the biomass rather than in the soils.



However, the Amazonian ecosystem consists not only of forests. According to Brazilian Institute of Geography and Statistics (IBGE) figures (discussed by Benchimol, 1989) while Brazilian Amazônia had originally at least 75 per cent of the territory covered by tropical forests (flooded and non-flooded forests), 22 per cent is covered by savannah (*cerrados* and *campos*) and 3 per cent by the so-called pioneer ecological formation, flooded fields and swamps (*mangues* and *pantanal*.) The analysis of the spatial distribution of these formations shows that most of the area of the states of Maranhão, Tocantins and Mato Grosso, which constitute the eastern border of the Brazilian rainforest, are covered by savannah, while the states of Acre, Amapá, Amazonas, Pará, Rondônia and Roraima had almost all of their territory originally covered by tropical forests.

Another view of the ecosystems of Amazônia is offered by Sternberg (1975) and Meggers (1977), quoted by Moran (1990) who note that forests and savannahs constitute 98 per cent of the Amazônia Basin, whilst the *várzeas* (flood plains) account for only 2 per cent, a total area of 64,000 sq km, but with an inverse economic importance to its size. The flood plains hold a great wealth of fish stocks which are capable of supporting large populations.

The fertility of the soils of Amazônia is another question which is frequently raised. The fact that the soils of the rainforest are less fertile than those of the savannah (as the forest's value lies above ground), was one of the justifications advanced for the establishment of cattle-ranching (as the 'vocation of Amazônia') on the 'poor' soils of the forest. This was, however, rather an example of the refusal to consider the Amazonian ecosystem as a whole (only the soils were studied) in the creation of development policies in the recent occupation of Brazilian Amazônia.

Along this section it was presented some of the physical factors that support the need to consider the Amazonian ecosystem as a whole in order to define strategies for the exploitation of its natural resources. So, the way and the rhythm in which this exploitation are brought up will determine how long Amazônia will remain as an international and national natural frontier.

### 3.2.3. Amazônia as a natural resource frontier

It is currently recognised that the remaining areas of tropical forest in the world are becoming the target of conservation and preservation concerns, and that this is certainly due to the increasing scarcity of its natural resources at the world level.

Forests, especially in Africa and Malaysia, have been continuously exploited as a source of raw materials, mainly for the benefit of the developed countries.

In the case of Brazilian Amazônia, the appropriation of natural capital on a large scale is a relatively recent (although intense) phenomenon. The international crisis of raw materials, led to a redefinition of strategies of association between 'central' capitalist countries and 'peripheral' countries. The inflow of multinational companies into areas of exploitation of natural resources yet relatively unexploited in countries like Brazil, is thus explained. There is a multiplication of the mixed type of projects (national versus foreign capital), for the production of raw materials which are essential for the reproduction of capital in the central economies.

The fact that Amazônia combines one of the last mineral reserves on a global scale with one of the largest external debts in the world explains the creation in 1980 of the Great Carajás Project (Programa Grande Carajás/PGC), structured on the basis of a policy of progressive denationalisation. The PGC covers an area of approximately 900,000 sq km (11.6 per cent of the country) and investments in the order of US\$ 62 billion were project period of 10 years (1981-1990) with an injection of US\$ 1.8 billion of foreign investment by 1988 (Hall, 1991.) The project had as its nucleus the extraction and refining of minerals mainly high-grade iron one (following the creation of seven industrial poles) although it had also envisaged investments in livestock and arable farming and agroforestry.

Such a mega-programme was seen as promoting the image of Brazil as a country with a potential for development based on the existence of abundant raw materials and energy sources.

Apart from its biodiversity (both vegetable and animal) and its mineral wealth, Amazônia is also seen as an important source of energy resources. According to Benchimol (1989), the hydroelectric potential of the region is estimated at nearly 100,000 MW, or 45 per cent of Brazilian potential. Sixty three river dams with a water surface of approximately 100,000 square km are projected. The expansion planned envisages thirteen hydro-electric complexes by year 2000 and another twenty-three in the period 2001 to 2010. This kind of unilateral (economic) vision could also induce to a serious ecological problems for the Amazonian ecosystem.

According to Repetto (1988) noted by Margulis and Reis (1990), the stock of broad-leafed timber in Amazônia is estimated to be 48 to 78 billion cubic meter with a market value of as much as US\$ 1.7 trillion dollar (at 1984 prices.)

In the Brazilian and international contexts, the Amazonian region is seen not only to be valuable because of its wealth of natural resources, but also because of the existence of a transport and energy infra-structure which the State has created, in addition to offering fiscal advantages, over the last two decades in particular. In this sense, Amazônia might be better defined as an investment frontier on both a national and international level.

### 3.3. THE APPROPRIATION OF THE FRONTIER: THE CONCEPT

The English term 'frontier' was popularised by Turner (1893) in the last century in his analysis of territorial expansion in North America and, therefore, referred for the most part to that particular situation. It was certainly extended to include Latin America, but there it was applied 'to the phenomenon of the rapid disappearance of the native forest, replaced in the majority of cases by slash and burn agriculture, [and] by extensive cattle-ranching ... as forms of space consumption' (Aubertin and Lena, 1988: 90.)

The situation on the Amazonian frontier cannot, however, be compared with what happened in the nineteenth century in the USA (the homesteader movement) or with Southern Brazil (immigration from Europe), nor with the pioneering movements of the twentieth century in the Southern and Central regions of Brazil. It has its own form, its own dynamic. 'The specific nature of the spatial scale is inherent to the temporal; the frontier has a different time to that of the rest of the country, it is more accelerated' (Becker, 1990.)

There have been other frontiers on the history of Brazil, which were equally linked to the question of population and investment. According to Machado (1987), the *sertão* (back lands) of the eighteenth century, the *zona de colonização* (colonial zone) of the nineteenth and the *zona pioneira* (pioneer zone) of the twentieth all represent different terminologies for the same notion, that of the *espaços vazios* (empty spaces.) Furthermore, as Martine (1989) pointed out, Amazônia could be seen as a demographic frontier according to a long run perspective of net interstate migration flows. This view considers that in Brazil there has been an 'early frontier' (the North eastern and the South eastern regions of the country), a 'previous frontier' (the states of Paraná, Mato Grosso do Sul and Maranhão) and the current 'Amazonian frontier' (represented by the states of Amazonas, Acre, Amapá, Pará, Rondônia, Roraima and Mato Grosso.)

However, what characterises the present Amazonian frontier is its rate of urbanisation, the immense amount of investment in the infrastructure undertaken by the

State and the multiplicity of its uses. 'In the past, settlement and investment have been linked to agriculture or mining. The frontier of the end of the twentieth century is multifaceted: cattle ranching, timber, arable farming and mining for both the internal and external markets' (Machado, 1987.)

The Amazonian frontier offers a highly varied pattern of occupation, whether in regard to its socio-economic forms or its spatial pattern. The frontier, according to Machado (1987:197), is not continuous but, rather, shows a patchy geographical configuration. The occupied areas are far apart, advancing at different rates and frequently follow divergent paths. Only two areas exist which exhibit traces of structuring, Southern Pará in the east and Rondônia in the south-west. Even in these areas, settlement is irregular and heterogeneous.

One aspect that should be discussed is the fact that, generally, this frontier occupation is understood to be the process of occupying a space which is considered to be vacant. 'This emptiness may be demographic, economic or legalistic' (Ferreira, 1988.) Thus the ideological conception of the empty spaces of Amazônia denies the existence of previous social organisation like those of the indigenous and rubber tappers' cultures. In a similar vein, the *terras devolutas* (unclaimed public lands) were considered to be unoccupied lands as the occupants -Indians and other forest dwellers- had no official title.

Another view, as noted by Aubertin and Lena (1988), is that the frontier should offer new perspectives for the entire country: economic growth, a solution to social problems, territorial domination in a nationalistic sense, etc... According to this view, the frontier represents an escape-valve for social tensions and emerging conflicts in other areas of the country.

When, for various geo-political, economic or demographic reasons it becomes necessary for the State to relocate large populations or attract private capital, it does so by manipulating the so-called 'frontier symbolism', motivating support through propaganda campaigns considering the frontier as an Eldorado to be exploited. 'The frontier is then defined as an ideological construction, a cultural trait ... in which the State's influence may be found at all levels' (Aubertin and Lena, 1988: 91.)

The question of territorial expansion, resulting from the logic of the production process, via the incorporation of new areas, thus gives rise to the pioneer movements. That is, to the establishment of a flow of migrants to new areas. These are the means by which new frontiers are opened.

According to Martins (1975) it is possible to distinguish between two means of occupying territory: 'the expansion frontier' and the 'pioneer frontier'. The 'expansion frontier' may be understood to refer the appropriation of unclaimed land by peasants and squatters to provide their own subsistence and reproduction through the family's labour. It is characterised by an absence of private land ownership (Martins, 1975) as for this sector land is not perceived as a marketable commodity but as an instrument of labour (Wagner and Mourão, 1978.) This is a surplus economy in which the exchange of products is not the principal object. It therefore contributes to capitalist accumulation in providing a cheap and plentiful labour-force and opening the way for later occupation by the economic frontier. In these terms, according to Martins (1975) the expansion frontier could be said to form part of the capitalist mode of production.

If the 'expansion frontier' corresponds to the production of surplus, the 'pioneer frontier' is characterised by the production of cash crops. It is considered to be a capitalist undertaking, as a means of incorporating the rural economy into the capitalist system, particularly through the private ownership of land (on however small a scale), by investment in land purchase, by the income which the land provides for absentee owners (through rent or sale) and by production for the market, even if this does not involve capital investment in production and does involve labour relationships which do not exhibit a typically capitalist configuration: colonists, share-cropping, joint-ownership (Martins, 1975.)

The contradiction between capital and labour, giving rise to the emergence and incitement of conflicts on the frontier. Thus, it is possible to see in *Amazônia* 'conflicts with very different origins: between labourers, small producers, squatters, Indians and entrepreneurs; between traditional landowners and modern entrepreneurs; between State and private capital; between the Brazilian people and the State and between the Church and State'(AGB/Rio,1982.) This multifaceted reality forms the basis for a better comprehension of the frontier concept in contemporary Brazilian *Amazônia*. However, although the more usual notion of a frontier may be basically linked to the conquest of new lands - whether demographically or economically - 'today, the frontier may only be understood as part of the complex and contradictory process of globalisation, the particular economies and dynamics of Nation-States which is an integral and strong part of its construction' (Becker, 1988.)

### 3.4. THE APPROPRIATION OF THE FRONTIER: THE DYNAMICS

The appropriation of Brazilian Amazônia - as a frontier area- can be perceived not only at a physical level through forest clearance taking place, but particularly through the dynamics of its socio-economic process of occupation.

The formative history of the Brazilian territory is characterised by the expansion of productive space through the incorporation of new areas into the production process. This expansion, however, 'taking different forms and with its own characteristics, imprints this territory with new forms of occupation, of production, of land-use and appropriation of space' (Ferreira, 1988:39.)

The occupation of the previous frontiers in Brazil over the centuries has been based on the demands of the external markets. It could be argued that it has been characterised by the so-called 'cyclical character of economic growth and occupation of land ... following the economic booms in different products for export to the world market, such as sugar, gold, coffee and rubber' (Foweraker, 1981:3.) The Amazonian frontier, however, expanded as a function of the necessities of accumulation which developed within the internal market (demands of domestic accumulation), which shows its current capitalist face.

The historical peculiarities of the process of occupying new lands in Amazônia was summarised by Foweraker (1981) as corresponding to the period of Brazil's most rapid rates of industrialisation and urbanisation, having its beginning at the moment when the Brazilian economy, for the first time in its history, experienced a large labour surplus. The rapid nature of the opening up and integrating of Amazônia, with a view to the occupation of territory and gaining of access to its riches, has generated a high social and ecological price.

'What is most stamped in the present situation in Amazônia is the rule of violence. Violence is part of social relations, it exists at all levels: there is violence against the Indigenous Reserves and in the expulsion of the rubber-tappers; there is the struggle for land between the ranchers and the homesteaders; there is also the population of small farmers driven from the land and resettled in worse conditions. Another form of violence which society is beginning to be aware of is the aggression against the ecosystem and natural resources: natural capital which includes the soil, is dominated by non-sustainable forms of use... and each kilometre of road opens up hundreds of hectares to speculation and predatory occupation'. (Lenna's speech, FOREST-1990.)

The principal social problems which have occurred in the Brazilian Amazônia, concomitantly with an accentuated process of destruction of the physical environment, in Hees' view (1990) are caused by the clash between two forms of spatial organisation:

the 'traditional' and the 'modern'. The traditional form of occupying Amazônia, in which different social groups live in close accord with the environment (extracting rubber, collecting nuts, fishing and hunting) has seen to be capable of maintaining the ecological balance, whilst the modern model differs from its predecessor, both in its relationship to land (in which speculative investment prevails) and in the production processes which have the massive exploitation of natural resources (timber and minerals) as one of its primary objectives.

A historical view of the crush of the previous local and regional cultures may be obtained by reference to some statistics relating to the indigenous populations of Brazil. Denevan (1976:229-230) estimated that the Amazônia Basin had a population of 5,000,000 inhabitants at the time of the first contact; 6,8 million if the peripheral areas are included. According to Salati (1987) the pressure exerted on the indigenous communities reduced them, in the course of nearly five centuries, to less than 50,000. According to Treece (1990:265) and Vidal (1991:54), 220,000 Indians still live in Brazil today (these form 180 ethnic groups with distinct languages or dialects) and approximately 60% of the total indigenous population lives in Amazônia Legal. Thus, if the current model of development continues, both the future of these communities and the continuation of the culture of the forest peoples will be seriously threatened.

### 3.5. FINAL REMARKS.

1) It is possible to conclude that, in international terms, the perception of Amazônia has been linked to its economic role as a source of raw materials (natural capital) for the North, as well as its ecological function as a regulator for the world's climate and a reservoir of rare animal and plant species. At a national level, however, the current significance of the Amazonian frontier must be considered in the light of the actions taken and the contradictions which have developed as a result within Brazilian society. This came about following its inclusion in the world capitalist system since the Second World War. For Machado (1982), Amazônia provides the backdrop for, simultaneously, economic progress and the destruction of the environment, the traditional and the new, modernisation and changes in the structure of social power.

2) A different, more realistic approach to the Brazilian Amazônia has been taken. Myths has been reconsidered: on the one hand, the earlier negative image of the forest as a green profound and generalised underdevelopment; and on the other, the

fantastic vision of a tropical paradise to be explored. In the same way, it is necessary to recognise that Amazônia is not only timber, minerals, water, land, rare animals, plants; Amazônia is primarily people. Amazônia has to be perceived in the context of the social and economic transformations taking place in the country. It should be analysed as an area of the country where the contradictions inherent in Brazilian society find expression in the most clear and overt form.

3) At the economic level it is important to remember that the recent model of development in Brazilian Amazônia has its emphasis in the capitalist occupation of space. According to Lénna (1990), the capitalist forms of production obtain their profits through the extensive and massive use of the natural capital, which permits them to make the maximum reduction in their costs. This means patterns of occupation associated with the expansion of great cattle-raising ranches and mineral and timber extraction, to the detriment of small rural producers (colonists) and local extractive populations.



## CHAPTER 4

### MOBILITY OF RURAL SMALLHOLDERS IN THE EAST AMAZONIAN FRONTIER: THE CASE OF PRE-AMAZÔNIA MARANHENSE

#### 4.1. INTRODUCTION

The principal objective of this chapter is to analyse the growing mobility of the population of peasant farmers in Brazilian Amazônia. In general terms, this mobility is the consequence of the expansion of monopolistic capitalism in Brazil from the 1960s onwards. This general process is expressed regionally through secondary processes.

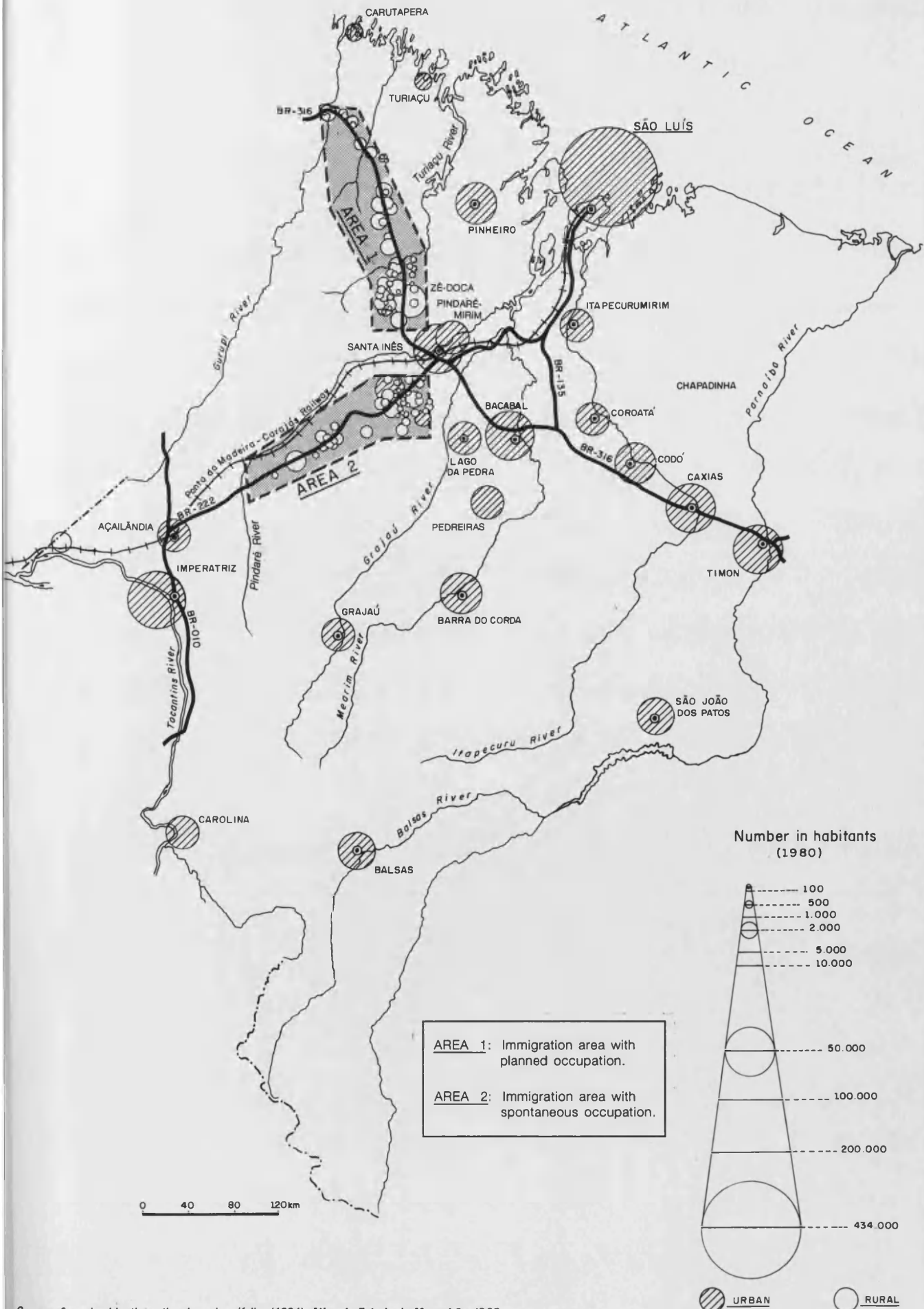
This chapter attempts to identify the origins of the mobility of this population within the local and regional process by which capitalist enterprise was installed. It takes as an case study a region which is today no longer on the frontier, but one degree behind it: Pre-Amazônia Maranhense.

This chapter also sets out to show how capitalist process of appropriation of frontier spaces is reproduced, successively and rapidly in the new regions, and to identify the role of the State in this reproduction.

Despite the fact that capitalist expansion in Brazilian Amazônia has developed through common mechanisms, there are specificities in relation to the various demographic categories existing in the different regions of the frontier. In the case of Pre-Amazônia Maranhense, the peasant farmer population was studied both in regions of directed colonisation and in regions of spontaneous occupation (see Figure 4 on research areas), both being part of the governmental programme for populating Maranhão from the 1960s onwards.

The choice of Pre-Amazônia as the object of study, was the result of its location in Maranhão, a state characterised by the historical mobility of its population of small rural producers. Ever since the 1920s, this state has been seen as a region of transition between the dry, overpopulated Northeast Region and humid, under populated Amazônia. For decades, successive flows of migrants passed through Maranhão, expelled from their lands of origin by the droughts and by the growing concentration of land; they sought the fertile Maranhão valleys from Itapecuru, Mearim, Pindaré, Grajau and Turiaçu rivers (see Figure 4), which were synonymous with 'free lands', government land there for the taking.

Figure 4: RESEARCH AREAS IN MARANHÃO STATE (1983-84)



Source: Organised by the author based on Keller (1984), *Atlas do Estado do Maranhão*. IBGE

According to Musumeci (1988), the expression 'free land' covers land belonging to the state, free, without title, in contrast to 'owned land'. In certain contexts it can also refer to unfenced land, land not seeded with grass and not subject to leasing (payment of rental, sharecropping or any other form of land tribute) independent of its true legal status.

In the 1970s a large proportion of these peasants, who had not managed to find land to settle, continued on their trek westwards to Pre-Amazônia, crossing over the state boundary towards western Amazônia. Many still sought land<sup>9</sup> to plant their crops, others joined the mineral prospection rush<sup>10</sup> and yet others found temporary work on the big cattle ranches or on public infrastructure projects (such as laying the federal motorways, building the Tucuruí hydroelectric plant or the Carajás Railway.) The main routes taken by the migrant populations in their moves westwards were the BR-316 motorway and the BR-222, both of which cut across Pre-Amazônia Maranhense and along which both the researched areas (directed occupation and spontaneous occupation) are located (Figure 4.)

This chapter examines the official rhetoric of colonisation policy, the governmental mechanisms that promoted the recent occupation of the land of Pre-Amazônia Maranhense. The second item is the mobility, both geographical and occupational, of the peasant farmers in their strategies of survival.

As I shall show, there are contradictions between the governmental propaganda for land distribution (colonisation programme) and the reality of the small peasants, that is, their increasing mobility.

#### 4.2 THE POLITICS OF COLONISATION FOR BRAZILIAN AMAZÔNIA: THE RHETORIC AND THE REALITY

During the recent process of Amazonian occupation, consolidated from the 1970s onwards, the colonisation schemes - both public and private - 'have been a major force behind social and environmental change' (Moran, 1990:70.) The official line taken by the Government to directed colonisation, was to define it in a very broad manner as 'the

<sup>9</sup> According to Velho (1972), 80 % of the heads of families living in 1969 in the River Araguaia and River Tocantins valleys in Pará state, were migrants from Maranhão state.

<sup>10</sup> According to Becker, O. (1989) the study of temporary migration to the Serra Pelada open cast gold mine, in Pará state, showed that 40.3 % of 'garimpeiros' (miners), who had worked there in the period from 1984-86, came from agricultural areas of Maranhão state.

process of populating preceded by governmental or private planning' (Tavares, 1972:25.) Colonisation under a state aegis, was justified by both political motives (the necessity for territorial occupation of Amazônia in order to protect the Brazilian borders) and by socio-economic motives (concerns for social justice, such as access to land, employment and meeting the demand for food staples.) Thus, the State's given aim for the establishment of the Institute of Colonisation and Agrarian Reform (INCRA) was to create conditions for the 'incorporation into the market economy, of large sectors of the population previously lost in the subsistence economy, condemned to technological stagnation and the perpetuation of a social drama' (BRASIL, 1970:1.)

Based on the Plan for National Integration (PIN), the Brazilian state thus set about reoccupying the Amazonian frontier. Directed colonisation was promoted on a large scale, especially along the federal motorways which were being built to connect the Northern region with the rest of the country. The Transamazon Motorway Colonisation Scheme, set up in 1971, was the most ambitious example of this public occupation strategy, while the Alto Turi Project in Pre-Amazônia Maranhense, entrusted to the Northeastern Colonisation Company (COLONE) in 1972, represented the largest private colonisation enterprise undertaken in Brazilian Amazônia.

According to the Brazilian Ministry of Agriculture (1972), noted by Moran (1990:71), the Transamazonica plan embodied the following aims: the construction of 5,400 kilometres of motorway through largely uncharted territory; the settlement of 100,000 families during the first five years along a radius of 20 km side of the motorway; production of a surplus of rice and beans to replace the production of Rio Grande do Sul state which had been substituted by soybeans grown for export, and the reduction of the pressure for agrarian reform in regions with an existing landless population.

This form of appropriation of frontier land was the ideal solution for the State. This was because, on one hand, such appropriation provided a temporary solution to the growing problems of unemployment and lack of land for the small farmer, especially in the Northeast Region. In addition, on the other this allowed the government to undertake settlement in Amazônia (where large expanses of government land needed to be occupied for reasons of national security) without having to confront the political problems involved in tackling the land tenure question in other regions. This meant that it was no longer necessary to carry out agrarian reform, which would have been more costly for the government. directed colonisation was therefore being legitimised

because, by stimulating the removal of excess population in the Northeast, it also contributed to solving the problem of unemployment in the Region, alleviating the consequent social tensions which, at the time, were a serious national concern.

The government rhetoric on its intentions regarding the colonisation promoted during the 1970s 'preached measures which would apparently solve the contradictions inherent in the expansion of capitalism in Brazil, in respect of the excluding effects that this phenomenon had been having on the labour force' (Arcangeli,1982:9.)

Historically, the Brazilian model of import substitution adopted by the government from the 1950s onwards, was aimed at the creation of an urban-industrial paradigm. It was implanted through mechanisms of centralisation and economic concentration, was directed largely to the South-eastern region of the country and was consolidated during the 1960s. This industrial policy not only weakened the regional farming oligarchies, but also deprived large sectors of the population (the poorest) of the chance of a job or access to land. This was the wider context of the expansion of capitalism in Brazil, into which the colonisation policy was inserted. The policy would organise and steer the 'disordered' migratory flows of displaced small farmers, channelling them towards the 'empty spaces' of the frontier.

The evaluation of the official program of colonisation, which take place in the 1970s, almost always as part of an economics-driven calculation (based on the earnings and/or productivity of the settlers) shows the failure of these projects. The problems of directed colonisation gradually became officially recognised but were largely explained by technical factors, such as the inadequate choice of regions, administrative discontinuity or technical inadequacy in the planning of the financial and human resources necessary for the execution of projects.

In the establishment of colonisation projects, there were problems of various sorts: in relation to the misplacement of small producers on the land<sup>11</sup>; in relation to the misuse or the continual delays in the disbursement of bank loans allocated to small farmers and, in general, the banks' failure to take into account climatic constraints faced by the colonists which affected the repayment of their loans.

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<sup>11</sup> This was caused both by the lack of previous research into the regions to be colonized, settling families anywhere along the motorways, and as the result of incorrect extrapolation of maps at much higher levels of aggregation which led to distorted readings of reality. For example, problems arose from the mistake of taking information on natural resources such as soil and water from maps drawn to one scale (1:100,000) and applying them on a different scale (1:10,000) for the colonisation plots. See Moran (1990:74) on the subject.

In relation to the misuse of financial resources, in a large number of cases, the settlers used bank loans for clearing forested land. Such behaviour was based on the fact that under the current model of occupation, cleared land gained a value, becoming a marketable commodity while forest had no market value.

The environmental question was another important aspect neglected by the Amazonian colonisation policies. According to Moran (1990), the absence of environmental surveys before project implementation has been one of the persistent problems plaguing the settlement of farmers in the humid tropics.

‘While the government commissioned (environmental) studies as soon as it announced the PIN, it did not allow sufficient time for the results of these studies to influence project implementation. For example, the first approximation of the soils along the Transamazon Motorway up to Itaituba (in Pará state) did not appear until 1972 by which time the road had already reached Itaituba. The report on the soils from Itaituba to Rio Branco (in Acre state) did not appear until 1974 when the road was nearly completed (IPEA, 1974.) In both cases the data became available in preliminary form too late to affect policy ... it was reported that the soils from Itaituba to Rio Branco were too poor to support small scale agriculture and plans to settle the road margins were scrapped’ (Moran, 1990:72.)

At the same time, the fact that large contingents of colonists did not remain on their land and the consequent degradation of the regions occupied by the settlers was frequently attributed to the ‘itinerant nature’ of the peasant farmer, who tended to migrate perennially in search of more fertile forest land, using rudimentary farming techniques based on the indigenous system of *coivara* (slash and burn), which damaged soils. Thus, the small farmer was considered an agent of ‘depredation’ of nature while geographical mobility was seen as a spontaneous phenomenon because it represented a characteristic of the small farmer.

However, the degradation of the Amazônia forest had been underway for some time as a result of ranching. This had become more intense from 1966 onwards, with the creation of the Superintendence for the Development of the Amazônia (SUDAM.)

‘It must be pointed out that the so-called ‘ranching front’ had already begun to move into the Amazon before the inauguration of SUDAM’s incentives programme (1967-71.) SUDAM’s activities, however, accelerated the process’ (Bakx, 1987:533.)

Thus, in a period of only 5 years after the launching of the colonisation policy, which at the time was seen as a solution for the landless and for social conflicts in the Northeast of the country, a drastic change occurred in governmental priorities for Amazônia, with the emphasis being redirected to the large ranching projects.

'Official statements of the period changed from accentuating Amazônia as the ideal environment for peasant farmers to emphasising the need to protect the Amazonian ecosystem from their predatory activity, the implication being that large-scale ranching and mineral projects do not do this' (Cardoso and Muller,1977:158)

The Geisel government, which took office in 1974, accepted the then widely accepted opinion that previous experiences of both spontaneous colonisation (along the Belém-Brasília motorway, in the 1960s) and governmental colonisation (along the Transamazonica motorway, at the beginning of the 1970s) had failed. It redirected the strategy of occupation and regional development to the north of the country, reinforcing<sup>12</sup> the policy of directed large-scale development and private colonisation projects.

A new policy of fiscal incentives and credits was then designed for Amazônia, reproducing large-scale capital investment, both national and international. The POLAMAZONIA Programme was created under the co-ordination of SUDAM, as a strategy to implement this policy focused on large-scale agricultural, mining, hydroelectric and forestry projects. Private colonisation was also considered: according to Schmink (1981, quoted by Moran, 1990:78), twenty five of such projects came into being in the second half of the 1970s, with a preference for settlement in southern Pará and Northern Mato Grosso states.

The idea that directed colonisation had failed, which from the 1970s on was widely used as an argument for the change of policy for Amazônia, is nevertheless contested by some authors such as Arcangeli (1982) and Miranda and Buainaim (1979.) Rather they claims these policies where successful when its implicit objectives are taken into account. Thus, failure or success depends on the play of interests to which they were linked: if for the settlers and the environment, colonisation was a failure, nevertheless for the interests of agricultural capital, it had succeeded.

'... agricultural production, principally of foodstuffs, increased considerably ... besides this, the infrastructure set up with the object of making viable the process of colonisation and the distribution of production, served to attract the big landowners who swallowed up the small holdings around the region of colonisation' (Miranda and Buainaim, 1979:9.)

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<sup>12</sup>The priority given the ranching and industrial sectors in detriment to colonisation in the Northern region of the country, had already been in evidence since 1966 when SUDAM was set up. This is clear from a breakdown of SUDAM's budget for the 1967-71 period: 0.1% was allocated to extractive industries, 1.4 % to colonisation, 12.1 % to social projects, 29 % to agro-ranching and industrial projects, while 57.4 % went on infrastructure such as roads, energy and the provision for other services (SUDAM, 1967:63; quoted by Bakx,1987:57.)

Besides the directed colonisation set in motion by the state was the so-called 'spontaneous' colonisation. Here the peasant farmer anticipated and went one step ahead of the official demographic front, generally as a squatter-farmer. While this type of occupation did not involve direct intervention by the State, its spontaneity is arguable.

For the agent of colonisation, the migrant small-farmer, is generally responding to changes in the relations of production in the region of origin (alterations in the use of land, introduction of labour-saving technological innovations, etc.,) According to Hebette (1979:143) spontaneous colonisation does not include that characteristic of spontaneity that can be understood as absence of necessity, because the small farmer leaves his/her land under pressure of different emergencies and urgencies. However, whether the peasant farmers are agents of spontaneous colonisation, directed or subject to any other category in which one would wish to include them, they are not immune to the actions of the State.

*'In fact, there is a characteristic common to all the small colonists: that of being directly or indirectly dominated and controlled by the State, through its economic and social policies, which are normally put into action for the satisfaction of the interests of capital whether this be productive or mercantile' (Arcangeli, 1982:13.)*

This 'spontaneous' colonisation, undertaken by peasant farmers in the frontier regions, in truth expresses a mobility forced upon them by the need for greater returns on capital. It is the result of the dislocation of those sectors of the population who have become surplus, and is constantly expanded by the economic model in course in the country; it is the so-called 'reserve army' of workers which moves around and temporarily occupies the 'free' lands until they become swallowed up by the arrival of other agents of the movement of capitalist expansion on the frontier.

But, for the maintenance of the economic system which reigns in the country, there is a need to control this excess population: it must not grow to the point of causing social tensions. At the same time it must be available for absorption by other sectors of the economy. On the other hand, the increase in value of capital in the frontier regions began to depend on the monopoly of land and subjection of labour. Thus, directed colonisation arose as an instrument for managing the spontaneous expansion and the localisation of the labour force:

*'In the old areas the land-tenure structure remained untouched; in the new areas, the spontaneous and directed migration flows were re-arranged in order to prepare*



infrastructure and a reserve labour force for the entrance of monopoly capital' (Arcangeli, 1982:16.)

Directed colonisation, for which the government propaganda at the beginning of the 1970s stressed the need to 'give land without men to men without land' seemed to have also served other ends. In the view of some authors, it constituted a form of 'distributing a little land so as not to have to distributed a lot' (Ianni, 1978:52); a 'counter-agrarian reform' (Arcangeli, 1982:16), in so far as it represented the suppression of the process of spontaneous occupation of Amazônia by peasant farmers; a means of seeding differentiation amongst the mass of rural farmers by 'establishing a relatively privileged class of colonists' (Velho, 1972:156), as the number of migrants that this model effectively settled was small, due to the high costs of setting up colonisation projects.

The forms used to promote capitalist occupation of the Amazonian frontier space (colonisation and large ranching projects) may initially have seemed antagonistic in their aims. However, they soon showed themselves to be complementary in economic terms. The 'failure' of the former contributed to the development of forms of waged work for the latter. This was an indispensable element in the implantation of agricultural capital and for the consolidation of the urban network in Amazônia.

In the following section of the chapter I will present the principal characteristics of the occupation of lands in the state of Maranhão and, in particular, Pre-Amazônia Maranhense, looking at both spontaneous and directed forms of settlement.

#### 4.3. THE PROCESS OF OCCUPATION OF PRE-AMAZÔNIA MARANHENSE

Pre-Amazônia Maranhense<sup>13</sup>, found on the eastern rim of the state and presenting an original vegetation of forest (Figure 5) was, from the 1960s onwards, the main destination for the successive fronts of peasant farmers leaving regions of

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<sup>13</sup> The vegetation of Maranhão (Figure 4.2) varies between regions of grassland to dense forest, reflecting the climatic transition from the semi-arid climate of the Northeastern Region to the very humid climate of the Northern Region. Nevertheless, the Northeastern portion of the state, known as Pre-Amazônia Maranhense, between the Rio Gurupi and the Rio Mearim, is covered by forest. According to Rizzini (1979) two distinct types of forest are to be found: dense forest with trees between 15 to 50 metres high, and open forest with smaller trees. In certain parts, principally in the Gurupi valley, the forest is at its most luxuriant, with species typically found in the Amazon such as the rubber tree (*Hevea brasiliensis*) and the Brazil nut tree (*Bertholletia excelsa*). In other regions there is an abundance of palms, in particular the habassu (*Orbignya martiana*), found widely dispersed, and in particular along the margins of the Amazonian-tupe forest, in the regions of transition to the cerrado (savanna.) This is found in the east and southeast of Maranhão, a mixed ecosystem with vegetation within a range that, on one side is open grassland and on the other, vegetation in transition to forest with scrub bush and trees interspersed with areas of grassland.

concentrated land tenure, from both the Northeastern states of Ceará and Piauí and from other regions of Maranhão itself. The occupation of forested land in the Turiaçu region in the far northeast of Maranhão, which corresponds to the area of expansion of the Alto Turi Colonisation Project, represented the latest stage of movements of demographic fronts within the state of Maranhão.

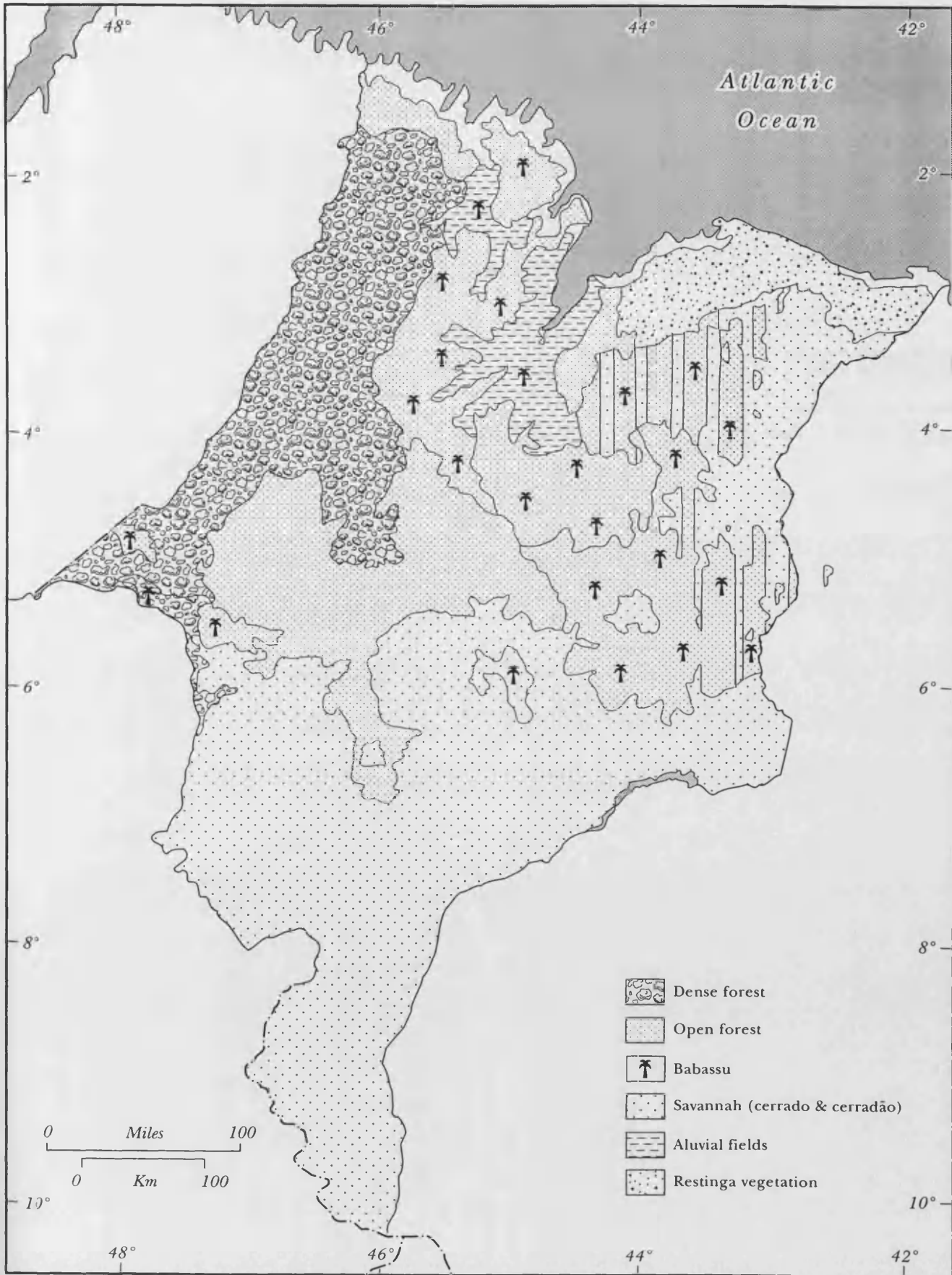
In this sense, Pre-Amazônia Maranhense had become one of the ports of entry to Amazônia, a migratory corridor through which the fronts of Northeastern and Maranhão peasant farmers travelled westwards in search of land and work.

From the point of view of spatial organisation, Pre-Amazônia was characterised by the rapid growth, along access roads, of new rural groupings -the *povoados* and the *centros* – typical forms of concentrated rural habitat developed on the rims of the forest. The *centros* in particular are the expression of a form of spontaneous settlement developed by the fronts of small farmers. Keller (1984:37) pointed out the notable spatial correlation between this type of rural habitat grouping and the Northeastern forest occupation region based on a rice and babassu economy.

It is interesting to note the relationship between the process of deforestation and the appearance of the babassu palm forest, secondary vegetation which is the product of the devastation of the Amazonian forest. According to Rizzini (1979), in the three months following forest burnings, the nuts germinate and the young palms (called *pindovas* in the region) grow vigorously. For Kulmann (1953), the babassu only grows in dense clumps in specific soil conditions or when the forest is destroyed in order to plant crops. It can thus be said that the babassu is the result of deforestation and in Maranhão is the physical expression of the advance of fronts of expansion on original forest (Figure 5.)

The growth in regions where babassu nuts are gathered occurred from the 1950s onwards when the occupation of Maranhão accelerated with the migratory flows towards the valleys of Itapecuru, Munim, Mearim and Pindaré. According to Keller (1984), while on the one hand this type of occupation resulted in deforestation, on the other it induced the appearance of secondary babassu forests and, consequently, the development of the extractive babassu production, since then a complementary activity for the peasant farmer. This palm represents an important ‘subsidy from nature’ in that it provides an alternative source of earnings for the peasant farmer. The importance of the small-scale extractive sector to impoverished households in rural areas of tropical

VEGETATION OF MARANHÃO STATE. 1984



SOURCE: Compiled by the present author based on Keller (1985), IBGE. *Atlas do Estado do Maranhão*.

Brazil is stressed by Hecht, Anderson and May (1988), using the example of the roles of successional palm forests of babassu in the ecosystemic and socioeconomic operation of shifting cultivation societies in the state of Maranhão. They point out that extractive activities are important as inputs to household reproduction, and provide a crucial source of cash income. The other point they make is that extraction (especially in the case of babassu) is a major source of cash earnings for women, who are often denied access to alternative means of income in rural areas.

'Successional forests also provided important subsidies in the form of market and, perhaps more importantly, subsistence products. The latter have an especially critical role where limited access to other resources, poor terms of trade for agricultural products, limited wage opportunities and low wage levels would make survival almost impossible'. (Hecht, Anderson and May, 1988:26)

The extractive activity of babassu played a significant role in the recent occupation process in Maranhão, as together with rice-growing, it constitutes the economic base of the small producer.

It is important to present an overview of the progression of the occupation of the Maranhão valleys, as this expresses the origin of the intense mobility of small peasant farmers in their incessant quest for land to cultivate.

'The semi-arid regions were, from the 19th century onwards, regions of population expulsion, but this became more pronounced with the collapse of the Amazon rubber boom (1920), when the migrants from the Northeast halted their westwards trek at the fringes of the Amazon. The progression was fast: 1940, Pedreiras; 1950, Bacabal; 1960, Alto Turi' (Droulers and Maury, 1981:1036.)

When, in the 1920s, the rubber boom was declining in the forests of the western Amazônia, which until then had been the principal destination for Northeastern migrants, the migratory flow of north-eastern peasant farmers sought an alternative in the lands of Maranhão. They occupied the Itapecuru River valley in order to gather babassu nuts at a time in which this was Maranhão's main export crop. In the 1940s and 1950s, harvesting of the babassu nut increased and industrial plants for the extraction of babassu oil were built in Maranhão.

It was at this time, at the beginning of the 1950s, that considerable flows of small farmers arrived in the Mearim region and, setting off from the regional pioneer centre of Pedreiras, started their march north-westwards. The town of Bacabal grew up, the second pioneer town of the region from which the advance of the demographic front continued towards the valley of Grajaú (see Figure 4.)

With the improvement of communications in the 1950s, as a result of State policy, access to the urban markets of the Northeast became easier. This led the state of Maranhão to expand the planting of temporary crops, especially rice (followed by beans, corn and manioc), and become an important supplier of food staples in the domestic market. Its place in the national division of labour, beginning in 1940 and consolidated in the following decade, was of a production organisation based on small family economic units. This was made possible by a productive organisation of small-merchant petty commodity character, in charge of the migrants.

Despite not expressing capitalist logic of production, this petty commodity family activity served the national interest perfectly by producing low cost food staples, indispensable for the reproduction of the urban-industrial labour force, both in the Northeast and in other parts of the country. For such an end, extensive stretches of government land were occupied, in a process of non typically-capitalist expansion.

The production of foodstuffs, therefore, was being carried out by squatter farmers (*posseiros*), in units of production which were not typically capitalist in that 'these economic agents, while not conditioning their productive activity to the obtaining of a businessman's standard profits, produced while only partially remunerating their own labour' (Arcangeli, 1982:67.) This fact is explained by Silva (1981:7) when he stated that the fundamental point to be stressed is that, while productivity of labour is less in this primitive agriculture than in technically advanced production, it allows production at lower monetary costs in that it does not remunerate the labour of family members.

The Maranhão frontier region was thus fulfilling its role in the absorption of excess population from the Northeast by preventing social tensions from worsening and producing food staples at low prices for the reproduction of the labour force needed for Brazilian urban-industrial development. This type of spontaneous occupation of the Maranhão valleys, where the forests were felled to make way for plantations, was carried out in a way that was itinerant, and predatory of natural resources. This model, characterised by the mobility of small producers allied to the rapid degradation of soils, was indirectly encouraged by the state through the increasing demand for the production of food crops at low cost for the domestic market.

It was during this period (1950-60) that fronts of peasant farmers set off from the city of Santa Inês in the Pindaré Valley advancing in two directions: to the north-west, along the BR-316 motorway, to reach the Alto Turi region (today the COLONE area) and south-west, along the BR-222, to the region of the Maranhense Colonisation

Company (COMARCO) in the direction of Santa Luzia municipality. It should be noted that these migrants had come both from the traditional small-farming regions in East Maranhão (the Itapecuru and Parnaíba valleys) and from areas around Mearim and Grajaú, where the forest had been cleared less than ten years before.

In these regions the wholesale expulsion of peasant farmers had already begun as the ranchers moved in, setting their cattle on the smallholdings, and causing serious land conflicts. Cattle ranching, which up until then had been secondary to food crops, had started to encroach upon the plantations.

From the 1960s onwards, and particularly in the 1970s, land values began to rise along the frontier: as a result, the practice of land grabbing worsened in the new regions. Up until then, the occupation of forest regions in Maranhão had been carried out by small farmers without concern to the ownership of the plots they cultivated; for them it was more important to have 'land to work' than land ownership. Such a situation was also justified by the absence, until 1969, of a law regulating the land tenure question.

From then on, private ownership of the land and its monopoly began to play a fundamental role in the expansion of capitalism in the new regions of the frontier.

*'The legalisation of land ownership in Maranhão only became possible after Law 2979 of 1969 which legislated over lands under the dominion of the state. In previous decades when there was no legal control, occupation had been characterised by the successive advance of fronts of peasant farmers who, in the succeeding stage, were expelled, usually violently, by the new activity of agro-ranching, represented by farmers and businessmen from outside the state. Thus, the 'free lands' (occupied by small squatter farmers) were transformed into 'owned land' (occupied by the big farmers), in the majority of cases through grilagem mechanism (dishonest land registration.) From then on an intense process of population mobility was unleashed' (Keller, 1984:37.)*

This land law authorised the government to sell land held by the state to private companies through the creation of 'incorporations'. There was no limit to the number of partners in these incorporations and each partner could apply for up to 3,000 hectares. With this facility for buying land previously under government ownership, the way was paved for vast land-holdings.

The stepping up of mobility in tandem with the widespread discontent amongst the peasant farmer population led to the emergence of social movements. The state then set up the Superintendence for the Development of the Northeast (SUDENE), in December, 1959, with the aim of creating a policy for the region which would integrate

the Northeast economically with the rest of the country and control the advancing ranks of peasant farmers.

In this period (1962), the Pilot Project for the Colonisation of Alto Turi (PCAT) was drawn up, with the intention of making possible the Maranhão Population Project, defined by the SUDENE's First Master Plan. Its aims were grandiose: to settle 40,000 landless families on 3,000,000 hectares of land within five years. From then on dramatic migratory flows were set in motion in the direction of Pre-Amazônia Maranhense.

However, in 1968, because of the financial difficulties encountered in the implementation of this project, SUDENE redefined its colonisation model. A new model, designed by FAO, was adopted and IBRD made the Brazilian Government a loan of US\$ 6.7 million to pay for the infrastructure. It was thus that the Northeastern Colonisation Company (COLONE) came into being, as a mixed capital company with the SUDENE, the state of Maranhão (which gave the land) and the Banco do Nordeste as shareholders. But, of the 3,000,000 hectares in the original plan, only 939,000 hectares remained for the colonisation project <sup>14</sup>; the remaining two thirds of the land was allocated to large agro-ranching projects and both SUDENE and SUDAM set up tax incentive programme to put them into effect.

The small farmer, however, was excluded from these benefits in that the properties which qualified for the SUDENE resources 'measured between 6,500 and 12,500 hectares in the region of the frontier ... and among the projects approved in the primary sector, 64% were ranches; the utilisation of land for the total of these projects showed that 64% of the area was used for grazing, 8% to farming and 28% remained untouched' (Carneiro, 1980:146.) These figures show that capitalist expansion in the northeastern countryside, and the frontier regions of Pre-Amazônia, favoured ranching to the detriment of crop-farming.

From 1974 onwards, with policies favouring big logging companies and agro-ranching companies, and with the incentives of the Amazonian Development Superintendence (SUDAM), the ranching front expanded on the forested lands along the BR-222 motorway (in the municipalities of Santa Luzia and Grajau in the Pindaré Valley) and on the lands of the Maranhão Colonisation and Land Company

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<sup>14</sup> The current COLONE area (939,000 hectares) covers part of nine municipalities in the Northeastern region of Maranhão: Cândido Mendes, Carutapera, Godofredo Viana, Luis Domingues, Monção, Penalva, Pinheiro, Santa Helena and Turiaçu.

(COTERMA)<sup>15</sup>, situated to the east of the BR-316 motorway in areas bordering on COLONE lands, especially in the municipality of Turiaçu. Large properties were acquired by entrepreneurs from the Centre-South (the states of São Paulo, Minas Gerais, Espírito Santo, Goiás and Paraná.)

Of the 2,100,000 hectares held by COTERMA, a part (400,000 hectares), called Gleba Maracaçumé, bordered on COLONE lands. In 1984, 300,000 hectares of the total were occupied by 15 large-scale agro-ranching and logging projects. The remaining 100,000 hectares consisted of areas of legalisation of tenure of existing occupation, small farm plots of spontaneous settlement. The other portion of COTERMA lands, called Gleba Buriticupu (1,700,000 ha) is divided into three sub-areas: the first, consisting of 885,000 hectares, is occupied by 40 large agro-ranching enterprises; the second area (600,000 hectares) is given over to legalisation of existing occupations by small farmers, and the last part (215,000 hectares) is the Buriticupu Colonisation Project. The latter Project for small farmers was set up by COTERMA (late ITERMA) in 1977, bordering on the BR-222 motorway in the municipality of Santa Luzia (see Figure 6 on agrarian organisation of Maranhão state.)

As for the area taken over by COLONE, this was divided into three sub-areas in order to set up the colonisation project. Sub-areas I and II (490,000 hectares)<sup>16</sup> were the first to be established, offering small plots of 20 and 50 hectares, respectively. Area III (450,000 hectares) was left aside, without previous demarcation, as COLONE'S 'area of expansion'. It became a focus of land conflicts because it was the last forested area in the state and was disputed by small, medium and big squatters in a spontaneous settlement which began in the mid-1960s and increased in the 1970s.

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<sup>15</sup> COTERMA, the institution which executes land policy and colonisation in the state, was set up following Law 4.036 of 1979, taking on new objectives and changing its name from COMARCO (Maranhão Colonisation Company), which had been set up under the aegis of Law 3.230 of 1971.)

