

PEASANT DECISION-MAKING AND POLITICAL ECONOMY: ECONOMIC AND ENVIRONMENTAL EFFECTS OF THE VARIATION IN RESOURCE ALLOCATION WITHIN A BRAZILIAN AGRO-EXTRACTIVE PEASANTRY¹

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Summary - Addressing the study of economic activities and land use by peasant societies, this paper analyzes how peasants adopt distinct survival strategies according to particular combinations of social and biophysical driving forces. Focusing on social situations of heavy state interference favoring pasture conversion and concentration of land ownership, this paper discusses the economic behavior of an agro-extractive peasantry in the Brazilian state of Maranhão. Theoretical frameworks of peasant economic, ecological, and political behavior (Chayanov, Deere, Kearney, Anderson) are applied to field observations in five communities in the "babassu zone". The study investigates a positive association between the loss of this peasantry accessibility to land and natural resources, and their engagement in multiple strategies of survival. Facing a large range of pressures, peasants in the "babassu zone" were able to identify and engage in specific political ecologies, associating the participation in capitalist relations of production, the adoption of collective action, and the reinterpretation of their traditional agricultural system and the way they address natural resources.

1 - INTRODUCTION

The survival and social reproduction of peasant societies has been a subject of growing scholarly debate. Socioeconomic transformations at regional and upper scales and the resulting alterations in the biophysical environment play a decisive role in both the strategies to be adopted by peasants, and in the outcomes resulting from those adaptive strategies. As a result of dynamic processes of adaptation and change, peasant societies will survive, or else be dispossessed and succumb.

The ability and flexibility of peasants to survive and adapt to critical environments and socioeconomic constraints has exceeded the expectations of policy makers and scholars. The extent to which peasants are able to maintain their social reproduction has been increasingly a function of the adoption of a series of non-traditional economic activities. Facing a large range of pressures and threats, peasant societies in developing countries have demonstrated their ability to identify and engage in specific political ecologies represented by the combination of economic

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alternatives, rules and relations regarding natural resources' management, and political expressions. This flexibility aggregates and weights the engagement in activities characteristic of the capitalist economy, the adoption of alternative forms of collective action, and a new attitude regarding natural resources' utilization. These adaptations, on the other hand, transform what could be named as peasant mode of production¹. Engaging in capitalist economic activities, does not simply replace functions traditionally adopted by peasants. Peasants societies can also be transformed as part of a broader process of change including different notions of entitlement², alterations in the availability of factors of production, and transformations in the resource bases' accessibility and composition.

Distinct outcomes will result from the ongoing socioeconomic processes affecting peasant societies. Factors such as duration of occupation, household division of labor, natural resources' characteristics, and previous relations with state, market, and the broader society are only a few indicators of this variability. Whether peasants will be able to retain their basic characteristics, deal with transformations and reshape their living strategies, or otherwise be completely destituted and disappear, is a function of the interaction among these factors.

The objective of this paper is to associate peasant economic behavior with the constraints and scenarios imposed by external processes, and with the transformations in the landscape and in the role played by natural resources. The study focuses on the case of peasant societies in areas of relatively recent but consolidated occupation, characterized by slash-and-burn, shifting cultivation, in the initial stages of shortening fallow periods and agricultural intensification³. It addresses contemporary peasant societies' survival strategies in the context of heavy interference from external factors, mainly state policies promoting concentration of land ownership. In addition, it analyzes peasant responses to socioeconomic transformations, and their effects and interactions with the environment and natural resources. Changes in land and resource use associated with the adoption of alternative economic activities are viewed as expressions of these responses.

Peasants in the consolidated frontiers are in a process of dynamic interaction with their surrounding social and biophysical environment. They are not free riders in the process of environmental change and socioeconomic transformations brought by the implementation of development policies and programs. Instead, their constant situation of threatened survival determines searches for alternative economic strategies that, having as primary goal the provision of the household, ought to address and access their resource bases in a flexible way. The engagement in multiple strategies of survival then constitutes an adequate form to compensate the restriction or loss of accessibility to land and natural resources.

Ruptures, fissions and transformations are unavoidable in this process, and are manifested in lesser or greater extent according to the resilience of each ecological site, and the resilience of the peasant society. Elements of peasant culture, identity, and economic basis will determine the extent and flexibility with which it will support changes.

In the various stages of the consolidation of the frontier, increasing pressures over peasants, the removal of their means of production, and their adaptation to transformed realities, makes them consciously adopt differentiated strategies to survive. The adoption of distinct economic calculations, and distinct attitudes toward the larger society, towards the state and the market, towards their resource basis, and towards their own communities and households, is what maintains them as peasants in a transformed universe.

The empirical work compounding this study was based on social situations existing in the Brazilian state of Maranhão. A number of aspects enhance the significance of the study in Maranhão of external factors affecting the economy of peasant societies and their utilization of natural resources. Among them, the state's transitional ecological features, the presence of one of the country's largest peasant societies, and the heavy adoption of state incentives and subsidies promoting cattle ranching and concentration of land ownership since the 1970's. Social situations resulting from the evolution of the political economy affecting peasants in Maranhão differ among and within communities. The understanding of this variation is central for a correct assessment of socioeconomic and biophysical transformations at the local, regional, and national scales.

In the case of the areas of occurrence of babassu palm forests in Maranhão, peasants' strategies to counterbalance political economy threats are the association of their agro-extractive feature with the concept of environmental conservation, the balance of seemingly passive forms of resistance with eruptions of collective action expressed in land conflicts, and the adoption of new forms of social organization, such as local-level associations and cooperatives. Tenure security resulting from limited cases of government expropriation of large ranches caused socioeconomic improvements and initial stages of a process of agricultural intensification.

In order to access such a diversity, this research will construct a typology of social situations exemplified by five peasant communities. Although the more significant occupation of the region dates from the 1950's, and acute peasant removal from their land began in the 1970's, it is possible to identify in a snap-shot taken in the present, the reproduction of significant generic social situations characterizing this process, given the necessary awareness to identify and isolate features not corresponding to each social situation's predominant domain. Through the case study of five communities, I intend to demonstrate how the historical evolution of the political economy is perceived by peasant households and reflected in diverse resource allocation, through changes in their economic alternatives, and in new forms of social organization. The situations to be studied represent the processes of initial occupation (1), the destitution of peasants from most of their resource basis (2), the undertaking of collective action to avoid complete extermination (3), and the process of tenure security recovery, either through strong connections with state agencies (4), or through support and mediation of non-governmental institutions (5).

Field research for this study was conducted in the summer of 1996, when I focused on informal interviews with community members, the application of questionnaires, and the recognition of predominant landscapes associated with each community's system of production.

The organization of this paper is the following: section 2 presents theories of peasant economics and social organization, and discuss how the argument of this study relates to them. Section 3 presents biophysical and socioeconomic dimensions of the research site. Section 4 presents the evolution of the political economy associated to peasant establishment, dispossession, and resistance in Maranhão. Section 5 focuses on the analyzes of social processes, relations of production, economic activities, and land uses in the five peasant communities, and portraits communities' present demographic and socioeconomic scenarios. Section 6 associates economic strategies and resulting patterns of land use and natural resources management, with the political economy and ecology of each community. Finally, last section discusses results and findings of this study, addressing the significance of these findings.

2 - ECONOMIC STRATEGIES OF PEASANT SOCIETIES

Economic behavior of peasants: A recent work by Michael Kearney (1996) is perhaps the best reference for a substantive review of the major theories in peasant studies. Kearney inscribes two major dimensions in the theoretical and political debate punctuating the study of peasant societies. These are, according to his representation, the left-wing vis-a-vis right-wing disposition, and the modern versus romantic dimension. Whereas the left-wing debate occurs between the proletarianism (modern) and peasantism (romantic) schools of thought, debates within the right-wing are expressed by the confrontations among modernization theorists and those that he calls romantic populists (Chayanov, Redfield, James Scott). Asserting that higher stakes are present in those debates that cross both of the dimensions⁴, Kearney also recognizes transformations in this framework resulting from the auto-deconstruction of the left-right confrontation and from the evolving development of articulation theory, the sustainability discourse, and post-development images. Prior to a more comprehensive discussion of Kearney's reconceptualization, this section starts with an overview of the major theories in peasant economics and particularly in the allocation of resources by peasant households.

The allocation of factors of production by a peasant household results from a number of factors. First, it varies according to characteristics of the domestic mode of production, the division of labor, attributions, and responsibilities within the household. Second, it is influenced by mechanisms existing at the community level, such as diverse forms of reciprocity and redistribution, as well as the existing degree of internal differentiation within the community. Third, it will be constrained or favored by endowments of the natural environment. Finally, aspects of the broader society, and the political economy resulting from state policies and market intervention play an essential role in peasant decision making⁵.

The understanding of economic behavior in the so-called non-western, pre-industrial societies motivated debates during the 1960's and 1970's between the substantivist and formalist schools in economic anthropology, centered in the applicability or not of microeconomic theory in the analysis of the allocation of resources by those societies.

Rationality is considered by a number of authors as the major guideline for the allocation of resources by peasants. This hypothesis, however, assumes distinct explanations, starting with Schultz's theory of the profit maximizing peasant,⁶ which states that peasants operate in such a way that neither an alternative allocation of inputs nor adjustments in outputs would give higher monetary or non-monetary net income to the household⁷. The obtainability of profit maximization condition is however criticized by Lipton and Adams, who enumerate environmental instabilities, market and institutional imperfections⁸, and the lack of information⁹ as major constraints. In addition, both condemn Shultz's misuse of evidence, through the adoption of selective data¹⁰.

Another way to address rationality in peasant decision-making is the debate confronting Scott's social security mechanisms and the harmony existent within peasant communities¹¹ and Popkin's concept of the rational peasant guided by self-interest, and cooperation in societies based on task-specific incentives and calculations¹². Whereas Popkin stressed peasants'

individual calculations in order to raise their standard of living, Scott depicts peasant rationality as shaped by economic, political, and social constraints. As Adams points out, whereas Scott emphasizes the harmony between individual and collective interests, Popkin stresses the sources of conflict between them. According to Scott, peasants, threatened by social claims and impersonal forces, have as their central preoccupation to feed their households reliably, despite the minimal marginal return of the extended labor allocated.¹³ The strategy of avoiding falling below a “subsistence danger level”¹⁴ combines with the risk avoidance behavior pointed out by many economists studying peasant agriculture in developing countries¹⁵.

Risk aversion behavior, as well as the theory of profit maximization, fail in considering only the pursuit of a single goal as determining resource allocation by peasant households.¹⁶ A more complete interpretation of peasant economic behavior is the analysis presented by A. V. Chayanov. His “Theory of Peasant Economy” is based on the concept of the peasant farm as “*a family labor farm in which the family as a result of its labor receives a single labor income and weights its efforts against the material results obtained*”.¹⁷ The basic concepts of Chayanov’s theory are self-exploitation of the peasant labor force¹⁸ and demographic differentiation¹⁹.

The supposed absence of a market for wage labor in 1920’s Russia was the motive of Chayanov’s analysis considering the peasant family as a unity in abstraction from external relations (the utilitarian individualism). Critiques of his theory allude to the existence of a growing network of social relations between households, mediated through product and factor markets. As Heynig points out, besides ignoring social differentiation, Chayanov considers the peasant family farm as independent of the larger social formation²⁰. Kearney points out that Chayanov had little or no concern for peasants as social and cultural beings, limiting his analysis only on production and consumption aspects of the peasant household. Harrison’s critique of Chayanov’s opposes his analytical aggregation of family members into a single economic agent having a unified rationality and consciousness, encompassing a conceptual dissolution of internal social relations²¹.