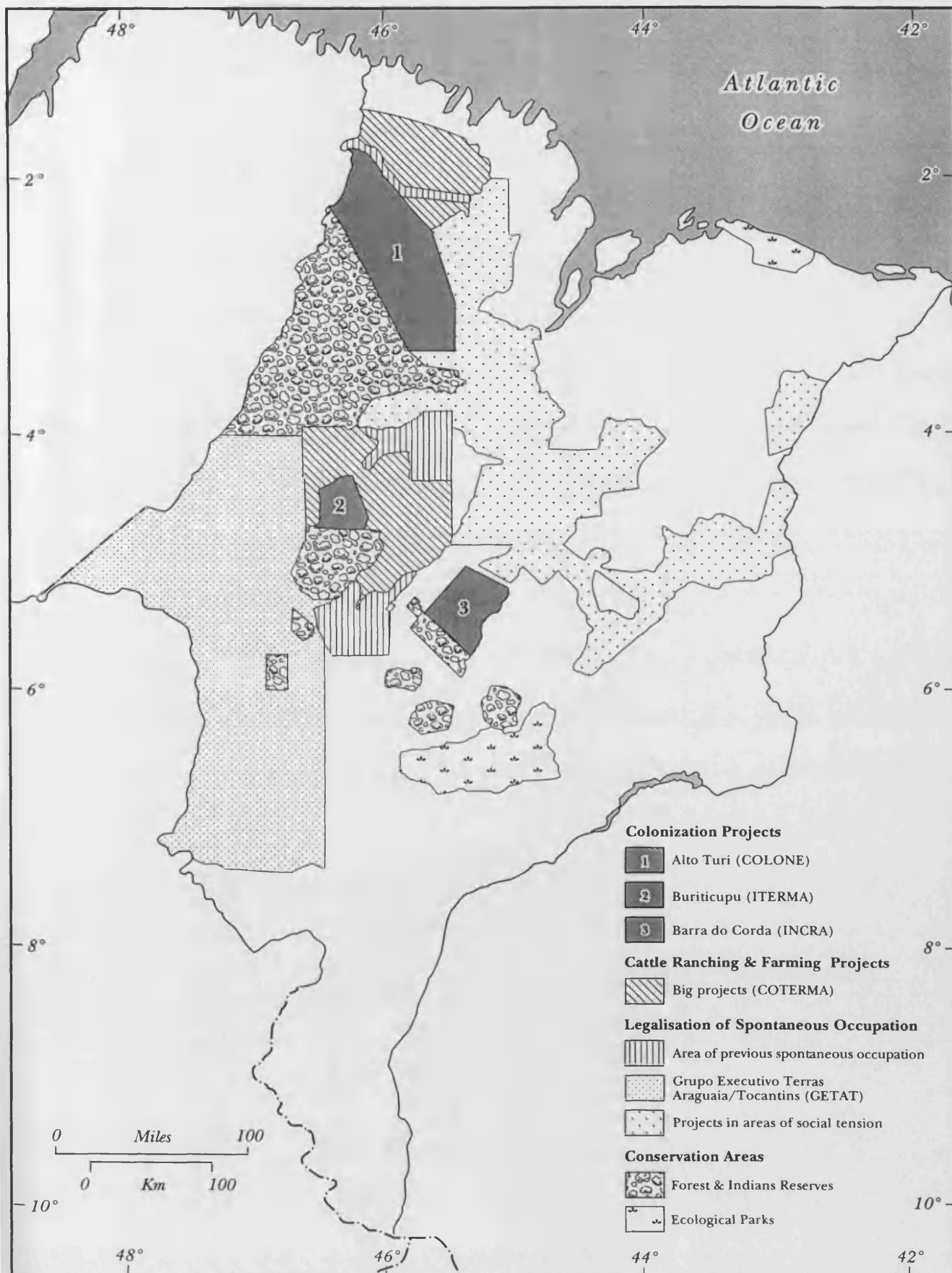
The total area of COTERMA is 2,100,000 hectares, incorporated into the net capital of the company in 1973. It comprises two holdings: Maracaçumé (400,000 ha) and Buriticupu (1,700,000 ha) both localized in Pre-Amazônia. Gleba Maracaçumé comprises the northern part of Carutapera, Luis Domingues, Godofredo Viana, Cândido Mendes and Turiaçu. Gleba Buriticupu is located in the municipalities of Santa Luzia, Bom Jardim, Amarante do Maranhão, Grajau, Paulo Ramos, Altamira do Maranhão, Santa Inês and Pindaré-Mirim.

<sup>16</sup> Sub-area I consists of two types of settlements. The first form, in which SUDENE started its direct colonisation in 1962, was termed a *Quadro* (block) and consisted of a rectangular area grouping 200 families, each with a plot of 20 hectares and a one-hectare lot in the centre for services. The second, termed a *Nucleos* consisted of a circular community model, with 50 plots of 50 hectares each radiating out from the centre. In 1983 there were 14 units of this type settling 650 families. In sub-area II, where the second stage of occupation took place, a model of agricultural communities in rectangular lots distributed linearly was adopted. These were known as *Quadrads* (squares), each supporting 48 families in lots of 50 hectares. In 1983, 44 units were in the process of being installed, settling 2,100 families.



FIGURE 6

## AGRARIAN ORGANISATION IN MARANHÃO STATE. 1984.



SOURCE: Compiled by the present author based on Keller (1985), IBGE. *Atlas do Estado do Maranhão*.

COLONE's original aim was to settle 5,200 families between 1973 and 1976; 3,000 families in planned lots and 2,200 squatter families (who were already resident on the land as a result of the spontaneous occupation of the 1960s) would have their holdings officially registered. In 1978, according to a COLONE report, a total of 3,500 families had been settled, of whom 2,500 were on colony lots and only 1,000 through the process of legalisation of land tenure.

The problem of legalising land tenure, however, had been there since the beginning. According to COLONE in 1974, 12.93% of the designated area was already occupied by 37 large holdings, together with 3,000 smallholdings of less than 5 hectares each occupied by tiny subsistence farms. The 3,500 families settled on the standard 50 hectare plots represented only 40 % of the total land area. In order to settle all the families planned, it became necessary to expropriate holdings set up before the advent of COLONE, which would have involved spending on a scale which was not available. At the same time, according to Droulers and Maury (1981), the building of access roads, which took up 77% of the IBRD loan, accelerated the invasion of lands by migrants who continued arriving, evicted from their region of origin by the ranchers.

In 1986, according to information given by grassroots religious organisations (assessed in field research carried out by the author), there were 4,893 landless families in the COLONE project, of whom 4,187 lived in the *povoados* (villages) alongside the stretch of the BR-316 motorway, from Zé Doca to Boa Vista do Gurupi; another 2,631 landless families had settled on the margins of the farms and in villages in the municipalities of Turiaçu, Carutapera and Cândido Mendes on the edges of the COLONE project. This meant that, in 1988, in those areas, 7,524 peasant families had no access to land, more than the total number planned for settlement in the colonisation program. COLONE was thus faced with the tenure problem on one hand and, on the other, the demographic pressure of new migratory inflows. The new landless families generally settled in the form of *agregado* (aggregate), that is, joining up with people they knew, relatives or friends, to work the same lot, with no remuneration, only with the aim of temporary subsistence.

The presence of the aggregate appears to have been a characteristic of all the colonisation projects in Maranhão: Barra do Corda, Alto Turi and Buriticupu. The progressive lack of lands and work for over a decade in the migrants' areas of origin which had caused them to leave in the first place, began to be reproduced in other regions of the frontier like Pre-Amazônia, contributing to the increase in populational

mobility. A sizeable army of reserve workers was in formation to meet the needs of the expansion of new forms of capitalist production.

In the same way, in 1984 the agrarian organisation of Pre-Amazônia Maranhense (Figure 6), if analysed via the location of the different colonisation projects, displays a particular form. Those regions made up of small properties (whether of directed colonisation or legalised spontaneous occupation) were always surrounded by large agro-ranching properties. This spatial organisation, added to the fact that the colonisation policy did not provide small farmers with the basic means of living from their land, has led to a progressive rural exodus.

The 'lands without men' on the Pre-Amazônia Maranhense were now shared out in such a way that they reproduced the 'men without land' situation (highly concentrated land tenure) of the old Northeastern and Eastern Maranhão regions. One can say that alongside the vast areas of deforested land which had been transformed into 'lands of cattle', there arose a progressive concentration of landless populations who had clustered temporarily in colonisation projects or settled in the *povoados* alongside the access roads in the hope of finding work on the neighbouring properties.

Thus, from the time of their 'failure', the colonisation projects began to serve as reservoirs of potential migrant labour force, to be absorbed in waged work characteristic of other forms of frontier occupation: the big agro-ranching and logging concerns, mining prospection and public infrastructure works.

#### 4.4. MOBILITY OF THE PEASANT FARMER IN PRE-AMAZÔNIA MARANHENSE

The mobility of peasant farmers in municipalities in North-western Maranhão has been analysed using variables which demonstrate their life histories, land tenure status and employment situation. It was also possible to achieve a portrait of the stages of migration undertaken through their current residence, through information given on the migration undertaken by children who had moved on to other areas.

The analysis of the migratory routes travelled by the heads of families interviewed showed that 51.3% arrived at their current place of residence in the period 1971-84 (the majority, 27.0%, in 1975-79), while 25.2% migrated in the 1960s and 15.9% in the 1950s (table 4.1..). As to their origin, 57.8% came from Maranhão itself (Table 4.2.), especially from the micro-regions of Mearim, Baixada Ocidental

Maranhense and Itapecuru, while 35.3% were Northeasterners from the states of Piauí and Ceará.

In a similar way, it should be remembered that it was from the early 1970s onwards that the process of land concentration intensified in the rear frontier areas in the Maranhão (especially in the Mearim Valley) where, two decades earlier, large contingents of North easterners had migrated, driven from the regions of large estates in the neighbouring states of Piauí and Ceará. It should also be remembered that it was in the 1970s that the agro-ranching projects were set up in the state of Maranhão, following the establishment of SUDENE and SUDAM tax incentive and credit schemes.

The analysis of the municipality of last residence (Table 4.3) of the peasant farmers shows that 55.3% of the latest migratory moves had been within Pre-Amazônia Maranhense region itself, of which 35.5% were done among areas of the same municipality; 38.2% were from other municipalities in Maranhão and only 5.9% were interstate (from other states.) If one looks at the micro-regions of last residence we see that the principal suppliers of migrants within Pre-Amazônia Maranhense were the areas of Medio-Alto Mearim, Pindaré and Gurupi.

The mobility within Pre-Amazônia Maranhense demonstrates the difficulty that the migrants faced in settling in these parts of the frontier: ironically, these were precisely the areas chosen for the settlement of landless peasants under the Government's demographic programme.

Looking at the age of migrants on arrival (Table 4.4), we find that 56.6% were in the age groups 20-29 and 30-39, a predominantly young labour force.

The previous location of residence (Table 4.5) of the majority of migrants (88.9%) was rural, with 52.6% originating from rural areas with a dispersed population and 36.3% from villages (*povoados*), that is, rural areas with a grouped population.

If we look at the migratory routes travelled by the peasant farmers (Table 4.6) we see that 61.9% had gone from one rural region to another, showing that this was a migration where the search-for-land factor was the dominating motive. On the other hand, it is interesting to note that 13.7% of the migrants had migrated from rural area to town and back to rural areas again, showing that after leaving the country they were unable to find employment in the city and returned to farming activities.

A third route, the urban-rural, accounting for 11.2% of the flow, seems to indicate that the urban market in frontier regions was not absorbing this surplus population, obliging them to return and once more attempt life on the land for survival.

Another indicator of the mobility of these peasant farmers is that of migratory stages (Table 4.7) they had undertaken in the search for land. It was shown that 52.7% of the interviewees had already undergone four or more different migrations and 21.3% six or more migrations. If we consider the fact that this was a young population migration, mostly developed by people in the 20-39 age group, it can therefore be concluded that they generate an intense mobility

It was also possible to measure mobility within different regions of Pre-Amazônia: 37.2% had made more than one move since their arrival in this frontier region. The overall total of migratory stages shows that 60.7% were intermunicipality (among different municipalities of Maranhão state), 25.3% were intramunicipality (within the same municipality), and 14.0% interstate (originated from another state), which enables us to classify this migration as essentially intrastate and a result of the transformations occurring within the productive structure of Maranhão.

**TABLE 4.1**  
**PERCENTAGE OF SMALL RURAL PRODUCERS BY YEAR OF ARRIVAL**  
**IN THE MUNICIPALITY OF CURRENT RESIDENCE.**  
**PRE-AMAZÔNIA MARANHENSE 1983-84.**

Municipality of residence	Percentage of producers by year of arrival				
	total	1947-60	1961-70	1971-84	Without information
Pinheiro	2.61	-	0.95	1.66	-
Monção	20.38	3.08	9.24	8.06	-
<b>sub-total area I</b>	<b>22.99</b>	<b>3.08</b>	<b>10.19</b>	<b>9.72</b>	<b>0.00</b>
Turiaçu	23.95	0.71	2.37	20.62	0.24
Godofredo Viana	6.63	0.47	0.95	5.21	-
Candido Mendes	9.00	-	0.71	7.82	0.47
Carutapera	1.18	-	0.24	0.94	-
<b>sub-total area II</b>	<b>40.75</b>	<b>1.18</b>	<b>4.27</b>	<b>34.59</b>	<b>0.71</b>
Santa Luzia	15.40	2.84	2.84	9.71	-
Santa Inês	4.26	2.84	0.47	0.95	-
Pindaré Mirim	8.06	2.37	3.56	2.13	-
Altamira / MA	8.54	3.56	3.80	1.19	-
<b>sub-total area III</b>	<b>36.26</b>	<b>11.61</b>	<b>10.67</b>	<b>13.98</b>	<b>0.00</b>
<b>TOTAL</b>	<b>100.00 (N=422)</b>	<b>15.87</b>	<b>25.13</b>	<b>58.29</b>	<b>0.71</b>

SOURCE: Survey collected under the supervision of the present author in Pre-Amazônia, 1983 - 1984

Note: Area I = old directed colonisation area (1962-70)

Area II = recent directed colonisation area (1971-84)

Area III = spontaneous occupation area under process of tenure legalisation (1947-84)

TABLE 4.2.  
PERCENTAGE OF SMALL RURAL PRODUCERS BY STATE OF ORIGIN ACCORDING TO  
MUNICIPALITY OF CURRENT RESIDENCE  
PRE-AMAZÔNIA MARANHENSE 1983-84.

Municipality of residence	Percentage of producers by state of origin						
	Total	Maranhão	Piauí	Ceará	Others states of Northeast	States of Northern Region	Without information
Pinheiro	2.61	2.37	0.24	-	-	-	-
Monção	20.38	10.19	5.68	2.61	1.18	0.24	0.48
<b>sub-total area I</b>	<b>22.99</b>	<b>12.56</b>	<b>5.92</b>	<b>2.61</b>	<b>1.18</b>	<b>0.24</b>	<b>0.48</b>
Turiaçu	23.94	14.69	3.55	4.74	0.47	0.47	-
Godofredo Viana	6.63	4.98	-	0.95	-	0.71	-
Candido Mendes	9.00	5.92	1.66	0.71	-	0.47	0.24
Carutapera	1.18	0.95	-	0.24	-	-	-
<b>sub-total area II</b>	<b>40.75</b>	<b>26.54</b>	<b>5.21</b>	<b>6.64</b>	<b>0.47</b>	<b>1.65</b>	<b>0.24</b>
Santa Luzia	15.40	7.59	2.61	3.08	1.18	-	0.95
Santa Inês	4.26	2.13	0.95	1.18	-	-	-
Pindaré Mirim	8.06	4.50	2.61	0.95	-	-	-
Altamira / MA	8.54	4.50	0.95	2.61	0.47	-	-
<b>sub-total area III</b>	<b>36.26</b>	<b>18.75</b>	<b>7.12</b>	<b>7.82</b>	<b>1.65</b>	<b>-</b>	<b>0.95</b>
<b>TOTAL</b>	<b>100.00</b> N=422	<b>57.82</b>	<b>18.25</b>	<b>17.07</b>	<b>3.30</b>	<b>1.89</b>	<b>1.67</b>

SOURCE: Survey collected under the supervision of the present author in Pre-Amazônia. 1983 - 1984

TABLE 4.3.  
PERCENTAGE OF SMALL RURAL PRODUCERS BY MUNICIPALITY OF LAST RESIDENCE  
ACCORDING TO MUNICIPALITY OF CURRENT RESIDENCE  
PRE-AMAZÔNIA MARANHENSE 1983-84.

Municipality of residence	Percentage of producers by municipality of last residence						
	Total	Current municip. of residence	Other municip. Pre-Amazonia Maranhense	Other municip. of Maranhão state	Municipalities of Ceará and Piauí states	Other municipalities	Without information
Pinheiro	2.61	0.71	0.71	0.95	0.24	-	-
Monção	20.38	10.66	0.71	7.35	0.95	0.47	0.24
<b>sub-total area I</b>	<b>22.99</b>	<b>11.37</b>	<b>1.42</b>	<b>8.30</b>	<b>1.19</b>	<b>0.47</b>	<b>0.24</b>
Turiaçu	23.93	9.95	7.35	5.69	0.24	0.71	-
Godofredo Viana	6.64	2.37	2.37	1.18	0.24	0.47	-
Candido Mendes	9.00	1.42	3.56	3.00	-	0.47	0.47
Carutapera	1.18	-	0.47	0.71	-	-	-
<b>sub-total area II</b>	<b>40.75</b>	<b>13.74</b>	<b>13.75</b>	<b>10.66</b>	<b>0.48</b>	<b>1.66</b>	<b>0.47</b>
Santa Luzia	15.40	4.50	1.42	9.00	-	0.47	-
Santa Inês	4.26	1.42	0.71	1.42	0.71	-	-
Pindaré Mirim	8.06	1.42	2.37	3.79	0.47	-	-
Altamira / MA	8.54	3.08	-	4.98	0.47	-	-
<b>sub-total area III</b>	<b>36.26</b>	<b>10.43</b>	<b>4.50</b>	<b>19.19</b>	<b>1.65</b>	<b>0.47</b>	<b>0.00</b>
<b>TOTAL</b>	<b>100.00</b>	<b>35.54</b>	<b>19.67</b>	<b>38.15</b>	<b>3.32</b>	<b>2.60</b>	<b>0.71</b>

SOURCE: Survey collected under the supervision of the present author in Pre-Amazônia. 1983 - 1984

**TABLE 4.4**  
**PERCENTAGE OF SMALL PRODUCERS BY AGE ON ARRIVAL IN THE**  
**MUNICIPALITY OF CURRENT RESIDENCE**  
**PRE-AMAZÔNIA MARANHENSE 1983-84.**

Municipality of residence	Percentage of producers by age groups								
	Total	0-9 years	10-19 years	20-29 years	30-39 years	40-49 years	50-59 years	60 years and over	without information
Pinheiro	2.61	-	0.48	1.18	0.71	0.24	-	-	-
Monção	20.38	0.48	3.31	5.92	5.70	3.08	1.18	0.71	-
<b>sub-total area I</b>	<b>22.99</b>	<b>0.48</b>	<b>3.79</b>	<b>7.10</b>	<b>6.41</b>	<b>3.32</b>	<b>1.18</b>	<b>0.71</b>	<b>0.00</b>
Turiaçu	23.94	-	1.42	4.02	8.53	6.64	2.37	0.71	0.24
Godofredo Viana	6.63	-	1.18	1.18	1.89	1.65	0.71	-	-
Candido Mendes	9.00	-	-	2.84	3.08	1.42	0.95	0.48	0.24
Carutapera	1.18	-	-	-	0.48	0.48	0.24	-	-
<b>sub-total area II</b>	<b>40.75</b>	<b>0.00</b>	<b>2.60</b>	<b>8.04</b>	<b>13.98</b>	<b>10.19</b>	<b>4.27</b>	<b>1.19</b>	<b>0.48</b>
Santa Luzia	15.41	0.71	0.95	4.52	3.55	4.02	1.42	0.24	-
Santa Inês	4.26	0.95	0.71	0.48	0.95	0.48	0.48	-	0.24
Pindaré Mirim	8.06	0.48	0.95	2.13	2.84	1.42	0.24	-	-
Altamira / MA	8.54	0.24	1.65	4.03	2.13	0.24	0.24	-	-
<b>sub-total area III</b>	<b>36.26</b>	<b>2.36</b>	<b>4.26</b>	<b>11.16</b>	<b>9.47</b>	<b>6.16</b>	<b>2.37</b>	<b>0.24</b>	<b>0.24</b>
<b>TOTAL</b>	<b>100.00</b> N=422	<b>2.84</b>	<b>10.65</b>	<b>26.30</b>	<b>29.86</b>	<b>19.67</b>	<b>7.82</b>	<b>2.14</b>	<b>0.72</b>

SOURCE: Survey collected under the supervision of the present author in Pre-Amazônia. 1983 - 1984

**TABLE 4.5**  
**PERCENTAGE OF SMALL RURAL PRODUCERS BY PREVIOUS LOCATION OF RESIDENCE**  
**ACCORDING TO MUNICIPALITY OF CURRENT RESIDENCE.**  
**PRE-AMAZÔNIA MARANHENSE 1983-84.**

Municipality of residence	Percentage of producers by previous location			
	total	Rural	urban	Without information
Pinheiro	2.61	2.61	-	-
Monção	20.38	18.96	1.42	-
<b>sub-total area I</b>	<b>22.99</b>	<b>21.57</b>	<b>1.42</b>	<b>0.00</b>
Turiaçu	23.93	21.80	2.13	-
Godofredo Viana	6.63	5.92	0.71	-
Candido Mendes	9.00	7.81	0.95	0.24
Carutapera	1.19	0.71	0.48	-
<b>sub-total area II</b>	<b>40.75</b>	<b>36.24</b>	<b>4.27</b>	<b>0.24</b>
Santa Luzia	15.40	12.79	2.61	-
Santa Inês	4.26	3.78	0.48	-
Pindaré Mirim	8.06	6.89	1.17	-
Altamira / MA	8.54	7.59	0.95	-
<b>sub-total area III</b>	<b>36.26</b>	<b>31.05</b>	<b>5.21</b>	<b>0.00</b>
<b>TOTAL</b>	<b>100.00</b> N=422	<b>88.86</b>	<b>10.90</b>	<b>0.24</b>

SOURCE: Survey collected under the supervision of the present author in Pre-Amazônia. 1983 - 1984

NOTE: Area I = old direct colonisation area (1962-70)

Area II = recent direct colonisation area (1971-84)

Area III = spontaneous occupation area under process of tenure legalisation (1947-84)

TABLE 4.6.

PERCENTAGE OF SMALL RURAL PRODUCERS ACCORDING TO THEIR MIGRATORY ROUTES.  
PRE-AMAZÔNIA MARANHENSE 1983 - 84

Type of migratory flows	Percentage of producers
rural - rural	61.85
rural - urban - rural	13.74
urban - rural	11.14
urban - urban - rural - rural urban - rural	5.45
urban - rural - rural	3.79
rural - urban - urban - rural	1.65
rural - rural - urban - urban - rural	0.95
rural - rural - urban - rural	0.24
urban - rural - urban - rural	0.24
without information	0.95
<b>TOTAL</b>	100.00 N=422

SOURCE: Survey collected under the supervision of the present author in Pre-Amazônia. 1983 - 1984

TABLE 4.7.

PERCENTAGE OF SMALL RURAL PRODUCERS BY NUMBER OF MIGRATORY STAGES  
UNDERTAKEN ACCORDING TO MUNICIPALITY OF CURRENT RESIDENCE  
PRE-AMAZÔNIA MARANHENSE 1983-84.

Municipality of residence	Percentage of producers by numbers of migratory stages									
	Total	1 stage	2 stages	3 stages	4 stages	5 stages	6 stages	7 - 9 stages	10 stages & more	without information
Pinheiro	2.61	0.24	0.24	0.71	0.24	0.94	0.24	-	-	-
Monção	20.38	1.66	4.26	5.21	2.84	1.90	1.42	1.66	1.42	-
<b>sub-total area I</b>	<b>22.99</b>	<b>1.90</b>	<b>4.50</b>	<b>5.92</b>	<b>3.08</b>	<b>2.84</b>	<b>1.66</b>	<b>1.66</b>	<b>1.42</b>	<b>0.00</b>
Turiaçu	23.94	-	4.74	3.55	6.40	4.74	2.12	1.42	0.95	-
Godofredo Viana	6.63	0.47	1.66	0.94	1.18	0.71	0.71	0.48	0.48	-
Candido Mendes	9.00	0.47	1.66	1.18	2.13	0.48	1.42	0.94	0.48	0.24
Carutapera	1.18	-	0.24	-	-	0.71	0.24	-	-	-
<b>sub-total area II</b>	<b>40.75</b>	<b>0.95</b>	<b>8.30</b>	<b>5.68</b>	<b>9.71</b>	<b>6.64</b>	<b>4.49</b>	<b>2.84</b>	<b>1.90</b>	<b>0.24</b>
Santa Luzia	15.40	1.18	2.85	4.50	2.37	0.71	0.71	2.13	0.94	-
Santa Inês	4.26	0.24	1.89	0.95	0.24	0.48	0.24	0.24	-	-
Pindaré Mirim	8.06	0.24	1.89	1.42	1.42	1.42	0.95	-	0.71	-
Altamira / MA	8.54	0.95	2.37	1.42	2.13	0.24	0.48	0.71	0.24	-
<b>sub-total area III</b>	<b>36.26</b>	<b>2.61</b>	<b>9.00</b>	<b>8.29</b>	<b>6.16</b>	<b>2.85</b>	<b>2.38</b>	<b>3.08</b>	<b>1.89</b>	<b>0.00</b>
<b>TOTAL</b>	100.00 N=422	5.46	21.80	19.89	18.75	12.33	8.53	7.59	5.21	0.24

SOURCE: Survey collected under the supervision of the present author in Pre-Amazônia. 1983 - 1984

As far as type of land ownership (Table 4.8), we see that only 14.2% of the migrants owned their own land, while a majority of 57.8% were squatters, 11.6%



sharecroppers, 10.9% lived on land belonging to friends or relatives and 4.3% were wage-earners. In 1984, after twelve years of the Pre-Amazônia Maranhense Colonisation Program, 38.2% of the peasant farmers were landowners with definitive title to their land, 14.7% held a provisional title (colonist-owner still paying for his plot); 32.9% were still squatters while 12.9% were sharecroppers.

TABLE 4.8.

PERCENTAGE OF SMALL RURAL PRODUCERS ACCORDING TO ORIGINAL AND CURRENT TYPE OF LAND OWNERSHIP. PRE-AMAZÔNIA MARANHENSE 1983 - 1984.

Current land-owning status	Producers according to original land-owning status (%)							Total (row)
	Owner	Leaseholder	Sharecropper	Rural squatter	Aggregate	Rural Waged worker	Other	
Owner	11.85	-	0.24	13.51	9.24	2.84	0.47	38.15
Leaseholder	-	9.95	-	1.91	-	-	-	11.85
Sharecropper	-	-	-	0.95	-	-	-	0.95
Rural squatter	2.37	1.18	-	27.25	0.95	0.95	0.24	32.94
Colonist/owner	-	-	0.24	13.74	0.24	0.47	-	14.69
Other	-	-	-	0.47	0.47	-	0.47	1.41
Total (column)	14.22	11.13	0.48	57.82	10.90	4.26	1.18	100.00 N=422

SOURCE: Survey collected under the supervision of the present author in Pre-Amazônia. 1983 - 1984

As for the legal form of occupation of the establishment (Table 4.9), one sees that 40.8% of the producers had no form of legal authorisation to occupy their land, 47.4% had an official licence from a Colonisation Project and 11.9% held a licence to work his land under a contract with private owners. In 1984 this situation was slightly more organised, because only 24.9% of the total did not have any authorisation.

When analysed in the three different areas researched, these general figures show that the sharecropper is absent from the regions of directed colonisation, but is significant in the regions of spontaneous occupation.

Alongside the spatial mobility commented on so far, an attempt was made to analyse the occupational history of the small farmers of Pre-Amazônia Maranhense. Data on the sector of activity in area of origin show that 97.0% of migrants came from farming (86.0% were crop farmers and 0.9% worked on ranches.)

As far as condition of producer in relation to the means of production in the area of origin, 49.1% developed direct use of the land, corresponding to the category *conta própria* (small independent farm producer), 10.7% were sharecroppers, belonging to the categories of indirect exploitation of the land, that is, people who paid part of their income to the owner for the use of the land; 9.2% were waged workers and a smaller group (6.4%) participated in non-remunerated family work.

TABLE 4.9

PERCENTAGE OF SMALL RURAL PRODUCERS ACCORDING TO ORIGINAL AND CURRENT TYPE OF OCCUPATION OF THEIR HOLDING.  
PRE-AMAZÔNIA MARANHENSE 1983 - 1984.

Current Form of occupation	Producers according to original form of occupation					Total (row)
	Governmental authorisation	SUDENE's license	COLONE or ITERMA's license	Licence granted by private landowner	No legal authorisation	
Governmental Authorisation	19.43	6.40	19.67	-	12.32	57.82
Occupation license	-	0.47	0.95	0.47	2.61	4.50
License granted by private landowner	-	-	-	11.14	1.66	12.80
No legal authorisation	-	0.24	0.24	0.24	24.7	24.88
Total (column)	19.43	7.11	20.85	11.85	40.76	100.00 N=422

SOURCE: Survey collected under the supervision of the present author in Pre-Amazônia. 1983 - 1984

Interviews carried out in the municipalities of Altamira do Maranhão and Pindaré Mirim, which were populated spontaneously from the 1950s onwards, permit the identification of a trend towards the progressive disappearance of small centres and villages with the progressive encroachment of grazing land over the areas of small farms.

The principal mechanism utilised in this process is the system of 'sharecropping' whereby the land is lent to the farmer, generally for a year, in accordance with an agreement<sup>17</sup> that the sharecropper will plant grass as part payment to the landowner. Leasing the land in this way was thus the most secure way for the owner

<sup>17</sup> The sharecroppers needed to abide by a series of stipulations set by the owner of the land, such as: plant only rice, maize or beans (manioc was not permitted because it was a crop with a long cycle); leave the *soca* (the remains of the crop after harvesting) for cattle fodder; pay the income stipulated in produce or money.

to obtain capital and get his land prepared<sup>18</sup> for grazing with the minimum of investment<sup>19</sup>. For the peasant farmer, the problem is that there is little land for planting to meet the constant and growing demand of the landless. Consequently, every year there is a surplus of peasant farmers who have nowhere to plant: sharecropping turns into a fast turnover occupation.

The farmer has to migrate annually in search of land and is always dependent on the availability of the proprietors. This generates a new form of exploitation and mobility as the peasant farmer settles in the villages and travels to different establishments, dependent on the offer of lands for sharecropping or on wage labour. With the increase in the area of grazing and the progressive shrinking of land for sharecropper, the perspective up to 1989 was that soon there would be no more land available for planting in the region. Thus, the perspective for the population of peasant farmers was to migrate in search of land 'forever onwards', leaving behind him large and medium sized estates covered with grazing lands planted with his own hands as a form of payment for the lease of land. Besides this, this payment demanded by the landowner was always high in comparison with the low productivity of crops on the exhausted land: roughly a third of the produce was handed over in payment, not counting the debts built up by the peasant farmers in the periods between harvests (for food staples, seeds, tools and so on) in the form of loans taken out with local trades people, to be paid in produce after the harvest.

The strategy for survival for those who did not succeed in finding land for sharecropping, was thus the *garimpo* (mineral prospecting), breaking babassu nuts, paid work on the big estates and ranches or street selling. The 'reserve labour army' had been created, with the surplus population 'freed' from the means of production and ready to migrate wherever their labour force was needed. For those who still attempted

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<sup>18</sup>. The stages of formation of arable land or grazing were:

- a) *asseira* - felling the edges of the area to be planted in order to demarcate it.
- b) *broca* - cutting down the scrub undergrowth (bushes and low plants.)
- c) *derrubada* - cutting the higher trees (trees and palms)
- d) *queimada* - burning the cut vegetation.
- e) *plantio* - planting rice, maize or beans.
- f) *capina* - clearing the land after planting.
- g) *botar capim* - sowing grass seed over two thirds of the leased area, leaving only one third for crops.
- h) *harvest* - harvesting the crops

These stages were the framework for the continual advance of grass over the area of crops, which went on until the whole property was covered by grazing.

<sup>19</sup>. An example of this is the main estate in Povoado de Morada Nova, in the municipality of Pindaré Mirim/MA, where in 1983 the land owner received 5.1 metric tons of rice in payment and all the land leased that year planted with grass.

to remain as peasant farmers and nurtured hopes of finding land, the solution was to migrate to newer regions such as the Guilherme and Centro Novo, centres in the COLONE colonisation area. Despite the fact that the Colonisation Program had contributed to a lessening of land conflicts in these regions of the frontier rim, basically through its action in legalising land rights, it had not managed, however, to offer the peasant farmers the necessary socio-economic conditions for their definitive settlement. Thus, one sees throughout the regions researched that 34% of heads of families interviewed worked for salaries outside their own holding, that is they hired out their labour in order to meet their basic necessities.

The analysis of the sale of labour of the peasant, according to the type of activity and form of work undertaken outside his/her own holding (Table 4.10), shows that 50.4% of small producers worked principally in agricultural activities (48.3% in temporary work), 23.1% in the mineral prospecting and 10.5% in trade. If these figures were related to the place of work (Table 4.11) one can see that the majority sought work in farming activities in neighbouring regions, within their municipality of residence. It is worth remembering that the regions of small farms are generally located near the large agro-ranching projects which are the source of seasonal work. A significant percentage (23.1%) seek work in the *garimpo*, especially in the regions bordering on the state of Pará. As far as the duration of outside occupations (Table 4.12), it was seen that 63.6% of the peasant farmers worked outside their holding (from one to three months) in the periods between harvesting their own crops.

A vision of the typology of migrations flows undertaken from the regions of Pre-Amazônia was obtained through the moves made by children who left home (Table 4.13.) We saw that 56.8% were women and 43.2% men; 35.4% were currently engaged in non-remunerated domestic tasks (women who left home to marry), 22.6% in agro-ranching, 12.5% in the services sector, 12.0% to study (mostly women), and 8.6% in the *garimpo*.

In relation to their destinations, the majority (36.2%) had migrated to regions of the same municipality as their parents, 15.6% had gone to Pará state, 7.3% sought new areas in the COLONE project, 6.4% went to the town of São Luis (capital of Maranhão), 9.4% were in areas around Pindaré municipality, 11.4% had gone to other parts of Maranhão state and 13.9% were in other Brazilian states. Of the total, 59.8% were in the Pre-Amazônia Maranhense region, 24.2% in other parts of the western Amazonian frontier, 10.9% in other regions of the state of Maranhão and 5.1% in states of the Central-South of Brazil.

TABLE 4.10.

PERCENTAGE OF SMALL RURAL PRODUCERS ACCORDING TO TYPE OF ACTIVITY AND FORM OF WORK UNDERTAKEN OUTSIDE HIS OWN ESTABLISHMENT. PRE-AMAZÔNIA MARANHENSE 1983 - 1984.

Type of Activity	Producers by form of work		
	Permanent	Temporary	Total (row)
Farming	2.10	48.25	50.35
Extractivism	-	0.70	0.70
Mineral prospecting	-	23.07	23.07
Trade	7.69	2.80	10.49
Services	2.80	2.10	4.90
Industry	-	6.29	6.29
Without information	-	4.20	4.20
Total(column)	12.59	87.41	100.00 N=143

SOURCE: Survey collected under the supervision of the present author in Pre-Amazônia. 1983 - 1984

TABLE 4.11

PERCENTAGE OF SMALL RURAL PRODUCERS ACCORDING TO TYPE OF ACTIVITY AND PLACE OF WORK CARRIED OUT OUTSIDE HIS OWN ESTABLISHMENT. PRE-AMAZÔNIA MARANHENSE 1983 - 1984.

Type of activity	Producers by place of work (%)				Total (row)
	Rural area of he municipality of residence	Village/municipality capital	Other municipality in Maranhão state	Other state	
Farming	46.15	3.50	0.70	-	50.35
Extractivism	0.70	-	-	-	0.70
Mineral prospecting	0.70	1.39	5.59	15.38	23.07
Trade	4.90	4.19	0.70	-	10.49
Services	-	2.10	2.80	-	4.90
Industry	2.80	3.50	-	-	6.29
Without information	2.80	0.70	-	1.40	4.20
Total (column)	58.05	15.38	9.79	16.78	100.00 (N=143)

SOURCE: Survey collected under the supervision of the present author in Pre-Amazônia. 1983 - 1984

TABLE 4.12.

PERCENTAGE OF SMALL RURAL PRODUCERS ACCORDING TO TYPE OF ACTIVITY AND MONTHS PER YEAR SPENT WORKING OUTSIDE HIS OWN ESTABLISHMENT. PRE-AMAZÔNIA MARANHENSE 1983 - 1984.

Type of Activity	Producers by months per year spent working outside his own establishment						Total (row)
	Less than 1 month	1 month	2-3 months	4-6 months	7-11 months	Entire year	
Farming	10.49	20.97	17.49	0.70	0.70	-	50.35
Extractivism	-	-	-	0.70	-	-	0.70
Mineral prospecting	1.40	4.20	9.78	5.59	2.10	-	23.07
Trade	-	2.10	-	0.70	0.70	6.99	10.49
Services	-	-	0.70	1.40	2.10	0.70	4.90
Industry	-	4.20	2.09	-	-	-	6.29
Without inform.	-	2.10	-	1.40	0.70	-	4.20
Total (column)	11.89	33.57	30.06	10.49	6.30	7.69	100.00 (N=143)

SOURCE: Survey collected under the supervision of the present author in Pre-Amazônia. 1983 - 1984

TABLE 4.13.

PERCENTAGE OF SMALL RURAL PRODUCERS WHO MIGRATE THEMSELVES, ACCORDING TO SEX AND TYPE OF ACTIVITY AT THEIR PLACE OF DESTINATION. PRE-AMAZÔNIA MARANHENSE 1983 - 1984.

Type of Activity at destination	Migration children by sex		
	Male	Female	Total (row)
Farming	17.79	4.78	22.57
Mineral prospecting	7.74	0.82	8.56
Trade	3.13	1.32	4.45
Services	7.09	5.44	12.53
Housework	0.82	34.60	35.42
Student	4.28	7.74	12.02
Industry	1.65	0.66	2.31
Without information	0.66	1.48	2.14
Total (column)	43.16	56.84	100.00 (N=607)

SOURCE: Survey collected under the supervision of the present author in Pre-Amazônia. 1983 - 1984

In the span of a generation, the front of peasant farmers had been diversifying in the quest both for new regions and for new activities, as land, up until then their principal means of production, became an ever scarcer commodity.

The penetration of capitalism in this region of the frontier (COLONE area) was occurring principally through the gradual conversion of some of the small independent farmers into temporary wage labourers.

#### 4.5. FINAL REMARKS

The investigation of the recent process of occupation of Pre-Amazônia Maranhense showed the existence of a 'front of expansion' of small farmers as a product of the advance of capitalism in the region of Eastern Amazônia. However, this front of expansion was not being incorporated into the new capitalist activities of the frontier in a homogenous manner.

The recent penetration of capitalism in Pre-Amazônia Maranhense has taken the form of differentiated processes in the regions of spontaneous or directed occupation. Thus, different mechanisms are, in effect, provoking an increase in the mobility of the population in the two areas researched. For the regions of spontaneous occupation along the BR-222, the capitalist strategy took the form of three mechanisms: the amalgamation of small landholdings through purchase on the part of big landowners, the advance of grazing land over the last plots of land available for share-cropping, and the felling of the babassu groves which had represented a natural resource, an alternative source of income for the poorest of the population.

The system of sharecropping was the most common method used for the expansion of grazing land over the small scale crop production: without sparking off public conflict, grazing was expanding in a steady and legal form, planted by the peasant farmers themselves who every year found less land to rent for their own crops.

Thus, in the areas of spontaneous occupation, the new process was brought into being principally via the sharecropping system, within which one can find a certain articulation of non-capitalist and capitalist forms of production.

In the regions of direct colonisation, this process took the form of semi-proletarianisation. This research shows that this starts with the temporary employment of colonists during the inter-harvest period and then tends to increase as their own difficulties of settling permanently due to the inefficiency of the colonisation policy.

From the viewpoint of environmental degradation, Amazônia Maranhense has suffered progressive deforestation, both at the hands of the peasant farmers (in clearing forest for crops) and by the agro-ranching projects (in planting grass for grazing, which often took place directly on to forest.) However, this region is an example of how nature reacts positively to devastation, through the emergence of the secondary babassu forests. This new ecosystem began to become vital for the subsistence and complementation of income of poor populations. Its exploitation within a vision of self-supporting development was recognised with the creation of the Maranhão Extractive Reserves in 1992.

## CHAPTER 5

### THE DYNAMICS OF CAPITALIST OCCUPATION IN THE WESTERN BRAZILIAN AMAZÔNIA: THE CASE OF ACRE RIVER VALLEY.

#### 5.1. INTRODUCTION

This chapter will consider the case of the Acre River Valley<sup>20</sup> as an example of the capitalist dynamic in the Western Brazilian Amazônia. It will attempt to identify the typical forms of appropriation of this frontier area and the impact of the recent and ongoing process of occupation. It will also consider people's position as agents and victims of this dynamic. The economic process of occupation of Acre will be regarded in relation to the history of Brazilian migratory flows.

Moreover, this chapter aims at understanding the recent occupational process from the viewpoint of the main agents involved. The main agents of this process are the enterprises and individual ranchers, the migrant population of small rural producers, as well as the Brazilian Government (federal and state.) The group of extractive population (rubber tappers, Indians, nut-gatherers, fishermen), the 'locals', who were forced to become involved in the conflicts, complete the picture in which these transformations unfold.

A number of different data sources have been used in the framing of this chapter, deserving especial reference the local journal *Varadouro* (which intended to express the voice of the local people), and interviews with ranchers in Rio Branco City (see Appendix on sources and methods of research.) In order to gain a better grasp of the general process, it is worth briefly outlining the economic, and consequent demographic cycles, in the occupation of Acre state, which is the subject of the next section.

#### 5.2. HISTORICAL ASPECTS OF ACRE'S OCCUPATION PROCESS.

The history of Amazônia has been analysed through the economic cycles of its occupation, that is, of its exploitation. For Boff (1977) there were four of these cycles: the first following its discovery, was characterised by the search for the 'back lands

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<sup>20</sup>The Acre Valley Area comprises six municipalities in the Acre state: Assis Brasil, Brasília, Plácido de Castro, Rio Branco, Senador Guiomard and Xapuri.



drugs' such as cinnamon, cloves, cocoa, oils, woods and to a certain extent, rubber; the second, by the 'rubber boom' at the end of the last century and the beginning of this; the third, by agricultural and mineral pioneering and the fourth by the capitalism of large concerns, encouraged and supported by the State.

However this pattern of settlement may also be traced through the history of the population movements.

#### '1877-1977: A HUNDRED YEARS OF NORTHEASTERN MIGRATION TO ACRE.

This is the history of millions of north easterners who were forced by drought (or latifundia ?) to leave their homeland and come to Acre to tap rubber.

1877, the *First Migration*: when drought struck the Northeast, Amazônia became the 'land of hope'.

1943, the *Second Migration*: the North-Americans entered the War, but needed rubber, a great deal of rubber.

Amazônia had the rubber; the north easterners were hungry.

1970, the *Third Migration*: cattle-ranching ventures required a great deal of land; Amazônia had the land, a great deal of land; the north easterners of Acre had to give place to beef.

(*Varadouro*, Year 1(4.) RB/Acre, Sept/1977.)

I will now examine the different economic phases and their implications for the appropriation of natural resources and creation of the labour force in Acre.

##### 5.2.1. The rubber extractive economy

Historically, the economy of Acre has been seen as subordinate to external interests. This is apparent in the way that the organisation and dynamic of the rubber extraction economy has developed according to the demands of the international market.

'In the years after 1880 a rivalry increased among the major European industrial powers for control of new markets and sources of raw materials, awakening a new sense of the economic value of Colonies. It was the rediscovery of colonialism, characterised by the economic conquest of hitherto unexplored areas of the world ... searching for the most lucrative opportunities for investment in such areas, whilst guaranteeing a monopoly on the principal sources of raw materials' (Silva, 1982:8.)

According to Hobsbawn (1978), there was a desire to annex every possible backward area with a view to gaining control of the raw materials they possessed. It was during this period that a number of important discoveries were made that turned latex (rubber) into the most sought-after raw material for the industrial markets of Europe

and United States of America: Charles Goodyear's discovery of vulcanisation in 1839, the invention of the pneumatic tyre in 1888 by Dunlop and the first automobile in 1895.

It is the structural changes in the world economy that provide the context for the flourishing of the rubber economy and therefore for the economic incorporation of Acre territory in the international market. Brazilian Amazônia became the foremost producer of rubber in the world. Acre represented the greatest natural reserve of rubber trees in the world, and produced the best quality product. According to Caio Prado Junior (1965), in 1903, the year that Brazil annexed Acre from Bolivia, the volume of rubber exported was over 2,000 tons. In the following year this reached 8,000 tons and in 1907 a harvest of more than 11,000 tons made it the highest-producing area in Brazil. Thus, the economy of Acre was dependent on the mono-extraction of rubber and at the mercy of the international market.

‘Centred on the extraction of rubber, which all other activities were subsidiary to, the Acrean economy was structured to the prevalent pattern of the colonial period. That is, it was dependent on a single export crop ... and the major part of the internally generated surplus was sent away, rather than being reinvested in the region ... Nor was there, at any time, any interest in diversification’ (Silva, 1982:13.)

However, the huge external demand for rubber was offset by a lack of technology and labour in Amazônia. It was only possible to meet the demand by creating an expanded labour force and incorporating new areas into the productive process. The encouragement of migration from the Northeast to Amazônia, combined with the 1903 annexation of Acre provided solutions to these problems.

Two particular factors stand out when considering the first great population movements into Acre: endemic unemployment in the Northeast (combined with the latifundia structure) and the phenomenon of the *secas* (droughts.)

‘ There was a juxtaposition of extremes. Drought struck the North eastern interior of Brazil, where Ceará state was worst-hit. In Fortaleza city those driven out by the drought starved to death in the suburbs, whilst in Manaus and Belém the rubber boom guaranteed extravagance and luxury. Nothing was more natural than that poverty (the destitute) should migrate...’ (*Varadouro*, Year I (4.) Rio Branco, Acre, Sept.ember /1977.)

The number of northeastern migrants to Amazônia between 1872 and 1910 has been estimated differently by some authors: Tupiassu (1969) estimates that the number was more than 300,000, Benchimol (1977) calculates it at some 350,000 whilst Furtado (1977) cites a figure of 500,000. This stream of migration from the Northeast to

Amazônia represents, therefore, the point at which the Brazilian 'rubber centred economy' became part of the expansion of monopolist capital at the end of the last century.

With regard to the make-up of this migratory flows, it is possible to state that 'the great majority were men who came as labour-force, stripped of any means or tools of production, enticed into working for rubber extraction companies. Basically it was not a spontaneous migration, but one organised by Mercantile Capital, interested in the labour-force of the migrants' (Oliveira, 1985:15.)

Another legacy of rubber activity was a scheme of action that was based on huge rural properties. This structure of highly concentrated landownership hardly changed in the course of a century and may be an important element in explaining the current presence of speculative capital in Acre.

However, the fundamental matter for discussion is one which relates to existing production relations in the rubber extraction economy: the *aviamento* system, which is characterised by its use of semi-compulsory labour. This system links the rubber tapper as the direct producer, the *patrão* (rubber estate baron), the *casas aviadoras* (principal credit agency in the *aviamento* chain) and exporters. It functions on the basis of the continual indebtedness of the rubber tapper to his master, turning him into the prisoner of his own labour:

'... he (the rubber tapper) is a man that work enslaves' (Euclides da Cunha, 1967:51.)

The *aviamento* system is a production relationship characterised by the leasing of the rubber tapper to the estate owner, from the production phase through to commercialisation. Under this system the master pays in advance for the necessary equipment to extract the latex and the food for the rubber tapper's family and is then reimbursed through the production of rubber.

This mechanism entails a great deal of exploitation of the rubber tapper, as the prices he is charged in the company store are far above market-rate, whilst those he obtains for his rubber are far below it. This difference drives the tapper into debt, pushing him into total economic dependency on his patron. It has also been defined by Bakx (1986) as the credit system that linked the direct producer via a chain of intermediaries to the industrial and commercial houses of the USA and Europe.

‘... it entailed the commercial expedient of entrapping the worker through debt, or to put it another way, it was the essence of a process of domination which was aimed at immobilizing the labour force semi compulsorily, on the immense rubber estates. The labour force was heavily exploited; the master of the rubber estates made his profits from the ‘*barracão*’<sup>21</sup> and by selling the rubber to the consignment houses, who took their cut from reselling the rubber and supplying the rubber estates (Oliveira, 1985:17.)

The semi-compulsory nature of labour relations on the rubber estate is indicative that no labour market existed in the area.

‘The labour force recruited in the Northeast and tied to the rubber estates did not represent a mobile labour force nor a lever in developing capitalist relations. Nor did it introduce a labour market or wage relations into the process, far less contribute to the formation of a regional market’ (Oliveira, 1985:17.)

In fact, this system of production increased the subordination of the labour force in the Brazilian territory: all that happened was a change in the geographical locus of production. That is, the ‘surplus population’ from the Northeast region, where the socio-economic system was weakening, were relocated to the Northern Amazônia area and absorbed by the rubber economy, which was then avid for labour. It is a good example of how capital displaced the people throughout the country in its search for profit. It also shows that ‘mobility’ (meaning forced mobility) is a need for the expansion of the capitalist relations of production. However, as we shall see, the mobility of this early period was different from the mobility of the 1970s and 1980s where a regional labour market has been in formation.

The ‘freedom’ of the workers, vital to the development of the mobility, implies a lack of means of production. During the time of the earlier rubber extractive economy, because of the shortage of labour force in the rubber estates, the rubber tappers were not allowed to migrate. They also did not have any rights over the land or the forest:

‘... it was necessary to utilise all hands in collecting the latex. Any dispersal of activity would reduce production (and so, reduce the master’s profits.) Therefore it was not possible to produce both the rubber and the foodstuffs to support the rubber tapper and any other residents on the plantation’ (Ferreira Reis, 1953:107.)

By forbidding the rubber tapper to plant crops or even hunt, the estate owner ensured that all of his working hours were dedicated to the extraction of latex. This

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<sup>21</sup>*Barracão* or company store is a establishment owned by the estate owner which functions as a trading post, supplying the necessities of the life and work to the tappers and collecting up the production. The *barracão* constitutes the principal link in the consignment system. According to BAKX (1986) it is the ‘hut /store office of the *seringalista*.

allowed him to exploit the rubber tapper twice: by using his labour and his total dependence on the goods sold in the *barracão*, where prices were always greatly inflated and higher than the rubber tapper could earn through his labour.

Thus, it would appear that the mobility of the labour force, which is understood to be the 'free' movement of a worker with the power to sell his labour in different sectors of the economic system, was not a characteristic of the economy of rubber extraction. The formation of a regional market (in land and labour) would occur many decades later (in the early 1970s), when speculative capitalism entered the scene.

However, the competition which the far higher production levels of the cultivated plantations of the Orient posed to native latex production brought the rubber boom to an end. After the first world war, the region suffered a long period of stagnation (over twenty years) which was marked by a lack of capital and a migration of rubber workers, who where no longer needed, back to the Northeastern states.

For those small extractive producers who stayed in Acre, the rubber slump marked the emergence of a subsistence-based economy. With the failure of the *aviamento* system, estate owners began to permit the planting of fields to supply basic foodstuffs for the rubber tappers. In this way, a pattern of family agriculture was slowly established, creating small-scale production aimed at supplying the local and regional markets.

But the outbreak of the Second World War and the establishment of new alignments on the international stage brought a renewal of interest in native rubber extraction. When in 1942 the North-Americans entered the war, they arose as the emergent power of the period... but, they needed to have a great deal of rubber to make tyres for cannon, tanks, lorries, planes. As the way had been barred to rubber producers of the Orient, they looked again to Amazônia.

Among the measures agreed between Brazil and USA, known as the Washington Accords, was a provision for the creation of the Rubber Bank (Banco da Borracha) which re-instituted the *aviamento* system. Thus, 1943 saw the return of the 'Rubber Cycle' with the mobilisation of new drafts of labour to work on the rubber estates: on this occasion the Northeasterners were escaping the latifundia and the war.

The government strategy was to recruit a corps of rubber soldiers (*Soldados da Borracha*) to work on the rubber estates where, they were told, they would serve their country as well (or better) as on the battlefields of Europe. These soldiers were also known as *brabos* (greenhorn) to distinguish them from the *mansos* (experienced) who

were already in Acre and other parts of Amazônia and had been 'domesticated', that is, immobilised by the *aviamento* system of exploitation then operating on the estates.

The story of the *Soldados da Borracha* began with heavy recruitment in response to President Getúlio Vargas' initial Decree and operated for three years, from 1942 to 1945. Agents from SEMTA (The Special Service for Mobilising Workers for Amazônia) scoured the Northeast in search of *brabos*, free men without families who were ready to work on the rubber estates.

'The *Soldado da Borracha* has to come alone, whether married or single, he has to come alone! In the port there are American boats loaned to the Brazilian government to transport the *brabos*. (*Varadouro*, Ano I (4):10. Rio Branco, September /1977 - original emphasis.)

With the end of the War, rubber from the Orient returned to the European and American markets, and in Amazônia the new rubber boom ended in 1945 when the USA returned to the cheap rubber from the Far East. Unable to compete, exports fell and the internal market was only able to absorb 50% of production. This presented the economy of Amazônia with another problem: that of overproduction, which required an increase in the means of consumption.

A solution was only achieved in 1950 with the setting up of a national manufacturer rubber goods industry. However, the rapid growth of this industrial sector soon outstripped the native supply capacity. So from 1951 Brazil began, as an immediate solution strategy, to import rubber rather than providing the conditions (pricing, policies, transport, etc.) to encourage an increase in the native extraction industry.

'The picture of dependency which characterised the Acre reflexive economy during the rubber boom has remained fundamentally unaltered. The difference is only that now, with the displacement of the consumer centre (to the Southeast of Brazil), the rubber tapper's labour has come to service the process of capital reproduction and accumulation centred on the dynamics areas of the country' (Silva, 1982:29.)

The Rubber Bank (Banco da Borracha) - later the Banco de Crédito da Amazônia and now the Banco da Amazônia S.A. - did nothing to change the technical operation of the extraction system. This was one of the factors which accelerated the crisis on the rubber estates: many of the estate-owners, heavy in debt, sold, forfeited or simply abandoned their estates, contributing to the creation of a land market in the

region. This brought to a close a period in the history of Acre during which monopolist capital, predominantly international, controlled rubber production, activating or deactivating it as required. It commandeered the displacement of millions of Northeasterners, in order to create a tied labour force on the rubber estates. In its eventual collapse it also created the conditions for the current phase of land speculation by predominantly national capital.