Deere’s approach of household and class relations addresses both of the two shortcomings attributed to Chayanov’s theory. First, she looks at the class processes that characterize economic activity. Departing from Resnick and Wolff’s interpretation of Marxist class analysis²², Deere attributes to peasants’ participation in a number (multiple) fundamental, or in both fundamental and subsumed class relations, the basic condition for the reproduction of the peasant household as a unit of production and reproduction. Second, she introduces the concept of household relations to describe the economic, cultural, and political practices ruling the formation of households and the relationship between the unit of production and the unit of reproduction. As the multiple class positions of peasant households were often based on the gender division of labor, her analysis brings together the potential tensions in household and gender relations, and their interaction with class relations and the potential for social change. Deere asserts that specific circumstances and opportunities will dictate peasants’ primary relation of production, in a continuum process varying according to the family life cycle, as well as in response to the broader political economy²³.

As it was already pointed out, Kearney’s assumption of peasant’s reconceptualization advocates a “*dismantling of spatial and temporal binary oppositions in the present historical moment, characterized as transnational, post-developmental, and global*”²⁴. Kearney

emphasizes the “*dissolution of much of the opposition between rural and urban, developed and underdeveloped, and between peasant and non-peasant*”²⁵. Working with the concept of social identities affected by internal differentiation resulting from migration, the penetration of agro-industry, and capitalist agriculture dominance, Kearney attributes to peasants the term polybians: “*creatures moving in and out of multiple niches, ... , adapting their being to different modes of existence opportunistically occupying different life spaces*”²⁶.

The importance of Kearney’s reconceptualization of the peasant extends also to the field of decision-making research, which he considers largely contained to the sphere of agricultural production and predicated by rationality and maximization of economic value. Kearney advocates a refocus of decision-making theory in order to recognize the totality of spaces occupied by the individual and elements of the identity of which he or she is composed²⁷. He rejects the adoption of productionist issues, decision-making models and rational actor theory when referring to his polybian-type of peasant²⁸. His theory envisions these peasants as part of a dynamic process of transformation of value and power, shaping the political economy, “*redefining agrarian issues and establishing the local politics of human rights and ecology within international contexts, eventually favoring subaltern groups in the balance of forces with the nation-states*”²⁹.

Whereas Kearney expresses human agency through the sequential engagement in various economic opportunities, his characterization does not sufficiently address the household as a loci for the establishment of the polybian-type of economic behavior. His theory fits suitably to situations of massive penetration of cultural and economic values characteristic of capitalist society, especially in transnational contexts. It has less impact, however, when applied to scenarios of peasant communities that, in spite of ongoing changes, have not yet passed through a complete revolution in the process of production. To these scenarios, Deere’s theory seems to be of more analytical validation. Taken together, Deere’s and Kearney’s approaches substantially contribute to the understanding of the economic behavior of the contemporary peasant.

Natural resources and peasant decision-making: There are clear distinctions in peasant economic behavior, and to a certain extent in the predictability of this behavior, given the conditions regulating their access to land and to the natural resources for subsistence. This section departs from the assumption that, in situations of no significant restrictions of land, and with communally regulated access to natural resources, peasant families will follow Chayanov’s premise of pursuing a combination of activities that will maximize the returns for labor at the different stages of the household’s life cycle. The allocation of the factors of production will result in the long-term maintenance of natural conditions, guaranteeing rational utilization of resources, and ensuring social and physical reproduction of the peasantry. As L. Anderson points out, “*knowing that they depend on nature for subsistence and survival, peasants watch their natural environment and protect it insofar as they can*”.³⁰ The challenge is to understand the extent of each community’s capacity to perform this protection, in the face of internal and external factors.

As a consequence of unequal relations of power generally associated with the restrictions imposed on peasants by the gradual dominance of capitalist class relations, Deere and de Janvry identified different forms of appropriation of the surplus labor of the peasant. Such mechanisms are rents (paid in labor services, kind, or cash), the appropriation through wages, prices, through usury, and through state taxation.³¹ In addition, an indirect appropriation of peasant labor is the

reduction of its productive capacity, restricting their access to land, violating a basic principle of peasant economic calculation, particularly in societies adopting shifting cultivation. Lower yields will provoke insufficient net household income, or inadequate levels of consumption, subsequently affecting the productive capacity of the household in the next cycle³². Concentration of land ownership resulting from state policies, market mechanisms, and unequal entitlement relations, will force peasants to reconsider their calculations and reallocate the remaining resources.

Up to a point, alternative economic activities can be identified without disrupting the utility function of maximization of returns to labor. More often, however, the outcome of this process consists in reaching a quantitative and qualitative minimum pool of resources, forcing greater changes. When that occurs, mainly if combined with growing human population densities, a resulting exhaustion of natural resources capacity to sustain population needs and falling agricultural yields will determine peasants' loss of confidence in their traditional survival strategies. Moreover, worsening economic conditions will activate different responses, including engaging in different class relations and coalitions, especially through capitalist wage labor where it is available. Social differentiation among the peasantry, in this case, is encouraged, as well as individual internal differentiation mentioned by Kearney. In addition, maximum returns to labor will be no longer achievable, resulting in higher levels of self-exploitation, and lowering household's well-being. In these scenarios, Chayanov's postulates will not be adequate to analyze peasant economic behavior, and the concepts of household and class relations, as well as Kearney's critiques of the applicability of decision-making models will prevail. When conditions for the equilibrated maintenance of natural resources no longer remain, peasant allocation of resources might result in environmental degradation, reinforcing one of the predominant paradigms within the field of conservation and development, the one expressed by the World Commission on Environment and Development: "*those who are poor and hungry will often destroy their immediate environment in order to survive*"³³. Political economy analysis of natural resource degradation, however, present at least three major perspectives moving beyond blaming the poor. According to Broad's analysis, such perspectives are the refocus of the inquires onto the ultimate causes of poverty rather than on poverty or the poor themselves, the evidences and arguments of poor people acting not as environmental degraders but as sustainers, and the appearance of new social movements where the poor became environmental activists.³⁴

Social organization, collective action, and peasant survival: Restrictions in the resource bases resulting from socioeconomic transformations also modify prior equilibrium at the community level. Previous mechanisms of regulation of common resources began to deteriorate, up to a point in which individual initiatives conflict with the common good of the community.

The lack of the frontier alternative, or the return of those who assimilated perceptions of reality in urban centers or regions affected by agricultural modernization, are some of the factors that will favor the manifestation of collective action as a mechanism adopted by communities to deal with the extraction derived by capitalist class relations. As the wider political world becomes part of peasants' perspective, collective action incorporates the ecological interdependence and reciprocity that characterizes the relationship between peasants and their environment³⁵.