On the other hand the collapse of the rubber economy contributed to the formation of a new rural class: the autonomous rubber tappers. Acre lost a large proportion of its inhabitants with the closing of the rubber estates but those who remained acquired some rights, resembling in some aspects those of free producers. Those rubber tappers and other workers in Acre, who in many cases still had ties (although now much weaker) to the estate owners, could now have a family, grow subsistence crops, fish, hunt and sell any surplus (only rubber was still predominantly commercialised by the estate owners.) In other cases where, for example, the rubber estates had been abandoned, the rubber tappers who remained became 'free squatters'.

'In this way, with the withdrawal of mercantile capital associated with international capital, the internal conditions were created in which the social reproduction of the population of Acre could be consolidated and partially liberated from the old schemes used for immobilizing and subordinating the labour force' (Oliveira, 1985:93.)

It could be argued that this was the period (the late 50s) in which an 'Acrean sentiment' emerged, that is, began to be spread the populations' feeling of being from that area. They were not only pre-existing indigenous peoples and migrants anymore: by that time, another generation has already emerged, born in Acre. Then, there was a new Acrean population made by Indians, the old landlords families, plus previous North eastern migrants and their children.

### 5.2.2. Recent settlement of the Acrean frontier

At the beginning of the 1960s, Amazônia became the subject of the Plan for National Integration (PIN), an expression of the 'Occupation of the Empty Spaces Policy' outlined by the military Governments. This new form of occupation only arrived in Acre in 1970 with the appearance of speculative capital.

However, as may be deduced from the previous section, the 'empty space' of Acre was not empty as it had been occupied in both demographic and economic terms for many decades. It was only empty (or marginal) in terms of capitalist forms of

production. In this sense, Acre in the 1970s became a frontier for the capitalist accumulation of the Centre-South of the country ‘...which forced the rural population living in the region into motion and conditioned them into seeking the urban periphery’ (Oliveira, 1985:67.)

Throughout the 1970s and the 1980s, a tendency towards the privatisation and concentration of landownership developed in Amazônia (Table 5.1) as well as in Acre state (Tables 5.2. and 5.3.); a great deal of land found its way into the hands of a few great estate owners (Figure 7.)

In Acre privatisation of landownership has increased especially in the 1960-1975 period, along with the expansion of cattle ranching. According to the Brazilian Agricultural Census (IBGE), in 1960, 18.7% of the land in Acre state was held by public entities, while in 1975 this percentage was around 5.5%. In the same way, private ownership of the land increased from 81.2% in 1960 to 94.1% in 1985.

The Brazilian pattern of land tenure concentration is also a feature of Acre state (Table 5.1.) In 1985 43.7% of the country's land was embodied by rural estates with more than 1,000 ha (eing in the hands of only 0.9% big landowners); at this same time, 33.3% of Acrean lands were occupied by big estates (over 1,000 ha), being held by only 0.9% big landlords. In 1980, 0.2% of the Acrean area was occupied by estates with less than 10 ha, while only 1.1% of the big estates (over 1000 ha) embodied 33.9% of the Acre state total area.

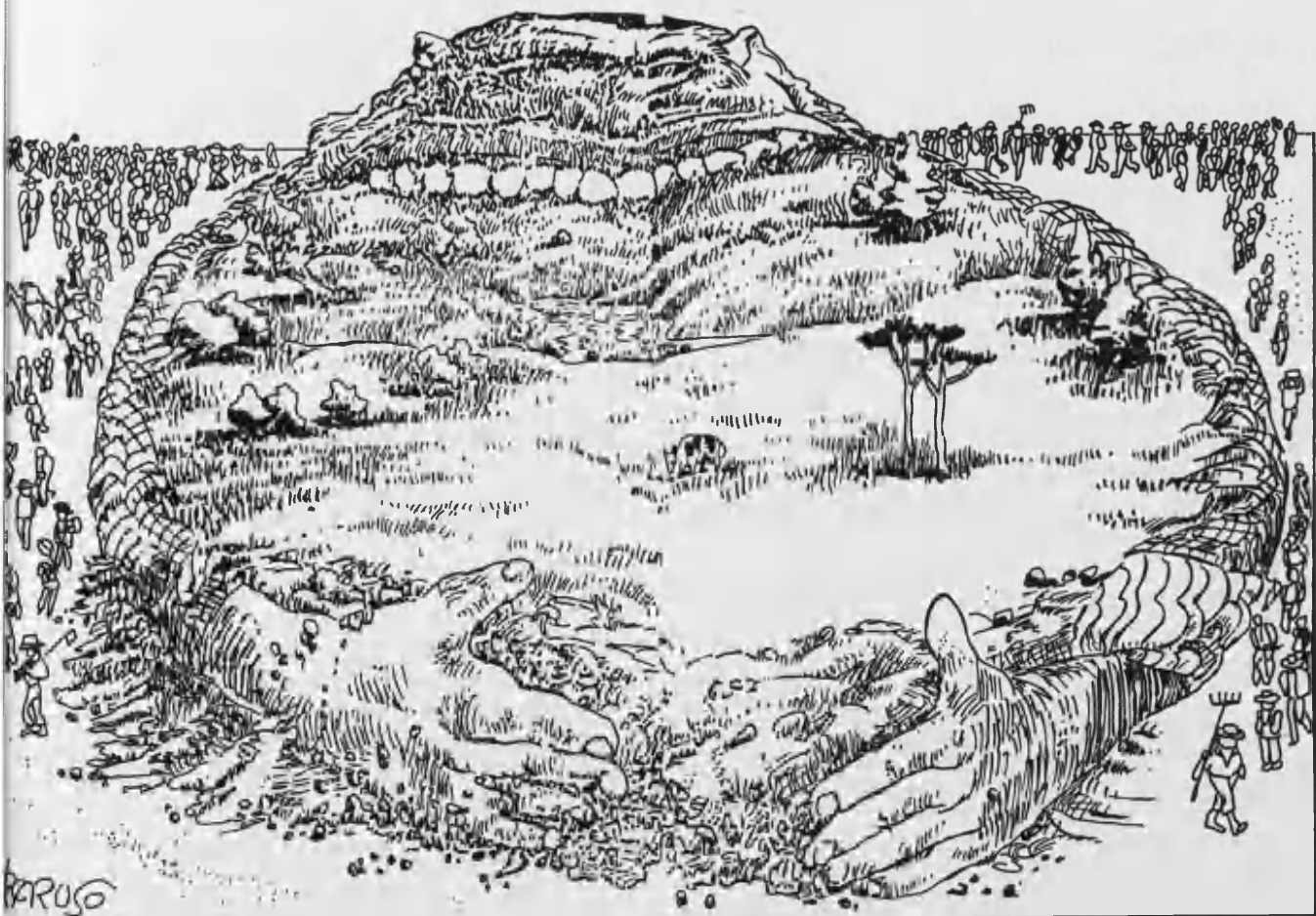
Another characteristic of Acre was that 58% of the state total area corresponded, by that time, to medium size rural estates (between 100 and 1,000 ha), revealing that many of these current medium size landlords were previously small rural producers from the Southern region of the country, drawn to Amazônia because of the low price of land (see next section about the ‘ranchers’.)

In terms of the landownership of Acre state in the 1970-1985 period (Table 5.3.), there occurred an increase in areas occupied by landlords and foremen. In 1980, the significant presence of foremen (26%) showed that many of the Acre ‘new owners’ were still living in their states of origin, waiting for valorisation of the frontier lands. Concomitantly, there was a progressive decrease in the amount of areas occupied by the categories of leaseholders and rural squatters. The new model of occupation was expelling the small producers from the forest and the land.



FIGURE 7

"THE LAND IN THE HANDS OF A FEW"



SOURCE: Journal VARADOURO  
Year I, (7), Rio Branco/Acre, February/1978

TABLE 5.1  
LAND TENURE CONCENTRATION IN BRAZIL  
AND IN THE STATES OF LEGAL AMAZÔNIA. 1985.

BRAZIL and AMAZONIAN STATES	TOTAL NUMBER ESTATE (1000)	TOTAL AREA ESTATE (1000)	NUMBER SMALL HOLDING -10 ha (%)	AREA SMALL HOLDING -10 ha (%)	NUMBER LARGE ESTATE 1000ha & over (%)	AREA LARGE ESTATE 1000ha & over (%)
Brazil	5.802	334.925	52.8	2.7	0.9	43.7
Acre	35	5.235	8.2	0.2	0.9	33.3
Amapá	5	1.208	28.5	0.4	2.5	70.4
Amazonas	116	5.860	46.7	3.5	0.5	40.5
Maranhão	531	15.548	83.8	4.3	0.4	41.9
Mato Grosso	78	37.836	33.0	0.3	7.1	83.5
Para	253	24.728	32.6	1.2	1.1	55.9
Rorônia	81	6.033	27.9	1.6	0.6	29.6
Roraima	6	2.150	8.8	0.1	9.0	70.6
Tocantins	47	17.354	7.6	0.1	7.5	54.2

SOURCE: BRASIL / IBGE. Agricultural Census. 1985.

TABLE 5.2  
RURAL ESTATES ACCORDING TO AREA.  
ACRE STATE. 1970-1985.

TOTAL AREA (ha)	RURAL ESTATES (%)			
	Number (%)		Area (%)	
	1970	1980	1970	1980
Less than 10 ha	9.48	10.11	0.23	0.20
10 - 100 ha	31.14	39.62	6.04	7.92
100 - 1000 ha	58.56	49.12	64.31	57.97
1000 and over	0.89	1.14	29.41	33.91

SOURCE: BRASIL / IBGE. Agricultural Census. 1985.

TABLE 5.3  
RURAL ESTATES ACCORDING TO AREA AND STATUS  
OF THE RURAL PRODUCER. ACRE STATE. 1970-1985.

STATUS OF THE PRODUCER	RURAL ESTATES (%)		
	1970	1980	1985
Landlord	7.86	11.97	20.59
Leaseholder	30.18	35.98	19.91
Rural squatter	51.23	26.08	34.71
Foreman	10.73	25.97	24.79

SOURCE: BRASIL / IBGE. Agricultural Census. 1985.

The general movement of the capitalist advance was felt principally in the accelerated spread of stock-breeding through the establishing of ranching projects. These were made possible by state intervention through its Fiscal and Credit Incentives Policy, accomplished by FINAM - *Fundo de Investimentos da Amazônia* - (Amazonian

Investment Fund.) By this system, twenty cattle breeding projects were approved for Acre state, half of them being located in the Rio Branco municipality. According to Yokomizo (1989), the two first projects were sanctioned in 1974, most of the incentives being given in 1983-84.

According to the view of the Bishop of Acre,

'The new conquest of the lands of Acre, which undoubtedly is part of the logic of concerns with capital accumulated elsewhere in the country, has found support in official policy which defends the entrepreneurial mind. It sees long scale commercial ranching as the only way to integrate Amazônia into the country's economy and facilitates this policy through fiscal incentives' (Grechi, M. in: *Varadouro*, Year I,(5):14. Nov/1977.)

According to Silva (1982) in the case of Acre, unlike other Amazonian areas, the principal reason for occupation was not the fiscal incentives but the relatively low price of land. This resulted from the structural crisis experienced in the extractive economy due to the decline of the native rubber-forests. Thus the incorporation of Acre into the expanding capitalist frontier in Brazil came about through the transfer of the lands of the old rubber estates to purchasers from the Centre-South of the country.

The extremely low price of land encouraged the acquisition of enormous areas of the old rubber estates (in the first instance, of areas of around 500,000 hectares) by large scale capital. At the same time, but on a smaller and less intense scale, it became possible for small and medium landowners dispossessed by modernisation (capitalisation of the countryside) in the South of the country, to acquire holdings dozens of times greater than their previous lands.

Another factor in the recent capitalist advance in Acre was the policy of 'openin' the Amazonian frontier especially to Southern region capital. This was developed on two fronts. The Federal government offered cheap, easy and abundant credit through special programmes such as PROTERRA and POLAMAZONIA. The last Program, for example, guaranteed loans for two to four years at low interest rate (for instance, 10% to 12% per year, which was low in that Brazilian context ( figures quoted in *Varadouro*, Year I (5):1, 1977.)

The purpose of the POLAMAZONIA programme, created in 1974, was the implantation of large-scale capital intensive ranching and mineral enterprises in the region.

'This marked a complete change from earlier policies that had given priority to the colonisation of the Amazon Basin by landless peasants from Brazil's Northeast. The implementation of the POLAMAZONIA programme resulted in an increasingly violent

confrontation between the ranching companies, which began to clear areas of forest for pasture, and the small rural producers who already lived and worked on the land' (Bakx, 1986: 1.)

At the same time, the State Government launched a propaganda campaign in its support. At the beginning of the 1970s, Governor Francisco Dantas publicised Acre to the rest of the country as the ideal state for investing in land. This was the beginning of the 'beef cycle' with the state standing surety for the private capital. As a result land values in Acre increased by 2,000 % between 1972 and 1977 according to the state government's own figures published in the public accounts of PROBOR I (Programme for the promotion of Natural Rubber Production created in 1972) and quoted in *Varadouro*, Year I, (5):1. 1977.

In terms of the region's physical infrastructure the state also acted as the facilitator of the new form of occupation by promoting the opening and asphaltting of important national motorways (BR-317 and BR-364): an example of public capital serving private capital.

The 'new masters of Acre' began to arrive in 1972.

'Representatives of national or foreign groups, land speculators, land grabber or simply adventurers ... In a short time, two or three years, they have bought up the major part of the 15 million hectares that comprise Acre, and disrupted the lives of 40 thousand rubber tappers and their families. The new economic order decreed or encouraged by the government was that of ranching instead of rubber. Cattle replace man'. (Varadouro, Year II (19):8. May/1980.)

This new form of occupation had a huge impact on existing social and economic organisation. The re-organisation took two forms: through the expansion of cattle ranching and by the introduction of farmsteading, the latest through Official Colonisation Projects under the auspices of INCRA (National Institute for Colonisation and Agrarian Reform.) These activities were set up in areas that had formerly been occupied by rubber estates.

The most immediate result of introducing cattle-ranching was the disarticulation of the traditional extractive economy with the expulsion of thousands of rubber tappers (Figure 8) and nut-gatherers, a concrete expression of the evermore pronounced concentration of landownership.

'It was in the interest of the new owners of the rubber estates (the ranchers) to expel the old inhabitants ... to enable them to speculate freely. The lands which were not encumbered with rubber tappers attained a greater degree of liquidity, now that the principal aim was speculation and not the establishment of productive activities'. (IBGE/IPEA, 1990:67.)

FIGURE 8  
"A VIEW OF ACRE"



SOURCE: Journal VARADOURO  
Year II, (17), Rio Branco/Acre, December/1979

In an article published in *Varadouro* (1977), D. Moacyr Grechi, bishop of Acre, whilst discussing the new model of settlement based on cattle-ranching, affirmed that the huge tracts of forest bought from the rubber estate owners were not 'empty spaces' and on the subject of the means used to 'cleanse' these areas of their previous inhabitants said:

'...the social problems are aggravated from the moment at which clearance begins in the areas acquired by the big concerns to create pasture. In that the land is generally occupied by the families of rubber tappers or cultivators, one of the first objectives of the ranchers is to clear the lands of the inhabitants who have worked them for 5, 10, 20, or even 40 years. The common practice is to expel squatters using methods such as 1) blocking the *varadouros* (forest trails), prohibiting the growing of crops; 2) destroying cultivations, invading squatter's plots, destroying the forest up to the squatters houses so that they are left with little or no land (or forest) to work; 3) buying the claim and any improvements for a derisory price, or exchange it for one far smaller; 4) hiring gunmen to threaten the rural squatters'. (Grechi, in: *Varadouro*, Year I (5):14. Nov/1977.)

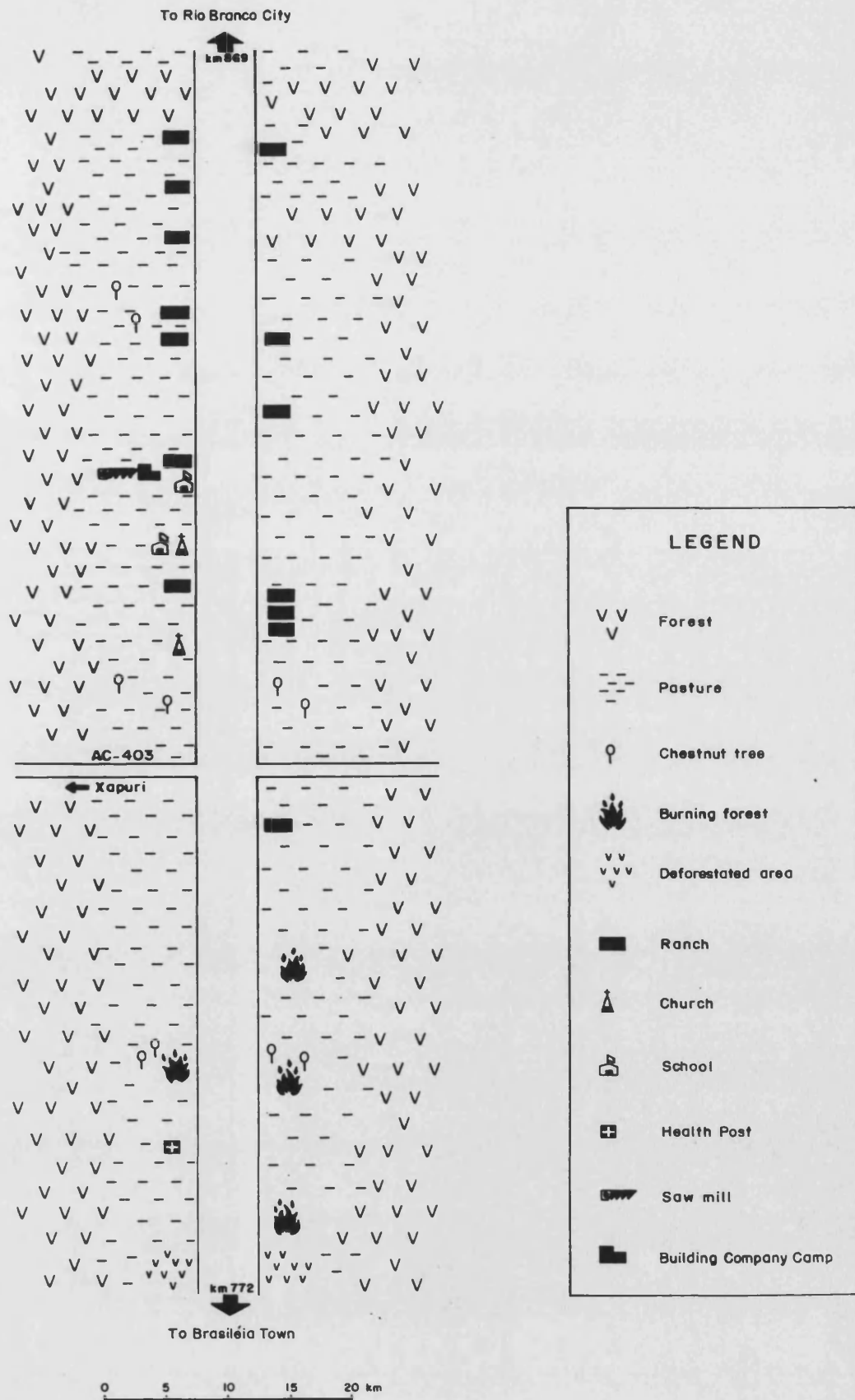
Another example of the view of the Progressive Church was expressed by Boff, (1977) when discussing how, with the replacement of the rubber estate by cattle ranching (see Figure 9), the precarious balance which the rubber tapper maintained with the environment was upset.

'For one, the penetration of large scale capital meant expulsion; for a second, a miserable indenture; for a third, removal to another site which they have not achieved or even to Bolivia; for a fourth, moving to the town and for a fifth, waged work. For all it is the transformation –either actual or prospective– into a free labour force. A labour force free for all property and rights and freely for sale to capital'. (Boff, in: *Varadouro*, I(5):14. Nov/77.)

This phase in the transition of the rural economy, from rubber extraction to cattle-ranching and agriculture, was characterised by a huge rural exodus. The rubber tappers and the small-holders expropriated of their means of production (the forest and the land) began to migrate to other areas in neighbouring countries (Bolivia and Peru) or to the towns of the Acre River Valley area. Rio Branco, the state capital, was the most common destination and huge shanty towns rapidly grew up on its outskirts. The urban centre, with its inadequate industrial and service sectors, was ill-prepared to absorb the new and growing population of rural workers transformed into unskilled urban labour. Thus the city was faced with grave social problems resulting from unemployment and the lack of an urban physical infrastructure.

'The fact is that the number of shoe-blacks, ice cream salesmen, building labourers, jobbing gardeners, messengers, scavengers and other representatives of the informal economy increase from day to day. Underlying it all is the rural exodus and a city without the barest minimum of an infrastructure to service the migrants arriving from all sides: from the rubber estates, from the colonies, from the villages ... Purely as a matter of survival these people are obliged to accept derisive wages or even to sell their labour for nothing more than a plate of food' (*Varadouro*, I (3):8, August/1977.)

**FIGURE 9: LAND USE ALONG THE HIGHWAY BR-317**  
 ( Between Rio Branco and Brasília - ACRE / BRASIL / AUGUST / 1987 )



SOURCE: Present author's field research. August/1987.

During the initial occupation of the Western Amazônia (the rubber boom) the government encouraged immigration as the rubber estates needed labour. However, during the recent phase of occupation, where interest has concentrated on the valorisation of land, the state, through fiscal and incentive policies, has been to promote (although indirectly) huge rural migration. This constitutes an example how capital displaces the labour force according its needs.

### 5.3. ACTORS IN THE RECENT OCCUPATION PROCESS

Among the various actors responsible for and/or affected by the recent changes in the socio-economic structure of the municipalities of the Acre Valley three categories stand out: that of the entrepreneurs and ranchers, the *paulistas*; that of the migrant small rural producers, the colonists; and that of the already established inhabitants of the area, the rubber tappers and nut-gatherers. I will seek to define some of the characteristics of the two first categories, considered to be the new 'agents' in the Amazonian recent occupation process.

The third category -the extractive population- will be discussed in more detail in chapter seven. The latter, as previous inhabitants of the forest, will appear throughout the analysis as the principal 'victims' of this process of (re)occupation. This section also aims to give distinct approaches of the recent capitalist occupation in Acre, through the eyes (and the logic) of several different actors evolved.

#### 5.3.1. The Ranchers.

Large-scale capital came to Acre at the beginning of the 1970s, under the Medici government (1970-1974.) During the years 1972-74 in particular, there was a concerted rush to buy the lands of the old rubber estates by entrepreneurs and land speculators from the South of the country: the so-called *paulistas*. The majority of these big purchasers were from São Paulo and Minas Gerais states and were not in search of land to work, as were the small cultivators and landless who went to Rondonia state: rather, they wanted land for valorisation, they started the regional land market.

The first incomer was José Tavares do Couto, a big cattle breeder and agriculturist from São Paulo, who arrived in 1971. In the following year another ten entrepreneurs arrived over a period of six months; among them Ismerino Ribeiro, a traditional coffee planter from Minas Gerais and Joaquim Urbano Figueiredo, who had coffee plantations in São Paulo and cattle ranches in Mato Grosso states.



Other purchasers of land followed in the wake of these great entrepreneurs: medium-sized landowners who had sold smaller properties elsewhere (particularly Paraná state in the South of Brazil) or traders who had accumulated some capital and wished to become ranchers.

‘The great pioneer was José Tavares do Couto, a rancher respected throughout the Brazilian stock-breeding world, who at the time declared: I found; lets go where it is good. Because of him, other renowned ranchers came ... and with them, others, the *bagrinhos* (small ranchers)’ (Interview with rancher, 23/08/90, Rio Branco /AC.)

The price of the land was ‘dirt-cheap’; so much so that the estate owners had not idea of the true size of their lands. Measurement was made in terms of *estradas de seringas* (rubber trails), that is, circuit explored by one tapper in collecting latex. Each trail covers, on average, 120 trees which should corresponds to an area of approximately 120 hectares. It was assumed that one trail more or less corresponded to 120 hectares and that a *colocaçào* consisted of three trails of 120 trees each. According to Bakx (1986) *colocaçào* is a sub-unit of rubber estate consisting of the rubber tapper's hut, the *tapiri* (smokehouse), and a number of rubber trails. It may also represent anything from three to a dozen rubber trails, depending on the number of tappers extracting latex in the area. Each rubber tapper is supposed to use three trails for his work.

The initial deeds of sale were based on this presumption: the number of trails multiplied by 120 hectares. However when the first demarcations and mappings were made it became apparent that this figure (120 hectares) was greatly over-rated and that a trail actually only covered approximately 40 hectares, rising to 60 hectares at most in areas where the rubber trees were widely scattered. According to ranchers' depositions, there was, for example, one case in which a rancher bought a rubber estate estimated to cover 600,000 hectares, under the *estrada* system, which when mapped proved to cover only 200,000 hectares.

But how was it possible to sell an estate which had been mortgaged to either Banco do Brasil (BB) or Banco da Amazônia. In response to this consideration, the price came to be defined by the estate owner, not in terms of value per hectare, but as one which would clear his debts and leave him with some money over. Very few commercial transactions took place without the Bank's involvement, as all of the rubber estate owners were heavily mortgaged.

To this very day, the Banco do Brasil is the proprietor by default of various rubber estates throughout the state of Acre; where the estate owner has ceased repayments, died or disappeared, the Bank has assumed control. On the other hand, land grabbing was opposed by the ranchers in their assessments, while declaring:

‘The commercial transaction of purchasing a rubber estate ends in the office. Land purchases were made on a solid basis of entitlement. The land registry office has existed since 1903 and before that there was the Acre Land Survey Office’. (Interview with rancher. Rio Branco. August/1990.)

But for the ranchers, stockbreeding has its own historical logic.

‘Ranching is not only characteristic of Amazônia. Folk came here to Brazil -and this is since the time of the old Captaincies- and brought what? sugar, subsistence crops and CATTLE. Cattle have always been the primary expander of frontiers. Look at a region like this Acre where even now there is neither energy nor transport. You can only, in economic terms, have ranching because cattle transport themselves’. (Interview with rancher. 23/08/90. Rio Branco/AC.) (Author's emphasis.)

‘Ever since I arrived, the only story I have heard is that there is no way of developing a [frontier OMSB] region without clearing the land. This clearance enables you to produce ... beef, maize, rice, beans ... and that’s another thing: grass is green. The ecologists tell us to preserve the green. Well, grass is green as well and you are also producing beef!’ (Interview with rancher. 28/08/90. Rio Branco/AC.) (Author's emphasis.)

‘So we began to raise cattle here: just like any other part of Brazil you have to start with cattle so that agriculture can come later’. (Interview with rancher. 28/08/90. Rio Branco/AC.) (Author's emphasis.)

Nevertheless, the logic of settlement, through extensive cattle ranching is, first and foremost economic, due to the low price of land in Acre.

‘And the cost of land here is so low, that it costs more to clear the land and plant grass than to buy it. It is because of this that large-scale ranching is so lucrative. This type of ranching [extensive, OMSB] is more profitable here than it is in São Paulo, because one hectare of land here costs less than 10% of what you would pay for it in São Paulo and you produce the same beef and the steer reaches the same weight and is killed at the same time. Thus your benefit (income versus capital invested) here is ten times greater’. (Interview with rancher. 23/08/90. Rio Branco/AC.)

For some ranchers, cattle-raising has now become semi-intensive and less extensive. In the initial stages of forming pastureland, grass seed was sown by aeroplane in the newly stripped and burned areas of the forest. But since 1989 leguminous have been planted with the grass and, in some ranches, maize. To the ‘new masters of Acre’ cattle breeding represented the advanced, the profitable, the viable; in short, the ‘modern’ mode of occupation in contrast to the previous extractive methods of exploiting the forest. These were considered antiquated, backward and uneconomic.

'In 1974, when we arrived, the people here, the rubber tappers, who were weak because they only ate fish and flour, became ill with the change to a richer diet: fresh or dried meat. But they recovered and adapted to a new philosophy of labour. We introduced new tools to work the land. Those who had faith in cattle raising are now share-croppers who were given land by INCRA (National Institute for Colonisation and Agrarian Reform), which they developed, took out loans and now have a small herd. Those who didn't believe and wished to remain rubber tappers are now in a difficult situation; through the production of rubber a man earns less than one minimum wage and their diet is still flour based. Those who have evolved and live close to or even on the big ranches earn their living by working for the ranchers and have a greater purchasing power than the rubber tappers'. (Interview with rancher. 28/08/90. Rio Branco/Acre.) (Author's emphasis.)

The lack of labour constituted a problem as labour is generally scarce in recently opened frontier regions. It was necessary to bring in hired workers to clear the land, particularly during the high period from 1974 to 1978.

'Every year we brought in 20, 30, 50, 100 'peons' from Mato Grosso state, Paraguay, Goias, Bahia and Espirito Santo states, where labour is plentiful and the people used to this kind of work, that is clearing land and planting crops or pasture'. Nor are the Bolivians new to this kind of work and the Paraguayans learned to use an axe in Mato Grosso. From each bunch that came always a few decided to stay: either they found a woman or they came by some money and bought a bit of land, etc. Today we have a number of folk here who came as peons but become 'hirers' of labour. These are those who are distinguished by leadership, by control, by ability ... and we also have to secure the guy. In an area where labour is scarce, if you find someone good you have to hang on to him' (and he becomes either a contractor of labour or permanent hired hand.) (Interview with rancher. 28/08/90. Rio Branco/Acre.)

'I never brought in workers, but used the people who were already here (the rubber tappers.) Later on, the 'peons' brought in by the big ranchers worked for us as well; Paraguayans who'd lived in Mato Grosso do Sul and Mato Grosso do Norte states. These people are still here today and go from one ranch to another. The labour force is occupied for all the year: when they are not clearing new land (during the Amazon summer, that is, from April to September) they are 'cleaning' (weeding) the fields, etc. In 1974/75 we had to bring in *vaqueiros* (or cowboys a trade previously unknown in Acre) from the interior of São Paulo and Mato Grosso to manage the herd. Now others have learned and can be hired locally. Most of the labour contractors or *empreiteiros* came from outside, although some are local: the sharper ex-rubber tappers who proved capable of bossing half a dozen of peons and so become contractors. There were also the *trincas* (a leader and 3 or 4 others who formed a contractor's band.) The main contractor in Acre was a Paraguayan, who stayed here from 1974 to 1978 and then went back to Paraguay. Now we have the 'Chico Vermelho' who is a local'.

(Interview with rancher. Rio Branco/AC, 1990. Author's emphasis.)

Hiring rubber tappers was a solution to the scarcity of local labour. Thus the strategy developed to create a regional labour force was initially to give a piece of land to the rubber tapper.

'The rubber tapper was abandoned to his fate. As land was so cheap, we began to think about giving some land to the rubber tappers: to make friends with them, our neighbours, and creating an easy and nearby labour force. Not that we would do this because we were 'good boys'. If the rubber tapper was totally broke and I helped him, gave him a bit of land, got him on my side and eventually employed him (in our enterprise) the relationship here would be perfect. We began the first Agrarian Reform in this way. We taught them

to work: we taught them to use an axe and then to use a chainsaw, afterwards a tractor. We promote this reform' (Interview with rancher. 23/08/90. Rio Branco/ AC.)

This method of reorganising the land of the rubber estates, in which the ranchers created an area of plots for the rubber tapper, was followed by the great majority of the ranchers. And it was so for one elementary reason: land was very cheap. So that to buy a huge estate and give away 10% (or less) of it, rather than have any social or political problems with the forest dwellers, was good business.

'Along the roadsides from Rio Branco to Brasília, you would find that there's an infinity of small-holdings donated by us (ranchers) in our early days here. On one property alone I gave land to 28 rubber tappers and took care to have Chico Mendes (trade unionist leader) witness all of them. There was the whole process of negotiation: offering a lot to each of them, measuring and demarcating each lot, registering them and even paying the duty on them' (Interview with rancher/23/08/90. Rio Branco/AC.)

The size of the plot depended on the size of the family; that is, it depended on its capacity for labour or on the quantity of improvements which the rubber tapper had made on his 'claim'. In many cases, however, the land offered wasn't enough for the needs of the rubber tapper's activity, which demanded at least the area corresponding to three *estradas de seringa*, that is, more or less 120 hectares.

'They were given a grace period in which to leave their claim and move to the plot, and this was never less than two years. It was a much more rational and smart way of doing things. Now if I need a peon, I have to bring him from outside'.  
(Interview with rancher. Rio Branco/Acre.1990.)

The IBDF (Brazilian Institute of Forestry Development), later IBAMA (Brazilian Institute of Natural Resources and Environment), required that at least 50% of the property's forest should be left untouched. Thus, the exploitation by the rubber tappers of that area, preserving the environment, constituted 'good business' for the ranchers who had at the same time honoured the law and created a pool of labour.

'The ranchers themselves were interested in exploiting (in terms of extractivism) this legal reserve of forest (and/or labour) since deforestation to make way for cattle is a gradual process as you are not allowed to clear everything at once. On the other hand exploitation for cattle is expensive: you are unable to clear much as the cost is very high, so that you have to do it a little at a time. The rancher therefore did not exploit the reserves of forest solely according to commercial dictates but also so that they could support the rubber tappers and have a labour force available. And the activities did not exclude each other: the season when the tapper extracts rubber is the one in which we have nothing to do, and vice versa. So everything meshed together well'.  
(Interview with rancher. Rio Branco, 23/08/90.)

Sometimes the rancher transported the rubber from the estate, transported the rubber tapper to the town and his purchases back to the ranch and provided such things as medicine. He did not reap an immediate profit but found his reward in an easy and plentiful supply of labour when he needed it. However, the system did not operate as envisaged. In the eyes of the ranchers, the problem stemmed from the 'anti-southerner' policy pursued by the state government of the period, whilst the trade unions and the church were blamed for agitating over the question of land ownership.

'The rubber tapper was set against the ranchers by the Mesquita government and then CUT (Worker's Central Syndicate) and the Church interfered, claiming that after working for a year and a day on a land they were no longer rubber tappers but squatters. At this time I only had use of half of my land. The other 50% which I exploited (for rubber) in truth, I wasn't exploiting it for me, I gave support to the tappers'.  
(Interview with rancher. Rio Branco. 23/08/90.) (Author's emphasis.)

'The tapper only had use of the land, but it was there that political problems and the Government's politicking interests came in. The tapper set his rights of usage against my property rights and got the backing of the Government, the Church and the left wing parties... and I had a problem. So what would I rather do? The rubber tapper sells his claim and I give him title, I hand it over to him. I lose a piece of land but I am free of an encumbrance'. (Interview with rancher. Rio Branco/Acre. 1990.)

The ranchers then decided to 'cleanse' their forest areas of tappers moving them to colonisation areas. These actions have contributed for the disruption of extractive populations previous 'way of life', historically much more linked to the forest (through activities as a forest dwellers) rather than to the land cultivation. The ranchers logic of 'giving a plot' to the extractive worker, however, didn't make him a colonist: the link (its life relation) has been made with the forest not with the land.

'When I dealt with the Etelvi rubber estate, there were 16 families of rubber tappers who wanted compensations. In 1974 I acquired an area 10 km. from the town of Brasiléia and 5 km. from the BR-317 motorway: it was on the former Beija-Flor rubber estate. I gave 50 hectares to each family and they were then closer to the town. The state government had allocated this little rubber estate to the resettlement of ex-rubber tappers who came from old rubber estates which were sold out'.  
(Interview with rancher. Rio Branco. August/1990.)

'There are no longer any rubber tapper extracting latex on any of my estates. Those who once did so now either work on the ranch (as hired hands) or moved to other rubber estates or to the colonisation projects in Brasiléia'.  
(Interview with rancher. Rio Branco/Acre. August/1990.)

'The Sinuelo ranch was the scene of conflict during the era of purchase. There were 84 families of rubber tappers and homesteaders there. We compensated all of them according to INCRA's requirements, whether they wanted money or land. Today there is only one family still living in the area who owns land; all the others sold it. As to what happened to these people, some went to other rubber estates, some to the town. They (the homesteaders) have changed a lot; they have been 'used' to create problems in other places so that these lands would be appropriated by the INCRA's settlement. There are

those who still continue to 'agitate' but, generally speaking, Acre is 'well-enough suited' in terms of the land issue. Here land problems don't exist: we have plenty of land, even though the population density here is low (500,000 inhabitants for 15,000,000 hectares) ... its too much land! The problems here were created...the problem which set the landowners against the rubber tappers was manipulated by the Unions, by the leftwing parties of Brazil; they are manufactured cases...and brought this question of bloodshed, on one side as much as the other. But now the situation is a lot better, the Left has lost power around the whole world and I believe that it will lose out in Brazil as well'. (Interview with rancher. Rio Branco/Acre. August/1990.)

However the vast majority of rubber tappers have not settled in the colonies. In many cases they only left the areas of the new ranchers following a struggle, and many ranchers sold their lands because of these problems.

But the rubber tappers' difficulties in adapting to farming were perceived in different ways by the ranchers. Some of them conceded that it was a difficult transformation to make...

'The big problem that I see here in the region is that the rubber tapper is different from the colonists from the South: the rubber tapper lives off trees, he doesn't live off the land, he lives on nuts and rubber; he doesn't have a taste for agriculture, he only plants crops for subsistence, he is not attached to the land, he is attached to trees. For them this transformation was and is difficult; agriculture is much heavier work than tapping rubber. Although the government has tried to set up this colonisation project for them (the Beija-Flor estate) they end up selling their plots'. (Interview with rancher. Rio Branco/Acre. August/1990.)

For the majority of the ranchers this difficulty in adapting to farming was a question of politics or of the rubber tappers' unwillingness to adapt to new times.

'Rubber tapper don't work in the sun - is the political slogan used to denigrate our image (that of the rancher.) There were even rubber tappers who managed to become cattlemen and a lot of rubber tappers who managed to become colonists and farmers. Now there is a bunch of them who think its much easier to go to the town looking to the State's paternalism or some other scheme to survive. Today you'll find dozens of ex-rubber tappers on the streets of the city who are mini traders, or have a little stall to sell cigarettes, or sweets'. (Interview with rancher. Rio Branco. August/1990.)

The growth in urban unemployment, particularly among the ex-rubber tappers and colonists, is viewed by the ranchers as originating with the current policy of opposing deforestation whether at a national or international level.

'Now the situation is critical due to the ban on clearance. There isn't any work for the labour force. Now to acquire a chainsaw, which is an expensive piece of equipment, you have to have a sort of 'chainsaw licence', under a law passed by the Federal Government in 1989 and enacted this year. This will make it difficult to establish new ranches. Today is costing the Brazilian a lot to work because instead of there being a Government incentive to make an individual productive, there is a lack of incentive: for him to acquire a chainsaw he has to get documentation, for him to clear some land he has to submit a RIMA (Environmental Impact Report) which isn't worth anything. But is the Government that shouts loudest and they should know what is necessary. However, the way they are

creating regulations will make developing the region difficult; and the Left (parties) takes a big hand in this because they don't want development, they want misery, in the same way as is happening now in Rio Branco: kidnapping, bank robberies (the first ever in the history of Acre took place only two weeks ago) ... The labour force is lazy and the Government is keeping these people unemployed there in the town: the state government has already employed the excess labour, there is no more job. This is a big penalty that we are paying and which haven't deserved: we are getting it from these international ecological forces'.

(Interview with rancher. Rio Branco. August/1990.) (Author's translation and emphasis.)

From the above presented it is possible to deduce that the process of (re) occupation of Acrean frontier areas was based on the logic of the 'external conqueror over the local, regional peoples' culture'; the logic of the 'new' against the 'traditional' forms of land use. According to the group of ranchers, there is no way to get a job, to develop a region, except by the cattle ranching; to obstruct the actions of cutting the forest contributing to keeping Amazônia underdeveloped. For them, development means investment in land, that is, deforested land. The development logic rests on the model of occupation brought from outside Amazônia -the cattle raising front- which performance could not be questioned.

### 5.3.2. The colonists.

At the beginning of the 1970s, the construction of the BR-364 motorway (between Mato Grosso and Rondônia states) together with government propaganda regarding the availability of fertile land in Amazônia and the creation of INCRA's Colonisation Programme led to a spectacular upsurge of population in Rondônia, the neighbouring state to Acre. It brought an influx of small producers from the South and Mid-West of the country, expropriated by agricultural modernisation together with labourers who had worked on the construction of the hydroelectric dams of the South.

As many of these migrants were unable to settle in the new lands, like Rondônia, they moved on to Acre, following the route of the BR-364 motorway. These were the *colonos* (colonists), that is, the landless, the small rural producers who had migrated from other parts of Brazil in an attempt to once again, this time in Acre, gain access to a piece of land to work. These migratory groups of unsuccessful small rural producers began to arrive in 1975 in the areas of Acre, the municipalities of Rio Branco, Senador Guiomard, Plácido de Castro, Brasiléia, Cruzeiro do Sul and Sena Madureira, where INCRA was establishing Directed Settlement Projects (PADs.) Such projects were usually set-up in the old rubber estate areas (where there had often been conflicts over land) with the objective of reducing social tensions.

Beginning in 1977, INCRA created various PADs in Acre, occupying a total area of 804,269 hectares with a projected settlement capacity of 8606 families. In addition to these, four Rapid Settlement Projects (PARs) were created between 1980 and 1982 (with an area of 69,452 hectares with a capacity for 1417 families), whilst three Agrarian Reform Projects (PRAs) were set up in Rio Branco between 1986 and 1987, with an area of 28,670 hectares and a capacity for 461 families of small producers. According to INCRA's 1989 data, another 54,592 hectares have been recently appropriated for the establishment of PRAs for another 2,079 families in the municipalities of Rio Branco, Manoel Urbano and Sena Madureira. Thus a total of 956,983 hectares with the capacity for settling 12,563 families have been set aside by the government in the last 13 years for the purpose of official colonisation programmes in the state of Acre.

However, if there has been a concern on the part of the government to offer land to the migrants, its policy has failed to achieve a definitive process of settlement. The colonists received the land but not the necessary support to enable them to establish themselves. There were a number of errors in the initial conception of the model of colonisation adopted in Amazônia.

'The very format of the plots which, in general, does not take into account natural resources such as the presence of water and soil quality, has constituted a limiting factor on the growth of production. In addition to this, the lack of both main roads and branch roads to link the lots to them, and the absence of any means to store produce, makes the marketing of products difficult and causes great losses. The colonists are in a forlorn position since, besides the isolation to which they are subjected, they do not enjoy an adequate programme of technical and financial assistance. There is a high mortality rate due to the inadequacy of the medical services available and the prevalence of diseases such as malaria and hepatitis. Insufficient schools constitute yet another problem which, together with the above points, has contributed to the flight of the colonists'. (IBGE/IPEA, 1989.)

For the colonists whose land is secure, with either a provisional title (Licence of Occupation/LO) or a public deed (Definitive Title/TD) there are usually other additional problems too. Holdings are small, generally less than 25 hectares, where the regional module of 100 hectares for an economic holding often with exhausted land caused by slash and burn techniques<sup>22</sup>.

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<sup>22</sup> *Coivara* (slash and burn) is a traditional indigenous technique of burning off groundcover to plant crops. As it exhausts the soil's productive capacity, the colonist has to move on to fresh land for the next crop so that there is a constant need for virgin land to enable him to continue producing. The lots are small and generally the 50% permitted by the IBDF has already been deforested; but the colonists do not have either the tools or the technical assistance to make intensive use of their land. It is this that causes the problems of 'exhausted land' and 'insufficient land' to plant cited by the colonists.



According to evidence from the colonists of Rio Branco themselves, as published in *Varadouro*, II (11), August/1978, the major problems faced has to do with the lack of land, transport and roads hindering the marketing of their crops, the presence of *atravessadores* (the intermediaries in the chain of commercialisation), the difficulty of obtaining finance from the banks and the instability of prices.

The lack of viable roads during the so-called Amazonian 'winter' (the rainy season from October to March) when dirt roads are impassable constitutes yet another problem. The colonists are marooned, and many have to walk for several kilometres with a 50 kg sack of produce on their backs before they can find a shipper who will transport it to the town. During this season there is a huge surcharge on the shipping costs of the transport (pick-ups, jeeps, lorries) which prevents the colonists sending their produce such as maize, rice, etc. to markets because the cost of transporting it swallows any profit. And whilst local produce rots in the fields, the same products are imported from the markets of the South, along the BR-364 motorway, and sold at an inflated price by the local traders. Thus, not only do the colonists suffer from the inadequacy of the local communications network, but, there is no system of marketing their produce adequately, either.

For those colonists who work on areas of old rubber estates now in the hands of new landlords, all of the problems noted above are compounded by the fact that they do not have their own land. Thus, they cannot clear more land for crops (fields) as the new owner of the rubber estate will not permit it, and the Brazilian Institute of Forestry Development - IBDF, now IBAMA, can only give permission with the owner's agreement.

The legislation of IBDF states that the landowner or the homesteader may only clear 50% of the forest on their land. However, this law applies equally to the great landowner (who therefore has the legal right to clear hundreds or thousands of hectares, which represent 50% of his land) and to the small homesteader (who may only clear a total of 25 hectares to grow crops on a holding of 50 ha.)

This rule of the IBDF in Acre has prejudiced the small producers' production. For the great landowner this restriction makes little difference, but in the case of the colonists it often makes their activities impossible.

'Just as the lack of land has already driven out many colonists, this rule of the IBDF has also pushed many people towards the town. Some end by selling what little they have, whilst others on reaching the minimum limit of what they are allowed to clear, simply abandon the land and try to make a life in the city of Rio Branco'.  
(*Varadouro*, I, (9):16. May /1978.)

Not all of the colonists in Acre are migrants from other states. There are many former rubber tappers who became colonists after 1945, with the winding-up of the rubber estates. It was the exodus of the rubber tappers and their growing concentration in the towns, particularly Rio Branco, that brought about the appearance of colonies. Some arose naturally; others were created by the state government, which bought up the defunct rubber estates to install the rubber tappers on plots of 20 to 100 hectares maximum: these were agricultural nuclei (NARIs), the majority of which were established in rural areas close to Rio Branco.

It was thought that such action would not only resolve the problem of the landless ex-rubber tappers, but at the same time stimulate the agricultural production needed to supply the city of Rio Branco.

In 1947 many rubber tappers left the estates. In this year the government of José Guiomard dos Santos created the state Colony of Fontinelli de Castro, in the municipality of Brasiléia, following the expropriation of part of the Bela Flor rubber estate. Much later, around 1970, the rest of this estate was expropriated by INCRA to form the Bela Flor Colony. The town of Brasiléia/AC had also been a rubber estate.

'At the beginning in Bela Flor Colony they cut up the rubber, there were 80 lots, all occupied by rubber tappers; but from 1977 to the present day many of these lots were sold to ranchers... So that now only 4 colonists live in (Fontinelli) the original area'. (Interview with Jorge Pedro dos Santos, a rubber tapper on the Bela Flor estate until 1947, a colonist at Fontinelli Colony until 1963 and now a casual labourer on the civil engineering site at km.42 of the BR-317 motorway. Acre state.)

The Colônia Calafate, which is considered to be one of the oldest colonies, and where more than 2,000 now live, once formed part of the Nova Empresa rubber estate. It was bought by the government, divided into plots of 50 to 100 hectares and distributed to 'new' colonists (ex-rubber tappers.) Colonia Aquiles Peret, created in 1957, was also a rubber estate. As with Colonia Apolonio Sales and, most recently, Colonia Jarbas Passarinho, the process here was spontaneous: lacking either land to work or the money to acquire land, the colonists united and 'invaded' these areas.

However, with the growing difficulties experienced by the small producers merely to survive, these colonies are disappearing and their occupants migrating to the outskirts of Rio Branco.

'The colonist Antonio Rezende made another denunciation... the majority of the colonies of Rio Branco have already been or are now being encircled by ranches, whether those of southern investors or landowners from the Acre region. Now, classically, a *minifundio* (colony) encircled by a *latifundia* (ranch) will not hold out for long; and this is exactly

what has happened in Acre. Many colonists when in financial difficulties sell their land to the ranch owner, who thus extends his pasture ... Another fact is also verified: many homesteads are becoming weekend cottages for members of the liberal profession: doctors, lawyers, higher civil servants, executives -the urban upper class'.  
(*Varadouro*, I,(9):16, May/1978.)

Another factor in the abandonment of the colony's plots by the ex-rubber tappers is their own difficulty to adapt to working in the fields (agriculture.) Accustomed only to the extraction of latex and growing a few subsistence crops, they were unable to satisfactorily modify their outlook to that of an agriculturalist.

'Installing colonies in the lands of the old rubber estates meant transforming rubber tappers into colonists from one moment to the next. This contradicted all of the rubber tapper's previous experience, totally alien to that of a *colono* or a farmer. The rubber tapper clearly demonstrated his difficulties in becoming a colonist simply by saying that he didn't know how to work in the sun (fields) because he is accustomed to working in the shade (forest)'. (Hees, 1990:84.)

The case of Santa Quitéria Colonisation Project, in which one part of the area became a colony, whilst the rest was left as a reserve for those rubber tappers who wanted to carry on making a living from the forest, gives some useful evidence on this.

However, for the people who were originally colonists from the South or Mid-West part of the country, the situation is quite different. The question now is whether it is possible for a colonist to become a 'peon', a waged worker. This process started for the colonist with a seasonal employment, a complementary source of subsistence, as explained below.

'Let's not say peon, now he is a manual labourer. There is an INCRA colonisation project in Brasília, the Santa Quitéria Project, which occupies portions of the old Santa Quitéria and Sacado rubber estates. These colonists came from the South of the country. After they make their clearance, which is small, they take seasonal employment on our ranch, in order to make ends meet. They also gather wood from around their area and sell it to us to make fences. Most of the people who work on our ranch are INCRA homesteaders: they grow subsistence crops and top-up their income with paid work'. (Interview with rancher. Rio Branco. August/1990.) (Author's emphasis.)

And the colonist continues to be a migrant:

'No land, no roads... and they call them riffraff! The colonists, the poor colonists! They are just the same in the South as in the North: they don't have enough land to support their numerous children, they can't get fair prices in the markets, they have neither financial nor technical assistance, the health necessary to sustain the heavy labour of cultivation, there are no roads to transport their products and they have nothing but their mere 5, 10 or 50 hectares of land...'. (*Varadouro*, I (9):15. May/ 1978.)

Thus, generally speaking, the colonists have been seen as a failed category, characterised by their itinerant behaviour, that is, having their own mobility, which was perceived as an act of 'freedom', not of domination.

### 5.3.3. Conflicts among the social actors: an example.

A sense of the conflicts among various actors involved in the recent settlement of the lands of Acre River Valley may be obtained by looking at a particular example of the process. The case of the Nova Empresa rubber estate, which is situated in the municipality of Rio Branco/AC, can be examined through several articles appearing in the local journal *Varadouro*. In July 1977, two *capatazes* (estate foremen) were killed by rural squatters evicted from disputed land.

This section aims to present, using actual quotations of a local newspaper from Acre, an assessment of the conflicts according to the testimony of five main actors that represent the main interests involved in this process:

#### 1) **The foreman** (administrator of a large ranch.)

‘They say that this is a capitalist system and that's good. I was brought up in this system; it shaped me and I grew up in it. If you're accustomed to one thing, how should you be any different? If the system changed I would move to Australia. I'd trap kangaroos there’.

‘It is ridiculous to take someone such as this (rubber tapper) and move him to the city. This is a person who has never seen an automobile, never seen two houses next to each other. It is a matter of settling him on the land. And to do this we are allocating small plots of 25 ha for small-holdings so that gradually the rubber tapper is established in his own right, with paper and everything. He would not be able to sell the land for four years and even then, obviously, we would have first refusal’.

(Interview with Carlos Sergio, 26, foreman of the Nova Empresa estate, killed in land conflict. Quoted in *Varadouro*, Year I (3):10. August/1977.)

#### 2) **The rural squatter** (rubber tapper.)

‘Look here, God knows that I don't know much, not even how to write my own name. But I used to live in the Nova Empresa rubber estate until they threw me out. Now, pardon me, but I know what is right and I know that this is wrong, very wrong. I'm a native of that land, I was born in that place that God created, and how, by what right, can outsiders take away my land? You are an educated man - can you tell me?’

(*Varadouro*, Year I (3):10. August/1977.)

‘The landowners who want to take our land away say that we can have another place; but they don't guarantee these holdings, or give us any papers for them. They just want us to go. I was threatened on several occasions (by the foreman) and went to the authorities in Rio Branco City for help. I begged the police to save me, I went to the Governor, to INCRA. We almost stopped working completely because we were trying to get the authorities to sort our problems’.

(Interview with Antonio Caetano de Souza, the squatter responsible for the death of foreman Carlos Sergio, quoted in *Varadouro*, Year I (3):11. August/1977.)

‘Antonio Caetano de Souza is 53 years old and the father of 18 (eighteen) children; a squatter with 10 years of rubber-tapping in that rubber estate; he was forced to leave his land of labour by the foreman for whose death he was responsible and is, now, another convict in the Penal Colony (prison) at Rio Branco City’.

(*Varadouro*, Year I (3):11. August/1977.)

'Can it be that there is still a place for the squatter and the rubber tapper in the present day socio-economic structure of the State?' (*Varadouro*, Year I (3):11. August/1977.)

### 3) The large landlord.

'We cannot give them (the rubber tappers) the deeds because we won't pay INCRA's tax, and you can't do a thing, not one single contract, without INCRA's agreement. I would pay between 10 and 12 thousand (tax) for my land and now INCRA is demanding 90 thousand. I think it is unjust. I asked to settle the debt by instalments but I was unable to do so. We are prevented from giving deed because I can't go to the registry without INCRA's quittance ... As soon as INCRA gives me that, I will take all of them (the squatters) there'. (Interview with Arquimedes Barbieri/ São Paulo industrialist and owner of the Nova Empresa estate'. (Quoted in *Varadouro*, Year I (3):10. Aug/1977.

### 4) The State.

#### a) The state Governor.

'He himself (the Governor Geraldo Mesquita) confirmed that on at least two or three occasions he called the foreman and the squatter, counselling them to reach an argument. However, the advice was not heeded and after the fact the Governor could only comment that the incident was lamentable, profoundly lamentable. Perhaps his admonitions might have had some effect if the State Secretary for Public Security had not underestimated (or ignored) the conflict which had been developing since 1975'.  
(*Varadouro*, Year I (3):11. August/1977.)

'The Governor had complained to the President of the Republic (on a previous occasion) that the competent institutions (for which read INCRA) had not enacted the legal mechanisms instituted to legalise land titles ... which is essential in balancing the proposed development of cattle ranching with the need to preserve the potential of Amazônia as a source of natural resources. The Governor was referring to Law 6383 of 1976, which has not as yet been employed to promote the allocation of lands'.  
(*Varadouro*, Year I (3):11. August/1977.)

#### b) The INCRA - (National Institute for Colonisation and Agrarian Reform.)

'All of the individuals and institutions cited in Nova Empresa case gave an explanation for their actions except for INCRA, which made no comment, preserving its habitual silence ... Yet INCRA is, in the last resort, the body on which falls the difficult and onerous task of implementing the regularisation of land holdings'.  
(*Varadouro*, Year I (3):12. August/1977.)

### 5) The Church. (The Prelacy of Acre and Purrs.)

'Having lost faith in any hope of finding a solution by legal means, the desperate will turn to violence, as happened at Nova Empresa'. (*Varadouro*, Year I (3):2. August/1977.)

'The Church supports the petition to carry out the expropriation of the two areas declared in the social interest. These areas total some 790,000 hectares. The misappropriation was only initiated seven months after it was decreed and even so only 50,000 of the envisaged 790,000 hectares have been acquired'. (*Varadouro*, Year I (3):12. August/1977.)

This example of Nova Empresa estate shows the dynamic, or the 'laissez-faire', under which the current model of occupation has been working. A marked feature of

this new occupation model, was the appearance and intensification of conflicts between ranchers and the small rural producers over the use and ownership of forest, and land. This question will be discussed in more detail in chapter seven, where the extractive social movement in Acre will be analysed. It is necessary however to stress that within the wider and apparently homogeneous process of capitalist expansion in the Amazônia, a number of very different and often contradictory forms of occupation appeared at the micro-regional level, explaining the emergence of social conflicts.

Through using actual quotations from different segments of society, this section tried to show who were the actors involved in the conflicts and furthermore, how each of these perceived their own role and assessed the way in which the recent process of land occupation has been occurring. According to the Progressive Church, these type of conflicts, that became usual in Acre, reflect the way in which the capitalist process of occupation has been taking place in Acre. In this sense, the Church defines it as 'jungle capitalism', the means by which the large-scale ranches are expanding into the state of Acre, that is, a system which is established by violence without reference to the constraints of regulatory institutions.

#### 5.4. FINAL REMARKS

The set-up in the state of Acre reflects different phases in the expansion of international and, recently, national capitalism. Yet more than this, it shows the ebb and flow of the Brazilian population, its 'mobility' in the service of the needs of mercantile and speculative capital. From 1970, profound changes began to take place in the spatial organisation and socio-economic structure of Acre state. The lands of the old rubber estates were bought up by large and medium scale entrepreneurs from the Centre South of the country, accelerating the collapse of the traditional rubber extraction economy. During its course, there have been changes in the structure of landownership, in access to land, in the forms of its utilisation and in the social relations of production.

Such actions entail serious environmental change (table 5.4.), not only in how they affect the physical environment (through deforestation and burning, and the silting-up of rivers, etc.) but, principally, in relation to the changes taking place in the cultural and living patterns of the existing populations. The most visible consequences of this new pattern of land-use were the outbreak of conflicts over the use and possession of

land and the emergence of huge migratory flows specifically towards urban areas such as Rio Branco City.

As noted by the Progressive Church,

'Numerous families who have lost their lands, either through ignorance of their rights or because they do not have the means to defend them, are today to be found in the state capital (Rio Branco) or on the outskirts of towns which do not have the means to absorb all of this labour force'.(Quoted in document submitted to the President of the Republic of Brazil by the Prelacy of Acre and Purus. *Varadouro*, Year I (3):2. August/1977.)

However, mobility of the labour force in Acre state had presented different meanings according to the particular economic phase in which it was analysed. During the stage of *aviamento* system (as an expression of the mercantile capital linked to traditional rubber economy in western Amazônia), the profit of the *patrão* was achieved through the 'immobility' of the rubber tappers on the immense rubber estate, that is, by way of their labour domination. Labour force was tied to the rubber estates, semi-compulsorily, as the commercial expedient entrapped the worker through debt, pushing him into total economic dependency of his master.

Yet, from the 70s -the recent phase of capitalist expansion in Amazônia has been through the 'mobility' of the labour force (as an important mechanism for the development of waged work) that the regional labour market has been created and profit obtained. Now, 'immobility' means a resistance movement launched by 'the locals' in order to stay in their original areas, using the nature (forest or land) as a means of survival.

## CHAPTER 6

### EXPANSION OF THE LABOUR MARKET IN THE WESTERN AMAZONIAN FRONTIER: THE CASE OF ACRE STATE.

#### 6.1. INTRODUCTION.

The previous chapter has dealt with the new forms of appropriation of frontier areas in western Amazônia and the analysis was developed taking in consideration different approaches from agents involved in the process. Despite the distinct perceptions, two characteristics became evident as the outcome of new patterns of land-use: the outbreak of social conflicts and the emergence of significant migratory flows, especially from rural areas towards urban centres. These facts attested that a forced mobility of the population took place in the Amazonian frontier areas.

In the present chapter I will discuss how this forced mobility of the population, which paradoxically occurred within the so-called 'frontier empty spaces', was not only suitable but also necessary for the new capitalist model implanted in the Amazônia during the 70s and 80s, respectively periods of creation and consolidation of the regional labour market.

In order to do so, I shall examine the role played by migration in the rising of a regional labour force in Acre, necessary at this stage of opening of frontier areas to capital from the central and southern parts of the country. Thus, the mobility of the labour force is seen as an essential mechanism for integrating the frontier areas to other parts of the country. The importance of urban centres as 'locus' of concentration, circulation and reproduction of this labour force is also considered in this chapter.

The 'surplus population' in the Brazilian Western Amazônia will be analysed taking into account the reality of a peripheral, capitalist country, in a stage of appropriation of its natural resource frontier. According to this view, the present chapter will analyse the process of expansion of the labour market in Acre state, examining how migrants in frontier areas, turned into a surplus population by new forms of occupation, and pushed into the impoverished urban peripheries, have been circulating as a source of labour.

The access of these migrants to urban occupations has to a large degree been made difficult by their position as a poor labour force, not qualified for the new reality. An example of activity developed by this surplus population is that of the autonomous worker, which corresponds to the category of *ambulantes* (street hawkers), that is, small,



autonomous vendors of the urban, informal market. The original contribution of this chapter lies in the study of this category of street hawkers, seen as an expression of a 'floating labour force', available in the capitalist sphere.

The issues mentioned above will be discussed in two sections of this chapter. The first section will describe the creation and consolidation of the labour market in Acre state, describing the structure of its formal labour force according to basic sectors of activities. The second section will deal with the informal trade sector, taking as example the street hawker category.

In the first instance, there will be an analysis based on the interpretation of data from the 1980 and 1991 Demographic censuses and on interviews (with migrant workers) extracted from old local newspaper. As for the street hawkers, the analysis will be based on a survey carried out in Rio Branco City in 1990 (see Appendix on sources and methods of research.) Besides characterising this street hawker population, the study also investigates the existence of an association between the expansion of urban informal activities and the intensification of migrations resultant from changes in the use and tenure of land in frontier areas.

## 6.2. CREATION OF THE WESTERN FRONTIER LABOUR MARKET.

This section will present some evidences on the creation of the labour market in Acre state. It will characterise the labour force according to their participation in the basic sectors of activity. The forms, as well as the difficulties faced by migrants, in their insertion in regional activities will be analysed through comments by migrant workers found in the local newspaper *Varadouro*.

Available labour force was scarce in Western Amazônia in the early 1970s, a period in which the frontier was characterised by the absence of significant population contingents. The waged labour force was reduced since the majority of the local population was constituted by small rural squatters, engaged mainly in extractive activities, practised together with an incipient subsistence agriculture. This population was partially integrated into the capitalist economy.

However, the establishment of activities representatives of the new occupation strategy for the Amazonian frontier (such as deforestation, the construction of regional roads, the formation of cattle ranching and pasture) required plenty of labour force, non-existent at the time.

With the spread of ranching into the areas of the old rubber estates since 1972, many small rural extractive producers have suffered a progressive expropriation of their principal means of production: the forest. In the following decade, as a result of the failure of the ineffectual official colonisation policy to establish its colonists on the frontier areas, these populations have gradually lost their vital means of production: the land.

These dispossessed groups of small rural producers have, for the most part, migrated to urban areas, concentrating on the outskirts of the town of Rio Branco. Their survival options have been reduced to casual temporary work (mainly linked to deforestation and other activities in rural areas), to permanent waged work (especially depending on the needs of the reduced local urban market), and, more recently, to activities on the fringe of the institutionalised labour market (that is, to the activities of the informal urban market.)

According to Oliveira (1985) for the first time in the history of the migration and settlement of the North easterners in Acre, a considerable proportion of this population has in fact become a labour force in the strictest sense of the term: that is, labourers who have nothing to sell but their labour. In these terms it is possible to say that the creation of a labour market in Acre began in the 1970s: as a coincidence, at this time the 'cattle raising front' arrived in the state. This front was made up of medium and large scale entrepreneurs from the Centre-South of the country, eager for workers who would carry out their projects.

From the beginning of the 80s, the surplus population in the frontier started to grow with the concentration of migrants in the urban centres. From then, employment opportunities became fluctuate. Rio Branco, like other towns on the frontier, has come to constitute a pool of labour, especially for temporary waged work in the region. Temporary waged labour, a necessary element in the organisation of capitalist frontier areas, has been initially utilised in activities linked to the construction of a regional infrastructure and to the establishment of ranches. It is important to remember that once the great public works were finished (motorways BR-364, BR-317, AC-40, in the case of Acre) huge numbers of workers were laid off and that the new form of occupation, cattle raising, only employs large numbers during the first stages of settlement, when the forest is being cut and the pastures planted. In the later stages, once the cattle arrive, few permanent employees are necessary.

The closing years of the 80s saw the end of regional infrastructure works and the consolidation of tenure for most frontier land, in most instances by large and medium scale entrepreneurs. Both facts meant that the labour market in those frontier areas no longer required abundant labour force, and since then the job supply has been low.

It is also important to stress that in terms of labour structure, the Amazonian frontier (in relation to the other Brazilian regions) has been described as a part of Brazil which has relatively fewer rural workers engaged in the labour market (IBGE/GIP RECLUS/ORSTON, 1992.) Various factors would appear to explain this characteristic, among which may be noted the type of activity which, from the seventies, has been established in the frontier region: extensive cattle ranching which, once established, employs fewer workers. Another reason is the preponderance of huge rural properties which utilise only part of their area, leaving the remainder to serve as a reserve of value.

If considering the composition of the labour force (economically active population aged 10 years and more, hereafter referred to as PEA) from the 70s, and for the Northern Region as a whole, according to Martine and Torres (1991:4), there was a shift from a predominantly rural make up to one in which urban type activities began to prevail.

This increase in commercial, services and urban industrial activities was in consonance with the literature on the subject (Sawyer,1987; Torres,1988; Martine and Turchi, 1990.) According to a population projection (1990) for the PEA for the Northern Region<sup>23</sup> it can be assumed that rural activities, as a whole, would make up less than 48% of the total in 1990.

The relatively small role played by extractive activities in the overall configuration of the employment in the Northern Region has been discussed by the authors: the participation of extractivism would account for 16% of the PEA of the Region in 1970, and this would still decline to 8% in 1980. As concerns the participation of extractivism as a proportion of all rural activities, it would have decline from 28% to 17% in the 1970-1980 period and in the 1990s had been even less important.

Although urban activities tend to be of growing importance in the employment structure of the Northern Region as a whole, in the Acre state - a recent frontier area -

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<sup>23</sup> This was obtained with the aid of a multi regional model which disaggregates the current most accepted population projection for the country, applied by Hakkert in 1989, on the basis of the projection by Camarano et alii, in 1988.

the extractivism continues to be of vital importance for a significant portion of the population.

An overview of the labour market in Acre can be obtained analysing the structure of its labour force in 1980, one decade after the new capitalist activities entered this frontier area, and afterwards, in the 1990s.

According to demographic census data (Brasil, IBGE, 1980) it was showed that in 1980 the Acrean labour force consisted of 199,001 people, 52% male and 48% female. Of this population, 47% were considered to be in fact economically active (with employment) and 53% non-active (dependent on the former.) This analysis of the labour force<sup>24</sup> also showed that in the state of Acre, in 1980, 50% of the population were still dependent on the primary sector (agricultural work, livestock, extracting plant resources and fishing/hunting), whilst another 26% were primarily dependent on the service sector. In the Acre River Valley area, the most heavily urbanised part of the state, these figures were 38% and 34% respectively, demonstrating the minimal importance, by that time, of industrial and commercial activities to the dynamics of the expanding capitalist frontier in this particular portion of Amazônia.

This distribution of the population into the different sectors of activity changed in 1991. Although the primary sector still concentrated the highest percentage (34,3%) of the Economic Active Population (PEA), it decreased 16% in relation to the previous decade, which made its importance roughly equivalent to that of the service sector, representing 33,8% of the PEA (Table 6.1.)

With regard to the urban labour market, data from the Ministry of Labour (quoted in Oliveira, 1985) have indicated that in 1979, 80% of urban employment in Rio Branco City was concentrated in the service sector, particularly in the areas of finance, the liberal professions, transport and communications, public administration and social welfare (health & education), showing that the State has been an important

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<sup>24</sup>The population of 10 years and more was divided, according to status of activity, into economically active population and economically inactive. The Brazilian Demographic Census defined:

a) Economically active = those who, for all or part of the 12 months prior to the date of the census (01-9-1979 to 31-8-80) were in paid work (whether paid in money or in kind) and those without remuneration who habitually worked for 15 or more hours a week in an economic activity, helping the person with whom they reside or a charitable institution, in a co-operative or as an apprentice, probationer, etc. Also included in this category were those of 10 years and more who in the last two months prior to the census had been seeking work;

b) Economically inactive = those who, for the 12 months prior to the date of the census fulfilled one of the following conditions: carried out domestic duties in their own home, was a full-time student, lived on the income from a pension or capital investments, was serving a custodial sentence, were sick or invalids, but not on sick leave from their workplace, did not want to work, had ceased looking for work as they had been unable to find it.

urban employer. Bearing in mind that these activities all require a certain degree of qualification, not to be found among the rural small producers, it may be deduced that the labour force who filled these posts had to come from migrants with an urban background, probably from the Southern and Northeastern parts of the country. Industrial sector had little expression (12%) being for the most part represented by civil engineering activities. Commerce accounted for only 9% of jobs.

TABLE 6.1  
PERSONS OF 10 YEARS AND OVER, ACCORDING TO SECTOR OF ACTIVITY  
PROVIDING LIVELIHOOD. STATE OF ACRE. 1980 AND 1991.

SECTOR PROVIDING LIVELIHOOD	NUMBER OF PERSONS			
	1980		1991	
	Actual	%	Actual	%
<b>TOTAL</b>	199.001	100.00	292.451	100.00
Primary sector	99.991	50.25	100.288	34.29
Industrial	16.383	8.23	33.386	11.42
Trade	14.185	7.13	26.614	9.10
Service	51.427	25.84	98.993	33.85
Inactive/Seeking work	17.015	8.55	33.170	11.34

SOURCE: Brasil/IBGE. Demographic Censuses Labour Force. 1980 and 1991.

When considering the distribution of the labour force by class of activity within the Primary Sector it was observed that in 1980, 50% were employed in extracting plant resources, 39% in agriculture and only 7% involved in cattle raising. These data clearly demonstrate how in 1980 the majority of the population in rural areas were engaged in activities related to the exploitation of the forest, whilst an minimal amount of labour was absorbed by cattle ranching through this decade, a characteristic trait of this enterprise. Census data from 1991 revealed, however, that the number of people involved in extractivism decreased (from 50% to 32%) whereas the number of people engaged in agriculture (from 39% to 54%) and cattle-ranching increased (from 7% to 12%) (Table 6.2.)

If the labour force's level of education is also examined by sector of activity, it may be seen that 76% of those involved in agriculture, extraction and fishing fall within the category of those 'without schooling or completing less than one year's schooling' in their lives, which is to say 'illiterate or semi-illiterate'. Among those unemployed but seeking work, this figure was 45%. These data show the lack of qualifications among the regional population traditionally associated with rural subsistence occupations. 1991 Census data showed that despite relative improvement in the literacy rate of the PEA,

the portion of the population working in the primary sector still presents an alarming percentage of illiterates (62%), (see Table 6.3.)

TABLE 6.2.

PERSONS OF 10 YEARS AND OVER, ECONOMICALLY ACTIVE, ACCORDING TO CLASS OF ACTIVITY WITHIN THE PRIMARY SECTOR. ACRE STATE. 1980 AND 1991.

CLASSES OF ACTIVITY	NUMBER OF PERSONS			
	1980		1991	
	Actual	%	Actual	%
TOTAL	48.134	100.00	45.453	100.00
Agriculture	18.900	39.27	24.358	53.59
Extractivism	24.040	49.94	14.639	32.21
Ranching	3.422	7.11	5.370	11.81
Fishing	183	0.38	501	1.10
Other activities	1.589	3.30	585	1.29

SOURCE: Brasil/IBGE. Demographic Censuses. Labour Force. 1980 and 1991.

TABLE 6.3.

PERSONS OF 10 YEARS AND OVER, WITHOUT INSTRUCTION, ACCORDING TO SECTOR PROVIDING LIVELIHOOD. ACRE STATE. 1980 AND 1991.

SECTOR PROVIDING LIVELIHOOD	NUMBER OF PERSONS							
	1980				1991			
	Total		Without instruct.		Total		Without instruct.	
	actual	%	actual	%	actual	%	actual	%
Primary sector (*)	99.991	100.00	75.869	75.88	100.288	100.00	62.369	62.19
Industrial	16.383	100.00	4.761	29.06	33.386	100.00	8.627	25.84
Trade	14.185	100.00	3.581	25.24	26.614	100.00	4.969	18.67
Service	51.427	100.00	10.140	19.72	98.993	100.00	14.185	14.33
Inactive/seeking work	17.015	100.00	8.908	52.35	33.170	100.00	3.347	10.09
Total	199.001	100.00	103.259	51.89	292.451	100.00	93.497	31.97

SOURCE: Brasil/IBGE. Demographic Censuses. Labour Force. 1980 and 1991.

(\*) Farming, ranching, extractivism, fishing.

As for the composition of the labour force according to income it was calculated that 55% of the population of Acre received no income, 17% received a mean monthly income of minimum salary or less, and 16% received between one and two minimum salaries (Table 6.4.) The high percentage of the labour force without any or, at best, a very low income may be ascribed as much to the significant portion of the population that is considered to be economically inactive as to the number devoted to rural subsistence activities.

However, what best defines the creation and the situation of the regional labour market is the positions held by individuals in their occupations, that is, their social working relationships. Thus, for the state of Acre as a whole (Table 6.5), two categories were distinguished by the significant percentages that they represent: that of the

autonomous worker (46%), particularly in rural areas, and that of the hired labourer (38%), particularly in urban areas. It is important to point out the *increase* in the number of hired labourers (especially in urban areas), who represented 52% of the total PEA of Acre in 1991, together with the *decrease* in the number of autonomous workers, who dropped from 46% to 37%. In the primary sector, however, the tendency has been to increase the number of temporary agricultural workers and of autonomous ones.

TABLE 6.4  
PERSONS OF 10 YEARS AND OVER, BY AVERAGE MONTHLY INCOME.  
ACRE STATE AND ACRE RIVER VALLEY. 1980 AND 1991.

AVERAGE MONTHLY INCOME (minimum salary)	NUMBER OF PERSONS							
	1980				1991			
	Acre state		Acre Valley		Acre state		Acre Valley	
	actual	%	actual	%	actual	%	actual	%
TOTAL	199.001	100.00	144.041	57.30	292.451	100.00	192.520	100.00
up to 1 salary	34.393	17.29	18.171	9.14	58.375	19.96	35.325	18.35
More than 1 up to 2	31.228	15.69	18.880	9.49	41.268	14.11	30.099	15.63
More than 2 up to 3	11.372	5.71	8.183	4.11	16.6301	5.69	13.372	6.95
More than 3 up to 5	7.187	3.61	5.551	2.79	1.722	4.00	9.706	5.04
More than 5 up to 10	3.431	1.72	2.836	1.43	9.176	3.14	7.701	4.00
More 10 up to 20	1.261	0.63	1.058	0.53	3.432	1.17	3.049	1.58
More than 20	451	0.22	383	0.19	1.489	0.52	1.282	0.67
Unwaged	109.022	54.78	58.528	29.41	146.482	50.08	89.447	46.46
Unstated	656	0.34	451	0.21	3.887	1.33	2.539	1.32

SOURCE: Brasil/IBGE. Demographic Censuses. Labour Force. 1980 and 1991.

TABLE 6.5  
PERSONS OF 10 YEARS AND OVER, ECONOMICALLY ACTIVE, ACCORDING TO POSITION IN  
OCCUPATION. ACRE STATE. 1980 AND 1991.

POSITION IN OCCUPATION	NUMBER OF PERSONS			
	1980		1991	
	Actual	%	Actual	%
TOTAL	91.588	100.00	136.041	100.00
1) Temporary agricultural worker	1.689	1.84	3.561	2.62
2) Sharecropper	1.204	1.31	2.612	1.92
3) Hired worker	35.106	38.33	71.402	52.49
4) Employer	1.208	1.32	3.132	2.30
5) Autonomous worker	42.299	46.18	50.014	36.76
6) Unwaged	8.905	9.72	5.320	3.91
7) Unstated	1.177	1.29	...	...

SOURCE : Brasil/IBGE. Demographic Censuses. Labour Force. 1980 and 1991.

Note: (...) Without Information.

An analysis of the position held within their occupation of people engaged in the Primary Sector (Table 6.6) revealed that the most numerous category was that of the rural autonomous workers, as represented by small rural workers, either rubber tappers or colonists.

With regard to the extractive population, this category of autonomous workers arose with the economic decline of the rubber economy in Brazil after the Second World War, when many of the rubber estates were abandoned and the rubber tappers were left without a master.

TABLE 6.6

PERSONS OF 10 YEARS AND OVER, ECONOMICALLY ACTIVE, ACCORDING TO POSITION IN OCCUPATION IN THE PRIMARY SECTOR OF ACTIVITY. ACRE STATE. 1980 AND 1991.

POSITION IN OCCUPATION	NUMBER OF PERSONS			
	1980		1991	
	Actual	%	Actual	%
TOTAL	48.134	100.00	45.455	100.00
1) Temporary agricultural worker	1.689	3.51	3.401	7.48
2) Sharecropper	1.204	2.50	2.488	5.46
3) Hired worker	4.820	10.01	3.303	7.27
4) Employer	418	0.87	1.057	2.34
5) Autonomous worker	31.070	64.55	30.427	66.94
6) Unwaged	8.537	17.74	4.779	10.51
7) Unstated	396	0.82	...	...

SOURCE : Brasil/IBGE. Demographic Censuses. Labour Force. 1980 and 1991.

Note: (...) Without Information.

At that time they began a modest degree of cultivation (supplemented by the collection of rubber and nuts) to secure their subsistence, developing over almost three decades (1945-1972) into the 'autonomous rubber tappers', concentrated particularly in the municipalities of the Acre River Valley. In terms of land ownership, they were 'rural squatters' as they had neither title nor interest in the land since it was the forest, as a natural resource, which was their source of subsistence.

As for the colonists, another important segment of the autonomous workers category, the majority of them are small rural producers who have migrated from other frontier areas where land has become scarce; they are concentrated in the areas of official government colonisation projects, possessing either land title or 'Licence to Occupy' the area granted by INCRA (Brazilian Institute of Colonisation and Agrarian Reform.)

The category of *empregados* (hired workers) also consists of two sub-groups: that of permanent employees (10%) and that of temporary workers (4%.) The latter group are also known as *volante* (temporary agricultural workers) and constitute the floating labour force (peons) utilised for occasional tasks of limited duration, such as clearing forest, seeding pastures, etc.



‘Associated with waged labour, there is a form of employment greatly used in the agricultural areas of the frontier, which is the *empreita*. It is clearly apparent that although this is not exclusive to the frontier, it is here that it is most common in terms of frequency’ (IBGE/GIP RECLUS/ORSTON. 1992:11.)

This temporary employment system is characterised by contracts made *na diária* (payment by the day) or *na empreita* (payment by task.) In the latter case, each task is paid at a different rate. In the rural areas of Acre, for example, separate contracts are offered: to ‘mark the boundary’ (clear the land close to the boundaries to prevent the fires of the clearances spreading beyond the limits of the property); to burn areas already felled (*queimada*); to clean the pasturelands; to fell the forest (*derrubada*) and after felling for the selection of timber to build fences for the new pastures.

Thus, the temporary agricultural worker has come to be seen, according to the definition of the Brazilian Demographic Census (IBGE, 1980), as a person without fixed employment, who works in different places, paid by the task, day or hour. He may be hired directly by the person responsible (landowner) or sub-contracted through an intermediary, a gang boss known as the *gato* (cat.) This last form would appear to be most common and most favourable to the landowners as it reduces the cost of their social obligations to the labourer.

The system of payment ‘by task’ usually takes the form of advancing half the agreed amount, which the worker leaves with his family (who generally live in the urban periphery), whilst the rest is used to meet his living and working costs. Some ranches have their own company store where the peon supplies his needs: hammock, scythe, boots, pans, canvas, water canteen, medicines, etc. Thus, without having worked a day, the peon is already indebted to his employer for more than a salary.

According to information collected in interviews with local ranchers (1990), a peon working for 25 days received, on average, two and a half minimum salaries, from which he must further discount the costs of his clothes, board and tools. It would therefore appear that in the course of a century the labourer in Acre has only changed masters, not his subjugated position. Where there was once the rubber estate owner (and his *barracão*) there is now the rancher (and his ‘store’.) The difference is that now the rural labourer has to be totally ‘free’ and extremely ‘mobile’.

This model of *empreita* has been copied from the South of the country, although there are regional variations in the level of payment (*diária*.) In the Northeast, where there is a surplus of labour and little work, the rate is low; whilst in the North,

particularly in areas like Acre where the labour market is still being formed (so that there is supposed to be a scarcity of labour) the daily rate is relatively high.

The *volante* represents the most pure and typical capitalist form of employment on the frontier areas. Totally despoiled of any means of production, blocked from any benefits of the labour law, this labourer continually needs to migrate in search of work, whilst the capitalist frontier equally needs this 'free' and 'mobile' labour force for its own expansion. It is the perfect example of the mobility of the labour force at the service of the needs of capital.

The seasonal nature of employment in Acre is also linked to climatic factors: with the arrival of the 'Amazonian winter' (the raining season from November to March), material for civil engineering becomes scarce and the builders suspend operations, laying-off hundreds of workers to survive by doing 'occasional jobs' or by the activities of the informal market. On the other hand,

'It is exactly when winter ends and the summer (dry season) begins, in the month of April, that the situation of the rural labourer in Acre should improve. Civil works resume in the towns (generally government contracts entrusted to particular constructors) and the clearances of the forest, which each year employ most of peons, begin in the country. But the low wages offered, the type of contract adopted in these cases (through the gang bosses) with threats of violence, or even the lack of guaranteed payment for work done, end by overwhelming and discouraging the worker'.

(*Varadouro*, Year 1 (1), Rio Branco, Acre, May 1977.)

A general profile of an itinerant worker, also regionally called a *peão rodado* (roving peon) due to the innumerable migrations made in search of work, can be obtained by reading the following two statements by labourers, published by the *Varadouro* Journal in 1981.

**First statement:** Everaldo dos Santos, born in Cuiabá (Mato Grosso state, today considered rearguard frontier area) who has travelled throughout the Northern region, always working on forest clearances:

'The work, he said, was always the same as he didn't have any other trade or the training a good job would need. So, as he had sufficient muscles to carry the load he left home to make his way in the world... From Mato Grosso he made his way north, stopped in Rondônia and now was in Acre where he intended to stay for some time. He said that there was still plenty of work and few peons. Afterwards he would clear out, as a peon's life was always so: always moving without stopping anywhere. At least while there were still ranches to open up'(Varadouro, Year 4(22):18. June/July 1981.) Author's emphasis.

This statement contains two basic expressions which illustrate the theoretical concepts broached in the previous chapters: '... as he had sufficient muscles to carry a load...' is a

reference in the most elementary terms to the labour force, whilst ‘... always moving without stopping anywhere...’ gives a clear idea of the labour force mobility, which is essential (for the capitalist mode of production) at this stage of reconstructing the frontier spaces by capital.

**Second statement:** Antônio Brito who is only 18 years old but is proud to say that he is already a ‘trained peon’ as he knows how to operate a chainsaw.

‘He is impatient because he has been resting (without work) for almost a month, only eating and drinking in his lodging. This way, he says, he doesn't have to lay out cash; everything is deducted (from his pay): bed, board, travel to the ranch, tools, the medicine for malaria, entertainment. This detail (the initial indebtedness) turns the peon into a slave of the *gato* (hiring agent or gang boss.) It is understood that on the majority of the ranches in Amazônia they work under the eye of armed guards, the *jagunços*. But Antônio Brito and his companions don't would to talk about this. At the moment, what they want most of all is to climb an a truck and head out to Brasília municipality, where this season's clearances have begin’ (Varadouro, Year 4 (22):18. June/July 1981.)

Under this hiring system such ‘freedom’ is absolutely necessary: that is, the separation of the labourer from any means of production. He is thus completely barred from undertaking any complementary activity which might secure him another means of subsistence other than selling his own labour. In this way, he is integrated into the capitalist system of production.

The *empreita* system also relies on the figure of the labour contractor (*gato*) who recruits the labourers.

The following extracts come from an interview with one such contractor, also carried out by *Varadouro* Journal in 1981.

‘Leopoldo comes from Minas state. He spent his whole life working as a peon until after two years in Acre he rose to *gato*. He explained that his work consists of organising peons, placing them in service and ensuring that everything runs smoothly. The *gato* is an indispensable element in the chain of peon exploitation since by recruiting the labour force he frees the ranch owners from compliance with the labour laws... One thing preoccupies this *gato*: there are hardly any peons in Acre. According to him, *acreanos* (local people) would rather go hungry than work as peons. This explains why in previous years some ranchers were obliged to ‘import’ peons from Mato Grosso state by plane. Something else that worries him are the rural workers Unions and the *empates*<sup>25</sup>. On this point, Leopoldo is categorical: he wont touch a contract where there are rubber tappers involved; the rubber tappers have clout’. (Varadouro, Year 4(22):18. June/July 1981.)

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<sup>25</sup> *Empates* are campaigns by the rubber tappers to halt the clearances, that is, joint action on the part of local groups of extractive population to stop the deforestation.

The initial complaint of the relative scarcity of temporary rural waged labour in this area of the frontier (highlighted in the interviews with ranchers in the previous chapter) has as its counterpoint the current increase in the numbers of the unemployed with rural backgrounds to be found on the outskirts of the towns of Acre. One reason for this may be found in the fact that the vast majority of this group were originally in extractive activities, which would explain their attachment to the forest, seen as their source of subsistence and of life. The reluctance of the *acreano* (native of Acre) to become a peon has been exemplified by the statement that 'he would rather go hungry than be a peon'. At the same time, the rise of the *empates*, understood as spontaneous social movements to protect the environment as their source of life, above all it has to be seen as the first seeds of counter-mobility, that is, the effort for staying at the land, for not moving.

### 6.3. THE INFORMAL LABOUR IN RIO BRANCO CITY.

According to Sawyer (1992), the frontier may be considered as an unfinished capitalist organisation, and therefore, as a regional space under integration to the global national space. This shows the importance of urban centres as supporting and irradiation poles in the process of occupation of frontier areas by capital, and the expansion of the labour market in Amazônia as a basic element in this integration.

The growing articulation between labour markets in frontier areas and those of other regions of the country takes place via migration, in which urban centres constitute poles for the concentration and circulation of the migrant population. This section will deal with a category of urban workers of the informal sector, the *ambulantes* (small street hawkers), considered as an example of the floating labour force circulating in frontier urban centres.

The presence of street hawkers was for a long time considered characteristic of large underdeveloped urban centres, where it was increasingly more difficult to obtain a position in the formal activity sector. However, since the mid 1980s the street hawkers have also expanded to Brazilian frontier lands, evidencing both the difficulty faced by the regional labour market of these areas to absorb the continuous flow of migrant population, and also the consolidation of labour market at the national level.

The informal urban sector appeared to be an survival alternative to the migrants who arrived in the city of Rio Branco: informal trade is seen as an option particularly

for the landless, in view of their lack of qualifications for urban occupations. The following comment by an street hawker exemplifies the tendency:

‘When I left the rubber estate I went on the street, selling bread’  
(*Varadouro*, Year 1(3):17, August 1977.)

Nevertheless, this gives rise to the question ‘who are these small traders of the informal urban market’? An attempt was made to answer this query through a survey of the street hawkers in the city of Rio Branco, in August 1990. This study was designed to categorise these workers according to variables relating to their situation as migrants or natives, age and gender, previous occupation, year they entered the informal market, and current type of trade. In the case of those who were migrants, an attempt was made to find out where they came from and the year that they arrived in Rio Branco. A general overview of this population is given below.

In analysing the variables per se (Tables 6.7 and 6.8) it was verified that according to their ‘migratory status’, the majority (79%) of the *ambulantes* (hawkers) were migrants; the majority (70%) male and that in terms of age, the largest number fell into the 35-39 and 25-29 age ranges, 20% and 16% respectively.

Alternatively, if these variables are cross-referenced (Tables 6.9. and 6.10.) it may be observed that the informal trade is characterised by a predominance (60%) of male migrants. It is equally interesting to note that within the native born group, women form a more significant proportion (56%) than men. If we compare gender and age, then a difference emerges, with men appearing in significant numbers in the 35-39 age range and 50 years and over, whilst the women are concentrated in the 14-19 and 25-29 age groups. When migratory status was considered in conjunction with age (Table 6.9) it was found that the migrant *ambulantes* mainly appeared in the 35-39 age band (23%) whilst the native born (35%) tended to be concentrated in the 14-19 range.

TABLE 6.7

PERCENTAGE OF WORKERS IN INFORMAL TRADE ACTIVITY ACCORDING TO  
MIGRATORY STATUS AND GENDER. RIO BRANCO CITY. ACRE STATE. 1990.

GENDER	MIGRATORY STATUS		TOTAL
	Migrant	Native born	Gender
Male	60.80	9.26	70.06
Female	16.67	11.73	28.40
Without information.	1.54	0.00	1.54
TOTAL	79.01	20.99	100.00
Migratory status			N=324

SOURCE: Survey collected under the supervision of the present author in the Informal Trade Sector.  
Rio Branco City. Acre state. Brazil. August 1990.

TABLE 6.8

PERCENTAGE OF WORKERS IN INFORMAL TRADE ACTIVITY ACCORDING TO GENDER AND AGE GROUPS. RIO BRANCO CITY. ACRE STATE. 1990.

AGE GROUPS	GENDER		Without Informat.	TOTAL Age Groups
	Male	Female		
14-19 years	2.78	6.17	0.00	8.95
20-24 years	3.70	2.78	0.00	6.48
25-29 years	9.26	6.79	0.00	16.05
30-34 years	8.64	3.40	0.00	12.04
35-39 years	15.12	4.94	0.00	20.06
40-44 years	8.95	1.85	0.00	10.80
45-49 years	8.02	1.54	0.00	9.57
50 & over	13.58	0.93	0.00	14.51
Without Information	0.00	0.00	1.54	1.54
TOTAL (Gender)	70.06	28.40	1.54	100.00 (N=324)

SOURCE: Survey collected under the supervision of the present author in the Informal Trade Sector. Rio Branco City. Acre state. Brazil. August. 1990.

TABLE 6.9

PERCENTAGE OF WORKERS IN INFORMAL TRADE ACTIVITY ACCORDING TO MIGRATORY STATUS AND AGE GROUPS. RIO BRANCO CITY. ACRE STATE. 1990.

AGE GROUPS	MIGRATORY STATUS		TOTAL Age Groups
	Migrant	Native-born	
14-19 years	1.54	7.41	8.95
20-24 years	1.85	4.63	6.48
25-29 years	10.80	5.25	16.05
30-34 years	10.49	1.54	12.04
35-39 years	18.52	1.54	20.06
40-44 years	10.80	0.00	10.80
45-49 years	9.26	0.31	9.57
50 years & over	14.20	0.31	14.51
Without information	1.54	0.00	1.54
TOTAL	79.01	20.99	100.00
Migratory status			N=324

SOURCE: Survey collected under the supervision of the present author in the Informal Trade Sector. Rio Branco City. Acre state. Brazil. August. 1990

Furthermore, if the variable 'previous category of residence' (rural or urban) is correlated with those of gender and migratory status (Table 6.10.) then a clearer picture of the composition of the informal labour force in the city of Rio Branco emerges.

Thus we find that 42% of the street hawkers are male migrants coming from rural areas, 19% are male migrants coming from urban areas, 12% are native-born females, 11.42% are female migrants from urban areas, 9% are native-born males and 5% are female migrants from rural areas.

If only the migrant sub-group is considered, then it was verified that 62% of these *ambulantes* came from rural areas. If the variable 'year of starting informal activity' is analysed (Table 6.11.) it may be observed that although an embryonic form

of this activity had already existed in Rio Branco since the 1970s, it was only in the following decade, the 1980s, that it effectively took off in Acre. Thus, 92% of the *ambulantes* were engaged in this activity in the 1980s, the great majority (73%) during the 1986-1990 period. This was the trend within both the migrant and the native-born sub-groups.

TABLE 6.10

PERCENTAGE OF WORKERS IN INFORMAL TRADE ACTIVITY ACCORDING TO  
MIGRATORY STATUS, GENDER AND PREVIOUS CATEGORY OF RESIDENCE.  
RIO BRANCO CITY. ACRE STATE. 1990.

CATEGORY OF AMBULANTE	GENDER		Without inform.	TOTAL Category/res
	Male	Female		
Migrant from rural area	42.28	4.94	1.23	48.45
Migrant from urban area	18.52	11.42	0.31	30.25
Native-born/Rio Branco	9.26	11.73	0.00	20.99
Without information	0.00	0.31	0.00	0.31
TOTAL/Gender	70.06	28.40	1.54	100.00 N=324

SOURCE Survey collected under the supervision of the present author in the Informal Trade Sector.  
Rio Branco City. Acre state. Brazil. August.1990

TABLE 6.11.

PERCENTAGE OF WORKERS IN INFORMAL TRADE ACTIVITY ACCORDING TO  
MIGRATORY STATUS AND YEAR OF STARTING INFORMAL ACTIVITY.  
RIO BRANCO CITY. ACRE STATE. 1990.

YEAR OF STARTING INFORMAL ACTIVITY	MIGRATORY STATUS		TOTAL Year/start/act.
	Migrant	Native-born	
1971-1980	4.01	0.93	4.94
1981-1985	18.21	0.31	18.52
1986-1990	54.32	18.83	73.15
Without information	2.47	0.93	3.40
TOTAL (Migratory status)	79.01	20.99	100.00 (N=324)

SOURCE Survey collected under the supervision of the present author in the Informal Trade Sector.  
Rio Branco City. Acre state. Brazil. August.1990.

If the year of starting informal activity is correlated with the variables gender and age, then it may be seen that 86% of the female and 70% of the male *ambulantes* entered into informal trade in the 1986-1990 period. For the same period, the most heavily represented age-groups were the 35-39 and 25-29 bands.

Considering only the migrant sub-group and crossing the variables 'year of starting informal activity' with 'year of arrival in Rio Branco City' (Table 6.12.) to observe that a significant percentage of migrants (33%) arrived in Rio Branco in the 1986-1990 period, this also being the years when the majority of the *ambulantes* began their informal activities. Such figures would suggest that for many this activity would have been the means found for survival in this new urban environment. It is also worth

TABLE 6.12.

PERCENTAGE OF MIGRANT WORKERS IN INFORMAL TRADE ACTIVITY ACCORDING TO YEAR OF ARRIVAL IN RIO BRANCO AND YEAR OF STARTING INFORMAL ACTIVITY. RIO BRANCO CITY. ACRE STATE. 1990.

YEAR ARRIVAL/RB	YEAR START ACTIVITY			Without Information	TOTAL Row
	1990-86	1985-81	1980-71		
1990-86	32.42	0.00	0.00	0.78	33.20
1985-81	22.66	8.20	0.00	0.00	30.86
1980-76	6.25	12.89	3.13	1.17	23.44
1975-55	6.64	1.95	1.95	0.78	11.33
Without Information	0.78	0.00	0.00	0.39	1.17
TOTAL column	68.75	23.04	5.08	3.12	100.00 (N=256)

SOURCE Survey collected under the supervision of the present author in the Informal Trade Sector. Rio Branco City. Acre state. Brazil. August. 1990

TABLE 6.13.

PERCENTAGE OF WORKERS IN INFORMAL TRADE ACTIVITY ACCORDING TO MIGRATORY STATUS AND TYPE OF TRADE. RIO BRANCO CITY. ACRE STATE. 1990.

TYPE OF TRADE	MIGRATORY STATUS		TOTAL Type/trade
	Migrant	Native-born	
Fruit & vegetables	15.74	3.09	18.83
Clothing	14.81	3.70	18.51
Snacks	11.73	4.63	16.36
Trinkets	13.27	2.78	16.05
Cigarette & sweets	10.19	3.70	13.89
Shoes & bags	4.63	0.93	5.56
Toiletries/haberdashery	3.09	1.23	4.32
Other articles	5.24	0.62	5.86
Without information	0.31	0.31	0.62
TOTAL (Migratory status)	79.01	20.99	100.00 (N=324)

SOURCE: Survey collected under the supervision of the present author in the informal Trade Sector. Rio Branco City. Acre state. Brazil. August. 1990.

In order to gain a clear picture of the areas of previous residence of the migrant *ambulantes*, the variables 'state of last residence' and 'previous category of residence' were compared (Table 6.14..) It emerged that the great majority (72%) were intra-state migrants (showing any municipality within Acre state as their last point of departure), whilst 62% came from a rural background.

As a significant percentage of rural migrants could not find jobs in productive activities in the labour force of Rio Branco City, it seems this mobility occurred because workers were driven out from their original areas (see also Tables 6.14 and 6.16) rather than attracted to their urban destination ones.



TABLE 6.14.

PERCENTAGE OF MIGRANT WORKERS IN INFORMAL TRADE ACTIVITY ACCORDING TO STATE OF LAST RESIDENCE AND PREVIOUS CATEGORY OF RESIDENCE. RIO BRANCO CITY. ACRE STATE. 1990

STATE LAST RESIDENCE	PREVIOUS RESIDENCE		Without Information	TOTAL Previous state
	Urban	Rural		
Acre	21.48	50.39	0.00	71.87
Amazonas	5.08	5.08	0.00	10.16
Rondônia	5.47	2.34	0.00	7.81
Other states	5.86	3.52	0.00	9.38
Without information	0.39	0.00	0.39	0.78
<b>TOTAL</b>	<b>38.28</b>	<b>61.33</b>	<b>0.39</b>	<b>100.00</b>
Previous residence				N=256

SOURCE: Survey collected under the supervision of the present author in the Informal Trade Sector. Rio Branco City. Acre state. Brazil. August 1990.

The neighbouring states of Amazonas and Rondônia contributed with 10% and 8% of the migrants respectively; all of those from Amazonas having rural origins, whilst those from Rondônia were predominantly urban. In the latter state the capital Porto Velho represented a certain obligatory urban stage for the small producers who then migrated to Acre. The other states of the country, particularly those of the Central South, proved to be the last residence (predominantly urban) for 9% of the migrants operating in the informal urban market of Rio Branco. With regard to the 'state of last residence' and 'year of starting informal activity' (Table 6.15.) it is possible to conclude that most of the migrant *ambulantes* (69%) arrived in Rio Branco in the 1986-1990 period, 48% of them coming from other areas of the state of Acre itself.

Should these *ambulantes* be broken down according to gender and state of last residence, then it may be seen that 58% were male and 13% female from Acre state; 13% were men and 5% women from other states in the Amazônia region; whilst only 7% were men and 3% women from other states of Brazil. Of the total number of migrant *ambulantes* originating in the state of Acre, 75% were male.

If the previous state of residence of the group of migrant street hawkers is analysed in conjunction with their previous occupation (Table 6.16.), then it may be observed that 61% were previously engaged in activities in the primary sector of production: 34% in agriculture (colonists) and 27% in extraction (24% were rubber tappers and 3% fishermen.) A majority of the migrants are shown to have been originally involved in the agro-extractive sector of Acre state (27% were colonists and 23% from extractive groups in Acre.)

TABLE 6.15.

PERCENTAGE OF MIGRANT WORKERS IN INFORMAL TRADE ACTIVITY ACCORDING TO STATE OF LAST RESIDENCE AND YEAR OF STARTING INFORMAL ACTIVITY. RIO BRANCO CITY. ACRE STATE/BRAZIL. 1990.

STATE LAST RESIDENCE	YEAR START ACTIVITY			Without Information	TOTAL/ ROW
	1971-80	1981-85	1986-90		
Acre	3.91	18.75	47.66	1.56	71.88
Amazonas	0.39	1.56	7.42	0.78	10.16
Rondônia	0.00	1.17	6.64	0.00	7.81
Other states	0.78	1.17	7.03	0.39	9.37
Without information	0.00	0.39	0.00	0.39	0.78
TOTAL/ Column	5.08	23.04	68.75	3.12	100.00 N=256

SOURCE: Survey collected under the supervision of the present author in the Informal Trade Sector. Rio Branco City. Acre state. Brazil. August 1990.

TABLE 6.16.

PERCENTAGE OF MIGRANT WORKERS IN INFORMAL TRADE ACTIVITY ACCORDING TO STATE OF LAST RESIDENCE AND YEAR OF STARTING INFORMAL ACTIVITY. RIO BRANCO CITY. ACRE STATE/BRAZIL. 1990.

STATE LAST RESIDENCE	YEAR START ACTIVITY					TOTAL/ Row
	Acre	Amazonia	Rondônia	Other	W/ Inf.	
Agriculture	26.56	3.13	1.95	1.95	0.00	33.59
Extractivism	23.44	3.34	0.00	1.17	0.00	26.95
Trade	3.52	2.74	1.56	2.47	0.39	10.95
Service	3.91	0.78	2.34	2.34	0.00	9.37
Industry	3.52	0.39	0.78	0.00	0.00	4.69
Housework	7.81	0.39	0.78	0.00	0.00	8.98
Other occupation	1.17	0.00	0.00	0.39	0.00	1.56
Without information	1.95	0.39	0.39	0.78	0.39	3.91
TOTAL column	71.88	10.16	7.81	9.37	0.78	100.00 N=256

SOURCE: Survey collected under the supervision of the present author in the Informal Trade Sector. Rio Branco City. Acre state. Brazil. August 1990.

If the occupations relating to the urban sector are examined, it may be seen that 25% of the *ambulantes* were previously employed in this sector: 11% were involved in commerce, 9% in service and only 5% had previously worked in industry. As to activities linked to the home (either rural or urban) these accounted for 9% of the previous activities declared. Acre is again the state most heavily represented for previous activities of an urban nature. For the state of Amazonas, occupations linked to the rural sector were relatively more important whilst for Rondônia and the other states of the country, the most significant previous activities were those linked to the urban sector. Examining previous occupation in relation to the gender of the *ambulantes* (Table 6.17.) it was possible to conclude that the men had previously pursued activities

linked to the primary sector (agriculture and extraction) whilst the women had worked at home, been in education (student) or had no occupation.

**TABLE 6.17**  
**PERCENTAGE OF MIGRANT WORKERS IN INFORMAL TRADE ACTIVITY**  
**ACCORDING TO GENDER AND PREVIOUS OCCUPATION.**  
**RIO BRANCO CITY, ACRE STATE/BRAZIL, 1990.**

STATE LAST RESIDENCE	GENDER		Without Inform.	TOTAL Prev/occup.
	Male	Female		
Agriculture	22.84	3.70	0.00	26.54
Extractivism	19.75	0.62	0.93	21.30
Trade	7.10	1.85	0.31	9.26
Service	7.10	1.23	0.31	8.64
Industry	4.94	0.31	0.00	5.25
Housework	0.00	11.11	0.00	11.11
Other occupations	4.94	6.17	0.00	11.11
Without occupation	3.40	3.40	0.00	6.79
<b>TOTAL (Gender)</b>	<b>70.06</b>	<b>28.40</b>	<b>1.54</b>	<b>100.00 (N=324)</b>

SOURCE Survey collected under the supervision of the present author in the Informal Trade Sector. Rio Branco City, Acre state, Brazil, August 1990.

Considering the sub-group of native-born street hawkers on their own, it was observed that 47% of them were previously students, 19% were occupied in domestic activities, 9% worked in commerce and service, 7% in industry whilst the rest either had no previous occupation or did not declare one.

By examining previous occupation in conjunction with the 'year of arrival in Rio Branco' it is possible to conclude that migrants coming from the extractivism sector mainly arrived in the city in the period 1976-1980 and again more recently in 1986-1990, whilst the majority of those from an agricultural background arrived in the periods 1981-1985 and 1986-1990. The latter period has also been most significant for those migrants with an urban background, pointing to a increasing urban mobility on the frontier.

In analysing the relationship between the 'municipality of previous residence' and the 'previous occupation' of the migrant *ambulantes* group (Table 6.18.) it was concluded that a relative majority (42%) came from the municipalities of the Rio Acre Valley (our current area of research) and their previous activities were for the most part linked to agriculture and extraction. Among the municipalities last inhabited of Acre two particular areas stood out: the rural area of Rio Branco (for ex-colonists) and Xapuri (for extractive group.) Of the other municipalities of Acre (representing 30% of previous locales of residence) the most important were Sena Madureira (origin of ex-rubber tappers and colonists) and Feijó (last residence for ex-agricultural waged

workers.) In relation to other municipalities in Amazônia, the most important were Boca do Acre (Amazonas state) and Porto Velho (Rondônia state), both of which border on Rio Branco. The migrants from Boca do Acre were for the most part agricultural workers, and those from Rondônia a mixture from the agriculture and commerce/service sectors. In general terms it is possible to say that comparing the 'municipality of last residence' with the 'category of previous residence', it was concluded that whilst migrants from the municipalities of Acre came for the most part from rural areas, those from other municipalities of Amazônia and the rest of the country had already come from a predominantly urban background.

TABLE 6.18.

PERCENTAGE OF MIGRANT WORKERS IN INFORMAL TRADE ACTIVITY ACCORDING TO MUNICIPALITY OF LAST RESIDENCE AND PREVIOUS OCCUPATION. RIO BRANCO CITY. ACRE STATE/BRAZIL. 1990.

PREVIOUS OCCUPATION	MUNIC. LAST RESIDENCE				Without Inform.	TOTAL Row
	Acre Valley	Other/ Acre	Other/ Amazônia	Other/ Brazil		
Agriculture	16.02	10.55	5.86	1.17	0.00	33.60
Extractivism	15.24	8.20	2.73	0.78	0.00	26.95
Trade	2.34	1.17	4.69	2.73	0.00	10.94
Service	1.56	2.34	3.52	1.95	0.00	9.37
Industry	1.56	1.95	1.17	0.00	0.00	4.69
Housework	3.52	4.30	1.17	0.00	0.00	8.98
Other activities	0.78	0.39	0.00	0.39	0.00	1.56
Without information	1.17	0.78	0.78	0.78	0.39	9.91
<b>TOTAL/Column</b>	<b>42.19</b>	<b>29.69</b>	<b>7.81</b>	<b>7.81</b>	<b>0.39</b>	<b>100.00 (N=256)</b>

SOURCE: Survey collected under the supervision of the present author in the Informal Trade Sector. Rio Branco City. Acre state. Brazil. August 1990.

A small group of the migrant *ambulantes* (5%) had already had previous experience of working as 'itinerant sellers' in either the municipalities of Amazônia (Xapuri/AC, Porto Velho/RO, Ariquemes/RO, Boca do Acre/AM, Parintins/AM, Manaus/AM, Belém/PA) or those of the Centre-South regions (Dourados/MT, Maringá/PR, Niterói/RJ.) Although they constitute a small percentage, their presence demonstrates the mobility of the labour force at a national level and the beginning of the integration of the areas of the western Brazilian frontier into the national labour market. Another result of this survey, according to information given by those *ambulantes* who previously were rubber tappers, was the identification of a large number of rubber estates from where they have migrated, pushed by the ranches (Table 6.19..)

TABLE 6.19.

RUBBER TAPPERS, ACCORDING TO YEAR OF LEAVING RUBBER ESTATE AND THE NAME AND LOCATION OF THE RUBBER ESTATE OF ORIGIN. ACRE. BRAZIL, 1990.