The establishment of dynamic, non-perennial forms of socioeconomic organizations has been increasingly adopted to reduce peasants' subordination and overexploitation. These

institutions aim to guarantee the reproduction of peasants' socio-cultural identity, through the adoption of economically-focused coalitions, initially within the community, and subsequently between those and external entities. When facing transformations in the dominant mode of production, these organizations deal with the narrow choice to maintain peasant identity, and the obtaining of economic results when constrained by a reduced resource bases.

Evolving according to socioeconomic transformation occurring in their specific area of influence, peasants' contemporary organizations attempt to channel their members' economic logic and capacity to survive in adverse conditions, to a more active market integration, and in the formulation and demand for adequate policies. This evolution allocates strategies and instruments of collective action toward a new set of variables. They can either result in a process of revolt, or emerge from the sequential stages of spontaneous disruptive actions. They are essentially localized in their interests, but are characterized by a strong capacity of regional aggregation and by the envisionment of broader aspects affecting the existence of the interest groups represented³⁶.

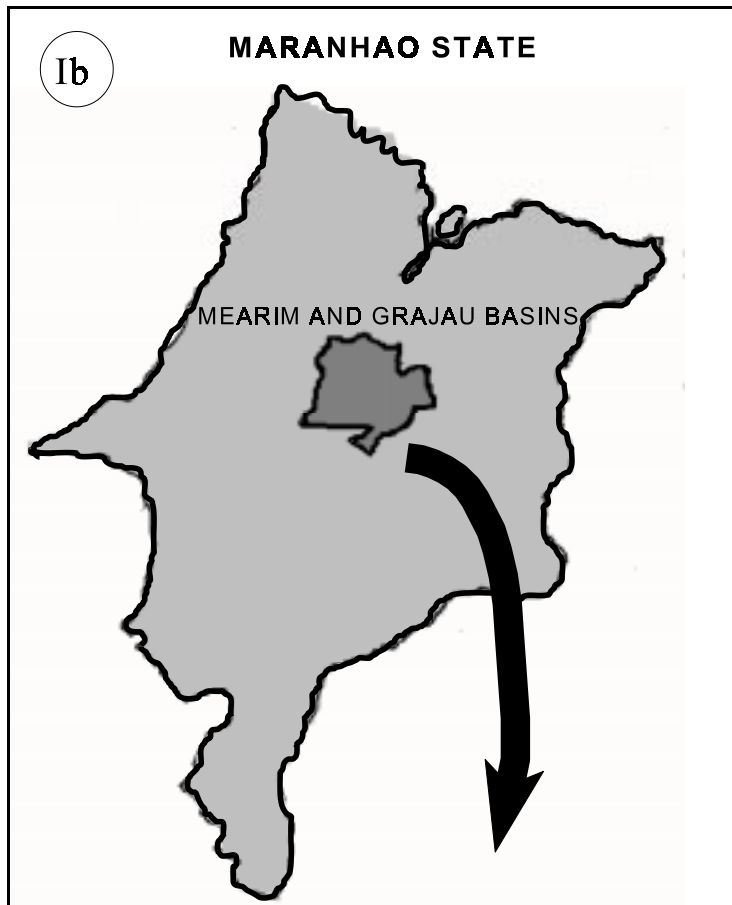
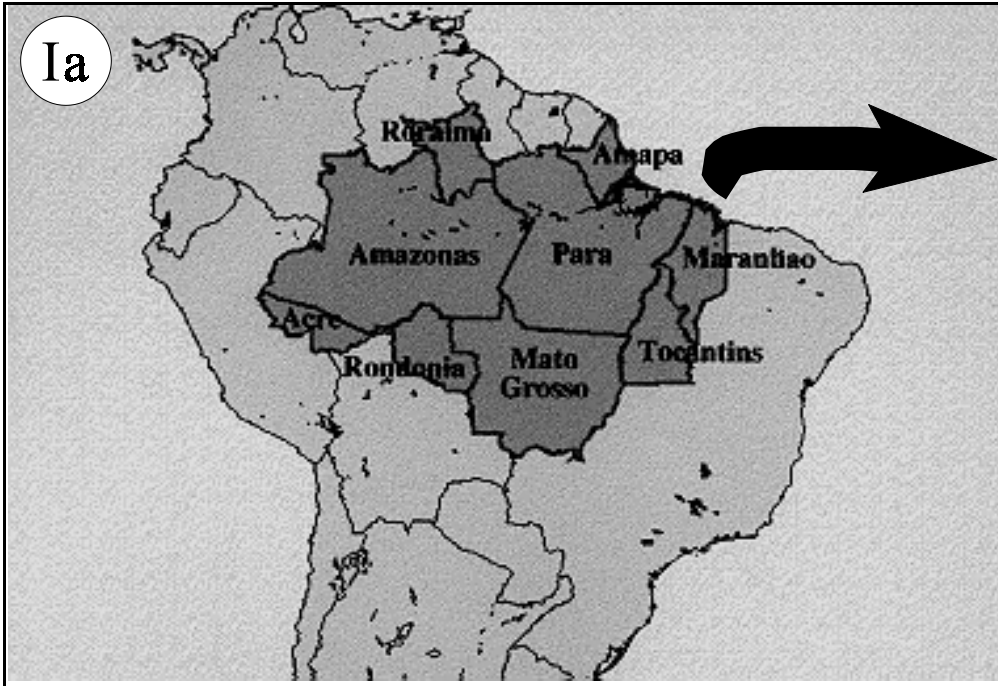
We can thus trace a parallel between the theories of multiple class relations, and the political ecology of the peasant. The former explains peasant social reproduction by their insertion in a variety of socioeconomic relations of production. The latter, attributes to peasants a flexible strategy to adapt to an ever-changing world, recognizing the interdependence between individual and community interests as a major factor for the choice among a wide range of political actions.³⁷

3 - PEASANTS IN THE BABASSU REGION

The remainder of this study will address the application of the theories presented in section 2, to the social situations encountered in contemporary peasant communities located in Maranhão, Brazil. I will identify and analyze the occurrences and economic practices associated with peasant occupation, survival, and social reproduction in the mid-course of the Mearim and Grajaú river, focusing five villages: Alto Alegre, Lagoa Nova, Monte Alegre, São José, and São Manoel. Maranhão state, the Mearim and Grajaú river basins, and the five peasant villages are portrayed by figures 1a, 1b, and 1c.

This section starts with the biophysical and socioeconomic characterization of the area of occurrence of babassu secondary forests, where the five communities object of this study are located. The next section presents a historical retrospective of land occupation in the Mearim and Grajaú river basins, and the evolution of the political economy affecting local peasant societies.

Biophysical dimension: A large part of Maranhão's 324,616 km² is covered by secondary forests of babassu palm, a dominant species in the regeneration of deforested areas in the eastern and southern borders of the Brazilian Amazon. The main area of babassu occurrence, named as "the babassu zone"³⁸, lies from 2 to 7 degrees of latitude south, and between 42 and 48 degrees of longitude west. Its annual rainfall ranges from 1,000 to 2,000 mm, heavily concentrated between December and June. Average annual temperatures range from 24 to 28° C, and most of the palm

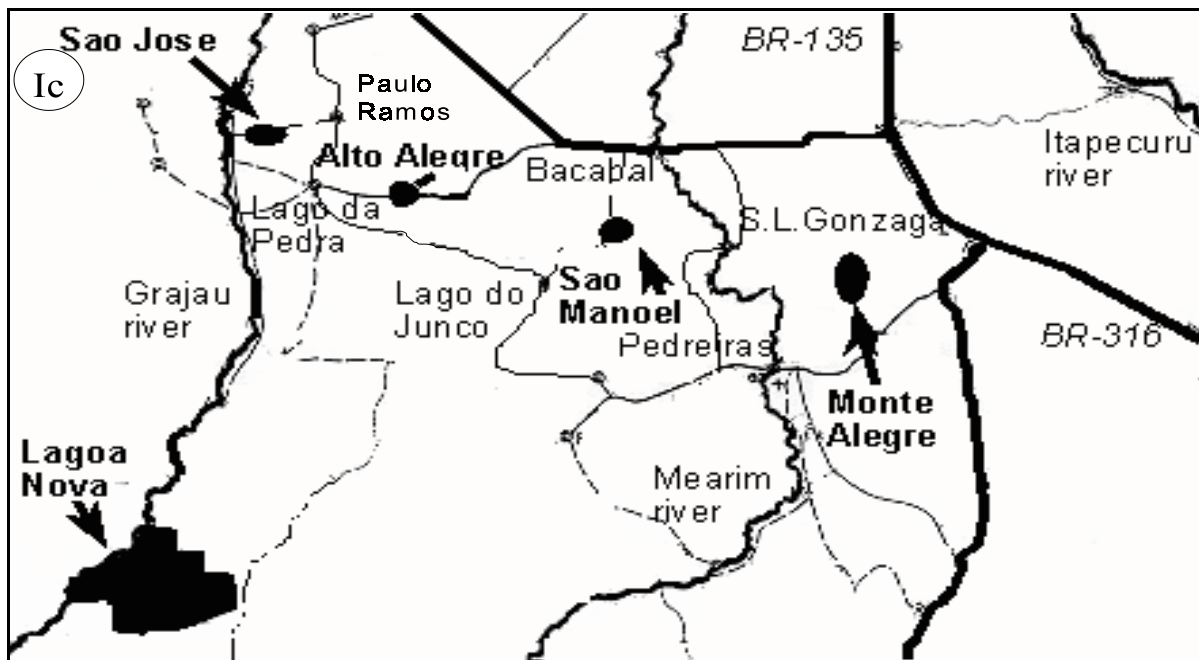


stands occur in altitudes of less than 200 meters. High densities of babassu are associated with fertile soils from five major river basins: Parnaíba, Itapecuru, Mearim, Grajaú, and Pindaré.

Human Dimension: Population in the babassu zone is predominantly rural, constituting one of the most significant peasant societies in Brazil. According to the 1991 Brazilian demographic census, sixty percent of Maranhão's population is considered rural, the lowest urbanization index in the country. The origin of Maranhão's rural society is descendents of indigenous inhabitants³⁹, gradually incorporated by descendents of former African slaves⁴⁰ and Portuguese colonizers. The definition of this society's patterns resulted from the settlement of peasants expelled from the arid states of Ceará and Piauí⁴¹. Net migration to Maranhão, and to the babassu zone, ceased in the

Figures Ia: Brazilian Legal Amazon, showing the location of Maranhão state; Ib: Maranhão state, showing the location of the Mearim and Grajaú river basins; and Ic: detail of the location of the five peasant communities focused in this study.

1970's, when average indexes of both annual population growth, and annual population natural growth have decreased. In Maranhão, the former dropped from 2.9 in the 1970-1980 period, to 1.9 in the following decade, while the later in the same period dropped from 3.3 to 2.5⁴².



Spontaneous settlements on untitled lands or inherited abandoned large holdings were the common feature of early farmers' tenure system in the babassu zone. Since the 1970's, trends of the political economy and regional development resulted in the existence, in 1985, of 425,000 families (more than 2.1 million people) classified either as squatters, renters, or sharecroppers.

Paradoxically, it was peasant shifting cultivation-based agricultural practices, essentially

relying in human labor and nature (no tractors, no animal power in agricultural operations, no fertilizers and only limited use of pesticides) that — despite the contrasting level of technology with other states — placed Maranhão as one of the top Brazilian producers of rice and manioc⁴³. In addition, the largely female and child based extraction of products derived from the babassu palm, and the nature of the palm forest's secondary growth itself, suitably integrates extractive activity with the mostly male based agricultural practices. A.B. Anderson and P.H. May have extensively documented biophysical and socioeconomic aspects of the babassu zone and of this agro-extractive peasantry⁴⁴. Babassu products' dual function constitutes the essence of the economy of this society. Through non-conflicting uses, babassu palm provides the household with values for both use and exchange. The year-round monetary income brought by the sale of kernels contributes to household maintenance between annual crops' harvests. In addition, through a variety of uses, the whole palm constitutes their most important source of non-monetary income. Although babassu is no longer the most important product of Maranhão's primary economy as it was up to the 1970's, it decisively contributes to the livelihood of the largest agro-extractive society in Brazil⁴⁵. Maranhão concentrates more than seventy-five percent of babassu kernels' production, through an activity that occupies more than 300,000 families, mainly in the rural, but also in urban areas.