YEAR OF EMIGRATION	NAME OF RUBBER STATE	RUBBER TAPPERS LEAVING	MUNICIPALITY	STATE
1959	Sombraz	1	Boca do Acre	AM
1964	São Gabriel	1	Plácido de Castro	AC
1965	Iracema	50	Xapuri	AC
1970	S. J. Caramano	50	Plácido de Castro	AC
1971	Barro Alto	30	Plácido de Castro	AC
1973	Nova Andirá	150	Rio Branco	AC
	Bagaçó	300	Feijó	AC
1974	Descanso	40	Sena Madureira	AC
	Rosa do Abuná	4	Plácido de Castro	AC
1975	Barra	4	Xapuri	AC
1976	Floricência	1	Sena Madureira	AC
	Iquiri	30	Rio Branco	AC
1977	Nazaré	10	Xapuri	AC
1978	Petrolina	200	Rio Branco	AC
	Nova Olinda	600	Sena Madureira	AC
	Alagoas	20	Tarauacá	AC
1979	Recreio	70	Boca do Acre	AM
	Boa Vista	1	Xapuri	AC
	Nova Olinda	20	Sena Madureira	AC
	Petrolina	20	Rio Branco	AC
	Bagaçó	100	Rio Branco	AC
	São Miguel	50	Xapuri	AC
1980	Califórnia	1	Tarauacá	AC
	Vitória Nova	1	Tarauacá	AC
	Boa Vista	10	Xapuri	AC
	Petrolina	4	Senador Guiomard	AC
	Santa fé	70	Brasiléia	AC
	Cachoeira	5	Xapuri	AC
	Guanabara	50	Sena Madureira	AC
	Novo Acordo	1	Rio Branco	AC
1982	Itu	300	Senador Guiomard	AC
1983	Catuaba	10	Plácido de Castro	AC
	Nova Olinda	30	Sena Madureira	AC
	Boa Vista	30	Xapuri	AC
	Nova Empresa	1	Rio Branco	AC
1984	Sacado	200	Sena Madureira	AC
	Carmem	80	Brasiléia	AC
	Apodi	20	Xapuri	AC
	Sibéria	20	Xapuri	AC
1985	Pontão	12	Senador Guiomard	AC
	Sacado	15	Sena Madureira	AC
	Cachoeira	35	Xapuri	AC
	Bagaçó	1	Rio Branco	AC
1986	Bagaçó	80	Rio Branco	AC
	Riozinho	20	Sena Madureira	AC
	Sibéria	15	Xapuri	AC
	Nova Empresa	40	Rio Branco	AC
	Filipinas	80	Xapuri	AC
1987	Santa Rosa	5	Plácido de Castro	AC
1988	Petrolina	15	Rio Branco	AC
	Santa Rosa	1	Plácido de Castro	AC
1989	Iracema	1	Xapuri	AC

SOURCE Survey collected under the supervision of the present author in the Informal Trade Sector.

Rio Branco City. Acre state. Brazil. August/90.

Having characterised the population of street hawkers in Rio Branco City through the manipulation of the few basic variables analysed above, it was inferred that there is a link between this activity (informal trade sector) and the exodus of the small rural producers in Acre. It was postulated as a general hypothesis that an association existed between the migratory process and the rise of the informal urban market in frontier areas.

In order to evaluate this question an effort was made to measure the degree of association existing between pairs of those variables analysed and that were judged to be important in explaining the process of forming the labour market in Acre. For this purpose I have utilised the Chi-square, the Degree of freedom and the Significance (p) values. The statistic results from this study (Table 6.20.) have shown that there is an association between some variables related to the rise of the informal trade market in Rio Branco City and those related to the migration process in Acre. So it was found that:

a) There is a high degree of significance ('p') between the variables 'migratory status' and 'gender', 'previous category of residence' and 'gender', and 'migratory status' and 'age groups'. This leads to a conclusion that the current population of street hawkers in Rio Branco City is characterised by a predominance of male migrants coming from rural areas and appearing in significant numbers in the 35-39 age range.

b) There is a high degree of significance between the variables 'state of last residence' and 'previous category of residence', 'state of last residence' and 'previous occupation', allowing us to say that there is an association between the informal trade market in Acre and the intra state exodus of rural small producers coming from agriculture and Extractive activities. This is also the trend for the Acre River Valley area, now that a significant value of 'p' has been found for the association between 'municipality of last residence' and 'previous occupation'.

c) There is a high significance between the variables 'year of arrival in Rio Branco' and 'year of starting informal activity' indicating that the strongest immigration to Rio Branco City happened in the 1980's, when informal activity also took off in Acre (mainly in the 1986-1990 period.)

TABLE 6.20.

**ASSOCIATION BETWEEN PAIR OF VARIABLES USED TO CHARACTERISE THE  
INFORMAL TRADE WORKERS IN RIO BRANCO CITY, ACRE STATE, BRAZIL, 1990**

VARIABLE 1	VARIABLE 2	X <sup>2</sup>	DF	'P'
Migratory status	Gender	30.795	1	0.0000
Migratory status	Age groups	134.514	6	0.0000
Migratory status	Year/inform/activ.	14.662	1	0.0001
Migratory status	Type of trade	4.108	5	0.5337
Gender	Age groups	46.254	7	0.0000
Gender	Year/inform/activ	9.991	1	0.0016
Gender	Previous residence	27.240	1	0.0000
Gender	Year arrival RB	4.276	3	0.2332
Gender	Type of trade	2.975	5	0.7037
Gender	Previous occupat.	144.014	5	0.0000
Gender	State last residence	2.737	1	0.0980
Gender	Municip. last resid.	4.701	2	0.0953
Age groups	Year/inform/activ	23.645	6	0.0006
Age groups	Previous occupat.	170.857	18	0.0000
Age groups	Municip. last resid.	11.726	10	0.3038
State last resid.	Previous residence	21.487	3	0.0001
State last resid.	Year arrival RB	2.912	3	0.4054
State last resid.	Year/inform/activ	3.966	1	0.0464
State last resid.	Type of trade	6.611	5	0.2509
State last resid.	Previous occupat.	39.540	4	0.0000
Munic. last resid.	Previous resid.	26.442	3	0.0000
Munic. last resid.	Year arrival RB	4.781	6	0.5720
Munic. last resid.	Year/inform/activ	4.791	3	0.1878
Munic. last resid.	Type of trade	8.038	10	0.6257
Munic. last resid.	Previous occupat.	41.120	6	0.0000
Previous occupat.	Year/inform/activ	21.962	4	0.0002
Previous occupat.	Year arrival RB	10.905	8	0.2070
Previous occupat.	Type of trade	20.307	15	0.1609
Year arrival RB	Previous resid.	9.545	4	0.0488
Year arrival RB	Year/inform/activ	85.519	3	0.0000

SOURCE: Survey collected under the supervision of the present author in the Informal Trade Sector. Rio Branco City. Acre state. Brazil. August 1990.

#### 6.4. FINAL REMARKS

1) Recent figures (1998, PNUD/IPEA/FJP) indicate the profile of the labour force in Acre: 59,9% of the population has insufficient income; the illiteracy rate of people over 15 is 34,3%; 37,3% of children between 7-14 years old do not attend school and 3,6 is the mean years of schooling for people over 25; 8,4% of the children between 10-14 years old work.

2) Changes in the structure of the PEA by sectors of activity in the last three decades indicate that the primary sector reduced its participation from 63,5% in 1970 to 35,8% in 1996, while the secondary sector increased from 7,2% (1970) to 9,6% (1996) and

the tertiary sector went from 26,8% (1970) to 56,3% (1996), a clear expression of the urbanisation process that took place in these frontier areas.

3) A huge number of small producers were released in the 1980s from the rural areas in Acre state and became migrants, the surplus population of the frontier. This tendency is evidenced by two points. First, by the analysis of the labour force structure in Acre state, which showed that in 1980, 50% , and in 1991, 34% of this population still depended on the primary sector of production, most of them employed in extracting plant resources. The second point lies in the fact that there was an increase in cattle ranching in the 1980s, an activity that expanded particularly over areas which had previously been agro-extractive. We must also take into account the very nature of this new form of occupation, which requires little labour force once ranches are established: in 1991, only 7% of the labour force in Acre were involved in cattle raising, while 39% were employed in farming and 50% in extractivism.

4) The investigation of the labour force in Acre also showed that it was poor and lacked of qualification: in 1980, 52% had had no form of schooling, a figure which rose to 76% among those working in the primary sector. In 1991, 32% of the labour force remained illiterate. In terms of income levels, 55% of this population received no income, 17% (1980) and 20% (1991) received less than one minimum salary. This high percentage (72%) of the labour force without any, or at best, a very low income, indicated that a considerable part of the Acrean population, at the beginning of the 1980s, were still considered by the government official figures, to be 'economically inactive' as the majority pursued rural subsistence activities (unpaid activities.) However, despite not receiving wages (since it was not totally inserted in the capitalist labour market), a large number of this population devoted itself to subsistence activities, assuring, therefore, its basic food supply. The new model of occupation, by breaking the link between this population and nature (forest or land) took away the traditional means of supporting themselves, creating an more impoverished labour force, and unqualified for the new tasks demanded (especially the urban ones), with little hope of being effectively absorbed into the new and unstable regional labour market. This entailed the emergence of a population increasingly impoverished by loss of its means of production in their original areas and by limited access to basic needs for survival in their arrival areas. Many resorted to 'autonomous' activities in the urban informal market, becoming street vendors in frontier areas.



5) The growing of the informal activities in Rio Branco, considered to be a new frontier area, where supposedly both land and work should be available, shows the incapacity of the regional formal market in absorbing the poor migrants, particularly those pushed out from rural areas of Acre state. It reflects the type of occupation recently pursued, which did not incorporate the aim of developing productive activities to either assimilate this surplus population or to create the socio-economic conditions needed to settle the small producers on the land or on the forest. What there was, was the 'offer' by the State, as part of a Policy of National Integration, of the frontier areas for the territorial expansion of capital from the Centre-South regions of the country.

However, this new form of occupation needed labour for the phase of its establishment; in this sense it became necessary to create a mobile population, the migrant labour force. Thus, the creation of the regional labour market, with an increasing pool of migrant labour concentrated around the urban peripheries would appear to have been more important to the current model of occupation than the success of a colonisation policy which would have achieved the fixing of the small producers on the land. In a very real sense these two objectives were antagonistic.

6) The informal trade workers (street hawkers) in the city of Rio Branco were shown to be composed for the most part of male workers (70%) predominantly those in the 35-39 and 25-29 age groups of whom a significant percentage were migrants (79%) coming particularly from the rural areas of Acre state. Their previous occupations were predominantly those linked to the primary sector of production (agriculture, plant extraction and fishing) and only a small percentage of the *ambulantes* had already had experience in the informal trade in other towns on the frontier.

7) The existence of a migrant labour force mainly originating in the rural areas of Acre, but also in other states of the country, denotes the formation of a labour market on a national level. Thus, the 'national integration' which the government sought to achieve with its policy of occupying the 'empty spaces' of the frontier has assumed the form of a population made free (dispossessed of its means of production, the forest and the land), and mobile (who travel across national territory in search of work.)

8) Statistical results obtained from the research carried out with street hawkers have shown that there is a high degree of significance (p) between some variables related to the growth of the informal trade market and the migratory process in Acre, giving rise to the conclusion that there is an association between these two phenomena. In the same way, discussions in this chapter revealed that the category of street hawkers

in Acre presents as common trait its exclusion from the land and/or from activities of the formal labour market, representing a fraction of the labour force regarded as 'floating' in the regional labour market.

## **CHAPTER 7**

### **DISCUSSION ON THE EXTRACTIVE RESERVE AS A STRATEGY FOR RAINFOREST PRODUCTIVE CONSERVATION AND COUNTER-MOBILITY OF THE LABOUR FORCE**

#### **7.1. INTRODUCTION**

Throughout previous segments of this thesis, increasing labour force mobility has been considered as a consequence of new forms of occupation of frontier areas. In this chapter, I shall discuss immobility, that is, the endurance of the extractive people – the locals– against the government's developmental model of occupation taking place in Brazilian Amazônia since the 70s. That resistance movement, initially started by the rubber tappers of the Acre River Valley, is considered to be an anti-development movement by some sectors of the Brazilian economic elite responsible for the new economic order, and has become a social class movement because of the alliances that have been made with other groups and trade unions.

This chapter will analyse the nature, novelty, evolution and propositions of the extractive social movement. At the same time, it will consider the relevance of ideology in providing the support required by this movement to survive or flourish, as well as the conditions at national and international level for it to take place.

The rubber tappers proposed a strategy of productive conservation for some areas of the Amazônia, represented by the Extractive Reserve (RESEX), which is adapted to, rather than destructive of, Amazônia's natural resources. It appeared to be an experiment in sustainable development, a concept widely used in current academic and political discussions. The significance of the Extractive Reserve strategy for environmental conservation will be considered on both local (rainforest as an element of economic survival) and international (rainforest as a 'global commons' for climate and genetic purposes) levels.

Nevertheless, the Extractive Reserve proposal has a distinctive feature: it takes for granted the articulation of small extractive production with the capitalist market while some non-capitalist characteristics are maintained, like the collective use of the forest and community organisation. The great challenge of this proposal is how to achieve such opposing aims as economic viability, social equity and nature conservation in the current neo-liberal economic system. This section will try to define if the articulation of forms of production in Brazilian Western Amazônia is working, and to what extent it is associated

with the strategies of national and international interest groups. The economic potential and viability of the extraction of non-timber forest products will also be considered, as it lies at the heart of the discussion brought by both those who defend and those who are against this proposal. Moreover, in an attempt to minimise the dangers of a 'partisan analysis', I will present a critical discussion of extractivism, presenting opposing opinions upon the productivity of this system in Acre.

At the base of all the efforts made by the extractive workers is the fact that if they could make their regional model of development viable, it would make it possible for these populations to remain in the forest. This would mean that Extractive Reserves may have a role in preventing further rural emigration, acting as an instrument for spatial immobility and counter mobility of the rural population.

It is important to clarify that this chapter also aims at studying the logic of the extractive proposal through the rubber tappers' own words. The same procedure was used in chapter five, in which the expansion of the cattle-raising front was reported via the ranchers' accounts.

## 7.2. THE EXTRACTIVE RESISTANCE MOVEMENT.

During the 1970s the process of (re)occupation of Amazônia, encouraged by the military government, gave rise in Acre to the sale of old rubber estates to entrepreneurial groups from the Centre-South of the country. Such groups were favoured by tax incentives to cattle-ranching, mining, and the timber trade. This started the deforestation carried out with the objective of 'cleaning' the forest for the new land use forms, through burnings and the expulsion of their previous inhabitants.

This form of occupation was designed outside of Amazônia, with a view to solving national priorities (like questions of security of the border frontier areas, demographic pressure on land in other regions of the country, requirement for investments in land from Centre-South entrepreneurs) not those of Northern regional development. It was a government model of development drawn up for Amazônia which was not concerned with preserving either natural resources or the regional culture, but a model interested in the appropriation of land rather than environmental protection; a model which excluded the traditional local populations from its benefits, as they are only offered the role of making up the labour force.

It is in this context of the (re)occupation of Acre, when the rubber tapper economy was giving way to beef that (according to Grzybowski, 1989) uninvited players, the rubber tappers, appeared on the scene. The rubber tappers and the Indians (the local population) then began to organise in defence of their own livelihoods, developing forms of resistance to the deforestation and the advance of the cattle ranching.

In 1971 the first church community groups were created, *Comunidades Eclesiais de Base* -CEBs- (Base Christian Communities), by Dom Giocondo Grotti. Priests from the Progressive Catholic Church, followers of the Liberation Theology, went to the forest and organised such groups, where various social problems were discussed. 'We prayed and discussed the oppression,' tells the rubber tapper Raimundo Barros, cousin to Chico Mendes, president of the Xapuri Rural Labourers Trade Union and three times councilman to this city.

In 1976, the rubber tappers began a form of resistance known as *empate* (stand-off), collective actions intended to prevent (or to block) the action of the 'peons' (*peões*), temporary workers employed to clear the forest. A group of a hundred to two hundred people (men, women and children) used to go to the areas threatened with deforestation peacefully, unarmed, and try to convince the 'peons' to drop their chainsaws. The trees in danger of being cut down would then be embraced by the extractive population in an attempt to show that the forest is their source of life.

Women play an important role in the *empates*, where they usually form the front line, as the standard-bearers of the extractive population in the forest. According to the rubber tapper's leader Chico Mendes (interviewed in Xapuri, June, 1987), 'this movement grew out of the needs of survival; the concept of the *empate* was something developed communally when the rubber tappers realised that the defence of the forest was their only means of effectively resisting as a group'. Thus, this struggle has generated a movement (the extractive social movement) developed among those who live in the social isolation characteristic of the rubber activity, leading to the creating of a social identity, that of the Forest Peoples.

The whole process of organising the rubber tappers was achieved through the efforts of the rural workers' unions and particularly that one of Xapuri, led by Chico Mendes, murdered in 1988. They represented a return, on the part of the extractive population, to the conservationist values of their culture, placing them in opposition to the model imposed on the Amazônia region by the military governments. A different model of development, one adapted to fit local conditions, began to be discussed within the forest dwellers' groups, finding concrete expression in their current objective: the proposed

Extractive Reserves. The success of this campaign has only been recognised from 1985 on, when they began to interfere not only in the clearances but also in the external loans, particularly those of the World Bank (IBRD), intended to finance the paving of the federal motorways<sup>26</sup> in Amazônia and which constitute 'the means by which the ranching projects, the expression of 'development' according national ideology, penetrate and destroy the forest' (Chico Mendes Interview 1987.) The underlying motive for the rubber tappers' resistance to deforestation was simple survival: the destruction of the forest meant the loss of both their source of subsistence and work.

The principal form that resistance to the deforestation took, the *empates*, began in Acre in 1976, under the auspices of Rural Workers Union in Brasília, but since then the strategy has spread throughout the entire Acre River Valley. In 1979, the union leader Wilson Pinheiro managed to gather a group of 300 male rubber tappers and take them to Boca do Acre, a district in the state of Amazonas which borders the Rio Branco municipality, where gunmen had been threatening rural squatters. The gunmen were disarmed and their weapons handed over to the army commander in Rio Branco City. This particular incident had a great effect on the big landowners of the area, and in July 1980 Wilson Pinheiro was assassinated. After that, the rubber tappers' resistance was lead by Chico Mendes from the Xapuri Union.

As the rubber tappers knew of peers who were threatened by clearances, various communities gathered together to organise meetings in the middle of the forest and to demonstrate with groups of protesters who put themselves in front of the chainsaws in an attempt to prevent forest destruction peacefully. The protesters tried to convince the peons working for the ranchers to leave the area. Then, the rubber tappers would dismantle the camps, causing the peons to retreat. They were frequently attacked by the police, who were called in by the ranchers taking legal action against the extractive groups and demanding official support. From the rubber tappers' point of view, however, it was the clearances that were illegal and had to be halted, as they broke the law<sup>27</sup>. The *empates* were considered by the rubber tappers to be peaceful demonstrations, in which a strategy of non-violence was used as a form of protest. When the conflicts escalated, the events were publicised on a national level.

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<sup>26</sup> By that time, an international campaign against the asphaltting of the motorway BR-364, in Acre state, had been launched by several NGOs, as a temporary strategy for saving the rainforest.

<sup>27</sup> Legal Decree 7511 of 30/7/86 and Order in Council 486 of 28//10/86 in federal legislation, prohibit the felling and commercialisation of nut bearing trees and prohibiting clearances in slope areas.

'Whilst we have 100, 200 comrades at an *empate*, facing the chainsaw and machetes of the rancher's peons, we also have at the same time a team to transmit across the country what is happening here. Henceforward we will have teams of activists organised throughout the areas of deforestation, a team in Xapuri city to transmit to the country what is happening as it happens and call for solidarity, and a team to link the demonstration with the support team in the town'.  
(Chico Mendes) Quoted by Grzybowski, 1989:39.

According to the report by the rubber tappers' leader Chico Mendes, fifteen out of the forty-five *empates* carried out in the period from 1976 to 1988 were successful and ensured the preservation of approximately 1,200,000 hectares of forest. It is possible to identify some of these *empates* (Table 7.1.) on the basis of information collected in 1990 in an interview with Julio Barbosa, the then president of the National Council of Rubber Tappers (CNS) and today's mayor of the municipality of Xapuri/AC.

TABLE 7.1  
A BRIEF HISTORY OF THE CONFLICTS IN ACRE (1971-1989)

YEAR	EVENT
1971	Creation of the first <i>Comunidades Eclesiais de Base</i> (church community groups) by Dom Giocondo Grotti, to shelter the rubber tappers expelled by the ranchers.
1973	Period of the most violent conflicts in Acre (ranchers expelling extractive populations from the forest.)
1976	Empate on Filipinas ranch, in Xapuri. Empate on Carmen rubber estate, in Brasília.
1978	Empate at km 45 on the Rio Branco-Boca do Acre road.
1980	Empate on Santa Fé ranch, in Xapuri.
1986	Empate on Bordon ranch, in Xapuri.
1988	Empate on Cachoeira rubber estate, in Xapuri. Empate on Equador rubber estate, in Xapuri.
1989	Empate on Boca do Lago rubber estate, in Xapuri. Empate on Porongaba rubber estate, in Brasília.

SOURCE: Interview (given in the context of this thesis) with Julio Barbosa, the then President of the National Council of Rubber Tappers. Rio Branco City. Acre state. August/1990.

The expansion of the movement, however, was only made possible through raising the consciousness of the workers based on a programme of popular education, begun in 1979. Mary Allegretti, an anthropologist from Curitiba City (in the southern state of Paraná), who had done her Master's dissertation on the rubber tappers of Acre and met Chico Mendes in 1976 (see Revkin, 1990, chapter 9), played a central role in the organisation of this project. In 1980 Chico Mendes, assisted by Allegretti, drew up

a project for schools and rubber producer co-operatives, the *Projeto Seringueiro* (Rubber Tapper Project.) Thus, 1982 saw the beginning of a basic education movement for rubber tappers, whose educational philosophy was based on the realities of the workers' lives. For example, literacy classes used lesson plans adapted from the day-to-day lives of an extractive population, with words such as *mata* (forest), *borracha* (rubber) and *empate* (stand-off) forming the teaching lexicon. The methodology was designed by Allegretti and a team of community educators from the Ecumenical Centre for Documentation and Information (CEDI.) This project<sup>28</sup> was aimed at educating the forest-dweller so that, besides learning how to read and write, he/she could learn how to care more deeply for the forest, to fight for it and to discover other ways of using it.

Despite the increase in the number of funding sources open to the project, the amount of money available remained small, a fact explained by local workers, in the words of Chico Mendes, as having an ideological base: 'The Government is not interested in the politicisation of the worker, because once the worker is politicised then he will know how to stand on his own two feet' (GRZYBOWSKI, 1989:47.)

Popular education enabled the rubber tappers to become aware of their own situation, although it was only in October 1985 that this group acquired its new identity with the creation of the National Council of Rubber Tappers. Once more Allegretti was instrumental in organising the first National Meeting of Rubber Tappers in Brasilia, where 130 rubber tappers from Acre, Rondônia and Amazonas states were brought together. Later, she set up the IEA (Institute of Amazônia Studies), which continued to play a major part in lobbying for the creation of Extractive Reserves.

'We discovered that a National Rubber Council existed, consisting of ranchers and industrialists, but without a single rubber tapper! The National Rubber Tappers' Council (CNS) is not intended to be a parallel organisation, but a body of rubber tappers, because rubber tappers are not recognised as a class. One of the aims of the CNS is to force the recognition of the rubber tappers as a class which will fight to defend Amazônia'. (Chico Mendes. Quoted by Grzybowski, 1989:26.)

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<sup>28</sup> The '*Seringueiro Project*' (Rubber Tapper Project) grew out of the collaboration between the Rural Workers' Union in Xapuri and the Centre for Documentation and Research in Amazônia (CEDOPE), a non governmental body based in Rio Branco/ Acre. Its initial and decisive funding came from the English Ngo, OXFAM. Today the project receives a little funding from the Ministry of Education and Culture (MEC), from the States' Education Secretariat and the Church through the Ecumenical Services Coordinator. It also receives technical support from the Ecumenical Centre for Documentation and Information (CEDI) and the Amazonian Workers Centre (CTA.) It provides schools which are organised along different policy lines to those of country's official educational policy.



Even though the movement had had its origins in the rural unions of Brasília and Xapuri, in Acre, it expanded while the rural trades unions put rubber tappers together with colonists and peons working for ranchers. In fact, the movement united any sort of rural worker, yet obviously the interests and objectives of these disparate groups were not always common to all.

It was necessary to recognise the rubber tappers as a distinct group. Since its inception, the CNS has proposed an alternative policy to the clearances in Amazônia: the creation of Extractive Reserves. The rubber tappers' struggle thus began to be publicised, showing that the forest was not, and had not been, empty of people.

Another group had also historically occupied and protected the forest –the indigenous population, with whom the rubber tappers had been in conflict for years. However, the moment had arrived for the establishment of alliances between these minority groups who shared the same problems (e.g. ejection from the land/forest, where they have been living for many generations owing to the ongoing deforestation process), similar economy (based on sustainable activities such as fishing/hunting, extraction of forest products, and farming of a number of subsistence crops), and proposals for environmental conservation (the Indian Reserve created and supervised<sup>29</sup> by the State through the Indian National Foundation –FUNAI.)

Thus, in June 1986 a delegation of Indians and rubber tappers arrived in the federal capital, Brasília, to discuss the question of extractive and indigenous reserves. With this the first Working Group to discuss Extractive Reserves was officially created. Since that time Indians have begun to take part in the deliberations of the CNS and to participate in *empates*.

The movement initially spread through the Acre River Valley; it was a result of the threat of environmental disaster to which this area was subjected as a consequence of increasing land speculation. The paving of parts of the BR-364 and BR-317 motorways and the possibility of completing new 'stretches' of these motorways (which would make the Pacific gateway<sup>30</sup> feasible) would increase the value of the areas close to these roads. The

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<sup>29</sup> Although inspired in the traditional model of Indian Reserves in relation to the communal ownership of the forest resources, the design of the rubber tappers'/ nut-gatherers' Extractive Reserve originally does not foresee any sort of governmental supervision for its operation.

<sup>30</sup> Plans have been formulated with the objective to link the western Amazônia with the Pacific coast. Motorways like BR-364, were designed for allow the exportation of regional products (as timber) to the eastern markets, especially Japan.

strategy of extractive groups was to build up their support in the municipalities of Brasília and Xapuri, which the BR-317 runs through. The next area to be organised was that of the Juruá Valley which, unlike the areas of the autonomous rubber tappers in Acre Valley, was characterised by the systematic enslavement of the workers. Other states where the CNS became active are Rondônia and Amapá, where RESEXs have also been created.

The strategy of the movement also included a broadening of the scope of local participation via alliances with lobby groups such as the Institute of Amazônia Studies in Brazil and NGOs in the USA and Europe, including the assistance of major bodies such as the Ford Foundation, the MacArthur Foundation, the Canadian International Development Agency (CIDA), the Environmental Defence Fund, the Gaia Foundation, Cultural Survival, Health Unlimited, etc. As it can be seen, the rubber tappers' movement was receiving intense media coverage.

In the USA, Brazil's official Amazônia settlement policies had come under intensive examination by the environmental lobby during its campaign against the World Bank-funded north-west regional development programme (POLONOROESTE.) Most of the IBRD original US\$ 430 million was earmarked for paving the BR-364 motorway to Porto Velho, while a further IDB loan of US\$ 58 million would extend the asphalt to Rio Branco, gateway to the rubber estates (Rich,1994, apud Hall,1997.) As a response, the Bank funded a series of compensatory measures under the Programme for Protection of the Environment and Indigenous Communities (PMACI.) During 1987, Chico Mendes made three trips to the USA, to protest to the IDB and lobby US Congress members against the potential social and ecological dangers of paving the BR-364 from Porto Velho to Rio Branco. These visits focused world attention on the problem of deforestation in the Amazônia. Some months later, Chico Mendes was awarded the Global 500 prize by UNEP and the Better World Protection of the Environment Medal.

The spread of the rubber tappers' movement and its forming of alliances awoke violent opposition from other political groups in Brazilian society. Directly affected by the ban on deforestation, the Rural Democratic Union (UDR), representing the interests of landowners and agro-industrialists, and financing deputies in the National Congress, came to be regarded as its principal opponent. The UDR lobby group opened an office in Xapuri, while hired gunmen started a campaign of intimidation against rubber tappers' families. In June 1987, Higino de Almeida, a rural union director was killed, and Amazônia burnings reached a peak with the loss of 48,000 square miles of rainforest. The national protests generated caused the federal government to expropriate four estates in 1987 to form the

first Extractive Settlement Projects (PAE)<sup>31</sup> created under the aegis of existing agrarian reform (PNRA) legislation, and following the recommendation of a working group which included advisers from the CNS and the IEA (Hall,1997.) Later, by the end of 1989, ten PAEs had been set up, totalling almost 900,000 hectares and benefiting nearly 3,000 families. According to Allegretti (1994), the PAE represented a partial solution to the extractives' problem as it was based on an internal INCRA regulation and could easily be annulled. In June 1988, the Agro-Extractive Co-operative of Xapuri (CAEX) was inaugurated with technical assistance from the IEA and funding from foreign NGOs.

However, the violence increased in Acre: on 22 December 1988, Chico Mendes was shot dead. He was the ninetieth rural activist to have been murdered in Brazil that year. On 31/3/89, three months after the murder of the rubber tappers' leader, the Second National Conference of Rubber Tappers and the First Conference of the Forest Peoples took place in Rio Branco/Acre. Then, the Alliance of the Forest Peoples was sealed between the Indians and other extractive groups. Its principal recommendation was that the Government should pursue policies based on the knowledge and expectations of these communities. A developmental policy for the forest peoples would have to give consideration to models of development which respected these peoples' way of life and traditions. It was also recommended that the extractive populations should participate, through their associations and representative bodies, in the process of public discussion of all the governmental projects envisaged for the forest inhabited by Indians and extractive groups.

'Chico Mendes' s assassination attracted national and international media attention, re-kindling the discussion of environmental policies. In October 1988, the new Brazilian Constitution was promulgated, mentioning the need to create territorial spaces, especially protected by federal, state and municipal powers, of relevant ecological interest and Extractive Reserves. In the late 80s, the federal government created the program 'Our Nature' and in January 1990, the recently created IBAMA (Brazilian Institute of Renewable Natural Resources and the Environment) set up a working group with INCRA, the CNS and IEA, in order to draw up a proposal for a decree for the creation of

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<sup>31</sup> The PAEs (Extractive Settlement Projects) were created by the INCRA regulation 627 (30/07/1987), been characterised by the use concession given to resident families. It is a differential model of agrarian reform for Amazônia, as it does not require the division of the área into plots, allowing for the maintenance of the rubber trails and the extractive way of life. The PAEs were an answer to the rubber tappers' requests for the expropriation and indemnity of native rubber estates, for the participation in defining and demarcating the áreas they already inhabited, and in the policy for commercialisation. According to data from the Secretariat of Science, Technology and Environment of Acre, in 1999 the state had 2.3% of its territory (193,447 ha) occupied by PAEs, where 869 families lived.

Extractive Reserves. On 30 January 1990, as the last act of his government, President Sarney signed Decree 98,897, which created the legal presence of the Extractive Reserves, under the overall supervision of IBAMA. During 1990-92, nine reserves were set up by the federal government, and a further twenty-one state-administered reserves have been decreed in Rondônia, satisfying the demands of local NGOs and of the Organisation of Rubber Tappers of Rondônia (OSR.) The total area of these reserves cover one million hectares. Now, the Extractive Settlement Projects (PAEs) under the control of the National Institute for Colonisation and Agrarian Reform (INCRA) co-existed with the IBAMA's reserves, but the basic difference was that prior expropriation of lands set aside for Extractive Reserves was deemed to be unnecessary.

In February 1992, the National Centre for the Sustainable Development of Traditional Populations (CNPT) was set up within IBAMA. Such a centre was aimed at helping the implementation of RESEXs, and contributing to the establishment of reserve-management structures, that is, engaging the rubber tapper population in reserve management and enhancing project efficiency. This way, there is a conscious effort to aggregate human and financial resources through a convention with governmental organisations of different areas and with national and international NGOs.

In this process, it is also necessary to point out the important contribution of the Pilot Program to Conserve the Brazilian Rainforest (PPG7), a new model of international partnership. The program aims at encouraging environmental programmes and actions (demarcation of indigenous land, ecotourism, the creation of areas of environmental preservation controlled by the state, etc.) with a view to strengthening the RESEXs and the extractive communities. Its participation in implementing the Extractive Reserves will be commented in detail in a following section.

In 1993, SUDAM (the Superintendence of Amazônia) approved a 'Plan for the Sustainable Development for the Legal Amazônia' for the period 1994-97, recommending sustainable development as the new strategy for regional development. Such a reorientation of public policies (however feeble) helped to reinforce the extractive dimension of development in Western Amazônia, which enabled (especially from the beginning of 1997 on) studies in the Amazonian states in order to trace economic-ecological zoning areas as well as state programs designed to diversify and increase the value of extractivism. This way, the Extractive Reserves and the PAEs have become concrete instruments in an attempt to make regional economy viable by means of the extractive activity of small landowners and by organising family work.

Together with these actions, the extractive communities went on asking for the demarcation of other indigenous areas and Extractive Reserves<sup>32</sup> in forest areas occupied by extractive labour as well as areas with high extraction potential. In this struggle, new alliances have been forged with other groups of workers in Amazônia

.The southeast of Pará state, the west of Maranhão state and the north of Tocantins state today form a region in which the rural labourers, in addition to the fight for effective agrarian reform, struggle to protect the enormous extractive potential represented by Brazil nuts (*Bertholetia excelsa*), a palm-tree coconut fruit babassu (*Orbignyia phalerata martins*), an arboreal fruit named cupuaçu (*Theobroma grandiflorum*) and other natural resources. The struggle for land and the defence of the babaçu forest in Maranhão has a long history of resistance by the rural labourers, and particularly by the women who break the coconut babaçu. Organised around the babaçu issue, the syndicates, co-operatives, women' associations and ancillary bodies have developed a communal work pattern to strengthen the extractive activities.

According to a report in the Rubber Tapper National Council's Bulletin (*Boletim do CNS*, 7/08/93), a project has been initiated in the region of Mid Mearim (in Maranhão) for the communal processing of babassu: producing oil, soap and charcoal from the babassu husks shells. Four small co-operatives have been participating in this venture, holding meetings to spread the technologies involved in the processing and discussing the question of the marketing and commercialisation of these products. The women distinguish themselves by their participation in the syndicate and co-operatives.

Among the motions tabled at the Conference of Rural Workers of Amazônia, held on 12-14 April 1993, it was proposed that the CNS should organise a meeting for all the co-operatives and agro-extractive organisations in Amazônia aimed at developing a unified proposal to be put before the Ministry of Agriculture. It would demand special concessions for those products produced by extractive rural workers which would include environmental and ecological costs. The female babassu-breakers, in their turn, held the Second Interstate Conference of babassu-breakers in September 1993, where some 300 women from the extractive activity were assembled. It was their intention to facilitate an exchange of

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<sup>32</sup> The Brazilian Government is undertaken studies for setting up a further six Extractive Reserves, to be situated in Acre state (Alto Tarauacá e Riozinho da Liberdade), Rondônia state (on the Guariba and Roosevelt rivers), Pará state (Tucuruí), Tocantins state (Alto Araguaia) and Goiás state (Alto Paraiso.)

experiences among all the organisations which work in the production, marketing and processing of extractive products from Amazônia.

Yet all of this effort has translated into a permanent conflict with the cattle-breeders, the representatives of the new model of occupation. Nevertheless, for the forest peoples' movement it was important that the different groups of extractive population in different parts of Amazônia came to realise that they were fighting for the same objectives: productive use of the forest and the conservation of natural resources, the forest itself, whether they were rubber tappers in Acre, nut-gatherers in Pará or women processing babassu in western Maranhão. This struggle, which began to spread in a more organised fashion, represented the reaction of local extractive populations to the growing destruction of the environment caused by the new forms of re-occupation of the Amazonian frontier. It represents a battle in two different fronts: at a local level, the struggle for their own survival; at an international one, the struggle to protect global resources. It also demonstrates the existence of different approaches to the relationship between society and nature, as a consequence of distinct concepts of development sought by different groups in Brazilian society. In these terms, the extractive groups have been contributing to the preservation of the tropical rainforest, an issue which has become a matter of common good at international level owing to the increasing scarcity of this natural resource, which regulates the world climate and acts as a genetic bank for flora and fauna. So, while the rainforest started to be seen as a global commons, the rubber tappers seemed to have brought ecology into play as an issue of collective survival.

The governance of natural resources used by many individuals in common is an issue of increasing concern not only to policy analysts, but literally to nations and regional groups involved with that particularly 'commons'. According to Ostrom (1990), both state control and privatisation resources have been advocated, but neither the state nor the market has been successful in solving common-pool resource problems. It is assessed that in contrast to the propositions of the 'tragedy of the commons' argument (Hardin, 1968)<sup>33</sup>,

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<sup>33</sup> Hardin, while discussing the Tragedy of the Commons' argument, asked if it is rational for us to maximize our own gain from commonly-held land, sea or air, and if we are to do so, then what do we get? 'Garrett Hardin's famous answer is: tragedy - the 'tragedy of the commons'. When populations were low, he writes, the commons were effectively limitless and little damage could be done to them. As populations grow, pressure on the commons increases to the point where rational maximization by each results in devastation for all. Hardin prescribes different solutions to the tragedy for different cases -private property, pollution taxes and (notoriously) curbs on population growth and immigration. What each of these has in common is, as he writes, an infringement of somebody's personal liberty; but, he argues, we must learn that freedom is the recognition of necessity and accept the need of coercion' ( In: Dobson, 1991:37.)

common-pool problems sometimes are solved by voluntary organisations rather than by a coercive state. Among the cases considered were communal tenure in meadows and forest, irrigation communities and other rights, fisheries, etc. It is precisely at this point that the action of forest dwellers in Brazilian Amazônia has become increasingly important.

According to Ostrom (1990), the expression 'the tragedy of the commons' has currently come to symbolise the degradation of the environment to be expected whenever many individuals use a scarce resource in common. In the case of Amazônia, however, this 'tragedy' could be explained not because of the overexploitation of nature by many (small) producers, but by the rate of deforestation going on, especially caused by a few big rural enterprises.

Despite the recognition of the role played by traditional extractive groups in the preservation of the Amazonian environment, their survival and development has been seriously threatened by the lack of a productive national policy of subsidies for the extraction sector. It is here that the role of these movements is significant, not just in ecological terms but also in terms of class struggle, of survival before ecology. According to the Brazilian national census (IBGE, 1980) there were 1,5 million people who depended on the forest for their living; of these, some 300,000 depended on sustainable harvesting. According to the 1991 national demographic census, 462,667 people were still linked to fishing and to the extraction of non-timber forest products, while some 309,570 were forest workers (lumberjacks, loggers, charcoal-burners.) In this sense, the rubber tappers' movement has different connotations than the so-called environmental movements or anti-development movements from some of the communities of Northern countries, and this is due to the distinct concept of development sought by the two groups. Although all these actions are striving to prevent new development projects that would affect their current lifestyles, their characteristics and objectives are rather distinct (see Table 7.2 .)

Whereas at international level, many environmentalist movements have showed concern for the tropical rainforest conservation, some Northern countries' own anti-development movements (perhaps better perceived as intra-class location contradictions) are based on market interest in the accumulative potential of their homes. However, in the case of Brazilian Amazônia, the land market interest is not the main purpose of the extractive resistance groups but of the ranchers, the new developmental groups who have proclaimed themselves the heralds of modernisation

over traditional activities, and who have interests in land market investments. So, it is possible to conclude that middle-class groups from the North are primarily concerned with protecting and enhancing their property values, while the low class extractive groups of Amazônia are trying to preserve their livelihoods and the forest on which they depend.

TABLE 7.2.

MAIN FEATURES BETWEEN SOME ANTI-DEVELOPMENT MOVEMENTS IN THE NORTHERN COUNTRIES AND THE BRAZILIAN EXTRACTIVE MOVEMENT.

ANTI-DEVELOPMENT MOVEMENTS IN WESTERN DEVELOPED COUNTRIES	EXTRACTIVE SOCIAL MOVEMENT IN BRAZILIAN AMAZÔNIA
Locally based groups focussed on opposition to a specific purpose of development.	Regional based group focussed on opposition to a new developmental model for Amazonian frontier.
Group having a very limited purpose and a tightly defined geographical area of activity.	Group having a specific but not limited purpose (anti-deforestation) and a large defined geographical area of activity (extractivism.)
Group having a limited lifespan; may develop into a local amenity group.	Longer-lived movement developing into a socio-political movement.
The chief tactic involves intense local mobilisation with activities ranging from collaboration through campaigning to confrontational measures.	The chief tactic involves intense local mobilisation with activities ranging from sustainable projects to confrontational measures ( <i>empates</i> .)
All activities are focussed on local government rather than central government.	All actions are focussed on regional activities derived from federal government policies.
The 'stoppers' are middle-class, middle-aged owner-occupiers.	The 'stoppers' are low class, extractive population, rural homesteaders of all ages.
Their local environmental interests don't challenge any dominant societal values or materialist goals.	Their local/regional interests seems not challenge the dominant values of capitalist society while they are becoming articulated.
Groups not concerned with conflicts between protection and development but with conflicts between groups of citizens.	Groups mainly concerned with conflicts between environmental protection/ sustainable development.
Represents a territorial defence of capitalist middle-class lifestyle.	Represents a territorial defence of subsistence lifestyle.

SOURCE: The choice of these general characteristics of some Northern anti-development groups was based on UK text (Rydin, 1993) discussion on this subject.

Another important feature to be stressed, and which related to these movements, is that while many of the Northern so-called anti-development movements may evolve into a local amenity group, the South movement of the rubber tappers is developing into a socio-political movement because of the alliances recently shaped with other extractive groups and with trade unions in Amazônia.

A general definition of social movement offered by Scott (1990: 6) and which is also appropriate for conservation movements, brings the idea of 'a collective social actor



constituted by individuals who understand themselves to have common interests and, for at least some significant part of their social existence, a common identity'. However, another approach which better characterises the extractive movement is that related to the so-called new social movements (dealing with issues of gender, race, ecology and so on), which differ from the old classical labour movements (trade-unionists) and their articulation at the network of social movements (from grassroots to networks) of the global era.

At the first half of the 1980s, a large number of new theoretical considerations and of empirical research done in Latin America has struggled to replace analyses of global historical processes by studies of specifically organised groups, that is, the so-called 'restrict identities' (Zermeño, 1987.) According to Scherer-Warren (1996) researchers were looking for the innovative elements of these forms of organisations and for their way of doing politics, and it was suggested that a new popular political culture was being engendered in Latin America. In the middle of these changes, articulations between rural social movements and ecological movements took place.

According to Assies (1997:37) talking about the Amazônia, in the context of growing international concern over climate changes and the greenhouse effect, the local trade unions increasingly 'greened' their discourse. Linking up with global environmentalism was an effective way to increase their local leverage, rather than presenting themselves as rural workers, the rubber tappers' identity was given prominence and extractivism was emphasised as a livelihood. 'In the international media Chico Mendes came to be represented as a hero of ecology rather than a left-wing trade unionist

In this sense, the Rubber Tappers' Movement has linked the struggle for survival to the ecological cause, attempting to integrate the network of new international movements. The only reason why Chico Mendes's assassination had such a great repercussion is because of the articulations of the movement to national and international ecological organisations. Likewise, to obtain support for the creation of the RESEXs, several alliances had to be made. On the one hand, the Alliance of the Peoples of the Forest, made through the joint efforts of the National Council of Rubber Tappers (CSN), the Union of Indigenous People (UNI) and the Ecumenical Centre for Documentation and Information (CEDI.) On the other hand, articulations made with the Rural Labourers' Union, with other groups of traditional Amazonian population, with environmental organisations and with organised groups defending forest people (AGEN, 1989.)

For the movement to go on, however, an important issue should be considered – the need for a cohesive social group, whose interests and political processes are in agreement regarding the collective use of the forest. The problem that then arises is the rubber tapper's individualistic character. According to Hall (1997), the vast majority of rubber tappers are not collectivist in their approach, since they are used to being physically and socially isolated as a consequence of the nature of their extractive activities, characterised by poor communication. This had bounded them first to the forest and to rubber estates through a traditional and savage relationships of debt bondage, and later, to itinerant merchants or '*marreteiros*' who hold a monopoly on the purchase of latex and on the supply of essential consumer goods. This could lead to the conclusion that they, as a group, have no tradition of political mobilisation.

In fact, social organisation is not a strong cultural characteristic of these groups. The rubber tapper is individualistic as a consequence of the historical formation of society in rubber estates, where the power to order has always been in the boss's hands, who prevented the rubber tappers' attempts to organise themselves. The distance between the rubber tappers' homes has also been another explanatory factor of this isolation and lack of communication. The term *colocação* (a definition of the productive family unity) originated from the fact that the rubber boss rubber placed (in Portuguese, the verb *colocar*) rubber tappers at least an hour's walk apart from each other. This way, they could only meet their peers at the central *barracão* (the company store) on Sundays, before the boss's eyes. This one had 'spies' (the *noteiro*) who visited the *colocações* and who brought news of the rubber tappers (if they were cutting the trees correctly, selling rubber to others, and so on.) Besides, there were the *comboeiro*, people who transported the merchandise from the company store to the rubber tappers' home, and who also worked as a sort of overseers (they were rubber tappers who sometimes sold their honour for a simple rifle.) All this lead to a curious cultural phenomenon, as the rubber tappers became *more* suspicious of their neighbours (those with whom they worked side by side), whereas being more *open* to outsiders.

In terms of the current political organisation of extractives populations as an essential factor in the development of community actions in RESEXs, the risk of weakening the movement is already being discussed (Hall, 1997) because of the growing heterogeneous character of the populations linked to the National Council of Rubber Tappers (CNS.) This would stem, in part, from the progressive enlargement of the number of members, including other Amazonian groups (small landless peasants) not necessarily

engaged in the initial cause defended by the leader Chico Mendes, but simply as part of a political strategy to pursue a regional agrarian reform. This discussion emerged from the fact that the last President of the National Council of Rubber Tappers (CNS) was not an extractive small producer, but rather a small rural producer, and so probably more interested in the issue of gaining land than in that of defending the forest.

In fact, the collective spirit of these groups, hard pressed by their survival needs, is still under construction. The shared experiences and community solidarity shown by this group were only developed since the 70s, in response to external threats to the natural resource base which supported people's livelihoods and socio-cultural identity. In some areas such as the Acre River Valley, we have seen the recent history of mobilisation and collective action against land-grabbing through *empates*. As a result, the Chico Mendes Extractive Reserve, for example, despite its huge size, enjoys relatively high levels of participation in its associations, reflecting substantial grassroots involvement.

However, groups from other extractive areas and from different geographical and socio-political contexts are not characterised by the same degree of collective involvement (Hall, 1997.) The Juruá area in northern Acre and, the Rio Ouro Preto area in Rondônia state, deeply contrast with the Chico Mendes situation. In physical terms, the first one is not served by a tarmac road, and the rain season prevents land access for much of the year and, in terms of social relations of production, it has been conditioned by vestiges of the *aviamento* system, factors that contribute negatively to the implementation of any resource conservation plan that requires collective action. The later one has not had the same history of violent confrontation as that in the Acre River Valley, and there has been no history of political organisation amongst rubber tappers there.

Nevertheless, for many groups of extractive people working in Amazônia the objective is still the campaign for Extractive Reserves and the attempt to prove their economic viability. In socio-demographical terms, they may represent a means of fixing people to the land. This would discourage their migration to the cities, and consequently their unemployment and the formation of slums. In this sense, such movements have an element which counters labour mobility and represents the resistance of groups of small extractive local producers to a current model of occupation imposed from outside the region. Such a model seems to be unsuitable for large areas of the tropical rainforest, not only because of the region's environmental conditions, but also because of the social ones.

Next, the standpoint of the Peoples of the Forest will be presented through the proposal for sustainable development formulated by the Extractive Social Movement of Acre.

### 7.3. THE EXTRACTIVE RESERVE: A RUBBER TAPPER'S PROPOSAL FOR CONSERVATIVE PRODUCTION IN BRAZILIAN AMAZÔNIA

The Extractive Reserve was conceived (and has been considered as such by different sections of the Brazilian society and international groups) as a strategy of crucial importance to the sustainable development of Amazônia.

*'By virtue of the sheer geographical area covered by official Extractive Reserve projects at state and federal levels in Brazil (over three million hectares) as well as the size of rainforest population directly involved (some 50,000), no other exercise in marrying natural resource conservation with productive activities comes even close to having such potential regional impacts. If successful, the Extractive Reserve concept could have a wider relevance for addressing deforestation problems in other parts of the developing world' (Hall, 1997:93.)*

For generations, the rubber tappers have maintained a harmonious relationship with the rainforest ecosystem, using methods they learned from native Amazonian Indians: they tap their rubber trees and harvest exotic fruits and nuts. More recently, since the 70s, the rubber tappers of the Acre River Valley have been struggling for an agrarian reform tailored to the social and environmental characteristics of the Amazônia Region. To achieve this, the nature of extractive activity must be considered: in order to utilise the existing resources correctly, each extractive family needs a continuous forest area (at least 300 ha), which is bigger than that required by the colonists in traditional small agricultural production (50 ha.)

However, when the old rubber estates were sold off and the extractive population had to move out, the alternative offered to them, whether by the new landowners or the government, was to become a colonist (working in the land and not in the forest), or to migrate to the urban outskirts. This showed ignorance and lack of respect for the characteristics and needs of the local populations. It was a negation of the extractive culture. Thus, the proposal to create Extractive Reserves, which represents a recognition of the rubber forest as territory exploited (as a usufruct) by the rubber tapper and his family, developed from the need to survive and through drawing analogies with Indigenous Reserves. At a regional and national level, the RESEXs represent a proposal for ecological agrarian reform, constituting a means of legalising collective ownership (or household) in

areas designated as having extractive potential. They would simultaneously contribute to the fixation of these extractive groups in the forest and prevent the rural exodus, whilst securing the preservation of the Amazonian patrimony for the country and the world.

The creation of the RESEXs would constitute, in brief, an economic and ecological alternative to the deforestation. For the rubber tappers, however, the RESEXs should be seen before all else within the context of the class struggle for surviving.

According to the testimony of Gomercindo Rodrigues (1987), the then agronomic adviser of the National Council of Rubber Tappers, the idea of creating a RESEX was to guarantee great uninterrupted areas where extractivism could be maintained, improving the living standards of the rubber tappers and nut-gatherers in all areas of the country where extractivism operates. In this respect, an RESEX would function in the same way that an Indian reserve does<sup>34</sup>.

There are three types of conservation units recognised by the Brazilian Law, and referred by the then Brazilian Institute of Forestry Development (IBDF.) These are the National, State and Municipal Parks, the Biological Reserves (the natural resources of which may not be exploited) and the National or Estate Forests, which are viewed as areas for economic exploitation (particularly timber) without special regard to the population that inhabits it. None of these existing legal formulae have given consideration to the life conditions of people within the forest. Nevertheless, according to Rodrigues, approximately 1/4 of the population of the state of Acre at that time made their living from extraction.

The improvement in the rubber tappers' living standards, foreseen by the RESEXs, would derive from the technical improvements to rubber estates, in the sense of increasing their productivity and making them competitive with the new rubber estates of the Southeast of the country (São Paulo, Minas Gerais, Rio de Janeiro and Bahia states.) As these cultivated rubber estates came into production, they had been able to undercut the native rubber estates of Amazônia as they were far closer to the great industrial centres. However, considering that Brazil imports approximately 70% of the rubber it uses and produces only 30%, that the plantations of the Centre-South still cannot meet all the national demand, and that although imported rubber is cheaper than native one it has to be paid in dollars, it would appear that there is an opening for the forests of Amazônia.

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<sup>34</sup> This information was collected in June 1987, in an interview with Gomercindo Rodrigues, assessor of National Council of Rubber Tappers (CNS) and then president of the Amazonian Workers Centre (CTA), in the municipality of Xapuri, Acre.

The question of improving technology in the rubber estate may be approached from various aspects, according to Rodrigues's viewpoint:

a) Concentration of rubber trees in the forest: a rubber tapper normally needs three rubber trails (*estrada de seringa*) to survive. If each trail covers 150 trees, then he has an average of 450 trees to exploit. If the trees were closer together then he would not need to have three trails (as only one would produce enough), freeing up another two trails which could then, at a later date, be given to his sons, so that they in their turn would not have to migrate to the towns.

b) Cultivation of nut-trees and rubber trees: changes in productivity would be achieved through transplanting saplings from nurseries into the interior of the forest. This idea corresponds to the implementation of the so-called *Ilhas de alta produtividade* ('High productivity islands'), a concept later proposed by Kageama (1991), that is, the thickening of extractive species (especially rubber trees) cultivated in forest areas distant from each other.

c) Construction of small plants for processing latex (mini-usinas): the technique used entails the production of *folha fumada* (smoked sheet rubber), a product which is ready for use in the industrial production line, rather than the traditional *pela* (large ball of rubber) or *borracha de prensa* (rubber pressed into blocks.) The latter forms of rubber have to undergo further processing in plants before they can be used by industry. Thus, the great advantage of *folha fumada* is that it eliminates the intermediate stage as it can go directly from the mini-usina ('plant'), deep in the forest, to the manufacturers of the Centre-South of the country.

d) co-operatives: the idea is that the co-operative would act as the collection-point for all the rubber produce and that all marketing would be done directly with the manufacturers of the Centre-South, eliminating all the middlemen *marreteiro* (small trader) and big merchants who make up the marketing chain for rubber. It was also thought that the same lorry which takes rubber to the factories of São Paulo could also carry on its return commodities (basic goods) for the rubber tappers' survival, bought at wholesalers of the South.