Mearim and Grajau River Basins: The Mearim and Grajau rivers constituted the major means of transportation to the coast up to the 1960's, when paved roads connecting Belém with the Northeast region, substituted fluvial by road transportation, consolidating the effective integration of most of the area with the capital of the state, the Northeast region, and the national market.

Bacabal, with a 1991 urban population of 65,000, and Pedreiras (40,000) are the larger cities and urban markets. Both are located at the margin of the Mearim river, Pedreiras being 65 km southward of Bacabal. Their urban growth was due to the expansion of the frontier since the 1950's, mainly through rice production, processing and commercialization. Bacabal's perimeter is crossed by roadway BR-316, which connects the city to Belém (650 km), and Teresina (280 km). São Luis, the coastal capital of the state, is located 250 km north of Bacabal, though roadway BR-135. Pedreiras is connected to Bacabal, and other urban centers by state roads MA-122 and MA-245. Table 1 shows 1991 demographic data of 13 counties in this region, including those where the communities focused in this study are located, and those immediately adjacent to them.

Figures 2 to 4 illustrate concentration of land ownership and predominant patterns of land use, according to 1985 IBGE (*Instituto Brasileiro de Geografia e Estatística*) figures. It shows the disproportion between number of farms and their area in hectares, according to producers' category. Figure 2 shows that less than one fourth of the holdings, and almost 95 percent of the area, were owned by landowner. In contrast, renters and squatters cropped three fourths of the holdings, but only five percent of the total area.

Concentration of land ownership is evident in figure 3, showing that more than three fourths of the holdings had less than five hectares, but only four percent of the total area. On the other hand, less than one percent of the farms had 500 hectares or more, occupying forty percent of the area. Figure 4 shows how land concentration is associated to pasture conversion. It shows that annual crops exist in about 94 percent of the holdings, but in less than nine percent of the area, whereas planted pastures occurred in one sixth of the holdings, in an area of half the total.

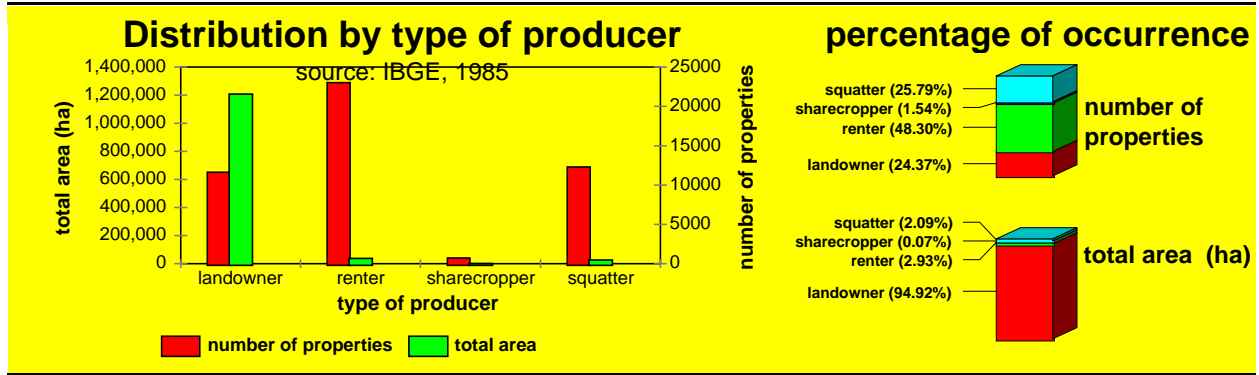


Figure 2: 1985 distribution of number and area of properties (farms) in 13 counties in the Mearim and Grajaú river basins according to producers' category. Source: IBGE. 1985. Censo Agropecuário

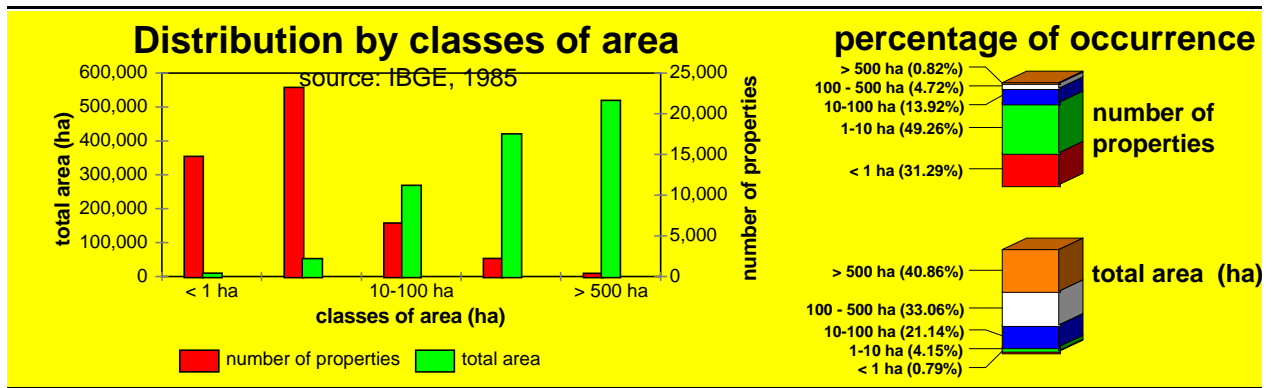


Figure 3: 1985 concentration of land ownership in 13 counties at the Mearim and Grajaú river basins, according to size of the farm. Source: IBGE. 1985. Censo Agropecuário