Finally, still according to the opinion of the agronomist Gomercindo Rodrigues (CTA), there are possibilities in alternative energy production for the rubber estate: this aspect, however, depends on the carrying out of as yet unrealised technological research.

The proposal for the RESEXs also envisaged projects in the areas of education and health. Initially, the educational project was seen in terms of an adult literacy programme,

but is currently seeking a way to adapt its material for use by children. The primer which is being used is known as *Poronga* – an allusion to the small lamp which a rubber tapper wears on his head to illuminate his path through the forest. It was devised by an alternative group: the Ecumenical Centre for Documentation and Information (CEDI), which began to work with the rubber tappers in collaboration with the Institute of Amazonian and Environmental Studies (IEA.) By 1987 the municipality of Xapuri had 19 schools in the rubber estates. The success of this project over the 1980s has encouraged the government to include the project's teachers in the state teaching network. The schools were built on a communal basis by the rubber tappers themselves, using local materials.

With regard to the health project, by 1987 there were eight first-aid posts in the forest of the Acre River Valley. There have been difficulties in obtaining medication, as this depends on the support of the State Secretariat for Health. It is expected that the doctors, like the teachers, should be members of the community.

‘The basic requirement is that the people who fill these posts (teacher, doctors, administrators) are those who know the local reality, because a person who comes here from the town will not adapt and will end up going back. But if there is someone who lives there and has in the forest a context (reference) for living, he will not be put off by mosquito, lack of electricity or lack of television’.

(Interview with Gomercindo Rodrigues. CTA. Rio Branco. June, 1987.)

For the rubber tappers, the issue of the current financial viability of the rubber estates is being thought as also one of marketing. If they sell their rubber directly to the small manufacturers (who make shoe soles, or medical supplies such as gloves, or contraceptives, for example), the sale is between a small co-operative and a small or medium manufacturer in the Centre-South. They expect that it might be even viable to introduce an industry into the Amazônia region, solely producing for local consumption. Regarding Brazil nuts, the extractive group thought that it would be possible to introduce small scale industries into the region, basically those to do with shelling and drying the nuts. They intended to promote the nuts on the international ‘alternative market’, that one of the environmentalists. According to them, the slogan could be: ‘here is a nut produced by those who protect the forest’. This project, however, has been difficult to unfold because of the problems faced by the co-operative in its earlier stage of organisation.

Another aspect considered by the rubber tappers is the lack of a national pharmacological research programme into the properties of medicinal herbs. This way, it would be possible for Brazilians to open a market of regional medicinal herbs to compete with foreign pharmaceutical companies.

'Copaíba oil, for example, is another product which is utilised and fetches a high price in the South of the country. A tree produces 20 to 30 litres and it is renewable. But incentives must be found. If the government finance the planting of great tracts of soy, wheat or sugarcane, why won't they finance extractivism? Why won't they finance small projects?' (Gomercindo Rodrigues. CTA. Interview in June 1987.)

The idea of the Extractive Reserve, therefore, involves more than simply defining an area: it is something far greater. It is an entire policy of incentives to improve technology, education, commercialisation and prices, and to develop co-operatives in great areas of extractive potential. It is all this that forms a RESEX, according to the rubber tappers' perception, and so it took many years of struggle to enforce their creation. Action intensified particularly after the murder of the rubber tappers' leader, Chico Mendes. The peoples of the forest then allied themselves with other factions in Brazilian civilian society, technical groups within government institutions and Brazilian and foreign NGOs. Finally, in 1990, the Brazilian Government<sup>35</sup> officially adopted the rubber tappers' concept of an Extractive Reserve (RESEX), setting aside large areas of rainforest for rubber tapping, fishing and harvesting of fruits and nuts (see Figure 10) Once again the Institute of Amazonian and Environmental Studies (IEA) was instrumental in forging links with the federal government and the policy-making machine in order to get the RESEXs established. Four RESEXs were then created in Amazônia, covering a total of 2,162,000 hectares, and benefiting 6,250 families, according figures from the Institute of Amazonian and Environmental Studies (1992):

- On 23/01/1990, the Extractive Reserve of Alto Juruá was created in Acre state under the Presidential Decree 98863, with 506,186 ha and having some 1,600 families.

- On 12/03/1990, the Presidential Decree 99144 created the Chico Mendes Extractive Reserve in the municipalities of Xapuri, Rio Branco, Brasiléia and Assis Brasil, in Acre state, with an area of 976,570 ha which (by that time) also encompassed the structure of Brazilian Institute of the Environment and Renewable Resources (IBAMA), linked to the Home Ministry (MINTER.) This RESEX included nineteen rubber estates with some 3,000 families.

- On 13/03/1990, the Extractive Reserve of Rio Ouro Preto was created under the Presidential Decree 99166, in the municipalities of Guajará-Mirim and Vila Nova de Mamoré, in Rondônia state, with 204,583 ha and approximately 650 families.

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<sup>35</sup> On 30/01/90, the Presidential Decree 98987, issued by Presidente José Sarney, regulated the creation of Extractive Reserves (RESEX), which would become property of the Union, guaranteeing the communities which inhabit them the right to extractivism in a sustainable form. So, the President of the Republic decrees: Article 1: The Extractive Reserves are territorial spaces set aside for self-sustaining exploitation and conservation of renewable natural resources, for the extractive population. Article 2: The Executive Power creates Extractive Reserves in territorial spaces considered to be of ecological and social interest.



FIGURE 10  
 LOCATION OF THE EXTRACTIVE RESERVES.  
 BRAZIL. 1992.



Source: Governo do Brazil BIRD/CEE. Projeto Reservas Extrativistas. Dezembro 1992.

- On 13/03/1990, the Extractive Reserve of Rio Cajari and Mazagão was also created under the Presidential Decree 99145, in the state of Amapá, with 481,650 ha and 1,000 families.

In 1992, another five RESEXs were also created under Presidential Decree, in the states of Maranhão, Tocantins and Santa Catarina:

- On 20/05/92, the Extractive Reserve of Ciriaco, in Maranhão state, with 1,444 ha.
- On 20/05/92, the Extractive Reserve of Extremo Norte do Tocantins, in Tocantins state, with 9,280 ha.
- On 20/05/92, the Extractive Reserve of Mata Grande, in Maranhão state, with 10,450 ha.
- On 20/05/92, the Extractive Reserve of Quilombo Frexal, in Maranhão state, with 9,542 ha.

'The realisation of this work (the creation of the RESEXs) was a unique experience of co-management between public power (government) and civil society, expressing one of the essential criteria of the concept of the Extractive Reserve: it depends on the State for its creation, but does not intend to be a developmental unit under its guardianship, as it happened with indigenous areas or the colonisation projects'. (Mary Allegretti, 1990:7.)

In this sense the RESEX, once created, intended to be an attempt at management on the part of the local populations themselves, who would administer and control the areas.

Finally, it may be possible to define the RESEXs through the following basic characteristics, identified in 1988, in the *Carta de Curitiba* (Curitiba Letter) the final document of the Seminar on Extractive Reserves organised by the Institute of Amazonian and Environmental Studies (IEA):

- they represent the regularisation of areas occupied by social groups that have as their source of subsistence native products of the forest and who exploit them on a sustainable basis. They may also be set aside for populations who have a tradition of exploiting the forests' resources and who, for reasons of global policy towards the region, were removed from their areas of origin and wish to return to them;

- they are those areas which show extractive potential or in which non-predatory but sustainable extractive production has developed, whose exploitation will not bring about the exhausting of the resource;

- areas created on the basis of legal procedures which recognise and institutionalise areas of sustainable extractivism. The juridical instrument used is the system of tenure

concession (usufruct rights) under public ownership, to local populations which have a tradition of rationally exploiting the forest's resources, organised in associations or co-operatives; they are created in areas of public domain, or of private domain that have been expropriated to this end for a period of 30 years;

- their objectives are the conservation of the environment, the support of local populations which follow traditional non-degrading economic activities, and the pursuit of scientific research with a view to increasing productivity and improving living conditions for the peoples of Amazônia. In this respect, the RESEX has a dual character, since it is at one and the same time a unit of production and conservation, which confers its stability. It serves the ends of environmental conservation, of regularising ownership and of economic development:

- it is to be a type of agrarian reform adapted to regional conditions;
- it is to be a social management of natural resources; within the RESEX, the rubber tappers' culture and traditional forms of organisation and labour have to be respected;
- the implementation of the RESEX presupposes supervision by research Institutes which could advise rubber tappers on the technical upgrading of the rubber estates and on new products to be extracted; the rubber has to be the basis of the RESEX, although other products may be exploited. The IEA has published a list of a hundred forest products which may be used by the market.

Despite the official acknowledgement of the Extractive Reserves at government level, the argument put forward by groups opposed to them is that they represent traditional forms of culture, and that extractive populations are anachronistic survivors from past ages, therefore frightened of modernity. However, their 'modern' nature was defended by Carneiro and Almeida (1989) in stating that:

'The proposal for RESEX is modern. In the first place, there is the modernity of citizenship, which already foresees access to health and education for the peoples of the forest. There is the ecological modernity, now that what is desired is a biosphere reserve (as established by UNESCO), which foresees human occupation in environmental conservation areas. There is a modernity in the search for cutting-edge technology for renewable natural resources, in research into diversification of these resources and the industrialisation of the products of the region. There is a modernity, in short, in the proposal of public domain rather than individual lots, because the market, left to its own devices, will not guarantee environmental protection'.

(*Folha de São Paulo* Newspaper, 22/12/89.)

According to Schwartzman (1989), what is perhaps most novel, and most important in this proposal is that 'forest communities have put their own model before the government and multinational

lending institutions as a potential strategy for the sustainable development of some of the Amazon's fragile tropical forest lands' (Schwartzman, 1989:161.)

The ideological banner of modernity was used by the military government in the 1970s to promote the 'new' occupation of the frontier mainly through cattle ranching projects, instituting a policy of financial and credit incentives to make it viable. If, however, consideration is given to the ranchers' own claim that 'cattle have always been the first great expander of frontiers', ever since the conquest of the North American West, it might be concluded that this form of re-colonisation also has a traditional element. What is new is the influence of various groups, usually from outside the region, who are representatives of a new economic order to be established in areas which until then had been peripheral to profit and to the capitalist market.

In the name of regional development a great sum was allocated to activities related to the new model of occupation (mainly cattle-ranching.) Yet, after three decades generally considered to be ruinous in terms of the destruction of the environment and pre-existing cultures, most incentive programmes for Amazônia occupation have not resulted in regional development, but in the enlargement of the investors' personal accounts. Conversely, without any financial support from the government and rejecting the current economic model proposed for the region, the local extractive peoples have been able to propose a different model of production based on the sustainability of the rainforest through their organisation as a social group.

This gives rise to a question, formulated by the extractive groups: if there were incentives available for huge cattle ranching projects, then why were there not subsidies small extractive projects? The response must take into account the competing interests developed at both national and international spheres. This means differences in terms of ideology: the State's model of national security ideology, the pressure of the international community intent on securing Amazônia as a global common good and, underlying everything, the degree of confrontation between the different factions of Brazilian society representing diverse interests (cattle ranching, mining and timber groups, versus small landless producers and forest dwellers) and expressed through the intensity of conflicts at a local and regional levels. In immediate terms, the creation of the RESEXs should bring a fall in land speculation in these areas, since projects which entail deforestation are prohibited within the Reserves. They will therefore contribute to the preservation of the Amazonian rainforest as a national and international patrimony.

Another issue which also arises here relates to the possibility of these experience to be replicable to other similar contexts. Any such possibility will depend above all on the kind of existing ecosystem. This model is suitable only for rainforest areas with high concentration of rubber trees and Brazil nut trees as well as other forest products like exotic fruits and plants with market value like fibres, plants for medicinal and cosmetic use. It is important here to highlight the scale in which this ecosystem develops in the case of Brazilian Amazônia: there are vast and continuous territories covered by rainforest of important natural resources, inhabited by significant number of forest dwellers. If, this fact was taken into consideration in the Brazilian government's zoning policy for the Amazônia, it would generate a serious background for sustainable extractive activities.

#### 7.4. THE IMPLEMENTATION OF THE EXTRACTIVE RESERVES.

In order to ensure a better understanding of the process of creation and implementation of the Extractive Reserves, some basic topics have to be considered:

##### 7.4.1. Institutional status

Discussion concerning the viability of the RESEX is deeply affected by a legal decision: the creation of the RESEX needs to become irrevocable. The Presidential Decree 98.987 (30/01/90) which regulated their creation anticipated that, in case the areas were not legalised in two years' time, their use would be outlawed. Owing to this legal restraint, until 1992 the Brazilian Institute of Environment and Renewable Resources (IBAMA), was forced to deposit the necessary funds for the expropriation of land destined to four RESEXs that had been created in 1990. Therefore, the decrees are still in effect. Legal information has defined that, from then on, the creation of RESEX can only be reverted by means of another law, voted by the Congress, overruling the former one. This is unlikely to occur in the present political state of affairs.

As for the RESEXs created after that date (1992) in the states of Maranhão, Tocantins and Santa Catarina, only one of them (known as Quilombo Frechal, in Maranhão) has been legalised, as the Government has made a deposit for the total expropriation of its land. The Presidential Decree that created the RESEX Ciriaco (also in Maranhão) has been outlawed, although some measures are being taken so as to enable its revalidation. The other RESEXs have definitely been outlawed, since the Government has been unable to carry out the measures established by the very decrees that created them.

In respect to the legal stages foreseen for validation and implementation of RESEXs, the current situation is:

Stage 1- Identification of legal ownership of the property at land registries (identifying the legal owners of the land that is to become an Extractive Reserve: the State, the Church, the ranchers, and so on.) In Acre this stage has been reached through the joint action of the Rubber-Tappers' Council (CNS), the Brazilian Institute of the Environment and Renewable Resources (IBAMA), the Institute of Amazonian and Environmental Studies (IEA) and the National Institute for Colonisation and Agrarian Reform (INCRA.)

Stage 2- Expropriation of land occupied for other uses (including the payment of landowners' compensation.) In case the land users are large rural squatters, and do not hold the title deed, the compensation corresponds only to the value of buildings or improvements made. The Government then makes a bank deposit of Agrarian Public Debt Bonds (*Títulos de Dívida Agrária Pública.*)

IBAMA made a deposit for the expropriation of areas of land destined to the four RESEXs created in 1990, and for one created in 1992. The farmers were reimbursed up to a limit of 10,000 ha of land. As the law does not force IBAMA to pay for pieces of land that exceed this limit, some big landowners did not receive the amount of money equivalent to the total area of land expropriated by the Government.

This fact, together with the low value of the compensations, made several legal owners claim from the Federal Court an increase in the price of expropriated land. The same claim was made by some big rural squatters (ranchers), who did not hold the definitive title to the land they had previously worked on.

If the farmers win the suit and the Government does not make the complementary payments, new legislation may be passed on this issue, and once more groups of extractivists and farmers may start disputes over the land. This would lead to the return of social conflicts in the region, which had cooled off since 1988, when Chico Mendes - the rubber-tappers' leaders - was killed, and when the World Bank cancelled the financing of the final part of the BR-364 motorway (the stretch between Porto Velho/RO and Cruzeiro do Sul/AC.) The purpose of this road was to link the Brazilian Amazônia to the Pacific, thus making the state of Acre a 'passageway' for shipping the regional production (especially timber) to eastern markets.

Stage 3- The issuing of usufruct rights contract (*Contrato de Concessão de Uso*)

This agreement is established between the government (IBAMA) and the Neighbour Associations (*Associações de Moradores*) through the approval of an overall

resource-management plan. Such a plan sets rules for the sustainable use of natural resources (the rights and responsibilities of extractive populations) and also establishes limits to the use of flora and fauna, as well as the existing mineral resources, detailing proposed extractive, agroforestry and agro-pastoral activities. Sale or transfer of usufruct rights to outsiders is prohibited, as they can only be passed on by inheritance. No RESEX or PAE, however, has received their use concession so far. In the case of the RESEXs, IBAMA claims difficulties in acquiring the land (from private landowners) that is to be reintegrated as common goods.

The Brazilian Constitution states that grants for the use of areas over 2,500 hectares must be officially approved by the National Congress. The most debatable point of the RESEX implementation process is precisely how this grant is to be issued. According to the new Congress, approval must be conceded by means of a complementary law. However, this has still not been formulated since the Congress is unsure of the necessary legal proceedings.

The technical difficulties faced by the National Congress in defining the Amendment can be partially explained by the innovative nature of this combined model of land management (usufruct of public land by small extractive producers) that has appeared in Amazônia. Because it is characterised by the land tenure concession, that is, the exploitation of forest products (usufruct) and not by the grant for the property of the exploited land (which continues to belong to the State), this model deals with non-capitalist traits (the community-based exploitation of resources) within the context of a capitalist society such as Brazil.

The land tenure concession will be given to the RESEX population in the form of a legally registered organisation (The Neighbour Association of the Extractive Reserve), regulated by a federal law. Since this model is based on the communal use of forest resources and consequently of the land, the grant can only be conceded provided a community-based organisation already exists. This is common practice among the extractive population, where a number of twelve producers upwards gets together in small associations to make feasible the production, shipping and commercialisation of their products. In order to comply with the legal model recently imposed, these small communities were put together under the co-ordination of a General Association for each RESEX. Due to its large extension and considerable population (1,442 families, according to the 1992 rubber tappers' census) the RESEX Chico Mendes, in the state of Acre, is made

up by three neighbour associations<sup>36</sup>, representing the towns of Assis Brasil, Brasília and Xapuri.

To request the land tenure concession from the Congress it is first necessary to obtain from IBAMA definite tenure of all properties constituting a RESEX. In April, 1995, a Bill was sent to the National Congress requesting approval of the necessary grant for the RESEX Alto Juruá/AC and Ouro Preto/RO, the only ones to have legal tenure of all properties. The RESEX Chico Mendes needs to have only 10% of its properties legalised (the areas under litigation, with legal suits filed against IBAMA by farmers), whereas the RESEX Cajari/AP has only been granted a provisional title to its lands.

Stage 4 - The population survey of the reserve (carry out the census of the extractive population: number of people and socio-economic characteristics of the families living in the region; conditions of production, shipment and commercialisation of goods; level of collective organisation of producers, and so on.) Within 180 days of the 'usufruct rights contract' being signed, CNS must submit to IBAMA a population census of the reserve; based upon this, either the CNS or the Association in question will issue authorisation to individual extractivists (*Títulos de Autorização de Uso*.) In Acre, this survey (LEVSECO), was made in 1992 thanks to the joint action of the National Council of Rubber Tappers (CNS), and the Acre Technological Foundation (FUNTAC), financed by the Canadian International Development Agency (CIDA.) This survey is crucial to setting a Development Plan to the area, which is considered one more instrument to consolidating the RESEXs.

#### 7.4.2 The association between State and civil society in the administration of Extractive Reserves

The inspection of the area is of instrumental importance to carry out the Plan of Use (*Plano de Utilização*) of the RESEXs. Thus, IBAMA, the agency responsible for its supervision, has conceived the category of 'Collaborator Supervisor,' a community leader who receives training in order to work together with that Government Agency.

The extractive population (rubber tappers, nut-gatherers, riverside people, babassu collectors, Indian groups) have historically acted as 'natural guardians of the forest'. It is largely due to their sustained and protective exploitative action (protesting against predatory uses imposed by the new occupational model) that Amazônia still maintains a considerable

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<sup>36</sup> The Neighbour Association of the Chico Mendes Reserve in Xapuri (AMOREX), the Neighbour Association of the Chico Mendes Reserve in Brasília – AMOREB), and the Neighbour Association of the Chico Mendes Reserve in Assis Brasil (AMOREAB.)



amount of its ecosystem intact as groundwork for biodiversity studies. Based on this fact, a CONAMA (National Council for the Environment) decision legalised the category of the 'Collaborator supervisor' to act as its legal representative. This measure aimed at making official the active participation of society in forest inspection, in order to establish a communal policy for environment conservation.

Even though this inspection has been effectively taking place in extractive areas (where 90% of inspection measures are known to be carried out by rubber tappers), it has become the subject of recent discussion by the local population itself. Legalisation of this inspection would pass on greater legal responsibility to traditional extractive groups. The government might then reduce its present responsibility towards inspection of RESEXs, which could in its turn entail scarcity of necessary funds and staff. Besides, the government's responsibility in controlling the invasion of extractive areas by large landowners and logging industries would be passed on to the extractive population, exposing them even more to the social conflicts in the area.

However, action concerning environment inspection and implementation of the sustained development model, as seen in the RESEXs, should not be left to these groups alone. Both sides can work together, as it occurs nowadays, but the extractive groups cannot take over a role that belongs to the Brazilian State. The State must express political purpose, not only in ecological propaganda (the so-called 'green cosmetics'), but also by means of programmes (and the budget entitled to them) in which local extractive groups and governmental organisms would work together. Some suggestions have been presented for this joint action, particularly by the national NGO Amazonian Workers Centre (*Centro dos Trabalhadores da Amazônia /CTA.*)

This organisation (CTA) have been trying to establish an association with the government so that responsibilities would be shared. CTA has proposed that agreements should be signed, especially in education and health-care.

In terms of education, the government would be responsible for school material, meals, and the payment of 'school monitors'. These monitors, however, would not come from the state educational system (since it would not be easy for the teachers to adapt to the forest environment); instead, they would be persons selected from the local population, among those respected in their community. They would then receive training from the already existent 'Rubber Tapper Project'. Thus, the monitor would be chosen by the community, trained by CTA and paid for by the State. The extractive populations would be responsible for the building of schools adapted to the forest, and for the teaching

methodology, adapted to the extractive reality. The *Poronga* primer, devised by rubber tappers, is the best example of such material. The Rubber Tapper Project can be seen as a strategy for political awareness, as well as a means of assuring that the cultural identity of the people of the forest will be preserved.

As for the health sector, the government would supply basic medicine, besides the payment of health workers (rubber tappers trained by CTA to work in the forest.) We should bear in mind the permanent concern of extractive population with the continuity of their traditional native medicines, resorting to allopathy only in the most severe cases. An important objective would then be knowledge-sharing between the traditional population (with their use of forest products for medicinal ends) and the Health Secretariat technicians (with a homeopathic view of these medicinal herbs) so as to transform the forest products into homeopathic medicine.

Studies should then focus on more precise definitions of how this association between the State and civil society might be effectively carried out, seeking the best form of integrating both sides. However, integrated action should never reduce or substitute necessary and expected government political action in environment conservation programmes.

Recent information from the Preliminary Version of Ecological-Economic Zoning of Acre made by the State Secretariat for Science, Technology and Environment (Acre/Brasil, 2000) attest that this supervision has been precarious, and 'conflicts' with the use model foreseen in the RESEX were unavoidable (for instance, the commercialisation of some *colocações*, pasture creation, commercial game-hunting and timber extraction by outsiders. The Collaborator Supervisors are very discouraged, as they are not paid, suffer discrimination by the community and have been disconnected from their routine activities.

#### 7.4.3. The political and financial support.

In addition to the demarcation of land (responsibility of the Brazilian Army Geographical Service/ SGE), the regularisation of ownership (responsibility of INCRA), and the supervision of the plan of use of the area (responsibility of IBAMA), the RESEX implementation presupposes political and financial support connected to programmes for the economic and social improvement of the extractive sector. The National Council of Rubber Tappers (CNS) has been the initial leading strength in the struggle for this effective implementation through the construction of a network of relationships with national and international bodies, so that the movement could gain

publicity and financial backing. Nevertheless, such support has been insufficient in relation to the huge needs faced by the RESEXs.

In 1992 the Brazilian Institute of the Environment and Renewable Resources (IBAMA) created the National Centre for the Sustainable Development of Traditional Populations (CNPT) in order to establish and assist in maintaining Extractive Reserves. During the following years some investments came through with resources from the National Fund for the Environment and from some international NGOs, but they were low. Among these NGOs we find the Dutch NOVIB and the American Cultural Survival Enterprise/CSE. The former financed projects in the areas of education, collectivism and, on a lesser scale, in health-care, whereas the latter collaborated as early as 1988 in the creation of the Agro-Extractive Co-operative of Xapuri (CAEX), and constitutes an important means of commercialisation of nut purchase. The Austrian Parliament also gave support in the form of the Austrian Project (*Projeto Austria*), providing staff training (in agroforestry), and helping rebuild schools in the forest, besides giving financial support to purchase nut produce. The national NGO 'Co-operation and Support for Projects with Alternative Inspiration' (CAPINA - *Cooperação e Apoio a Projetos de Inspiração Alternativa*) has been assisting CAEX in management, particularly in the administrative and financial control areas. This constitutes important support for its present stage of administrative and economic recovery.

It is important to point out the role of the 'Pilot Programme for the Protection of the Brazilian Tropical Rainforest' (PPG7)<sup>37</sup> in providing the most significant financial support for the RESEX, with resources donated by the European Economic Community (EEC), and administered by the World Bank. This US\$250 million initiative put aside US\$9 million for developing the four largest Extractive Reserves in Amazônia. PPG7 aims at encouraging environmentally-related programmes in the Amazônia region, and set up an example of international co-operation between industrial and developing countries on global environmental problems. Begun in 1995, the four-year project provided support to help complete the establishment and legalisation of the four reserves, strengthened community organisations, improved subsistence and commercial production, and improved

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<sup>37</sup> The PPG7 is a new model of international and national co-operation and may be the single most important initiative to date for implementing Agenda 21 of the Rio Conference on the Environment. The Project was approved by the Delegates of the Group of Seven (G-7) in December 1991, and together with the Netherlands, pledged some \$250 million, of which 50 million was to go to a central Rain Forest Trust Fund. The participating countries (the 'donors') would provide the remaining funds. The G-7 asked the World Bank to co-ordinate the program among the donors and the Brazilian government and to administer the trust fund.

the management of natural resources. The project's first phase closed in April 1999, but the European Commission announced that it will fund an additional US\$7,7 million for a second four-year phase. According to the World Bank and Brazilian Ministry of Environment, Water Resources and the Legal Amazônia (1996), all four reserves have approved natural resources plans of use and are in the process of completing longer-term development plans.

Since its inception, the PPG7 project has been highly participatory, and it could be mentioned as one of the best examples of shared management between government and local populations of conservation areas in the Amazônia region. In 1996, the Amazônia Working Group (GTA)<sup>38</sup> received two grants (US\$ 800,000) from the PPG7 to strengthen the network and help implement 'Demonstration Projects'. Funding of these Projects has allowed some 100 communities and organisations throughout the Amazônia region to experiment with new approaches to using and conserving natural resources in the rainforests. These approaches focus on the establishment of agroforestry systems, the enrichment of forests with useful species, the rehabilitation of degraded areas and reforestation, the sustainable management of forest for timber, and the setting up of living pharmacies of medicinal plants.

However, the local population has criticised foreign investors/donors on the grounds that a considerable part of the resources provided for the Reserves are used to pay the salaries of foreign technicians (in the instance of the CIDA, a Canadian non-governmental organisation whose contract was cancelled later, 70% of the budget granted would be used for that purpose.) Nevertheless, this political-financial support enabled the implementation of some actions and programmes, such as the improvement of co-operatives and the building of mini-plants for processing nuts gathered in the Reserve within the forest.

Created on 30/06/88 with technical assistance from the IEA, the Agro-extractive Co-operative of Xapuri (CAEX) is an integral part of the proposals for the RESEXs, constituting a strategic weapon in the struggle of the extractive workers of Acre. The rubber tappers of the Acre River Valley have for some decades neither paid rent nor have been directly dependent on a master, so they fall into the category of 'autonomous rubber tappers'. Nevertheless, they have suffered exploitation through their dependence on the

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<sup>38</sup> The GTA is a network of more than 350 community groups, associations of rubber tappers, rural workers unions, and environmental NGOs that work in the Brazilian Amazon. It is the principal dialogue partner for the Brazilian government, the World Bank, and donors

*marreteiro* (middleman) who bought their produce cheaply whilst selling them merchandise at vastly inflated prices.

The setting up of a co-operative, represented release from this old system of commercialisation. First of all, it was an alternative to the traditional exploitative exchange relations between small local producers and middlemen traders in the purchase of rubber and Amazônia nuts. Secondly, it intended to increase the added value of nut sales, undermining the monopoly over finished nuts in Amazônia, which has been dominated by enterprises belonging to the Belém-based Mutran family. Finally, it also planned to establish a co-operative for buying basic goods at a cheaper price.

According to Hecht (1994), funds for the CAEX were provided by some international donors like the government of Austria (US\$700,000), the Ford Foundation (US\$335,000), NOVIB (US\$110,000), Inter-American Foundation (US\$160,000), IDB (US\$80,000), Cultural Survival (US\$76,000) – who was to market the production, and WWF (US\$ 21,000.) According to SEBRAE (1995:32), its output capacity was estimated to be some 300 tons, which would require an input of about 800 tons (10% of Acre's production of raw nuts.) The Xapuri Co-operative increased the price paid to the gatherers by 40% in 1990 and by 100% in 1991; it counts some 300 members; employed between 70 and 145 persons and the salaries promoted a boom in local commerce (Clay & Clement, 1993; PRODESAP, 1994: 17, 66-69.)

Despite that, Assies (1997: 44) argued that the performance of the Xapuri plant remained far below expectations. It produced little – mismanagement, incompetence and poor planning were major problems, and the technology used in the plant was rather primitive. Bolivian competition also played a role, since the price paid by the Co-operative to the gatherers was estimated to be about 2.6-times that paid by the Bolivians. In December 1993 the plant was almost shut down and its personnel dismissed, as the Xapuri plant went on operating at about 25% of its capacity and absorbing emergency loans. A system of decentralised shelling was then implanted.

'To lower production costs a system of decentralised shelling was introduced (which had been tried out to increase earnings of forest dwellers as an incentive for them to stay in the forest.) The new system consists of small backyard industries where initial drying and shelling can be carried out, before transport to the Xapuri plant which does the final drying and packaging'. (Assies, 1997: 45.)

However, the co-operative's unfavourable situation started to change in 1998, when divisions of the Federal and State government adopted new subsidy policies to rubber (see additional information in the following section.)

As for the installation of mini-plants, the first one (Chico Mendes Plant for nut-processing, an off-shot of the co-operative) was created in Xapuri in 1989, a year after Mendes's death, with the processing capacity of 20 tonnes of nuts a month, cleaned and sorted by size and quality. Contracts have been signed for the year 1993 guaranteeing the production of 12 shiploads of nuts for export, principally for the American organisation Cultural Survival Enterprise (CSE.) This production was the result of much effort on the part of the rubber tappers, who have had to come from the depths of the forest to learn how to run the co-operative and compete in a market in which they had never previously participated. Today this market respects the Xapuri nuts for their quality, cleanliness and purity. In the month of May 1993, this international acknowledgement made it possible for this Brazilian product to break into the demanding German market. Four '*usinas familiares*' (family plants) were also set up in the town of Xapuri, where nuts were shelled on a domestic basis.

Besides the Chico Mendes Plant, two other rubber-processing stations were opened in Acre by 1996: one in Xapuri and the other in Sena Madureira municipalities. These stations resulted from an agreement signed between the Agro-Extractive Co-operative, the IBAMA and the Italian enterprise Pirelli. The latter has agreed to purchase the entire output from these stations.

The extractive populations also recognise the importance of winning the support of institutions and organisations concerned with environmental protection to make extractive products viable. In this respect, the backing of Acre Federal University (UFAC) and the Acre Institute of Environment (IMAC) have been instrumental.

#### 7.4.4. Technical support to Extractive Areas

Support to extractive communities has not only been given in terms of formal technical assistance by government agencies and NGOs, but also through important experiments and projects formulated on behalf of a model of productive conservation for Amazônia.

Among the government organisations the National Centre for the Sustainable Development of Traditional Populations (CNPT/IBAMA) stands out. Through this centre, sustainable development programmes for RESEXs are conceived and set up. The present

State government has created the Executive Secretariat for Forest and Extrativism (SEFE), which intends to develop a sustainable forest economy. The 'Development Programme of Productive Chains' works with management plans and public support policies for the rational use and commercialisation of traditional non-timber products like rubber and nuts, as well as other potential forest products, such as phytochemical and cosmetic ones, palms and seeds. The Chico Mendes Law (13/01/1999), which deals with State subsidy of rubber, is another result of this work carried out at this Secretariat (Acre/Brasil, 2000.)

Concerning the Non-Governmental Agencies, one should emphasise the quality of the work done by the Centre for the Amazonian Workers (CTA) in the areas of education (*Projeto Seringueiro/Rubber Tappers' Project*), health-care (projects aimed at the creation of 'Health-Care Agents' and the community health programme *Saúde na Floresta* (Health in the Forest), and production (projects for forest management of multiple use.) PESACRE (Group of Research and Extension in Agroforestry Systems) is another active group in areas involving community organisation and technology<sup>39</sup>.

From 1990 onwards, changes have been introduced in the concept of technical assistance by the Agro-Extractive Co-operative of Xapuri (CAEX) and the Rural Labourers' Union of Xapuri, working together with other entities (PESACRE, UFAC, FUNTAC, CTA, CNS.) Since that time, the direct participation of members of extractive communities – the so-called *paraflorestais* has been incorporated. These people are qualified rubber tappers with some leadership power, basic literacy skills and who have received training for re-transmitting knowledge to families interested in product diversification.

It is appropriate to present other important projects proposed for the area:

a) The *Projeto Pro-Castanha* (Pro-Nut Programme) was designed in 1993 to revitalise the potential of this product on the world market and to open up alternatives for it nationally – through its inclusion in school meals and in the manufacture of sweets and chocolates. It has also made it possible to begin the decentralisation of the nut-cleaning process, with a view to setting up a number of small factories to shell the nuts within the actual rubber forests, reducing the cost to the co-operative and the loss to the rubber tappers.

The three experimental units already set up in the Cachoeira, Nova Esperança and Floresta rubber estates, each with the initial capacity to process 4 tonnes of nuts a month,

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<sup>39</sup> Counselling of agroforestry systems, breeding of small animals (bees, birds, fish), extraction of copaiba oil, recovery of degraded areas with legume, fire prevention, etc.

represent an investment of about US\$12,000. As a result of the positive accomplishments, four other plants were set up in the Chico Mendes Reserve, financed by the Inter-American Development Bank (IDB) in conjunction with the Canadian Government. With the seven *mini-usinas* (mini-plants) in operation, the Co-operative (CAEX) expects to achieve a productive capacity of 20 tonnes a month within the rubber estates themselves, freeing the Xapuri plant for storage and packing alone. This project received support from international bodies like the Ford Foundation, World Wildlife Fund (WWF), the Inter American Fund (IAF) and Cultural Survival Enterprise (CSE), as well as from the government of the state of Acre through the Acre Technological Foundation (FUNTAC) and Acre Environmental Institute (IMAC.)

b) The *Placa Bruta Defumada* - PBD Programme was launched after an agreement with IBAMA, under the auspices of CNS. It was designed to provide technical training in the rubber forests by IBAMA staff to improve the quality and yield of latex and the methods of collecting it (consequently reducing impurities in the rubber and creating a higher-grade and more marketable product.) To this end, a course was given to 96 rubber tappers in Xapuri in 1993. This project is part of a programme to revitalise the rubber trade and further the CNS's aims of adding value to extractive products through representations at every level of government or through mobilisation of the local population. An example of the latter course of action was the *Empate Amazônico contra a Fome* (Amazonian March against Hunger) on 31/1/93, which forced the shipment of rubber stockpiled in Amazônia (CNS Bulletin, June, 1993:3.)

c) Support for the crafting of 'plant leather' (the *encauxados*), another option that CAEX has introduced in rubber forests, aimed at the clothing market. Various styles are being produced at the Cachoeira RESEX for the Spanish and USA markets (where it is also known as *tree tap*), as another possible method for using latex. Even though it has long been used by Amazônia rubber tappers and Indians, and recently developed for commercial purposes in the Juruá area, this material didn't gain world-wide exposure until the Earth Summit in 1992, in Rio de Janeiro. Thus, it could be seen as a 'new rubber cycle': sheets of rubber-coated fabric started to be used to make shoes, backpacks and handbags that are achieving commercial significance abroad.

d) Research and Extension Projects in agroforestry systems:

- The *Arboreto* Project (from the Zoo botanical Park - linked to UFAC): use of legume to help in the recovery of degraded areas.



- The *High-Productivity Islands* (IAPs) project: developed since 1994 in the Chico Mendes RESEX. These are small rubber tree plantations in cleared areas spaced from one another and surrounded by the diversity of natural forest. The IAPs have been proved viable for areas that involve great tracts of forest, besides offering an increase in productivity.

- The proposal to cultivate new species in the rainforests through the creation of nurseries for the planting of fruit trees such as cashew, *pipunha* and *cupuaçu*. The nurseries can also be used in the renewal of the rainforest through replanting nut and rubber trees. By increasing the number of trees it is possible to reduce the distance travelled and the time spent in forest tapping and collecting rubber and nuts.

e) Incentives to breed fish in pens, offering the rubber tappers the opportunity of a better diet and also permitting a restraint on hunting whilst the forest is renovated and natural balance re-established.

f) Projeto Cipó (Vine Project), developed by CNPT and the NGO Forest Action Network: aims at the sustainable extraction of vines and other forest fibres, and the creation of small community companies of handicraft articles (baskets, sieves, and so on) and furniture inside the RESEXs, taking advantage of traditional skills of the local populations (Project RESEX PPG7.) In the state of Amapá the furniture for state schools is being made through this project.

g) Projeto Equinócio (Equinox Project), developed by engineers of the Federal Universities of Brasília (UNB) and Rio de Janeiro (UFRJ): attempts to develop a technology for transforming vegetable oils (especially Amazônia nut oil, dendê oil and buriti palm oil) into electricity.

h) Projeto Mapeamento Comunitário em seringais no Estado do Acre (Community Mapping Project of Rubber Tree Forests in Acre): uses the method of mapping and participative planning for the use of natural resources, developed by UFAC researchers and applied to the Chico Mendes RESEX. By means of satellite-dish images the community visualises and maps resources and land uses in their area, resulting in a low-cost project.

However, despite the existence of several projects aimed at sustainable development in extractive areas, the questions that still remain involve the economic feasibility of the RESEXs.

### 7.5. THE EXTRACTIVE POTENTIAL

One of the issues confronting those advocating the establishment of Extractive Reserves is the question of the productivity of the extractive sector. The main argument against the reserves is linked to the idea of extraction being a traditional, 'old-fashioned' form of activity, in contrast to the 'modernity' of the new and recent forms of occupation on the frontier, particularly ranching.

The occupational model of the Brazilian frontier has been tied to the idea of land market (historically used in the Southern region of the country), which favours land ownership rather than land productivity. Therefore, the land market in Amazônia places value on 'clean', that is, cleared land, land without people. The regional market reflects the national trend in investment, viewing Amazônia in terms of the valorisation and territorial expansion of capital from the Centre-South of the country.

This policy mainly envisaged the occupation of land on the frontier through cattle-ranching projects, so that valuable land was that which was suitable for this sort of scheme, independently of whatever real productivity it might have. This is due to the fact that a large part of Brazilian society still seems to view extractivism as an economic activity suffering from intrinsic technical deficit, incapable of modernisation or socio-economic improvement. Consequently, it should present inferior economic results when compared to cattle-ranching or silviculture. This way, the forest was not viewed as having economic value, but as a mere obstacle to development. The government itself – as expressed through its fiscal and credit incentive programme of the 1970s – considered deforested land to be a benefit, representing investment in rural property.

Considering such a state of affairs in the regional land market (which simply follows the national orthodoxy of the capitalist model of development), the fact that deforested land of little or no use is actually worth more than forested land – however great a wealth of products that might be extracted from it – is hardly surprising. By the same token, in the big landowners' opinion, preserving Amazônia holds back progress and endangers the national economy, since they believe that rubber and other extracted products play an insignificant role in the Brazilian economy.

The positions taken and the arguments used by the different local and regional social groups vary in regard to the relative productivity of ranching and extraction. Nevertheless, the focus of the discussion falls back onto the production of foodstuffs.

For the ranchers, investment and consequently development, has been paralysed by governmental procedures, which from the late 80s on have been asking for environmental reports in order to allow further deforestation. These actions have discouraged Southern capitalists. According to the President of the Federation of Agriculture, by 1990 only 5% of the forests of Acre had been cleared and 65% were protected by environmental legislation, leaving another 30% which could still be cleared.

‘Wood exists, but we are not allowed to use it because of the restrictions of the law, and the forest which is said to be rich, but up till now no-one has found a way to transform into cash, has condemned Acre to underdevelopment’ (my emphasis.) (Assuero Veronez, President of the Federation of Agriculture. Rio Branco/Acre, 1993. Quoted in the CNS Bulletin, 6, July, 1993:4.)

According to the extractive groups reports, ranchers have been demanding new investments with a view to clearing land for pasture and for export crops: some 4,5 million hectares. In fact, they expect to use the Pacific route to transport their future production, anticipating the opening of the road linking Acre state to Peru, which would be a continuation of the BR-364 motorway in Acre.

For the local extractive populations, such statements demonstrate the total lack of common ground between the entrepreneurial groups, the State and the local population, since all investment would be applied to simple deforestation (creating environmental degradation) and the future produce (meat, soy, timber) exported without resolving the local and regional demand for foodstuffs, which remain expensive as they are imported from the markets of the Centre-South of the country. Meat, the principal product of the new methods of occupation, is for the most part destined for export and so remains a luxury item for the local population of small producers.

‘The population of Acre, and particularly the rubber tappers, will have the riches of the forest torn from their hands and will see all of the produce (possible rice, corn or soy) sail past their noses, gone for export whilst their stomachs ache with hunger. We refer to an attempt to repeat in Acre what has already happened at Carajás Project, that devastated the south of Pará and Maranhão states, and will bring misery to the local population’ (CNS Bulletin, 6, July, 1993:4.)

In order to satisfy entrepreneurial demands, on 10/05/2000 a Special Commission of the National Congress analysed and approved for further vote a bill altering the Forest Act to permit a reduction (from 80% to 50%) of the environmentally-protected areas in

Amazônia and to allow a reduction in the percentage of preserved land in *each* property, which would be lowered to only 20% of the total area<sup>40</sup>. This, however, was a momentary victory of UDR (Rural Democratic Union) represented by the rural Congressional bloc (140 Congress representatives and Senators.) Different sectors of the Brazilian society strongly reacted to this resolution, forcing its annulment – the government re-edited a Legislative Measure from 1986 which regulated the legal clearance of the forest in Amazônia to a maximum of 20% (as it was earlier on.) The protection of Amazônia depends then, on a constant ‘tug of war’ between different social groups at national and international levels.

In this episode, the pressure exerted by two groups is quite clear: on the one hand, certain business groups trying to ‘make a killing’; on the other hand, political ranks that seek a surplus in the commercial balance sheet via an increase in farming and cattle-ranching through the expansion of the farming frontier (i.e. clearing Amazônia.) It is also important to remark on the total disregard for the idea of real productivity or environmental conservation. The Farming and Cattle-ranching Census (IBGE, 1996) reveals that 1/5 of the cleared areas in Amazônia is abandoned and degraded and that the 6000,000 km<sup>2</sup> used present very low agricultural productivity. According to an article in the newspaper *Folha de São Paulo* (28/05/2000), the Amazonian Institute of Man and Environment (IMAZON) proved that the performance of cattle-ranching in the region is considered low: the internal profit rate is 4% a year, lower than that of the lowest investment (savings accounts), which is 6% a year. IMAZON’s viewpoint is that emphasis should be given to the economic exploitation of forest resources; the exploitation of wood would generate a profit rate of 33%, the gross income of the extractive sector would be R\$ 3 billion<sup>41</sup> and that of cattle-ranching would only be R\$600 million (i.e. five times lower.) The 2,500 timber companies working in Amazônia have a log production of about 28 million m<sup>3</sup>, enough to make the region one of the world’s largest producers of tropical woods, together with Indonesia and Malaysia. Still according to IMAZON, the forest (extractive) sector makes an expressive contribution to the labour market as the 220,00 permanent jobs generated by the timber industry in the region (especially in the states of Pará, Rondônia and Mato

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<sup>40</sup> This Bill substituted another proposal sent by the National Council of the Environment (CONAMA), approved by environmentalists and by the local population. The earlier proposal was devised by 850 institutions that represented various sectors of Brazilian society, involving 8,000 people from 25 regional public hearings and 70 meetings in 20 states.

<sup>41</sup> R\$ 1,00 = US\$ 1.807 (03/07/2000)

Grosso) represent almost the double of those created by cattle-ranching (118,000 jobs.) In relation to tax revenues, the timber trade sector contributes with about R\$300 million, whereas the cattle-ranching industry contributes with only R\$33 million, i.e. the potential tributary contribution of the forest sector is nine-times higher than that of cattle-ranching.

However, this tendency of timber exploitation – one that is expanding in Amazônia – might become a new model of forest devastation. To prevent that, it is necessary to reconcile it to sustainable management techniques (*técnicas de manejo sustentado*.) The concept of ‘forest-citizenship’, which presupposes the monitored exploitation of timber, and the extraction of the so-called ‘non-timber forest products’ – NTFPs (rubber, nuts, fruit, oils, fibres, medicinal herbs, etc) is beginning to be used by administrative officers from the states of Acre and Amapá as an intermediate solution to forest exploitation, one that is not only economically productive but also environmentally safe. Taking into consideration the possible expansion of this new economic strategy in the region, the government is faced with the challenge of inspecting the controlled exploitation of timber.

It is also important to discuss the viability of the NTFPs, which provide the economic basis for the Extractive Reserve proposal. To counter the claim that the economy of Acre ‘stagnated’ over the 1988-1993 period because the pace of clearances had been slowed down, the National Council of Rubber Tappers (CNS) has argued that extractivism is productive and offered rural investors a ‘recipe’ for the rational exploitation of the forest.

‘If, instead of destroying 5% of Acre’s forest (751,000 ha) you had invested in the simple harvesting of nuts from the 180,000 nut-bearing trees cut down in the clearances, supposing that each tree produces an average of 4 ‘*latas*’<sup>42</sup> (tins) of nuts, we would have had a harvest of 720,000 tins of nuts a year, or in terms of processed nuts, some 2,000 tonnes of nuts a year. This product fetches a price of US\$ 2,00 per Kg and would produce an annual income for the state of 4 million dollars without the cost of clearances, fences, vaccines, maintaining pasture, etc.’ (CNS Bulletin, 6, July 1993:3.)

A local example supports this estimate. In 1987, 50 ha of forest were cleared on the Equador rubber estate, in Xapuri/Acre, where there were many nut and rubber trees. According to a statement by their then leader, Chico Mendes, the rubber tappers had collected 1,400 tins of nuts from the same area, in the previous year (19.6 metric tons.)

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<sup>42</sup> One ‘lata’ of nuts is approximately 14 kg.

'We challenge the rancher to calculate the annual income from 1 hectare of land turned into pasture, against that of the same area left as virgin forest with nut, rubber and other trees. They would not accept the test as they know that we would prove that the profits from 1 hectare of forest will have 20-times the value of the same area given over to cattle' (Chico Mendes, quoted by Grzybowski, 1989:31.)

According to data from the Statistical Report for Acre from 1990, published by the Acre state Secretariat of Planning, 24% of the state's resources came from the export of wood, beef, hides and skins, as opposed to 63% generated by vegetal extractivism. Figures from the Acre Technological Foundation (FUNTAC) also showed that whilst rubber and nuts provided approximately US\$ 670,000 in ICM (tax on commerce of goods) in 1990, timber and cattle raised only US\$ 94,154. The viability and economic logic of extractivism have also been demonstrated by earlier surveys and recent empirical studies undertaken in Acre and in the Peruvian *Amazônia*.

According to a study by the Brazilian agronomist Menezes (1989) using data from the RADAM BRASIL Project, in 1976 a third of Brazilian *Amazônia* was covered by forest with medium to high extractive potential. This represented some 120 million hectares with a good capacity for exploitation through extraction. Today, 24 years after this survey was done, and with deforestation encroaching on important areas of extraction, particularly the nut-groves of the Marabá region of Pará state, and the rubber and nuts trees of Acre, these figures have fallen considerably. Even so, Menezes (1989) estimated that 25% of the Brazilian *Amazônia* region still has this potential, which would represent the capacity to absorb 300,000 families of small extractive producers. On the other hand, the survey of Acre carried out by the RADAM BRASIL Project calculated that only 10% of the state had the natural capacity to support agriculture or cattle, giving rise to the inference that the extractive activity is the natural calling for Acre.

Research carried out by the economist Mendelson and by botanists Peters and Gentry (1989) in the Peruvian and Brazilian *Amazônia* have been comparing the cost and benefits of cattle ranching, agriculture and extraction, demonstrating that extraction is more profitable than ranching (the principal cause of deforestation.) They argued that the total net revenue generated by the sustainable exploitation of 'minor' forest products are two to three times higher than those resulting from forest conversion. Furthermore, it could be said that extraction provided the forest dwellers with a better standard of living than that of the majority of small rural producers and even that of many urban workers. According to Schwartzman (1989), the rubber tappers' income was higher than that of half of the economically active population of the Brazilian *Amazônia* region. Data from the newspaper

*Jornal do Brasil* (1989) inform that in a 15-year project, extraction would generate an average annual income 5-times greater than that of agriculture and 15-times that of cattle ranching; and this without counting the cost of replenishing the soil, extremely high for pasture, high for agriculture and nothing for extractivism.

‘NUT-TREE PRODUCES MORE THAN AN OX: the production of one hamburger needs the cutting down of 6.25 square meters of forest. The management of one single Brazil nut tree in the same space would produce 30 kilos of nuts, equivalent to 21% protein, whilst 22 kilos of beef corresponding to 19% protein, is produced a year on 1 hectare of devastated forest’. C.Hull, researcher in Pennsylvania University.  
(*Jornal do Brasil*, 16.07.89.)

The market value of non-timber forest products (NTFP) would be such that rainforests could pay for their own upkeep (Clay, 1992.) So, according to Hecht & Schwartzman (1989), the higher economic value of extraction, if compared to other land uses in the fragile lands of most of the Brazilian rainforest, is a way of drawing nearer to the economic viability of Extractive Reserves. Later, Hecht (1992) argued that returns from extractivism compared favourably with other land-use alternatives such as agriculture and cattle raising. It was also claimed by Gradwohl and Greenberg (1988:150), that the RESEXs would offer a mode of forest use that is both immediately economically competitive and sustainable in the long-run. Native rubber and Brazil nuts would be the main products to underpin the economic viability of extractivism-based conservation strategies in Brazil (Torres and Martine,1991; Anderson,1994.) However, Schwartzman (1989:161) argued that the viability of the RESEXs does not necessarily depend on the rubber price subsidy but ‘it depends on a development policy for the Amazon, including incentives for livestock and other activities, and on the institutional means of government to address the needs and aspirations of Amazonian populations.’

Such arguments bring under discussion the fact that the commercial extraction of NTFPs may support another development strategy (Broekhoven,1996.) Nonetheless, alongside studies stressing vegetable extractivism as a sustainable development model for Amazônia (Allegretti,1987,1989,1990), which endeavour to prove its economic and ecological viability (Fearnside,1983,1986,1990), authors such as Homma (1989,1990) question the quality of these analyses.

Thus, the future of extractivism as a feasible alternative will depend on its sustainability. By this we mean that such an activity not only should be able to keep the ecological balance, but also that it should remain profitable and capable of bringing social

benefits to its participants. However, according to Homma (1990), there would still be instability factors like the 'domestication' (substitution of the natural extractive process by cultivated areas), and the discovery of substitute products (e.g. synthetic rubber), besides exogenous variables to the sector, such as agricultural expansion and population growth.

The reasons for such instability increase because of a market economy. Thus, besides 'domestication', technological development would have enabled the creation of cheaper synthetic substitutes in an almost unlimited supply, affecting the sector. In this sense, at present the permanence of reasonable productivity levels of extractivism would be linked to situational factors, like the government protection to the sector (i.e. the so-called political support.) However, as stated by this author, such support would be delaying the rubber tree domestication process.

'The present exclusive interest for extractivism, in the name of an alleged unfeasibility of rubber tree domesticated plantation, may lead the country to a predicament in terms of self-sufficiency of this strategic raw material in the medium or long-terms, with high social costs for consumers. In this case, the present 150 million consumers of natural rubber may suffer damage in favour of the 55,000 rubber tappers, as vegetable extractivism is incompatible with cultivated rubber trees' (Homma, 1990:18.)

It is also relevant to remark that changes in governmental decisions might contribute to the expansion of domesticated plantations in other areas of the country, such as in the state of São Paulo (forecast of 50,000 ha) and in Mato Grosso, the latter being the most recent rubber tree plantation area in the country. According to Homma (1990), as rational plantations increased, the inevitable tendency would be for prices to be equated to market prices, which would make extractivism less competitive, dooming it to extinction in the following decades.

Another aspect considered is the relationship between the feasibility of extractivism (characterised by low productivity of land and labour) and the maintenance of low regional remuneration. Thus, if bigger wages were offered in other rural sectors of regional economy, the permanency of workers in extractive activities would tend to decrease, stimulating the exodus of these populations. The imbalance between the growth of the extractive population and the unchanging quantity of natural resources could also be considered as an element of (un)stability, as it restricts the possibility of increasing the number of rubber tappers (due to the carrying capacity of rubber-tree areas.) However, in the current Brazilian Amazônia context, the expansion of the agricultural frontier (and timber extraction) over huge areas of native rubber estates seems to be the main causes for



decrease in extractivism productivity, independently of the profit potential of this activity. According to Torres and Martine (1991:9) there are strong indicators that ‘the traditionally long and gradual process of decline of the native rubber areas has begun to accelerate: so it can be estimated that rubber extraction could be divested of its economic importance in the next ten years’.