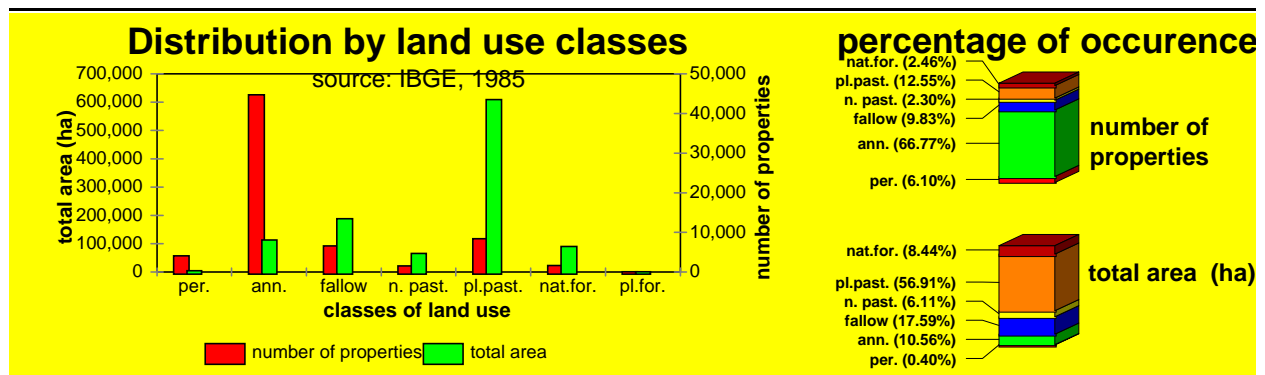


Figure 4: 1985 number of farms and total area in hectares, showing the distribution of classes of land use in 13 counties at the Mearim and Grajaú river basins, according to predominant economic activity. Source: IBGE. 1985 - Censo Agropecuário

Table 1: Area, population, and demographic density of counties in the Mearim and Grajaú valleys, Maranhão

COUNTY (município)	AREA (KM2)	POPULATION					DEMOGR.	RURAL
		TOTAL (inhab.)	URBAN (inhab.)	%	RURAL (inhab.)	%	DENSITY (inh / km2)	DEM.DENS. (inh / km2)
Altamira do MA	456.2	20003	2535	12.67	17468	87.33	43.85	38.29
Bacabal	1744	98793	64783	65.57	34010	34.43	56.65	19.50
Esperantinópolis	1383.5	30567	6789	22.21	23778	77.79	22.09	17.19
Igarape Grande	643.5	14810	4781	32.28	10029	67.72	23.01	15.59
Lago da Pedra	2419.4	46877	17562	37.46	29315	62.54	19.38	12.12
Lago do Junco	552.3	19276	2841	14.74	16435	85.26	34.90	29.76
Lima Campos	397.2	12404	4943	39.85	7461	60.15	31.23	18.78
O. D'Água d. Cunhas	577.4	16249	7125	43.85	9124	56.15	28.14	15.80
Paulo Ramos	2508.9	26978	5660	20.98	21318	79.02	10.75	8.50
Pedreiras	873.2	50603	39694	78.44	10909	21.56	57.95	12.49
Pocao de Pedras	526	24481	7311	29.86	17170	70.14	46.54	32.64
S. Luis Gonzaga	1087.5	26085	5266	20.19	20819	79.81	23.99	19.14
Vitorino Freire	718.1	30885	12187	39.46	18698	60.54	43.01	26.04
Total	13887.2	418011	181477	43.41	236534	56.59	30.10	17.03
Maranhão	333565	4930253	1972421	40.01	2957832	59.99	14.78	8.87
% of State total	4.16	8.48	9.20		8.00			

Source: IBGE, 1992.

4 - POLITICAL ECONOMY OF PEASANT OCCUPATION, DISPOSSESSION AND SURVIVAL IN MARANHÃO

There were three stages in the occupation of the Mearim and Grajaú river basins. The first one dates from the early decades of the 19th century, and was associated with the slavery-based economy. This area consists in the northern and eastern portions of the region, mainly lands east of the Mearim river. The second zone, intermediate in occupation, and geographically central, is associated with the frontier expansion due to the arrival of Northeasterners since the late 1910's, and was accentuated in the 1950's. This zone comprises lands between the two rivers, however it does not reach the western and southern portions of the region. Those constitute the third zone, locally named “mata” (forest), which has been effectively occupied since the 1970's, and in certain parts only in the 1980's.

From slavery to a peasant economy: occupation of new lands, sharecropping, and extraction of commercial surpluses: After the 1888 official slavery abolition, social relations of production in the Mearim valley, and incentives for the occupation of new lands were determined by the existence or absence of consolidated land ownership by families dependent on former large cotton and sugar-cane farms. Those landowners, facing lack of resources, either sold or left the land to the former slaves' descendents. Only in the better structured and endowed farms did

sharecropping effectively replace slave labor. Associated with spontaneous colonization of new areas in the early decades of this century, and with the arrival of settlers from the arid northeast, sharecropping involved labor exchange, being adequate for the recognition of early settler's right over the land.

The agreement between sharecropper and landowner stipulated rent payments with rice, often through non-written contracts. The estimated obligation of such contracts consisted in an average of 5 to 10 percent of the harvest, according to the yield. Inter-cropped maize, bean, and manioc were usually free of rent, but there were strong restrictions for perennial crops. The landowner in large extent depended upon rent received from villagers, from many unpaid labor expenditures, as well as from the transformation and commercialization of production.

Most landowners installed a commercial store and became middlemen. In those recently occupied areas where there was no land ownership, commercial subordination was initially referred directly to a larger village or town businessman. Gradual differentiation among squatters originated local middlemen. Through debt peonage, price mechanisms, and processing machines⁴⁶ middlemen left no room for peasant accumulation of eventual surpluses. While in the old occupied areas commercial extraction contributed to the maintenance of the agrarian structure and for the social subordination of sharecroppers, the economic control of the middlemen represented one of the main sources for concentration of land ownership in recently occupied lands. Attracted by a still open frontier westwards, the alternative to negotiate their tenure rights with middlemen was presented as convenient for many families. Thousands of peasant families from the Mearim valley progressively moved to unoccupied lands in the Pindaré, Gurupi, and Tocantins valleys.