Given the current era of neo-liberalism, where economic objectives will certainly have priority over the social and ecological dimensions, a paradox is thus established: On the one hand, we may consider the comparative costs between products of traditional extractivism and other alternatives that assure a permanent profitability, that is, that are wholly integrated in the market – take as an example the growing exploitation of timber and its shipping to European and Asiatic markets via the Pacific, even though this activity is seen as ecologically damaging. From this point of view, extractivism should seek growing productivity. On the other hand, however, it seems that maintaining rubber and nut extractivism as bases for the RESEXs would depend on their marginal position in relation to the capitalist system (consequently associated with low levels of productivity.) This would definitely occur once ‘creating markets for extractive products, in the medium and long term would stimulate domesticated plantations, thus making vegetal extractivism unfeasible’ (Homma, 1990:21.)

Thus, to be economically feasible, extractive products would have to reach a larger market, one that created a larger scale of production, capable of involving a significant contingent of labour force. However, if this were to happen, it would draw the attention of agro-industrial companies that would then try to domesticate’ local production, altering the traditional exploitation system. The integration of a given extractive product into new markets might entail the substitution of this product by a cultivated or synthetic product. This position would reinforce the idea that the future of extractivism would only be preserved if was kept marginal in relation to the global market.

The scale of extractive production was also discussed by Torres and Martine (1991), who consider that extractivism would be unable to increase its supply on a wide scale, since the success of a given extractive product tends to hasten its own substitution. The solution for successful RESEXs seems to be, therefore, linked to the so-called ‘poly-extractivism’ developed on a small scale but which would allow for commercial surplus, which, placed on the market, would assure the survival of extractive populations and their permanence in the forest. In this model ‘each differentiated market would not present enough bulk to justify the product’s domestication but the sum of such products would be sufficient to guarantee a decent income to the producer’ (Torres e Martine, 1991:24.) This proposal, however, is linked to the

rate of expansion of market forces in Amazônia and to the development of governmental policies that would subsidise the extractive sector.

Another discussion on the dynamics of the extractive economy is raised by Assies (1997: 46) using the notion of an 'agro-extractive cycle' which includes rubber tapping, Amazônia nut gathering and agriculture. The relative weight of these components varies according to circumstances, among them the valorisation of products in the market. The author argued that the concept of an agro-extractive cycle is useful, as it discriminates between situations in which extractivism can provide an alternative for livelihood, and situations in which it is complementary to agriculture as the principal livelihood, which has important implications in terms of conservation strategies.

In Acre state, rubber tapping has been the cornerstone for the so-called traditional sustainability of the cycle, while Amazônia nut gathering and agriculture were complementary activities. A study (CNS/FUNTAC/ACDI, 1992) carried out by the National Council of Rubber Tappers (CSN) and by the Acre Technological Foundation (FUNTAC) calculated the average income of rubber-tapper families in US\$ 631/year (35% obtained through the extraction of rubber, 25% through nut-gathering, 29% through agriculture, 9% through cattle-ranching, and 1.9% through other extractive products.) Conversely, another study (Sá et al., 1999) carried out in extractive areas in Brasiléia (RESEX Chico Mendes) and Sena Madureira (native rubber trees) municipalities stated that most of the rubber tappers' family income came from Extrativism (70.5%), followed by the surplus of subsistence crops (22%) and cattle-ranching (7%).

If the Brasiléia municipality is the only one taken into consideration, however, extractivism accounts for 58% of the income, whereas the 'white crops' (for subsistence) are responsible for 27% and cattle-ranching for only 15%, which indicates an increase of agricultural activities over extractive ones in this area. The importance of rubber and nuts in the areas of extractive projects (PAEs and RESEXs) in the Acre River Valley is even greater. According to data from the Acre Secretariat for Planning and the Environment (1999), these products represent 57% (rubber) and 36% (nuts) of the total production of the state.

Assies also believed that if rubber tapping becomes less attractive, agricultural production will become more important, as Amazônia nut-gathering could not provide an alternative by itself. The profitability of Amazônia nuts has been considered in terms of commerce organisation and the established labour relations (waged labour.) In Bolivia's case, analysed by Assies (1997:47) the competition is assured by the sort of business

dominated by the processing industries and characterised by a tendency toward vertical integration to secure the supply of raw material and the emergence of a system of urban-based contract labour. In this case, small producers of raw material tend to be marginalized from the trade, which is the case of extractive populations in Acre. On the other hand, 'Bolivian competition contributed to the crisis of Brazilian exports of shelled nuts, including those of the Xapuri Co-operative, and tends to undercut the economic viability of the Extractive Reserve strategy' (Assies, 1997:48.)

Despite the identification of several other potentially marketable NTFPs to make up for the decline in rubber extraction in past decades, it seems that they may only be a source of additional income. Another strategy that has been discussed as a way to enhance economic viability is based on the so-called 'agroforestry', with an emphasis on selective logging, as suggested by Anderson (1992) and Hall (1996.) This strategy, when applied to Amazônia as a whole, has resulted in the increase of forestry dimension and in the decreased importance of agricultural projects initially linked to perennial crops (coffee, cocoa, black pepper) and urucu (*Bixa orellana*), and more recently, to agroforestry based on fruits (such as açai (*Euterpe oleracea*) and cupuaçu (*Theobroma grandiflorum*), or to palmhearts crops like pupunha (*Bactris gasipaes*.) According to Assies (1997), such a variation is mainly due to restrictions posed by the commodity markets, subjected to frequent changes on trends.

According to the very leaders of the rubber-tapping movement, and to technicians connected to the extractive sector, the selective extraction of timber as a way of diversifying the extractive production and of making short-term profit has begun to expand and now poses a threat to the ecological and cultural sustainability of RESEXs.

The concept of 'neo-extractivism' should be included in the discussion concerning forest productivity. Such a notion was used in recent regional studies (UFAC,1996; ACRE/Brasil, 2000) and presupposed the inclusion of technical progress to the traditional extractive system. It aims at gradually transforming extractivism into a more profitable endeavour, although still subject to the patterns and the socio-cultural demands of extractive populations. A technical innovation brought about by neo-extractivism is the idea of 'high-productivity islands' (IAPs) presented by Kageama (1991), an idea that had already been discussed by the rubber tappers' leadership (interview with Rodrigues, 1987) since the afforestation of native rubber estates. The proposal entails the plantation of small areas of extractive species (rubber trees are the most common ones) apart from each other and surrounded by the diversity of natural forest, increasing productivity to a competitive level

internationally. Besides, this avoids problems concerning the health of the crops<sup>43</sup>. Another example of neo-extractive technology is connected to micro-industries – the production of ‘vegetable leather’, a product traditionally produced by rubber tappers and which has recently been incorporated into the market.

Based on the concept of neo-extractivism, in 1996 the Department of Economics of Acre University (UFAC) proposed a study for the economic analysis of the three basic systems of rural family production in the Acre River Valley (extractivism, agroforestry and agriculture), defending the present economic importance of extractivism and its possibilities if technical advances take place. In the present methodology, the ‘system of extractive production’ is identified by the prevalence of the combination of rubber tapping and nut-gathering, associated to a complementary subsistence agriculture and cattle-ranching. The ‘agroforestry system’ (SAF), on the other hand, comprises the association of native arboreal fruit species and forest species (logging), forming an agricultural – silvicultural consortium, with the eventual interpolation of annual food crops, and the occasional complementation of cattle-ranching<sup>44</sup>. As for the ‘agricultural production system’, it is considered a combination of annual food cultures (rice, corn, beans, manioc) and animal raising, especially cattle. From the viewpoint of ecological sustainability, this latter system, characteristic of INCRA agricultural settlements has been considered the most hazardous to nature, whereas extractivism, present in RESEXs and traditional rubber tree plantations, presents itself as the least disruptive to the ecosystem.

Rodrigues (1991) studied the importance of domestic agriculture and cattle-ranching to make small extractive production viable. He searched for information on the consumption level of families in Extractive Settlement Projects (PAEs) in São Luis do Remanso and in Cachoeira, both in the state of Acre, verifying that the annual average income of extractivism in these areas was US\$1,139 and that rubber tappers continuously became indebted to middlemen (*marreteiro*.) This was due to the extremely high prices of commercial products in rubber estates. Noticing that 56% of the cereals bought there were produced locally/regionally, Rodrigues suggested that self-sufficiency in foodstuff by means of small-scale agriculture would be provide a balance for extractivism in the area. The

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<sup>43</sup> In the case of rubber tree IAPs, this technique helps secondary vegetation to sprout, which helps to control the so-called ‘*mal das folhas*’ –disease of the leaves – (Microcyclus Ulei), a fungus that attacks cultivated rubber tree plantations.

<sup>44</sup> In the Nova Califórnia municipality, situated in the state of Rondônia and in the Western Amazônia, small landowners of an INCRA settlement project have successfully developed an agroforestry system (cultivation of native fruit and silvicolous species), moving away from cereal crops.

importance of small-scale cattle-ranching as a 'live' type of savings account was also emphasised, since 14% of the total monetary value came from its commercialisation.

So far, economic studies on the importance of extractivism in the Acre River Valley have particularly analysed the income produced by rubber-tapping and nut-gathering. Gamma e Silva (1993) concluded that production cost of these two products in April 1993 were above market prices (for production of rubber associated to nuts, minimum cost was US\$0.82/kg and maximum US\$1.69/kg for rubber; when there was no association to nuts, minimum cost was US\$1.01/kg and maximum of US\$2.80/kg), with variations deriving from differences in transportation and processing.

Studies by CNS/FUNTAC/ACDI (1992) and Costa Filho (1995) analysed the production system of the Chico Mendes RESEX through the family gross income obtained via extractive activities, small-scale agriculture and subsistence cattle-ranching. The author tried to explain the influence of the Agro-extractive Co-operative of Xapuri (CAEX) in the improvement of rubber tappers' standard of living by studying units of extractive production (*colocações*) in different technological levels and with differing conditions of commercialisation.

When rubber tappers are members of the co-operative, there is a 33.8% raise in the average income of rubber tappers' families, a consequence of the higher prices paid of rubber and nuts<sup>45</sup> by the CAEX. Always considering its connection to the Co-operative, the study analysed the influence of introducing nut-processing technological improvements in the family unit through the *mini-usinas* (mini-plants), and its subsequent influence in the family's gross income. This technique gives more value to the nut produced by small-scale producers, representing an increase of 49.4% in relation to the traditional sale of non-shelled nuts (from US\$ 0.11/kg to US\$ 0.45/kg.) Consequently, the further away the *colocação* was, the higher the financial expenses would be, as the CAEX would have a smaller influence on them. The author also tries to forecast the family income in case an agro-forest product (rubbertree, Brazil nut, cashew nut, or pupunha) is added to the equation, and concludes that the average annual income could be raised to US\$ 2,891 in the second year; and to US\$ 4,066 in the tenth year.

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<sup>45</sup> Families that do not trade their production with the CAEX get an annual average income of US\$777.70 on the basis of an average production of rubber of 600kg/year. Families with higher production output (1,300kg/year) obtain a gross income of US\$ 1,632. However, those who do business with the CAEX get an income of US\$ 1,040 for medium levels of productivity, and US\$ 2,295 for maximum levels.

In 1992, CNS and FUNTAC made the most comprehensive report on the socio-economic conditions of the extractive areas in the Acre River Valley and Purus<sup>46</sup>. The study calculated in US\$ 631 the average annual income of rubber tappers' families, less than the figures presented by studies previously mentioned (Rodrigues, 1991; Costa Filho, 1995.)<sup>47</sup>

Although the distribution of this income is based on rubber (around 35%), there is a slight tendency for extractive populations to diversify production in order to increase their income and so guarantee their permanence in the forest, avoiding migration. This has happened not only by developing subsistence cattle-ranching (to escape the control of middlemen in rubber tree areas), but also by diversifying agro-forest systems (creation of rubber tree IAPs, pupunha cultivation, selective logging, etc.)

Despite the recognition that rubber is the cornerstone of the extractive system, the government has adopted contradictory positions in relation to subsidy policies to the product. Since 1980, when government subsidies for domestic rubber were withdrawn, one has observed a decline in market prices of latex (from US\$ 1.80 per kg. in 1980 to US\$ 0.40 per kg in 1992) and the encouragement of cheaper Malaysian imports. At the beginning of President Collor's administration (1990), an IBAMA decision changed the Tax on Organisation and Regulation of Rubber Market - TORMB (*Taxa de Organização e Regulamentação do Mercado da Borracha*), which benefited native Amazônia rubber plantations, and aimed at equalising prices of imported (considerably much cheaper) and national (more expensive) rubber. This change brought about an annual decrease of 600% in TORMB collection, from US\$ 43.9 million in 1990 to only US\$ 7.2 million in 1991, when IBAMA directives went into effect, putting an end to equality in rubber prices. Consequently, from 1991 onwards, the major industries of tyres and rubber products paid much less TORMB for the inexpensive raw material imported from the cultivated rubber estates in the countries of Southeast Asia.

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<sup>46</sup> The survey encompassed the Chico Mendes RESEX and the extractive áreas of Porto Dias, Riozinho, Cachoeira, Santa Quitéria, São Luís do Remanso and the Antimari State Forest, comprehending a total of 3,613 families and 21,000 people (CNS/FUNTAC/ACDI, 1992:17.)

<sup>47</sup> These results are based on an average production of 600kg/year of rubber, and 125 tins (*latas*) of nuts/year, obtained from an average area of 400ha (a family productive unit) with four rubber trails, and 133 nut trees per '*colocação*'. This represents 1.4 rubber trees/ha and 0.3 nut tree/ha. The area for subsistence crops has an average of 1.2 ha and 3.6 ha for cattle-ranching.

As a result, the native Amazonian rubber estates and the cultivated ones in the rest of the country no longer received the equivalent of US\$ 150 million, taking into account the annual average of rubber importation during the period, which was around 85 thousand tons. A protest in which rubber tappers from Rio Branco/AC blocked the BR-364 road on 31/03/1993 showed their dissatisfaction with the government's lack of support towards the national rubber production. Since then the so-called *contingenciamento* has been established, that is, the industries are forced to consume a percentage of the rubber produced in Brazilian rubber estates before importing Asian rubber.

Even so, the extractive populations asked the government to take extensive measures to make rubber production (one of the pillars of the RESEXs) feasible. In 1996, within the Constitutional Fund for the North (*Fundo Constitucional do Norte – FNO*) established by the 1988 Constitution, the Programme for the Development of Extractivism (*Programa de Apoio ao Desenvolvimento do Extrativismo- PRODEX*) was set up in order to support extractive activities such as rubber tapping, production of other forest products, fishing and small processing industries. Recently, the government has re-established policies for the development of rubber culture. On 12 August 1997, the National Congress voted a new Federal Law (n° 9,479) regulating the concession of economic subsidy (R\$ 0.90/kg) to the dark granulated Brazilian rubber (GEB-1)<sup>48</sup>, produced by rubber tappers in native Amazonian rubber estates. The law aims at encouraging the commercialisation of the national production for a period of 8 years.

The subvention corresponds to the difference between reference prices of the national rubber and those of similar products in the international market, plus nationalisation expenses. This law also guarantees financial help to implement programmes for the afforestation of native rubber estates, and for the improvement of techniques for the extraction and preparation of latex, aiming at obtaining better quality rubber. With a view to improving rubber tappers' standard of living, the law creates incentive mechanisms for the 'multiple use' of the Amazônia forest, and this presupposes stimulating the diversification of traditional extractive activity

The policy of economic subvention of rubber was also adopted by the Acre state government, sanctioning Law 1277 in 13 January 1999. It authorises the payment of R\$ 0.40/kg (forty cents of a Real) for a kilo of raw natural rubber, an amount given to producers' organisations (legally organised associations and co-operatives) by the

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<sup>48</sup> This látex is only coagulated, and known as 'dry rubber.' It is used in the tyre industry.

financial institution – Bank of Amazônia (BASA.) This law authorises the Executive Secretariat for Forest and Extractivism of the state of Acre (SEFE) to establish a pact with national and international entities in order to stimulate the national production of rubber.

Regarding studies for improving the quality of rubber, Professor Floriano Pastore's project is worth mentioning. It started at the University of Brasilia (UNB) in 1994, in partnership with Greenpeace, and uses the technique of smoking rubber, which does not require its processing in plants or the use of smoke, traditionally used by rubber-tappers. Such a technology delivers the rubber to industries in sheets, and so increases the value of the product. It is being adopted in five Amazonian states (Acre, Amapá, Amazonas, Mato Grosso e Pará), but Acre will be the first one to produce it in commercial scale. According to Rafael Pinzon, chairman of the National Centre for the Sustainable Development of Traditional Populations, from IBAMA, it is possible to produce 2 tonnes/year of rubber in blades, since the agency has already invested R\$580.000,00 in this project since 1998, aiming at the creation of 270 family units for smoking rubber. Bank of Amazônia (BASA) has also helped finance the initial stages of introducing this technology to rubber production. For 2001, this project also aims at a genetic mapping of the best rubber trees (the ones tappers call 'milk cows') in order to improve the reproduction and the quality of the species in Amazônia.

Another encouragement to the production of natural rubber can be found in the statements of the present Secretary for Forest and Extractivism of Acre, who revealed that the Ministry of Health, through the State laboratory of Farmanguinhos (from the Oswaldo Cruz Foundation) will start producing male contraceptives in 2001. These condoms will be destined to Federal, state and Municipal programmes for the prevention of SIDA. Nowadays, 200 million contraceptives are distributed every year<sup>49</sup>.

To reduce the importation of this essential product, the implementation of a rubber-processing plant (to be called Chico Mendes) is planned for the Xapuri municipality in Acre. The plant is calculated to generate 100 direct jobs and the estimate for the first year of production is of 95 million units at a cost of US 0.03/unit. The most important point is that this step will double the income of 1,3000 rubber-tapping families, as the factory will need 17,5 tonnes/month of liquid latex, the one that fetches the highest prices. A kilo of

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<sup>49</sup> At present, three foreign commercial labs produce contraceptives in Brazil: Johnson & Johnson, INAL (monthly output of 7.5 million unit) and Blowtex (5.5 million/month.)



coagulated latex (sold by extractive co-operatives) costs R\$ 0.90, whereas a litre of liquid rubber is valued at R\$ 1.35 which will increase the monthly income of rubber-tapping families in R\$208 (the amount of rubber that each family is likely to produce a month – 160 litres.)

At present, there seems to be a ready market for the Amazonian rubber, since Brazil has an annual consumption of 150,000 tonnes of dry rubber, produces 75,000 tonnes and imports the rest (especially from Malaysia.) The above data comes from Mario Fadel, from the Secretariat of Forest and Extractivism of Acre, and were presented in an article in the newspaper *Jornal do Brasil* (30/04/200.) On the other hand, rubber estates in Southeast Asia are suffering a recession<sup>50</sup>, as expanding urban industries in the area offer better salaries to the labour force.

Thus, with the growing demand for natural rubber, with the decreasing production of Asian rubber and with the possible rehabilitation of native Amazonian rubber estates thanks to the incorporation of ‘neo-extractivism’ in setting up local/state government policies, a new hope arises for the economic sustainability of extractivism. As a result, rubber-tapping families may continue in the forest and even those who were pushed away in the past decades because of cattle-ranching and the absence of a socio-economic infrastructure for extractive activities may return. It is important to point out the influence of drug-dealing over this migrant rural population, expelled from rubber estates and unskilled for urban work, who constitutes a permanent army ready to be recruited by drug-dealers. According to Martins (*Jornal do Brasil*. 2000), technicians and ecologists foresee that in the next two years approximately 12,000 families (60,000 people) will flee from poverty belts in big cities and go back to Acrean rubber estates (Acre, Purus and Juruá River Valleys.)

Considering that the economic viability and capability of self-support of the extractive system in the Amazônia forest has been the target of controversy, it is important that any proposal for regional development based on such activities should be made in the light of recent research on the market possibilities of forest products. It should also be based on an assessment of the possibilities and performance of the RESEXs, taking into account the recent federal and state subsidies granted to rubber;

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<sup>50</sup> Rural labour force and raw materials became more expensive in these rubber plantations. On the other hand, a tree called ‘*Palma*’ was discovered in Asia, and is currently being planted instead of rubber trees. Market demand for its oil is higher, since its price is also higher than that of rubber. Besides, in the 80s and 90s these rubber forests were attacked by pest, which caused an even greater decrease in the demand for Asian rubber.

finally, it is equally important to consider the new strategies and programmes based on neoextractivism set up by the state government.

### 7.7. FINAL REMARKS

Some considerations may be made on the feasibility of the RESEXs as an alternative model for developing certain areas of Amazônia and on the difficulties for their implementation. According to Hall (1997), the Extractive Reserve concept, while appealing in theory, remains untested in practice. Its economic, political, social and ecological sustainability have yet to be demonstrated.

1) In terms of economic feasibility, it is important to remember that vegetal extractivism – which constitutes the support of the RESEXs – may present high ecological sustainability, but its economic sustainability for Brazilian Amazônia in the near future is fragile. This can be explained by the tendency of market forces to become more aggressive in both national and international levels. Thus, the social and ecological intentions of the proposal may seem irrefutable; the economic issue is not. This is understandable in the current era of neo-liberalism, where the economic level will certainly and unfortunately have priority over other levels.

Nevertheless, another issue has been raised, linking the question of economic feasibility to conservation and biodiversity, in that the biological heritage is considered a strategic resource for the next century. Almeida (1994:259) argues that tropical natural resources should receive more attention, since they are ‘biodiversity banks’: their conservation should be paid for by the government, as a means of compensation for the fact that traditional populations are not exploiting them in the present. Hence, it seems impossible to conciliate conservation and economic development in the present context, where conservation is regarded as a ‘free sub-product’ of RESEXs development. Almeida (1994) also argues that if these Reserves were regarded as Conservation Units of the National Heritage (and so as biodiversity reserves), traditional populations should be remunerated for their conservation activities of the biodiversity funds.

A similar argument is defended by Fearnside (1998) when he affirms that Brazil should adopt a more aggressive diplomatic attitude in international negotiations on the environment, demanding financial compensation for the ‘environmental services’ represented by the existence of the Amazonian forest. Fearnside calculates that for the mere fact that Amazônia is a reserve of biodiversity and biomass, and for its importance in the

regulation of the water cycle in nature, Brazil should receive US\$ 37 billion from rich countries interested in preserving tropical forests.

Therefore, the great controversy usually presented is: conservation with economic lag or economic development with environmental degradation?

2) In terms of the socio-ecological function of the RESEXs, it is known that the rubber tappers, along with indigenous populations, have been viewed as ‘natural preservers’ of the tropical forest habitat, given that their lifestyle is based on a symbiotic relationship with the environment. In this respect, the idea of adopting the RESEX model, with its objective of assuring both economic survival and the culture of the Peoples of the Forest, preserving vast areas of the Amazonian rainforest, should be defended. In order to do so, a model of communal use (usufruct of the forest without individual possession) for 30 years was proposed. Its purpose was to guarantee reproduction of the category of rubber tappers/nut-gatherers as preservers of the rainforest.

A question has, however, been asked by representatives of the anti-extractive approach: how long will these populations be able to keep their ideal, with sustainable extraction of the forest rather than with its overexploitation, once they are inserted into a wider capitalist context, which will inevitably press them to fight for increasing productivity? Survival would then be of greater importance than the preservation of natural resources.

According to Hall (1997), the so-called ‘intrinsic ecological spirit’ of rubber tappers, that is, the inherent, immutable tendency for extractive populations to conserve the forest, would be put to trial. This means that, due to the growing pressure of market forces and the expected negligence of the government in relation to the effective implementation of RESEXs, the extractive populations, progressively impoverished, would be forced to kill (through overexploitation) the source of its income. However, recent experiences in the afforestation of rubber estates by means of the ‘High-productivity Islands’ (IAPs) in development in the Chico Mendes RESEX since 1994 can provide a counter-argument to that.

In the meantime, it seems that preservation of the Amazonian forest has so far been an excellent ‘tropical business’ (Baker, 1989), as it can be attested by the significant number of qualified professionals (Brazilian and foreign) involved in research projects in Amazônia.

3) The demographic significance of the RESEXs has been seen in the light of its role in promoting the immobility and counter mobility of the labour force. Since they allow

for the permanence of extractive populations in the forest, the RESEXs will be reducing their exodus to urban peripheries in the region and consequently will be retarding the environment degradation fomented by the expansion of the cattle-ranching front, and timber extraction in Amazônia.

According to Homma (1994), however, the permanence of small local producers in the forest would only be a short-term solution provided by RESEXs, and would only serve to ameliorate the problems of the present extractive population

The decline in the price of rubber, the hardships of life in rubber estates and the difficulties in the commercialisation of extractive products have historically been responsible for the populational migration to areas of farming settlements or urban peripheries. Data from the Preliminary Report on the Economic and Ecological Zoning of Acre (Acre/Brasil 2000) show that approximately 3,000 people left the Chico Mendes RESEX in the last decade. According to an interview with Rodrigues (Dez/1999), most of these migrants would have been from more isolated areas (Tabatinga, Amapá, Guanabara and Nova Olinda rubber estates in the Sena Madureira municipality and Petrópolis rubber estate, bordering the Mamoadate Indian Reservation), places that can only be reached after a four-day walk through the forest.

The creation of RESEXs could not prevent this old migratory tendency in those isolated estates, for the previous precarious conditions of transportation, health-care, and education, together with the absence of vicinal roads (a long-time request of rubber-tappers in these areas) have remained unchanged. In the same period, there was no exodus of rubber-tappers from the areas of Xapuri and Brasiléia municipalities, with the exception of Humaitá Rubber Estate, another isolated area, distant from the urban nucleus of Assis Brasil (an 18-hour walk.)

Recently, however, ex-rubber tappers have been returning to the RESEXs. This is due to the growing demand for non-synthetic rubber, and its consequent increase in prices. The latter resulted from the creation of federal subsidies (*Programa da Amazona Solidária* – Programme for a Solidary Amazônia/1997) and state ones (Chico Mendes Law/1999, from the Executive Secretariat for Forest and Extractivism of the state of Acre.) From 1998 on, the price of Amazônia nuts has also risen (the 10-litre tin sold in the deep forest has risen from R\$2 to R\$7.) Moreover, the Xapuri Agro-Extractive Co-operative (CAEX) is negotiating the installation of a factory for the production of male contraceptives with the Oswaldo Cruz Institute (linked to the Ministry of Health.) The plant would have an initial production of 94 million units a year, and would be the first one in Brazil. Studies and

experiments connected to 'neextractivism' have also yielded good results, as new technologies have been geared to the production of rubber and to the industrialisation of 'vegetable leather.' The implementation of the proposal for the afforestation of rubber estates by means of the 'High Productivity Islands' (IAPs) would also contribute to minimise another cause for the rural exodus: the limited productive capacity of rubber estates, where each productive unit (*colocação*) has only three rubber trails, a fact that has always created serious problems to rubber tappers of a following generation.

Still, despite the fact that the economic situation is precarious, and that managerial problems have taken place in the Chico Mendes RESEX and in the Co-operative (CAEX), if these had not existed, migration would have been much higher. 'If it were not for the creation of RESEXs, there would no longer be anyone in the area, everyone would have migrated; the rubber tappers were tired of all that war. The creation of RESEXs gave them the assurance that there would not be any more confrontation with farmers' (Rodrigues, interview, Dec/1999.) According to Martins (*Jornal do Brasil*, 30/04/2000), technicians and ecologists forecast that 12,000 families (around 60,000 people) will move from poverty-ridden areas of the cities to Acrean rubber estates, especially to the Acre, Purus and Juruá river valleys, areas which are part of the Chico Mendes and Juruá RESEXs.

4) It is also indispensable to acknowledge problems in the implementation of the RESEXs: they offer several possibilities but also a lot of potential difficulties. These could be found at the economic, managerial and political levels.

Firstly, one must recall that only recently has the price of rubber improved, and rubber is supposed to be the basis of RESEX economy. Besides, the portion of the market open to non-timber forest products is still rather small. Secondly, the successful implementation of RESEXs depends on the managerial area and, as this is a new experience for the forest dwellers, it means that they have to deal with several obstacles (e.g. fighting for markets and setting up an efficient administration where the grassroots are more productively articulated.)

As for the role of the National Council of Rubber-Tappers (CNS), it is no longer the bona fide representative of the category. As it moved its headquarters to Brasilia, CNS has become a legitimising agent of official 'technobureaucracy.' From 1991 onwards, with the establishment of CNPT/IBAMA, this agency has become the one in charge of directing, approving and supervising the plans made by the Neighbours' Associations, which makes forest dwellers report to CNPT and not to CNS. In this sense, it seems that the extractive social movement has lost its weight as an instrument for making demands. Within such a

context, grassroots involvement and the formulation of projects for the Organised Extractive Communities (in and out of RESEXs) become even more vital for the social movement.

In terms of the present political organization of the extractive populations as an essential factor in the development of communitarian actions in RESEXs, the risk of weakening the social movement is already being discussed (Hall, 1997.) This would stem, in part from the heterogeneous nature of the groups that form CNS and which resulted in the progressive enlargement of the number of members, including other Amazonian groups not necessarily engaged in the initial cause defended by the leader Chico Mendes, but as a strategy to pursue a regional agrarian reform. This discussion emerged from the fact that the last President of the CNS was not an extractivist, but rather a small rural producer, and so more interested in the issue of gaining land than in defending the forest.

In terms of political and financial support, considering the growing cuts in funding<sup>51</sup> by the federal government from 1993 onwards, (and the implications this has had for implementing programmes) it may be inferred that henceforward the implementation of RESEXs will increasingly depend on the development strategies set up by the government of Amazonian states, on the financial support given by international bodies (especially through programmes like those run by the PPG7), and on the ability of the Peoples of the Forest to organise themselves. Likewise, it is important to strengthen the extractive social movement, and to rearticulate its grassroots and the alliances they have made with other groups of the Brazilian society. The reinvigoration of the Agro-Extractive Co-operative (CAEX), as well as the publicity that can be generated by the RESEXs as a productive conservation experiment are also deemed necessary.

The Government has recently decreed measures (laws regulating the economic subvention to rubber) for the development of the extractive sector. However, possible changes in the power relations among different social groups in the country could also lead to changes in policies and consequently, in programmes for the primary sector, with variations in the subsidies for extractive activities. Other public policies would also be necessary, like the exemption of extractive products from Tax on Goods and Services Circulation (ICMS) – nowadays around 17%, especially for Amazônia nuts and rubber, as

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<sup>51</sup> These retrenchments have hit IBAMA, which had its resources cut by 80% in 1993. This has brought enormous problems to the areas of the RESEXs with regard to both the still fragile administration and the continuation of the various projects which have been set up following the accords with IBAMA.

well as the creation of conditions for shipping rubber to the Southeast of the country by opening vicinal roads (forest trails.)

Finally, another question to be raised is to what extent the current financing agencies would be interested in making the RESEX economically and politically feasible. This is placed in light of the current trend towards liberalisation of the economy, which will favour economic activities capable of competing freely on the open market and of dispensing the need for continuous subsidies.

## **CHAPTER 8**

### **CONCLUSIONS AND POLICY IMPLICATIONS**

This chapter aims at answering pivotal questions formulated in this thesis, as well as stressing issues for reflection and policy implications that can lead to a better knowledge of the current occupation process of the Brazilian Amazônia.

#### **8.1. ABOUT THE CONTRIBUTION OF THIS THESIS**

In general terms, this thesis may provide a few elements for the discussion of the production of a surplus population and their growing mobility in the context of peripheral countries. It may also contribute to the study of ecological social movements, a branch of the so-called 'new social movements', as is the case of the Rubber Tappers' Extractive Movement of the Acre River Valley, analysed in chapter 7.

Such considerations are justified, since this thesis deals with the importance of spatial mobility of the labour force in the current process of occupation of the Brazilian Amazônia – an example of capitalist society in developing countries – and it can thus be inserted in the line of studies on Geography of Development. Moreover, as it also analyses the experience of extractive social groups (through their proposal of Extractive Reserves) and their resistance to the current predatory model of Amazonian frontier occupation, this study contributes to the debate of issues such as immobility/counter mobility of the labour force, and sustainability related to traditional Southern populations.

In specific terms, the possible contribution of the present thesis can be translated through the following aspects:

a) At the empirical level: a significant amount of original data (collected by myself) referred to two particular frontier areas representative of different 'stages' of the current capitalist occupation process in Amazônia. This may provide the groundwork for future studies.

b) At the methodological level: the combined use of several tools (varied methodological instruments) aiming at considering distinct approaches to the recent process of Amazônia occupation (data triangulation.) The objective was to study the logic of various social groups through the eyes and words of different



actors involved: the migrant small producers, the entrepreneurs, the ranchers, and the local traditional extractive population. To accomplish that, we used a sample of small rural producers ('colonists') from the state of Maranhão, a survey of 'street hawkers' in the city of Rio Branco – capital of Acre state –, interviews with leaders and representatives of ranchers, colonists, rubber-tappers, technicians, priests, and politicians, as well as local newspapers (with special attention to *Jornal Varadouro*..)

c) At the theoretical level; (i) the link between the concept of 'labour mobility' (as forced spatial mobility) and the concepts of 'immobility' (people's resistance to leaving their native area and activities) and 'counter-mobility' (the return of the migrants to their areas of origin and sector of activities); (ii) the establishment of a progressive articulation between theory and practice, linking concepts and their correspondent empirical categories of analysis:

- The concept of 'mobility of labour force' (with the growth of the surplus population and their displacement throughout the territory, pushed by interests of the capitalist frontier in expansion) is hereby represented by the following categories: (i) the present small rural producers ('colonists') of Maranhão and Acre states, expropriated from their origin areas (Northeastern and Southern regions of the country) and pushed away to the Amazonian frontier; (ii) the Acrean traditional extractive groups (rubber-tappers, nut-gatherers, Indians), expropriated from the rubber estates by large ranchers and pushed to other rural areas of neighbouring countries (Peru and Bolivia) and/or to urban peripheral areas of the region, where they remain unemployed or underemployed, circulating as a source of cheap labour force.

- The concept of 'immobility of the labour force' (the endurance of locals dwellers against the new forms of land use/appropriation), represented by the Rubber Tappers' Extractive Movement of the Acre River Valley.

- The concept of 'counter-mobility' (the return of the migrants to the origin areas), represented by urban and rural migrants alike. The latter, former extractive labourers, begin to return to the rubber estate areas in Extractive Reserves (created in 1990.)

## 8.2 MAIN QUESTIONS AND RESULTS OF THIS THESIS

The present work aimed at providing answers to some pivotal questions, namely:

**a) What is the significance of migration as a mechanism in the production of the labour force necessary to capitalist accumulation?**

This question was considered through the role of migration in the creation and expansion of the regional labour market.

The availability of a labour force has been the basic pre-requisite for the expansion of capitalism in its early stages. In the case of Amazônia in the time frame analysed here (1960-1990), this labour force became necessary to support investments promoted by the Brazilian Government (late 1960s and 1970s) in their strategy to occupy the frontier's 'empty spaces'. In this sense, by promoting the circulation of labourers, the spatial mobility of the population has been a valuable instrument in answering the demand for labour force in specific conjunctures, especially in areas of greater interest to capital.

A good example of such a strategy is the state of Acre, one of our research areas: its set-up showed the ebb and flow of the Brazilian population at the service of economic interests. Through the *Varadouro* newspaper (September, 1977), a hundred years (1877-1977) of history of the Northeasterner migration to Acre was told: the history of those millions of migrants who were forced by drought (or latifundia) to leave their homeland and go to Acre to tap rubber. Thus, three important population flows portrayed the occupational process and the development of this frontier area.

The First Migration (1877) occurred when drought struck the Northeast and Amazônia became the 'land of hope', enticing Northeasterners away from their homeland. The Second Migration (1943) took place when the North-Americans entered the Second World War, but needed rubber – a great deal of rubber – and Amazônia had the rubber (but not the required labour force to tap it); as the Northeasterners were hungry, this time hunger drove them to the North. The Third Migration (1970) was set off when cattle-ranching ventures required a great deal of land, and Amazônia had the land – a great deal of land – and once more the Northeastern migrants of Acre had to migrate, but this time, they had to give place to beef.

Regarding the period of recent capitalist occupation – the focus of the present thesis –, the labour force that had been essential for the establishment of capitalist projects, but scarce in Western Amazônia in the early 1970s, has been increasingly fed

by the migrant population: throughout the 1970s, approximately 1,187,475 migrants made their way to the north region (IBGE,1980.) Government agencies believed that the solution for land conflicts in areas of early settlement (Northeast and South) was to transfer “surplus population” to official settlement projects in Amazônia. ‘Internal migration was the order of the day for State action in this period and many studies provided guidelines on how to direct and manage migratory flows to Amazônia’ (Almeida,1990:230.)

This surplus population, expropriated from their homeland (Northeast, South and Southeast regions) by latifundia, by the modernisation of agriculture and by the introduction of export monocultures, and drawn to Amazônia because of the intensive government propaganda, could not (for the most part) settle definitively in the frontier areas, developing a pattern of onward migration and becoming progressively concentrated on the outskirts of the frontier towns in the following decades. The so-called ‘pockets of labour force’ were thus created, waiting for an opportunity of waged work (especially temporary one), at the disposal of capital.

The intense demand for rural employment which characterised the frontier areas in the 1960s, 1970s and early1980s, started to fluctuate from the late 1980s on, as the regional labour market was gradually consolidated by the growing availability of labour via migration. In rural frontier areas, where ranching became the dominant model of occupation, temporary employment started to depend on the rate at which new ranches were opened up, as well as on the Amazônia rainy season (period with damaging impact of rains on road communication.) Permanent employment then depends on the scarce, and in some case non-existent, urban demand generally in the service sector and in the building industry.

This unstable behaviour of the labour market has been particularly evident since the end of the implementation phase of the large ranches and the conclusion of the regional motorway building programme funded by the State, when dismissals began, and waged labourers had to move on in search of work. In this recent stage of frontier occupation, mobile workers were no longer indispensable and helped feed the expansion of the ‘pockets of poverty’. These migrants began to integrate the growing surplus population that is spawned on the poor outskirts of Amazônia's urban centres.

In this sense, the labour force, which was a fundamental requirement in the early stages (the 60s and 70s) of the (re)occupation of the Amazônia frontier, became redundant in the following stage (the 90s.) Our research with rural smallholders in the Pré-Amazônia Maranhense (see chapter 4), and with urban street hawkers in the city of

Rio Branco, in the Acre state (see chapter 6) have shown the existence of this 'floating labour force' in frontier areas, made available by expropriation mechanisms (mainly cattle ranching) from the areas where they had lately come from and obtainable to the regional market by migration.

As for the Acre River Valley research area, the state capital (Rio Branco) underwent an intense growth, verifiable through census data (IBGE): a population growth of 153,6% during the period (1970-80), mainly fed by inter-state migratory flows from rural areas (58%.) Such an afflux of people, which began in the late 1960s and has increased from 1975 on, portrays the migration of former rubber-tappers initiated by the 'closing down' of old rubber estates, bought by Southern entrepreneurs and destined to cattle-ranching, an activity that requires very little labour force. The important rural exodus brought about by such changes had two main destinations: towards the urban outskirts of Rio Branco and Brasiléia, in the state of Acre, and towards rubber estates in neighbouring countries (Bolivia and Peru.) Estimates made by the National Council of Rubber-Tappers (CNS) in 1990 pointed that approximately 15,000 Brazilian rubber-taping families (about 50,000 people) were illegal residents in those countries.

Findings of our research in 1990 on migrant rubber tappers according to year of leaving rubber estate and municipality of origin (see chapter 6) have shown that 60,3% of the 2905 emigrating families recorded in the research were expropriated from rubber estates in the period 1965-79. Their main areas of origin were the Acrean municipalities of Sena Madureira and Rio Branco, followed by those of Xapuri and Senador Guimard. In relation to the provenance of the total number of the extractive families dislocated in the period 1965-89, it was revealed that 33,6% came from Sena Madureira, 22% from Rio Branco, 31% from other districts in the Acre River Valley (Xapuri, Brasiléia, Senador Guimard and Plácido de Castro), 11,1% from Feijó and Tarauacá, and 2,3% from Boca do Acre, a municipality located near the BR-364 motorway, in the state of Amazonas.

Another important migrant category to be considered is that of the colonists, drawn to the region by the INCRA Colonisation Projects (*Projetos de Assentamento Dirigido-PADs*) from the 1970s onwards. Since 1975, three projects were implemented in the state of Acre: the Pedro Peixoto Project (in the municipalities of Rio Branco and Plácido de Castro), and the Quixadá and Santa Quitéria Projects (in the municipalities of Brasiléia, Xapuri e Assis Brasil.) However, the absence of local/regional infra-

structure and the inefficiency of supporting policies to small agriculturists, besides the social conflicts set off in the region by the advance of cattle-ranching made it difficult for colonists to settle down, which generated the emigration of part of that population in the following decades. The destination of those migrant colonists was similar to that of migrants originated from other colonisation projects situated along the BR-363 motorway: the urban centres of Western Amazônia, especially Rio Branco/AC and Porto Velho/RO. The outskirts of Porto Velho had a huge demographic expansion in the 1980, mostly fed by inter-state migratory flows (87%.) This growth has intensified after 1985, with the convergence of two important migratory flows dislocated via BR-364: the front of small rural producers originated from the Centre-South of Brazil (that could not settle in the colonisation projects in Rondônia), and the *garimpeiros* coming both from the Northeast and from other areas of Amazônia itself, in search of the gold from the Madeira and Mamoré rivers (IBGE/IPEA, 1990:75-8.) Here it is worth mentioning the role of the Amazonian climate in the seasonal character of this labour force: during the dry period, migratory flows are headed to the *garimpos*; during the rainy season, their main destination are the cities.

The considerations above are linked to the notion of a labour market under formation in these frontier areas, made viable through migration and through the passage of a population traditionally connected to the rural areas (extractivism and agriculture) to activities of an urban character (working in the service sector, in small businesses, in wood processing, in the civil construction market, and so on.) The figure of the 'manual urban labourer' (working in landscaping projects and urban sanitation) was particularly important, as a typical activity in the rural-urban transition (Becker, O. 1990.)

Statistical results obtained from our study with street hawkers in the city of Rio Branco/Acre in 1990, have shown that 79% of these urban informal trade workers were migrants coming particularly from the rural areas of the Acre state (72%), whose previous occupations were notably (65%) those linked to the primary sector of production (agriculture, plant extraction and fisheries.) These data stress the rural exodus of the population of small rural producers of this part Western Amazônia in the 1980s.

Our research results in the area of Pre-Amazônia Maranhense (see chapter 4) refers to another stage of the process of producing a regional labour force; it points to the emergence of the *agregado* (aggregate worker), a new flourishing category of small

rural producer (the 'satellite' peasant, working on the land of relatives or friends but with no rights to it), especially in the colonisation areas of Maranhão state. This new group illustrates the increase of the surplus rural population, that joins people they know - relatives or friends - with the aim of temporary subsistence. They represent the stage immediately prior to the one in which small rural producers are finally incorporated into the waged labour force, that is, when they are absorbed by the regional labour market developing in frontier areas. They also attest to the progressive lack of land and work in their areas of origin, that is, in other areas of the Maranhão state in which land and forest was still available fifteen years ago. In spatial terms, the presence of this new social group shows the pattern of occupation of untitled public land in new frontier areas.

This research has also shown that, from the viewpoint of the organisation of space, one can conclude that what occurred in the region of Pre-Amazônia Maranhense was a reproduction of the conditions of lack of land for the peasant farmer that had driven them from their areas of origin less than two decades previously. The presence of the sharecropper in the regions of spontaneous occupation and the aggregate, in areas of directed colonisation, are clear expressions of this trend. These categories, in fact, would feed migratory flows some years later.

Another finding of this research (1983-84), the migration undertaken by the children of the colonists from Pre-Amazônia Maranhense to regions outside Pre-Amazônia (e.g. to the Western Amazonian frontier and to the urban centres in the Brazilian Centre-South region), while diversifying their activities (farming, mineral prospecting, temporary wage labour) lead us to conclude that these migrants are being relatively and gradually absorbed by the regional labour market in formation in the frontier regions (see chapter 4.)

Finally, it is important to consider that, for the Brazilian State, the Northern frontier *had* to be occupied: so it has promoted a model recently called the 'urbanised jungle' (Becker, 1992.) It seems that the frontier's expansion has followed a pattern through which the circulation of labour (via migration) and their concentration at urban peripheries has been detrimental to the settlement of small rural producers (and the land tenure by them.) This has certainly occurred due to the need of an available 'mobile' labour force in the regional labour market. Thus, migration (as people's spatial mobility) has played a crucial role in the circulation of workers in this frontier areas,

feeding the regional labour market at moments of capitalist expansion, such as the 1970s and 1980s in Amazônia.

**b) What forms and mechanisms characteristic of the recent process of frontier occupation have encouraged increasing mobility of the labour force and environmental degradation?**

The capitalist occupation of current frontier areas, which has encouraged increasing mobility of the labour force and environmental degradation, has been marked principally by concentration of land tenure, growth of a surplus population and the increase of wage labour. The main participants of this process are, on the one hand, those who hold capital (entrepreneurs, medium and large landowners) and on the other, the migrant population, seen as mobile labour force, therefore as an essential factor in implementing the investments promoted by the Brazilian State.

This process has developed from two different points of view: for the landless migrants, Amazônia was perceived as 'land for labour'; for the entrepreneurs and large landowners, it was seen as 'land for speculation'. Due to its length, Amazônia is not a single region, but a patchwork of landscapes and peoples; it represents several ways of appropriating nature and is characterised by different social relations of production. Consequently, its process of occupation presented particular forms and mechanisms, expressed at sub-regional levels. Some of these differences have been revealed by the analysis of two case studies: Pre-Amazônia Maranhense, an old frontier area crossed by continuous groups of landless migrants, and the Acre River Valley, a recent frontier area that has become the scene of the Extractive Social Movement.

In the case of the Pre-Amazônia Maranhense research area, capitalist occupation took the form of controlled colonisation projects (the Alto Turi Colonisation Project - PCAT, defined in 1962 by the SUDENE's First Master Plan and later implemented by the Northeastern Colonisation Company -COLONE, and the Buriticupu Pioneer Colonisation Project for small agriculturists set up by the Maranhense Colonisation Project - COMARCO in 1977), and by agro-ranching and logging projects. The latter were implemented from 1974 onwards in clusters called Maracaçumé and Buriticupu, in areas bordering the colonisation projects.

The Government's aim with these colonisation projects was to absorb groups of landless migrants expropriated from their own subsistence cultures mainly by the cattle-ranching expansion taking place in other parts of the state and country. These projects

were set in motion by INCRA (the governmental agency for that purpose) as a part of the PROTERRA programme, through official propaganda of land availability for small farmers. Moreover, the agro-ranching projects resulted from the implementation of tax incentives and credit scheme programmes granted by SUDENE and SUDAM.

The emergence of monopolistic capitalism in Pre-Amazônia has generated the growth of a surplus population. This has not occurred in a uniform way, but rather through distinct mechanisms that provoked an increase in the mobility of population. This usually takes place differently in 'areas of previous spontaneous occupation' (later legalised by the government as part of settlement programmes for small agriculturists), from 'areas of planned occupation'. For the areas of spontaneous occupation along the BR-222, the capitalist strategy took the form of three mechanisms: the amalgamation of small landholdings, the felling of babassu groves, and the advance of grazing pastures over the last plots of land available for sharecropping. In areas of directed colonisation, such as the COLONE Project, one should call attention to the mechanism of semi-proletarianization.

The first mechanism is the amalgamation of small landholdings through purchase on the part of large and medium landowners. Little by little, farmers purchase small plots of land from colonists who could not pay off their debts with the banking system, or who decided to stop farming their land because they did not have resources to make it productive enough. These plots are eventually merged into larger properties. The expansion of medium-sized properties occupied by cattle-ranching commonly takes place in the background of colonisation projects.

The second mechanism corresponds to the felling of the babassu groves, which is an extractive activity used as an alternative (crucial) source of income for the poorest population, providing an important input to household reproduction. That extraction is also a major source of cash earnings for women, who are often denied access to alternative means of income in rural areas. Together with the rice crops, the extractive activity of babassu constitutes the economic base of the small producer's subsistence.

The prohibition of the commercial exploration of the babassu and its subsequent felling by large farmers has deprived small rural producers of a precious means of subsistence, making them even poorer and more dependent on waged labour.

The third mechanism, known as sharecropping system, promotes the progressive encroachment of grazing land over the last plots of land available for sharecropping: it is the most common method used for the expansion of grazing land



over the small-scale crop production. Grazing expands steadily because it is planted by the peasants themselves, as part of the payment for leased land. Consequently, the land becomes less available for the peasants' own crops every year. This process of sharecropping stimulates the emergence of a surplus population, who faces mounting obstacles to assure their reproduction as independent, small rural producers. A system of turn-taking is already found in this region, since there is not enough land available for all producers every year. The producers must then resort to waged labour in alternate years.

In areas of official settlement, where control over land tenure is greater, the growth of the surplus population has been occurring gradually, in the form of semi-proletarianisation. This is triggered off by the temporary employment of colonists, in search of a complementary source of income during the inter-harvest period. They are usually employed in activities linked to mining (*garimpo*) or in temporary waged labour at the neighbouring ranches. This semi-proletarianisation is intensified by the increasing difficulties faced by colonists in order to remain in their plots, due to the inefficiency of the colonisation policy. Such difficulties are represented, among other aspects, by the lack of all-weather roads, lack of basic health and educational sources, the insecurity of title, the lack of agricultural inputs and of credit facilities, and, in many instances, by the inappropriateness of the government criteria for colonist selection, besides the infertility of the land in various colonisation projects (Moran, 1985.)

In the case of the Acre River Valley research area, the other case study investigated in this thesis (chapters 5 and 6), the recent process of occupation has presented the same basic forms (the implementation of ranching projects and directed colonisation projects) but their context and mechanisms were different. This difference stemmed from two facts: firstly, the areas thus occupied had formerly been used as rubber estates, and at that time, an active number of independent rubber-tappers was already there. Secondly, the primary reason for this new occupation was not the fiscal incentives, but the relatively low price of land, brought about by the structural crisis in the extractive economy.

Owing to this state of affairs, the state of Acre was opening up to private capital through programmes like POLAMAZÔNIA and coast-to-coast propaganda. The then Governor promoted Acre to the rest of the country as the ideal state for investing in land, launching the 'beef cycle'. In terms of regional infrastructure, the State acted as facilitator for this new form of occupation, opening up (and partially paving) national

motorways (BR-364 and BR-317.) This is an example of how public capital attracted private one.

Concerning the population, their eviction from former rubber-tapping areas was quite violent, as it entailed the radical expulsion of extractive groups that had emigrated largely to the Bolivian rubber estates or to the urban outskirts of nearby towns. On the one hand, intermediate labour forms – the semi-proletarianisation – (such as the ones that appeared in Maranhão state) could not be developed because this violent mechanism of expropriation did not allow for the coexistence of old and new forms of labour. On the other hand, this expropriation was responsible for the emergence of the most important resistance group in that part of Amazônia – the Movement of the Peoples of the Forest. Their proposal – the Extractive Reserves – was implemented in 1990 by a Presidential Decree. Instead of constituting a transitional form leading to waged labour, it attempted to bring back traditional practises by means of the collective use of the forest, a non-capitalist trait. These practises were then modernised in the light of a new paradigm, that of sustainability. This model, with the sustainable use of the forest, aims at preserving the access of the extractive population to their basic means of production - the forest - while assuring their cultural identity and their relative independence in relation to new capitalist forms expanding in the region.

**c) What are the socio-economic impacts of the environmental degradation which has resulted from the recent occupational patterns of the Brazilian frontier region?**

The discussion carried out in this thesis reveals that the recent process of appropriation of the Amazonian frontier has resulted in the degradation of the physical environment, together with the uprooting of the populations that had already been there. In this sense, it is important that the physical environmental deterioration be perceived in relation to the decrease in the living conditions of the local population. Hence, social degradation is a direct consequence of the physical-environmental one; ‘the tree dies and then the person who lives in the forest dies’ (Interview with Chico Mendes – August 1988.)

As the natural capital is dominated by non-sustainable forms of use, less people are required to work it. In the case of the Amazonian Forest, the rupture from the traditional relationship between human being and nature, expressed by the expulsion of small rural extractive producers (rubber-tappers, nut-gatherers, Indians, fishermen, babassu-collectors, etc.) by new capitalist activities (especially cattle-ranching and

mining), has resulted not only in a decrease in the living conditions of the affected groups, but also in the disarticulation of the Amazonian culture, since the local people are robbed of their life reference – the forest. As the Indians are evicted from their land, they die as a people; as the rubber-tappers/nut-gatherers lose their means of support (the forest), they lose their identity.

The current development model has been marked by changes in the land use, especially the advance of cattle-ranching over areas of former rubber estates (see chapter 5) and decadent areas of colonisation, as well as the proliferation of the *garimpo* (gold and cassiterite), particularly in the states of Pará, Roraima and Rondônia. The environmental consequences of this model has become more and more visible: in parallel to the intense deforestation of the Amazônia forest, social conflicts in the region have emerged and intensified (on the Social Movement of the Rubber-Tappers, see chapter 7), and the poor surplus population of both rural and urban origin has grown (a phenomenon verified in the two areas researched in the present thesis.)

According to Almeida (1990:226) ‘the lag between the intensification of land conflicts and the irregular and uneven character of State intervention has been a notable feature of agrarian structures in Amazônia for the past twenty years.’ Figures on land conflicts in the states of Maranhão, Pará, Amapá, Acre, Roraima, Mato Grosso and Goiás, according to an INCRA survey of areas of social tension in 1985, show that by that time there were 38,575 families, 143 rural properties and 3,044,062 ha involved in dispute over land.

An evaluation of the anthropic pressure on the natural and social features of a any given region should consider both the characteristics of each economic activity, and, simultaneously, the problems and conflicts they generate in the social fabric. In order to provide an empirical view of the environmental impacts engendered by this ‘developmental’ model in the Amazonian territory, I bring into analysis an example of some features of the degradation process that was in course at the Western Brazilian Amazônia in the area of the PMACI I Project (West of the state of Rondônia, East of the state of Acre and South of the state of Amazonas) in 1988<sup>52</sup>. I have tried to present it in an integrated way (physical/social, regional/local), by identifying some aspects of the environmental degradation process in areas under the pressure of new forms of land use (Figure 11.)

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<sup>52</sup> The author has taken part in this survey in the period 1987-89, as a researcher for the IBGE Geography Department, and as the co-ordinator of the research team that carried out the study on the social-economic aspects of PMACI I Project (Project for the Protection of the Environment and of the Indian Communities.) This study has evaluated the social-economic impacts of the paving of BR-364 motorway (stretch between Porto Velho – Rio Branco.)

FIGURE 11

PROBLEMS OF AREAS UNDER THE IMPACT OF NEW FORMS OF OCCUPATION.  
WESTERN BRAZILIAN AMAZÔNIA. 1988.

TYPE OF AREAS	ASPECTS OF THE ENVIRONMENTAL DEGRADATION PROCESS
Areas under the impact of cattle-ranching	<ul style="list-style-type: none"> <li>(a) Loss of natural resources economically important by deforestation and burning of huge extensions of tropical rainforest;</li> <li>(b) loss of plant and animal species (germplasm) by deforestation with disruption of bio-geographical cycles posing a serious threat to micro-regional sustainability;</li> <li>(c) eviction of traditional extractive population with the loss of their rainforest knowledge;</li> <li>(d) disarticulation of Indian culture;</li> <li>(e) disarticulation of rubber-tapping culture;</li> <li>(f) reduction of game/fisheries, fruit-gathering and local production of food with consequent decrease of subsistence resources for small extractive producers;</li> <li>(g) decrease in regional fiscal tax collection with the drainage of the regional income (substitution of taxes ICM/extraction for ICM/cattle ranching, which is smaller);</li> <li>(h) tendency to land concentration (agglutination of small colonists' plots) with the advance of cattle-ranching over subsistence farming areas, the smallholders' loss in land value and their subsequent impoverishment and rural exodus;</li> <li>(i) conflicts over land (ranchers x extractive population);</li> <li>(j) stimulus to seasonal, instead of permanent, rural job-offer with the growth of urban unemployment and under-employment.</li> </ul>
Areas under the impact of agriculture	<ul style="list-style-type: none"> <li>(a) deforestation of plots for later cultivation;</li> <li>(b) usage of traditional techniques (slash-and-burn agriculture) which degrade soils already impoverished by deforestation;</li> <li>(c) lack of governmental support to small producers: lack of credit, lack of commercialisation or transportation infrastructure; deficient medical and sanitary infrastructure; precariousness or inexistence of schools;</li> <li>(d) evasion of settlers due to the failure of some colonisation projects, leading to increasing migration flows and the poor surplus population concentrated on the urban peripheries;</li> </ul>
Areas under the impact of mining	<ul style="list-style-type: none"> <li>(a) mercury-contamination of humans;</li> <li>(b) depletion/contamination of fish;</li> <li>(c) proliferation of malaria and hepatitis;</li> <li>(d) boosting of prostitution;</li> <li>(e) increase in drug trafficking and criminality;</li> <li>(f) proliferation of <i>corrutelas</i> (villages accompanying mining sites installations) with absolute lack of infrastructure;</li> <li>(g) unchecked migration;</li> <li>(h) occupational instability;</li> <li>(i) evasion of fiscal tax collection due to inadequate inspection (gold smuggling);</li> <li>(j) danger for the workers in the extraction of gold via diving;</li> <li>(k) silting up of the Acre River caused by mechanical prospection (dredgers), entailing changes in fluvial dynamics and subsequent difficulty in navigation, water pollution, reduction of the amount of fish, and frequent flooding of urban areas along the river.</li> </ul>

SOURCE: This table has been organised by the author of this thesis, based on information she collected herself for the PMACI I Project (IBGE/IPEA, 1990), in which the author worked as a researcher and co-ordinator of the social-economic aspects of this project for the Geography Department of IBGE, from 1987 to 1990.

The pressure of these 'new' economic activities over the physical environment has created different levels of physical-social degradation. Results from the PMACI I Project (IBGE/IPEA,1990) revealed that municipalities in Western Amazônia suffered four levels of antropic pressure: weak, moderate, strong and very strong. Vegetable extractive activity (apart from logging) was considered the one which altered the vegetal coverage the least (weak pressure), while mining (very strong pressure over the natural environment and over the local society) and cattle-ranching (strong pressure via deforestation and slash-and-burn agriculture) represented the main sources of environmental degradation at the time.

Developed in the colonisation projects for the area, agriculture is commonly mentioned as one of the main causes for the destruction of the Amazonian ecosystem, since the colonists resort to land clearing and slash-and-burn agriculture to make their subsistence plots. However, such clearings by small rural producers are in a very small scale, if compared to those made by medium-sized and large ranchers. Moreover, 'clear' frontier land (i.e. with no forest or dwellers) had a higher regional market value, which meant that deforestation was seen as an improvement, "an artifice landowners used to guarantee land tenure, obtain its regularisation, avoid land invasions and even the possibility of an Agrarian Reform."(Hees,1990: 84.)

Besides being the activity that employed more labour (46,7% of the primary sector), vegetable extractivism (NTFP/Non-Timber Forest Products) has emerged as the most expressive one in terms production value (38,6%), with the highest ICM tax contribution of the primary sector (86,8%), and the lowest rate of environmental destruction. In 1987, it was confirmed that extractivism was associated to an anthropic area of 11,4% (corresponding mainly to rubber-tappers' subsistence crops) in relation to the total area of the state of Acre. Cattle-ranching, on the other hand, was a source of 55,2% of anthropism in relation to the total deforested area in Acre, and was responsible for only 5,8% of the ICM tax of the primary sector. (Hees, 1990.)

Therefore, it is possible to conclude that in the case of the Brazilian Amazônia rainforest, there have been different methods of environmental degradation, related to the different activities performed by different social groups. As discussed throughout this thesis (see chapters 5 and 6 for a closer discussion), the main destructive forces of the environment in recent frontier areas have been the 'outsiders', that is, those driven to the 'empty spaces' of Amazônia, with the encouragement of the State. They are mainly the cattle-ranching enterprise (large and medium-sized farmers, responsible for

70% of deforestation, according to Fearnside, 1998.) The small miners (*garimpeiros*) represent another facet of the intense environmental degradation that occurred from 1978 onwards, although circumscribed to a smaller spatial scale, if compared to cattle-ranching, which has devastated in a regional scale.

Another cause of the destruction of natural and social systems refers to the construction of hydroelectric dams (see Mougeot, 1987, 1990), public infra-structure projects carried out by the Brazilian State, responsible for the expropriation of significant contingents of small rural producers who inhabited the flooded areas and for extremely inefficient resettlement policies.

Recently, the intensification and modernisation of the logging industry (selective logging) and the expansion of soybean crops over forest areas represent the new forms of capitalist occupation of the frontier, and of forest degradation. The rate of logging in the Brazilian *Amazônia* is expected to increase very greatly in the medium-term future, first because of the considerable size of the timber resource when compared with other tropical forests, and second because Asian forests will soon have been consumed (MMA, 1996). According to Gonçalves (1998:88), it is expected that US\$600 million will be invested in the near future to exploit over 1.2 million ha of forested land in this region. Logging has, in the past, proceeded without regard for its long-term effects on the forest or local people and has been destructive (e.g., Uhl and Vieira, 1989; Veríssimo and others, 1995.)

Eve, Arguelles and Fearnside (2000:252) raised two important questions: 'how sustainable can logging in the Amazon be?' and 'What and how effective are existing legal mechanisms to deal with logging projects?'. They discussed legal licensing procedures for logging operations in the Brazilian *Amazônia*, including the environmental impact assessment (EIA) and an environmental impact statement (EIS), known in Brazil as the RIMA (*Relatório de Impactos Ambientais*, report of environmental impacts.) Within the context of assessing the process of colonisation in the North region it is important to mention that there has been some progress in attempting to protect the environment from environmentally damaging development policies. The Brazilian environmental crime law<sup>53</sup> (Law n° 9605 of 12 February 1998, regulated by the Decree 3179 of 21 September 1999) consolidates the country's environmental legislation which now clearly defines infractions,

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<sup>53</sup> Theoretically, this law could result in punishment of agency staff if it could be shown that problems raised at a public hearing were ignored in approving a project, resulting in subsequent impacts. However, this theoretical possibility has yet to be tested in practice (Eve, Arguelles and Fearnside, 2000:264.)

standardising and grading penalties. Unlicensed deforestation is now a crime with administrative fines varying from R\$50 to R\$50 million.

The 'locals', who have long exploited the forest in a traditional, but sustainable way, seem to be the ones who have caused the least damage to the environment, and they are commonly attributed the task of 'rainforest preservers' (see chapter 7.)

**c) What is the relationship between spatial mobility of the population and environmental degradation in the current process of (re-)occupation of the Brazilian Amazônia ?**

As for the relationship between spatial mobility and environment, the more usual relationship involves the connection between migration and land degradation. In this sense, migration has been assumed to perform a specific function in environmental degradation, reinforcing the pressure of the population on resources (depletion or degradation of natural resources) and services.

Under a neoclassical approach, migratory movements have been traditionally linked to the neo-Malthusian focus on the impact of demographic growth on the physical environment, and this equation is 'reduced to a uni-dimensional relationship that frequently stops in considerations over volume and growth taxes of migration' (Hogan, 1990:71.)

According to this author, it is obvious that issues involving natural resources (either in terms of their availability and carrying capacity, or in terms of environmental degradation) affect the direction, volume and composition of migratory flows. Nonetheless, there is a need for a systematic study that discusses, on the one hand, how these resources would influence the lure of the destination areas, and, on the other hand, how environmental degradation would act as an eviction factor.

In an attempt to understand the dynamics of Amazônia occupation, Fearnside (1986b) goes beyond a simple description of the migration/deforestation/erosion pattern. Analysing the intense deforestation of the state of Rondônia in the period 1980-85, he distinguished two stages in that process: the first, when pioneering colonists, after clearing the forest to install their cultures, abandon the plots for lack of funds to work the land; the second, when other investors acquire those areas. The second owners (mostly medium-sized or large entrepreneurs), with bigger financial and cultural assets – and a different exploitation logic –, would lead to a process of land concentration (land re-agglutination) and to more intense deforestation, in larger areas. In fact, one may conclude (i) that if the first colonists had been able to remain in the

plot, these areas would probably have been less deforested, and (ii) that the demographic pressure of the migrant colonists had a secondary importance in this environmental degradation.

Besides the case of the migrant colonists, or those about to migrate from the failed colonisation projects in the states of Pará, Rondônia and Acre, the pressure applied by large landowners over small landholders is discussed by Barrow (1990), as he examines sustainable small-farm strategies for Amazônia, based on a study focusing on the area of the Mid-and-lower Tocantins Floodplains (*várzeas*.) 'As a *posseiro* (on one 3,5 hectare holding) this small farmer feared that larger landowners might pressure him off his land' (Barrow,1990:372.)

In the area studied here, the Acre River Valley in Western Amazônia, environmental degradation has been greater in areas of low population density, as the largest deforested areas belonged to old rubber estates expropriated since the 1970s and destined to cattle-ranching; in fact, both activities were characterised by low population density. Thus, in this part of Amazônia, degradation has not resulted from an increase in demographic pressure over natural resources.

In relation to the link created between environmental degradation and poverty/landlessness in the South, most authors and entities argue that the destruction of forests, and the deterioration of soil and its corresponding ecosystems are due to demographic pressures (also via migration), which force the poorest and landless population to over-exploit the lands and to incorporate and over-exploit increasingly marginal land.

Thus, the most frequent theory remains that which links migration to soil degradation because of the agricultural system (slash-and-burn pioneer agriculture) employed by recent arrivals to clear the forest. According to Fearnside (1990), this system is increasing the fastest in Rondônia, Acre and Roraima, and its potential for spreading is much larger than what has been experienced so far. However, the future course of its expansion depends on political decisions: an original land reform (1985) determined that land for redistribution should be expropriated from large landholdings, while landowners demanded the distribution of government land first. For Fearnside (1990), using Amazônia as a scapegoat for settling landless migrants spells disaster, as it both sacrifices the forest and implants a non-sustainable form of agriculture on massive scale. For Mougeot and Lénna (1994:151), forest clearance is a crucial element in the adaptive strategies of [migrants'] survival, although it is recognised 'as a major



factor contributing to local environmental deterioration and is expressed in declining returns for work effort and growing insecurity in food production’.

Another point to be raised is related to how soils can deteriorate dramatically once the forest cover has been removed. The issue here seems to be much more related to the poor edaphic structure of a great part of the Amazônia ecosystem (soils easily lixiviated by rain after deforestation) than to the ‘exhaustion’ of soil due to over-exploitation, that is, to the demographic pressure migrants apply over land. On the other hand, one should bear in mind that the area under study is an agricultural frontier, where population pressure is unlikely to put too much pressure on the soil (expanses of land could still be made available to the landless by the State, via an effective Agrarian Reform)

It is fundamental to recognise, however, that population pressure via migratory impact can occur in other contexts and through other social groups in Amazônia. Such is the case of areas invaded by migrant goldminers and characterised by their strong impact on the physical environment, where the areas destroyed are small, although the destruction is total. Another example is the invasion of small squatters (landless migrants), made possible by the construction of motorways, especially when those go through Indian areas: ‘Invasions are closely tied to the construction of roads: once a road is built through a tribal area, the subsequent arrival of migrants takes place largely outside of government control’ (Fearnside, 1990:191.)

But the best example of environmental degradation is linked to the massive government investments in ‘development motorways, represented not only by the Belém-Brasília motorway (begun in the 1950s), but also by the mega-projects of Transamazônica, Cuiabá-Santarém, and Perimetral Norte motorways (begun in 1971), launched as an outcome of the National Integration Programme (PIN) and attracting millions of migrants. From 1958 to 1978, 2 million people and a herd of 5 million oxes lived alongside the Belém-Brasília motorway (Moran, 1991.) A recent example of this was the paving of the Manaus-Boa Vista motorway, which has attracted more settlers to the region.

‘The worry is that Roraima’s growth will be achieved at the expense of the magnificent rainforest reserves which protect, and are in turn protected, by its Indian population. If the present flow of immigrants turns into a flood, Roraima’s balanced economy and ecosystems could collapse. ...one problem has been a tendency to clear forest along the new roads in order to make pasture for cattle rather than for productive crops’ (Mougeot and Lénna, 1994: 61.)

With such issues in mind, we believe the neo-classical approach to the discussion of the relationship between migration and environmental degradation needs to be revised, incorporating issues like the current economic developmental model and the different possibilities of access given to different social groups of a certain social formation.

*'It is a mistake to describe the resource degradation that results from marginal farmers abusing marginal land as a consequence of population pressure, when, in fact, it is a consequence of the terrible inequality of access to resources between the rich and the poor' (Repetto, 1985:145.)*

**d) How has the so-called regional development policy for the Amazônia, drawn up with the aim of promoting the occupation of 'empty spaces' (in the words of the Doctrine of National Security) lead to the progressive expulsion of the traditional inhabitants of those areas? And why was it unable to provide permanent settlement to colonists attracted by the official colonisation policy?**

A central research question of this thesis studies the connection between recent forms of (re)occupation of Amazonian frontier areas and the increase in the mobility of labour force: a successful model for the creation of a regional labour market, but which was unable to settle a large part of landless migrants to the land. An attempt was made to understand why the population continued to be mobile in frontier areas where, by definition, we may suppose that huge expanses of land were available, and when the official rhetoric appeared to offer the surplus populations of migrant agriculturists absorption and permanent settlement on the land. This study has identified some evidences which help us understand the logic of the recent model of occupation in these frontier areas:

- The new occupation strategy was based on the concept of 'empty spaces.'

Amazônia became the subject of the Plan for National Integration (PIN), an expression of the 'Occupation of the Empty Spaces Policy' outlined by the military Governments. However, those 'empty spaces', especially in the case of Acre state, had been occupied by traditional extractive dwellers (Indians, rubber tappers, nut-gatherers, fishermen.) In the late 1950s, after the collapse of the rubber economy, a new rural

social group emerged: the 'autonomous rubber tappers'. Therefore, the frontier was only empty (or marginal) in terms of capitalist forms of production.

Acre's incorporation into the expanding capitalist frontier came about through the transfer of the old rubber estates lands to purchasers from the Centre-South of the country. Violent confrontation ensued between ranching companies (which began to clear areas of forest for pasture) and small rural producers who already lived and worked there (Bakx,1986.) 'In a short time, they have bought up the major part of the 15 million hectares that comprise Acre, and disrupted the lives of 40 thousand rubber tappers and their families... Cattle replace man' (Varadouro, II,19:8. May 1980.)

- Market value of land in Amazônia was dependent on 'cleared land' (free from forest and from its traditional dwellers.)

Not only the large entrepreneurs, but in a large number of cases, the small settlers used bank loans for clearing forested land. Such behaviour was based on the fact that under the current model of occupation, cleared land increased in value, becoming a marketable commodity while forested land had no market value. The Rondônia example attests that 'the increase in prices of rural properties explains the deforestation process in Rondônia: it is possible to have a net gain of US\$9,000 two years after the deforestation of 14 he and the sale of the improvements made in the area' (Mahar,1989:38.) It is worth mentioning that INCRA considers cleared land an 'improvement.'

As for the state of Acre, the most immediate result of the arrival of the cattle-ranching front (begun in 1972) was the disarticulation of the traditional extractive economy, with the expulsion of thousands of rubber tappers. Expelling the old dwellers was in the interest of the new owners of the rubber estates (the ranchers.) 'The lands which were unencumbered with rubber tappers attained a greater degree of liquidity, now that the principal aim was speculation' (IBGE/IPEA,1990:67.)

In 1990 ranchers were interviewed for this thesis in Acre. According to them, 'there is no way to get a job, or to develop a region, except by cattle ranching; obstructing the clearing of the forest contributes to keeping Amazônia underdeveloped.' For them, development means investment in land, that is, deforested land.

- The priority of Government investments was given to the ranching and industrial sectors in detriment of colonisation in the Northern Region.

A policy of fiscal incentives designed for Amazônia, reproducing both national and international large-scale capital investment was implemented through the POLAMAZÔNIA Programme, created under the co-ordination of SUDAM. It was focused on large-scale agricultural, mining, hydroelectric and forestry projects. In the SUDAM's budget for the 1967-71 period, '0.1% was allocated to extractive industries, 1.4% to colonisation, 12.1% to social projects, and 29.0% to agro-ranching and industrial projects, while 57.4% went to infrastructure, such as roads, energy and the provision for other services' (SUDAM,1967:63; quoted by Barx,1987:57.)

According to Moran (1991), in a period of only five years after the launching of the colonisation policy (which was seen as a solution for the landless peasants and for social conflicts in the Northeast region of the country), a drastic change occurred in governmental priorities for Amazônia, with the emphasis being directed to the large ranching projects. Due to this decrease in financial resources, the support policy for the settlement of small rural producers was extremely deficient in those frontier areas. When this happened, vast contingents of migrants had already moved to the frontier and a significant percentage of small agriculturists, who had not been absorbed by the colonisation projects, turned into a labour force available for the new forms of occupation (especially ranching) being implanted.

- Inadequate conditions of several areas chosen for the implementation of the Colonisation Projects, as poor soils, shortage of water, sloping terrains, etc. (See chapter 4 on colonisation.)

The lack of previous research into the region to be colonised has led to settling families into inadequate surroundings (preferably along motorways), which prevented permanent settlement in many cases. Fearnside (1987b) discussed the distribution of poor soils in settlement projects in the state of Rondônia. According to other authors, (Falesi,1972; Moran,1977), studies on soil potential and other environment issues were carried out *after* the roads had been built. 'It was reported that the soils from Itaituba (in Pará state) to Rio Branco (in Acre state) were too poor to support small scale agriculture' (Moran,1990:72.)

Another example of such poor planning was the Altamira I Project along the Transamazônica motorway, whose planning directives emphasised that those areas that have low soil fertility would be left as forest reserves. However, colonists were assigned to infertile plots, and when the infertility of the land became clear, neither INCRA nor the Bank of Brazil would cancel the debts colonists had incurred (Moran,1985.)

In the case of Pre-Amazônia Maranhense (the Buriticupu Pioneer Colonisation Project set up in 1977, bordering the BR-222 motorway, in the municipality of Santa Luzia/MA), the project laid out the initial settlement of 10,000 families in a 300,000 hectare area. However, with the arrival of the large private companies, the area was reduced to 215,000 hectares and the number of families to be settled dropped to 3,100. In 1981, 380 lots were occupied, and 180 were empty. Such a situation is explained by both physical and social problems. On the one hand, the land chosen for the project was inadequate for agriculture, with sandy soils, steep hillsides and a serious lack of water (in some parts, the settlers were forced to fetch water from the reservoirs built for cattle on neighbouring ranches.) On the other hand, the lack of professional help, both social and in terms of credit, led to the abandonment of the region: many of the settlers took jobs on large neighbouring farms (885,000 hectares of bordering lands are occupied by 40 large agro-ranching enterprises.)

In the case of our sample area, the Acre River Valley, the creation of colonisation projects in rubber-producing estates represents another aspect of the inadequacy and lack of planning involved in choosing areas for the settlement of small rural producers.

*‘Implementing colonies in old rubber estates means suddenly transforming rubber tappers into colonists, contradicting the rubber tappers’ accumulated experience, which is completely different from that of the traditional farmer. Besides, rubber tappers’ experience with farming is restricted to small subsistence crops (2 he.) Moreover, with few roads and no backup conditions to production, those new colonists (former rubber tappers) try to return to rubber extraction in the remaining forested area of their plots; however, the arrangement of their plots is incompatible to the rubber trails, which makes it impossible for the ex-rubbers tapper to gain their livelihood through their old activity.’*  
(Hees, 1990: 84.)

The outcome of such poor planning was that large numbers of former rubber tappers (turned colonists) abandoned their sites, and that enabled cattle ranchers to re-agglutinate those plots of lands upon their arrival in the region. Another example identified in this thesis (see chapter 4) refers to the ranchers’ attempt to ‘cleanse’ their forest areas of tappers by moving them to colonisation areas. Those actions have contributed for the disruption of the previous ‘way of life’ of the extractive populations, much more linked to the forest (through activities as forest dwellers) than to land cultivation. The ranchers’ logic of ‘giving a plot’ to extractive workers, however, didn’t turn them into colonists.

- General constraints on the success of the Directed Colonisation scheme.

According to Moran (1977,1980,1985), among the reasons commonly given to explain the ‘failure’ of the colonisation scheme in Amazônia frontier areas it is possible to mention: the inappropriateness of the government criteria for colonist selection; the lack of all-weather roads leading to isolation, the loss of production and decreased health status; the inefficient issuing of titles; the lack of, or deficiency in, medical and education services; the inexistence of (or poor access to) houses and credit subsidies; the inadequate availability of seeds, as well as the limited amounts of fertilisers and insecticides at the disposal of small farmers. As another explanatory constraint, we can also add the poor managerial performance of colonisation institutions.

‘The most serious constraint to the development of the Amazônia is not the absence of adequate soils, nor is the lack of labour, or even an insufficient amount of capital. Rather, the lack of management capacity at all levels of institutional functioning makes the process of Amazonian development extremely hazardous from both an environmental and a social point of view’(Moran,1985:98.)

Whether the colonisation experience succeeded or failed, it had an indisputable result: to promote the mobility of the smallholder towards the frontier region, inducing the formation of a regional labour market in Amazônia. Given the limited support given to small agriculturists in the establishment of programmes of colonisation, and the substantial support given to the formation of large ranching projects, the natural tendency was the effective settlement of a reduced percentage of colonists, at the same time as the ranching front advanced. Simultaneously, small farmers were transformed into a waged labour force for the larger neighbouring properties.

### 8.3. ISSUES FOR REFLECTION AND POLICY IMPLICATIONS ON THE CURRENT PROCESS OF AMAZÔNIA DEVELOPMENT

The current situation in Brazilian Amazônia raises a difficult question for the State: how to achieve the development in a form which satisfies the demands of the different interest groups in regional and national society as well as of the international community?

a) the interest of the international community in preserving Amazônia as a regulator for the world climate, as a source of geoplasm, and of increasingly scarce natural resources;

b) the greater interest of international enterprises in extracting fine wood from Amazônia for the European and Asian markets;

c) the interests of national and regional economic groups in investing in the immense reserve of land which Amazônia still holds;

d) the interest of the local populations in continuing to exploit the nature in a sustainable way as a means of survival, but with little (or none) economic profit.

The government, through their administrations, appeared to indicate that its concern was to establish a system of zoning for Amazônia where the different demands might at least be met. Nevertheless the pressure from different sectors of society continue to try to influence the design of a new policy, that, certainly will be an outcome of this 'political power game'. The analyses carried out in this thesis led to the identification of some basic questions which are presented below.

### 8.3.1. Development, Environment and Political Action.

After the Second World War, Brazil became more integrated with the capitalist world, adopting a developmental model characterised by industrialisation, modernisation of agriculture, accelerated urbanisation and incorporation of frontier spaces by the capital. Other features of this process were the increase in waged labour, and the emergence of a steady growing surplus population, nowadays referred to as the 'excluded' from this system. The cornerstone of this process, which presented distinct regional forms and mechanisms, was an intense population mobility, as consequence of the progressive lack of access to the means of production by the poorest groups in society - especially land, and in the case of the traditional extractive population, the forest.

However, there was a need to control the surplus population while ensuring that it could be available for absorption by other sectors of the economy and in other parts of the country. Owing to this, the government launched at different times of the country's economic history, several policies of redistribution of population. In the frontier areas, the implementation of controlled colonisation projects that could reduce social tensions in the migrants' original areas - rather than definitely settle them in regions in the destination areas - was a clear expression of this policy (see, for instance, the case study of Pre-Amazônia Maranhense.) In the same way, the analysis of financial incentive schemes for Amazônia, such as those launched by SUDAM, revealed that governmental

programmes focused mainly on region-wide investment on agro-ranching projects, which contributed to high concentration of land tenure in these frontier areas.

This model of resource appropriation (especially land) led to an unequal regional development characterised by environmental degradation, social conflicts and the emergence of a surplus population, increasingly excluded from the opportunities and benefits granted by the system. The latter represent the growing exclusion of great part of the surplus population from the basic rights every citizen is entitled to.

Using data from the National Household Survey (PNAD/1990) of the Brazilian Institute of Geography and Statistics (IBGE), estimates developed by the Institute of Applied Economic Research (IPEA) from the Brazilian Planning Ministry, showed that 32 million people in 1991, were below the poverty level in the country as a whole, and 685 thousand in the urban areas of the Northern region (Amazônia.) These estimates, compared with data from the Brazilian Demographic Census (IBGE/1991), revealed that 21.4% of the total Brazilian population, 40.9% of the population of the Northeastern region and 13.9% of the urban <sup>54</sup> population of the Northern region were indigents in 1991.

Indigents were considered those with insufficient purchasing power to buy a monthly amount of food to guarantee subsistence; this means difficulty of access to basic survival goods (especially food), a basic human right. It seems the present scope and rate of indigence generation in countries of the South go with the speedy rate of the devastation of their natural resources. Thus, talking about environmental degradation means above all talking about poverty levels. It remains to be seen how this poor population is being generated in different contexts of the South and what is its role in the nature degradation.

Thus, a society's model of development/non-development rests above all in the political purpose of its representatives, as seen in their governmental strategies and programmes. The success or failure of certain projects -such as those of agro-ranching and colonisation, and more recently, that of Extractive Reserves- depends (and has always done so) on political interests rather than on their technical feasibility. Therefore, the chances of preserving the forest depend on changes in the guiding principles for local development, which until now have been mainly geared towards mining and conversion of forest into grazing land, as well as regarding the forest as a

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<sup>54</sup> In the Northern Region, IBGE data from PNAD/1990 are available only for urban areas.



source for extracting fine wood for the international market. If in the 70s and 80s Brazil spent billions of dollars subsidising deforestation, mainly through cattle-raising, which has been admitted to be little productive, why not now invest in the model of Extractive Reserves, which is able to preserve the forest in a productive way? The success of this project depend on the clash of interests among the different groups that form Brazilian society, besides the rate of the future integration of many of these pre-globalised Amazonian spaces in the increasingly globalised world.

From the Government's point of view, the developmental model is working, especially the agricultural one. The difficulty lies in the 'excluded', that is, the huge number of poor, surplus population that 'pollutes' the system. 'The problem, according to the government, is not the developmental model itself but those who have not managed to incorporate themselves to this technological and accumulation model' (Rogel, 1995:10.)

In the same way, the government's current position on Brazilian agriculture does not make clear references to environmental questions, even though it is widely known that the agrarian and ecological issues have become more intricately interrelated after the experience of rural workers in the 80s and 90s, and especially that of the Extractive Reserves, in the 90s. The government has recently been trying to incorporate the 'excluded' through compensatory programmes for agrarian reform, placing them in small isolated settlements, in order to solve local tensions involving the growing landless population. Another governmental measure is the occasional provision of food to some populations facing extreme poverty (as recognised from the so-called 'national map of the hunger'), as a part of the government 'Solidarity Community Programme'. Society, in its turn, has also been launching campaigns to alleviate hunger. However, the actions on both sides are merely palliatives, reducing the impact brought about by the development strategy in effect throughout the country.

In this state of affairs, there is a need of programmes really aimed at sustainable development. By this it is meant the controlled use of natural resources by large and small producers, as well as the establishment of an effective policy of food security, in order to attend to the human rights principles on the minimum necessary for survival.

This kind of policy should have a regional character, that is, should take in consideration the local and regional experiences. The instance of Extractive Reserves might be considered part of a government strategy to simultaneously deal with the problem of the excluded, environmental preservation, and agrarian reform in Amazônia.

Even though it is a local experience, it presents a solution for a large, though specific, social group. Likewise, the government should also incorporate alternative solutions devised by other local groups into its social programmes. In the meantime, the Landless Movement (MST) spreads over the Brazilian territory, struggling for (re)democratisation of the land and, consequently, for greater labour autonomy, that is, for better citizenship. In this sense, it represents a type of counter mobility and the emergence of a sort of countervailing power in Latin America. Civil society also has been organising campaigns such as the 'Movement for Citizenship' and the 'National Campaign for Agrarian Reform'. Expression of these movements is the 'Letter on Earth', presented by Herbert de Souza, in Rio de Janeiro, in May 1995.

**LETTER ON EARTH** (Translation by Marcia Paredes)

One day Life appeared on Earth. An umbilical cord connected Earth to Life. Life and Earth. Earth was large and Life small. Primeval.

Life grew bigger and Land grew smaller, though not small. Fenced, Land became someone's, not everyone's property, not a global commons. It became some people's fortune, and many people's misfortune. In history it has been the source of insurrections, revolutions, transformations. The land and the fence. The land and the big landowner. The land and the landless. And death.

Many reforms have been made in order to divide the land, to make it the property of many, and, who knows, of every one. But this has not taken place everywhere. Democracy bumped into the fence and got injured in the barbed wires. Ours is clearly a backward world. Wherever there were reforms, progress arrived. But the truth is that the fence has won until now. Meant for every one, it is still in the hands of few.

In Brazil the fenced land is at the core of history. The pieces that have been democratised cost much blood, pain, and suffering. Land became an instrument of power for Portugal, for landowners, for big business groups. It has become privilege, political power, basis for exclusion, for apartheid. In big cities it has become mansions and shantytowns. It has become unlimited absurd, taboo.

But there is so much land, it is so large, so productive, that the fence shakes, the boundaries are broken, history changes and as time goes by there comes a time for thinking differently: Land is common property, it is nobody's privilege, it is social and not private property, it belongs to mankind, it is not a weapon for selfish interests. It should be used to produce food, jobs, livelihood. It is everybody's property, to be used by everybody. This is its only possible fate.

Those who sign this letter are the ones who wish to change Earth, who wish to bring democracy to the land, who wish bring democracy to Earth. Before the end of the century. We have waited far too much. Democracy on Earth is the basis for citizenship. This is an essential task of the Movement for Citizenship.

May the new president carry out this reform. May the new governors take part in this change. And may society be the real actor in this new performance, meant to change the face of Earth. From this moment on, life on Earth will be better.

Rio de Janeiro, May 1995

Herbert de Sousa (Betinho.)

Responsible for the Movement for Citizenship.

Ex-Co-ordinator of the National Campaign for Agrarian Reform.

### 8.3.2. Sustainable Development and Immobility of the Labour Force: a New Order in Defence of Theenvironment.

Public concern over the depletion of natural resources has become a high point in the discussion of developmental and environmental issues at international level. Although the natural resources of the planet have been exhaustively exploited by the North for a very long time, it is only in the last three decades that this exploitation has been questioned. This is due to the growing scarcity of these natural resources on a world scale and the current rate of appropriation of Nature by both the South and the North. It means consumption with little regard for renewable natural resources.

The devastation of the majority of tropical rainforests has contributed to the characterisation of the remaining ones (Amazônia and Congo) as a 'global commons'. The North exhausted this resource (the forest) in its colonies in Africa and Asia, and now the South itself is draining its remaining areas as a result of practices in appropriating Nature.

The Brazilian Amazonian rainforest has been appropriated in different ways by different social groups. The new model of occupation implemented from the 1970s by medium and large scale entrepreneurs, in the case of Acre state, is mainly characterised by the spread of cattle ranching throughout the areas of old rubber estates, where the destruction of the forest has become common practice. Side by side with this, other groups - the small extractive producers - have continued to develop traditional self-sustaining activities based on the exploitation of rubber and nuts. In the case of the Acre River Valley, it is not the population of small rural producers who, in their struggle to subsist, have become the main destroyers of the natural environment but, rather, groups from the most developed part of the country, interested in consuming the forest for profit, in a non-productive way.

If we take the view of the previous local and regional populations, despite their abandonment by government authorities, and contrary to the widely promulgated view that Amazônia is unpopulated, we will find that they continue to live, in relatively poverty but in harmony with the forest and fighting for its survival. There is an 'order of forest peoples' which is seen to be threatened by the intrusion of new forms of occupation. This has led to the establishing of strategies of immobility, the resistance exhibited on the part of different groups who have felt a need to preserve their identity

as a primary form of survival. The existence of these previous models is a reality which the recent capitalist model of occupation is intended to annul and reverse.

The reaction of these extractive groups to the new forms of occupation has found expression in the campaign of *empates*, the communal actions to protect the forest with a view to ensuring survival. Such demonstrations express a change in the power and perceptions of these groups of forest dwellers: they have ceased to be victims of actions against the environment and become agents of its preservation. They also represent the result of a fusion of the trade union cause with the ecological one, representing a new order in the defence of the ecological system.

This resistance movement on the part of the extractive populations of Acre, regarded together with the movements of other small groups in Amazônia (from Pará, Maranhão, Amapá and Rondônia states) is coming to represent the growing self-awareness of these populations and their determination to stay in their original work locations; an attempt to fight the dominant model of occupation which forces them to be highly mobile, pushing them into the position of a migrant labour force. They represent immobility, in that they have been contributing to reducing the rate of migration to the urban peripheries of the frontier towns and, consequently, to lessening the proliferation of urban problems which are linked to social and environmental degradation. So, they come to symbolise a change in the previous power relationship between the ranchers and the forest dwellers' groups.

Another aspect to be highlighted is that the struggle to protect Amazônia generated a movement towards unity among the extractive groups and recreating a general social identity: that of the 'Peoples of the Forest', officially created in 1990 and represented by entities such as the National Rubber Tapper's Council, and indigenous entities such as the Union of Indigenous Nations (UNI.) A new importance has been given to what is 'local', what is 'singular' or special to the Amazonian culture. It seeks to overturn the idea that the small producers are incapable and non-productive because they are traditional, and do not pursue activities considered modern along the lines of the capitalist model of production from the Southern regions of the country. It is an attempt to re-assert regional values on the basis of an alternative model of development.

In this sense, another question could be raised: if the validation of the Peoples of the Forest's identity and regionalism with the creation of other Extractive Reserves could foster a process of re-territorialization of the Amazonian frontier. If this could happen, the new model of sustainable development proposed would also contribute to

changes in the organisation of space. This could be linked to the fact that the model of RESEX proposed by the extractive social movement came before to the government procedures in creating the Extractive Reserves as a combined territorial unit of environmental preservation and sustainable development. This social movement has made government agencies respond to their demands. In this sense, the current demand of the class of small extractive producers, in putting pressure over the State for the creation of new RESEXs, could influence the drawing of a zoning for Amazônia, which has been considered as an important planning tool for the controlling of the occupation process in frontier areas.

However, the survival of these extractive groups and the possibility of implementation of their proposal was encouraged by the existence, in 1990, of some economic and political conditions at both national and international levels. Internally, there was a strong trades union and community organisation which facilitated the start of the Rubber Tappers' Movement. At the international level, the Northern countries' economies were facing a natural resource crisis, which drove them towards environmental preservation and sustainable development policies. By that time, because of the devastation of the world tropical rainforests, Amazônia had acquired special value as a global commons.

Thus, the alliances made by the extractive populations with several international groups were only possible because of the existence of convergent interests. So, the articulation of these groups has developed through Ideology, the 'ideology of environmental preservation'. This has allowed a link between the 'ecological' interests of the Western capitalist countries and those survival needs of the small extractive groups in the Brazilian Amazônia.

Nevertheless, the continuation of the extractive movement and the successful implementation of its proposals will rely heavily on the outcome of a permanent confrontation with the 'status quo', which is composed by different power groups at the regional and national levels.

### 8.3.3. The Extractive Reserve Proposal: an Expression of Entwined Forms of Production.

The alternative model of regional development proposed by the extractive populations (the creation of RESEXs) constitutes an experiment in the collective management of nature: these groups are not interested in the individual possession of

land but in the use of the rainforest's resources, primarily as a means of survival. In terms of regulating ownership, it constitutes a model of agrarian reform adapted to the natural and social conditions of Amazônia.

It is possible to infer that this proposal represents an attempt to combine a low level of natural resource exploitation with small market profits, in the reality of the Brazilian Amazonian frontier. It is an effort to achieve a model of regional development tailored to the needs and culture of the local population without destroying nature. In this sense, it may be seen as a proposal for self-sustaining development for Amazônia.

The issues above presented lead to a broader debate: that of the articulation of different forms of production. Historical manifestation shows there are different ways of appropriating nature, and the means of production: consequently, a complex social division of labour could arise.

This led to the argument of the existence of entwined forms of production in Amazônia, or of the existence of a predominant mode of production -the capitalist- which embodies elements from other social economic formation. In the particular case of Acre, non-capitalist elements do exist within the extractive sector: it is essential to remember that the extractive groups have been more concerned with the use of the forest rather than with the individual ownership of land. Therefore, the environment has been viewed as a collective legacy, whose exploitation cannot be submissive to the law of profit alone.

At the same time, it is also important to consider that, in terms of social relations of production, this extractive group from the Acre River Valley is characterised by being formed by autonomous rubber tappers instead of waged workers. It means that these two basic features of non-capitalist mode of production (collective ownership of the forest and non-waged labour relations) are still important characteristics of the peoples of the forest's extractive activity.

#### 8.3.4. Challenges for the Implementation of Extractive Reserves

The feasibility of RESEXs should be considered from two different points of view: on the one hand it should be taken into account that this proposal is based on an economical model that is debatable and even considered unfeasible by defenders of capitalism in its present neo liberal phase; on the other hand, we must admit that it gave meaning to the slogan of sustainable development, which is being used in a generic way

and through flowery speech, by ideological different social groups, validating the most different proposals in the most different territorial contexts.

As for the present feasibility of RESEXs as self-sustainable development units managed by traditional extractive populations and embedded in the context of world economic neo liberalism, some issues may be raised. In the present context of globalisation, in which trade unions face a growing crisis and social movements undergo a redefinition of their role and their power, the Movement of the Peoples of the Forest, linked to the Centre for the Amazonian Workers (CTA), run a great risk of disarticulation of their grassroots. Historical internal divisions aggravate.

The growing pressure imposed on traditional Amazonian populations by the globalised world, nowadays resulting mainly from the increase in value of fine wood in the European and Asian markets, is leading to a split in the social movement. Besides logging by the indigenous themselves inside their own Reserves, this practice has been gaining adepts among the rubber tappers as a means to face the economic isolation they are driven to by the lack of governmental policies adequate to the extractivism sector. Discussions on the growing importance of logging increase over all of Amazônia, a practice not included in the original concept of RESEXs as stated by Chico Mendes.

The success or the survival of RESEXs in the Brazilian Amazônia, will be seriously affected if it is exclusively driven by market forces. The role of small extractive producers in the communities would certainly become of residual importance, as extractivism might end up being inserted in a neo-liberal strategy of non-traditional promotion. Thus, the question of the sustainability of Extractive Reserves encompasses a discussion of neo-liberal nature – ‘conservation with economic lag or economic development with environmental degradation.’ Such a claim, however, is built around a developmental concept essentially based on the economic dimension and to which the foremost (if not the only) value is immediate and increasing profit, disregarding the irretrievable losses of a whole generation in terms of biodiversity, rainforest conservation, and food security for the local population. Within the present world context, the debate would be related to the binomial globalisation-sustainable development, and the priority to sustainability and equity would depend on international political-economic conjunctures and on decisions made at local/regional areas.

In this sense, it is important to remember that the current occupational model for the Brazilian Amazônia was made feasible by the State: from 1970 onwards, the



expanding activities in the frontier have been based on an admirable national government programme of fiscal and credit incentives that addressed class and political interests rather than productivity itself. Hence, why not set up another governmental project based on a model for the sustainable development of Amazônia? This way, the successful implementation of RESEXs – an experiment aimed at the productive conservation of Amazônia – would depend much more on the political aspects (establishing priorities and alliances) at national and international levels, than on the effective organisation and integration of grassroots in the social extractive movement or on the pressure that these groups might bring to bear on different governmental levels.

Another challenge for Extractive Reserves is to install management systems which can ensure their sustainability as productive conservation units. The problem of local governance was evident until 1997, when the importance of preserving the biodiversity of Amazônia at low costs was recognised. It was then perceived that this aim could be achieved through the traditional local populations. Since then, a new governmental attitude has emerged, supporting the sustained exploration of the forest. This new posture was expressed by means of a new policy of rubber valorisation, set up by national and state (Acre) governments: the Federal law 9479 (12/08/1997) and State Law 1277 (13/01/1999.) Besides, new institutions and programmes have been created for the support of vegetal extractivism. This would be related to the so-called ‘Neo-extractivism,’ that is, to the introduction of technology in traditional extractive activities.

It is also important to stress that the RESEX is a multi-activity model which can generate complementary incomes coming from the possible exploration of different products. This is due in part to the seasonal character of the activities developed, but principally because of the multi-variety of natural resources offered by the rainforest. The state of Acre, the focus of our study, has historically presented an economy dependent on the different conjunctures of world economy. The diversified exploration of forest products could assuage the tendency presented by the fluctuating Brazilian rubber cycles, which is strongly connected to the decadence and affluence of Amazonian extractivism. In this sense, if the RESEX project is accepted and encouraged within a regional model of alternative development, it can help decrease the dependency of traditional extractivism on the world’s fluctuating economic situation.

On the other hand, several reasons have made a number of rubber-tapping populations seek to diversify production: the crisis faced by traditional rubber

extractivism, the absence of support policies to the sector in the last decades, transportation problems (distance from urban centres and lack of animals, boats and roads to ship production and to cut out the middleman businessmen – *marreteiros*) and the difficulties in commercialising Non Timber Forest Products (low prices.)

This diversification includes the ‘white crops’ (subsistence), a little timber extraction, and mainly the introduction of small scale cattle-ranching, seeing that nowadays cattle represents a sort of ‘live savings account’ as it can be easily sold or exchanged. However, the last two activities help degrade the forest. Despite its short-time return, the timber alternative is particularly opposed to the extractive culture, posing a serious threat to the rubber-tappers themselves. According to the leaders of their movement, to technicians and environmentalists, this alternative could jeopardise the sustainability of the RESEXs not only in environmental but in cultural terms.

In terms of the Amazônia culture, it is also important to consider that traditional populations have a knowledge that must be incorporated into biodiversity research, and should be given support to guarantee the sustainable management of the forest. Local populations have been seen/used merely as ‘collectors’ of data on Amazônia, since they do not have the knowledge or the scientific techniques held by foreign researchers. Thus, it is necessary to recognise and value the experience and contributions given by the ‘locals’ and by some Brazilian universities (e.g. The Federal Universities of Acre, Brasilia and Rio de Janeiro) in panning and implementing this proposal for extractive development.

Considering the specific case of the Chico Mendes RESEX in Acre, some other arguments pro and con the RESEX model could still be mentioned. The huge territorial dimension of this reserve (almost 1 million km<sup>2</sup>) makes it difficult to exploit it successfully, as the great distances still constitute a factor of social and economic isolation. Together with the social-cultural-economic diversity of the various groups that live there (extractive populations, cattle-ranchers, loggers and colonists from INCRA agricultural settlements) the reserve encompasses different interests and strategies to the use of rural areas, has distinctive socio-political organisational levels and varying legal status in relation to land tenure. Besides, the scarce financial and human resources destined to its implementation makes it difficult to effectively inspect programmes and actions of different agencies (public and private, national and international) working in the area. Consequently, the control of the RESEX is severely

impaired, and extractive populations face serious difficulties to organise and strengthen themselves.

On the other hand, such a vast territorial dimension favourably contributes to the preservation of the ecosystems and consequently the biodiversity of the area, assuring the climatic control of Amazônia and its neighbouring regions. It is also worth mentioning the discussion of the so-called 'ecological imperialism', supposedly developed by some international organisations which would be boycotting regional/local requests of local populations (e.g. the opening and paving of roads) in the name of preserving world climate.

Another argument contrary to the success of RESEXs is connected to the present neo-liberal conjuncture and its subsequent increase of pressure on market forces, which would tend to integrate sectors of extractive production (Amazônia nuts, tropical fruit, oils, fibres and so on) via the introduction of seasonal waged labour relations. This could propel production to become more competitive at national and international markets, but could also have the reverse result of weakening the grassroots' collective feeling and integration. Another question is related to product quality, since conditions in forest locations make it difficult to meet international quality standards.

It is also relevant to cite the difficulties in developing a developmental strategy in which different forms of production can co-exist: the capitalist (search for economic feasibility) and non-capitalist (sustainable use of forest resources through a system of 'issuing of usufruct rights') ones. Besides, activities and spaces unable to be inserted in the globalised world would be doomed to exclusion. They become excluded spaces because the State does not provide them with appropriate conditions for a regional development different from that required by the globalised economy.

Thus, the question that arises is that equity and economic viability could hardly be seen as part of the same strategy for rainforest use. Under the present economic system, economic development is linked to deforestation. Options must then be chosen: easy and quick profit, deforestation, increasing mobility of the labour force, and impoverishment of the extractive population *or* rainforest conservation, support of biodiversity, permanence of small local producers in the forest, and social equity. It is up to the political dimension to integrate such aspects and transform RESEXs into a viable alternative for the sustainable development of certain areas of the Brazilian Amazônia.

There remains a question: what would be the future for extractivism under other conditions, that is, if there were to be governmental support by means of policies compatible with the region, based on the valorisation of its incomparable biodiversity, which is being pillaged with no State control. If foreign entities have technology, Amazônia forest is life. How much is it worth - this biodiversity - the possible source for curing a great number of incurable diseases?

In the view of the exposed above, we see that some issues still seem to be left unanswered when we think of the frontier as it is today. These issues may lead to future topics for research.

- Is it possible to conciliate globalisation and sustainable development in the present areas of the Amazonian frontier?

- Is the coexistence of distinct development strategies for different regions and social groups that integrate the frontier possible?

- Do globalisation mechanisms tend to reach all frontier areas in an absolute and homogeneous way? Or are there certain spatial and temporal specificities, portrayed by social groups that are representative of different historic-economic-cultural periods, that may be distinctly incorporated into the globalised economy? In this case the RESEXs would mean the survival of specific regions of Amazônia that were not necessarily integrated in the new globalisation paradigm?

Finally, regarding the creation of the Extractive Reserves in Amazônia, as was initially proposed by IEA and afterwards adopted by the Peoples of the Forest - an experiment in collective management of nature - it means an effort to achieve a model of regional development tailored to the needs and culture of the local population, without destroying nature. Furthermore, this proposal represents an attempt to combine elements of sustainability (a low level of natural resource exploitation) with some market profits, within a capitalist context. Thus, as a productive conservation model, it has been considered a new proposal for environmental preservation, sustainable development and immobility/counter mobility of the labour force.

## APPENDIX ON QUESTIONNAIRES

### QUESTIONNAIRE FOR SMALL RURAL PRODUCERS IN THE PRE-AMAZÔNIA REGION OF MARANHÃO STATE. SEPTEMBER/OCTOBER 1983 - 1984.

#### I IDENTIFICATION

Type of researched area (*)	Municipality	Census Sector		Questionnaire Number
		Number	Name	

- (\*) Research areas: **Area 1.** Immigration area with occupation regulated by State.  
**Area 2.** Immigration area with spontaneous occupation.  
     2.1. Previous spontaneous occupation (1950-60.)  
     2.2. Recent expansion front (from 1980 onwards.)

Name of the establishment: \_\_\_\_\_  
 Date of Interview: \_\_\_\_\_ Name of interviewer: \_\_\_\_\_  
 Observation: \_\_\_\_\_

#### II GENERAL CHARACTERISTICS OF SMALL RURAL PRODUCER

01. Producer's condition in the establishment

- owner                       leaseholder  
 sharecropper             rural squatter  
 if other, specify. \_\_\_\_\_

02. Producer's present residence

- In the establishment  
 Village. Give name. \_\_\_\_\_  
 Town or city. Give name. \_\_\_\_\_  
 Other. Specify. \_\_\_\_\_

03. State year in which this property came under the producer's responsibility. \_\_\_\_\_

04. Producer's condition upon arrival.

- owner                                       leaseholder  
 sharecropper                               *posseiro* (\*) (rural squatter)  
 *agregado* (\*\*) (aggregate)               hired rural worker  
 other. Specify. \_\_\_\_\_

\* *Posseiro* - Brazilian word used to express a person who lives and works on the land although he does not hold the ownership.

\*\* *Agregado* - Brazilian word used to express the worker who temporary lives and/or works in the establishment, and is usually part of the household.

## 05. Initial occupation form of the plot.

- ( ) Unofficial permission for occupation. Granted by whom ? \_\_\_\_\_  
 ( ) Official occupation license. Granted by whom ? \_\_\_\_\_  
 ( ) No legal situation.

## 06. Present occupation form of the plot.

- ( ) Unofficial permission for occupation. Granted by whom ? \_\_\_\_\_  
 ( ) Official occupation license. Granted by whom ? \_\_\_\_\_  
 ( ) No legal situation.

## 07. HOUSEHOLD COMPOSITION (\*)

Number	Kinship	Sex	Age	Marital Status	Level of Education	Description of the activities	
						In the establishment	Out of the establishment
01							
02							
03							

Codes: Kinship: consort, son, daughter, brother, sister, grandson, other relatives, not-relatives.

Marital Status: single, married or living together, divorced, widow/er.

Level of Education: illiterate, literate, incomplete elementary school, complete elementary school, incomplete high school, complete high school.

(\*) - Also including the ones who live in the property, being presently absent, even in season work. To specify the cause of the absence.

## 08. CHILDREN WHO DO NOT LIVE ON THE PLOT.

Number	Sex	Age	Marital Status	Level of Education	Place of Residence	Main Activity	Position in occupation	Contribution for family income	Financial aid received from the family	Year they left the plot
01										
02										
03										

Codes: Marital Status: single, married or living together, divorced, widow/er.

Level of Education: illiterate, literate, incomplete elementary school, complete elementary school, incomplete high school, university.

Place of Residence: rural area of this same village, other rural area (specify village or city.)

Position in the rural occupation: owner, leaseholder, sharecropper, squatter, hired worker, other (specify), urban employee, employer.

## III. PURCHASE AND SALE OF LABOUR FORCE

## 09. PEOPLE WORKING IN THE ESTABLISHMENT (PURCHASE OF LABOUR FORCE)

Category of People	Number of People (total)	People living in the establishment	People who do not live in the establishment. Specify their place of residence (*.)

(\*) For the ones who do not live in the establishment, specify:

- (1) other rural area of the municipality    (2) rural area of other municipality. Which ?  
 (3) village. Which ?    (4) town or city. Which ?

## 10. PEOPLE WORKING OUT OF THE ESTABLISHMENT (SALE OF LABOUR-FORCE)

Form of Work	Type of Work	Place of Work	Working days per year

Codes: Form of work: (1)Permanent  
(2) Temporary

Place of work: (1)Other establishment in the area  
(2) In village of the municipality  
(3) In city of the municipality  
(4) Other (to specify .)

11. Is there exchange of work among the producers \_\_\_\_\_

12. If so, specify: \_\_\_\_\_

## IV. PRODUCER'S LIFE HISTORY

Year of Migration	Age of Producer at that time	Migration History		Education History	Labour History	
		List all previous residence		Level of education at the time	Position in occupation (Labour relationship)	Reason for emigration
Municipality	R=rural V= village T= town C= city					





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