Land incorporation in the market, pasture conversion and agrarian conflicts: The 1969 state government “Law of the Land” (*Lei de Terras*), and fiscal incentives and subsidies programs generated by the military government transformed the social relations of production in rural Maranhão. A process of property legalization was initiated. Nevertheless it was confined to a limited circle of better-off and more entrepreneurial producers. With the possession of deeds, they became entitled to claim rural credit and to benefit from a number of programs. In areas without such social differentiation, untitled state lands were offered for sale, but most peasant communities had neither the information nor the opportunity to demonstrate their tenure rights. Attracted by the profitability of the deal, corporations and ranchers became certified landowners of extensive properties, with peasant communities in their interior.

Extraction of surpluses through rent and commercialization were no longer the only sources of capital accumulation for the landowners. The hegemonic rural class was successful in its lobby over policy makers, and the state, with generous offers of subsidized capital and fiscal incentives, determined that “... especially in the 1970's, an active process of pasture conversion has been replacing the rice fields, ... through financial support of the two regional development authorities, Maranhão State accounted 115 government subsidized livestock projects in an area of more than one million hectares”⁴⁷. Pasture conversion led to an increasing process of land concentration and agrarian violence, and the consequent demographic pressure over remaining agricultural lands. Besides the elimination of hundreds of villages, restrictions were imposed for peasants' access to babassu palms enclosed in ranchers' and corporations' properties. Babassu palm eradication, due to both a false idea of competition with pastures, and the ideological motivation to avoid peasant activity, become an effective way to accelerate this strategy.

Land left for agriculture was soon exhausted, resulting higher risks and decreasing yields. A limited supply of labor for extensive livestock production retained only a tiny portion of the peasantry, sometimes at the cost of losing community's acceptance. The westward migration alternative was still present, but since the mid 1980's this option became limited. Peasants were thus forced to two major alternatives: urban migration, inflating the peripheral zones of São Luis and Imperatriz⁴⁸, and seasonal migration to the "garimpos", the mining areas. Although representing a deep contrast for those who experienced them, these options were crucial for the maintenance of a still numerous peasant population in the Mearim and Grajaú valleys, and in Maranhão.

Changing realities: globalization and peasant reaction: An important factor for peasant livelihood in the studied area is the monetary income provided by the sale of babassu kernels. Nevertheless, although representing one of the regional economy's bases⁴⁹, babassu extractive activity has progressively lost importance in the last decade, and a generalized backward feature has been attributed to it, reinforced by local elite's adoption of rancher's ideology.

Indeed, since the 1970's, technology advances in the industrial and agricultural sectors⁵⁰ resulted in the dislocation of babassu oil in both the food and hygiene industries. Resulting failure of most of babassu's processing units did not represent the collapse of the industrialists. Those whose scale was large enough had simply to readapt their operation to the comparatively advantageous raw materials, mainly soybean. Peasants, however, suffering direct consequences of market restrictions, had no choices for any short-term adaptation. These consequences, rather than reduce already extremely low prices for the product, were manifested by a decreasing demand for babassu kernels, affecting the bargaining power of the suppliers in local and regional economy. Furthermore, in the early 1990's, still other factor threatened the domestic mode of production in the babassu region. Following global trade liberalization trends, a policy based on the reduction of vegetable oil import tariffs was initiated. As a result, increasing quantities of plantation-originated lauric oils (palm, palm-kernel, and copra oil) have been imported since 1991, mainly from Southeast Asia, replacing extractive based, peasant production of babassu oil.

Parallel to the intensification of socioeconomic pressures, the last fifteen years have witnessed a process of effective change in peasant consciousness. In having their survival threatened, and no longer relying in the frontier expansion, sectors of this peasantry began to undertake organizational processes. Religious motivated communities were usually the first step of this process. Through the "Comunidades Eclesiais de Base -- CEB's", and other social movements supported by the Catholic Church⁵¹, peasants got the basic motivation for an organized reaction against socioeconomic oppression. Most of the former religious leaders entered in the union movement, and since the mid 1980's, with the guidance obtained through the CEB's and the effective support of the rural unions, a number of agrarian conflicts resulted in peasant conquests. Through the 1985 National Plan of Agrarian Reform⁵², such conquests resulted in the expropriation of a limited number of properties.

Settlement projects resulting from these expropriations would be better designated as a form of legalization of original dwellers' tenure rights. However, the agrarian authority's unified methodology left no room for such a consideration, and hundreds of families became designated as "settlers", even though they were already there for generations. Through settlement policy's delivery, the State gained a new and primary role, interfering directly in peasants' expectations,

and forcing social responses not familiar to them. Differences among and within communities were not properly considered, and a very slow and bureaucratic process — the only way to gain access to a few benefits — increased social tensions.

Peasants' need to engage in a variety of more active positions resulted from this process. Already existing forms of social organization -- religiously motivated communities, and municipal based rural unions, were not able to answer emerging demands. Socioeconomic transformations required specific responses. Either spontaneously, forced by a state requirement, or even through the process of coalition with institutions from the civil society, the creation of different forms of organization characterized peasant movement in the Mearim and Grajaú valleys in the last decade, and some of the major responses encountered by this peasantry are presented in section 5.

5 - MULTIPLE SURVIVAL STRATEGIES OF AN AGRO-EXTRACTIVE PEASANTRY

This section emphasizes major distinctions among the patterns of settlement in the five communities of this study. Subsequently, I will characterize how those peasant communities have dealt with transformations in the political economy in the last two decades or so, in terms of mechanisms of resistance, forms of social organization, and adoption of collective action. Each village's previous and existing economic activities will be correlated with the resulting patterns of land use, given political economy trends.

The variation of outcomes in these relatively geographically close peasant villages, attests to both the heterogeneity of mechanisms of threats affecting the livelihood of peasant societies, and the flexibility and diversity of responses given by peasants in the process of capitalist economy penetration in rural Maranhão. In fact, the occupation resulting the formation of each of these villages differs considerably. Monte Alegre, located in the municipality of São Luis Gonzaga, is an outcome of the disintegration of the slavery-based estates of the 19th century. The establishment of São Manoel, São José and Alto Alegre as villages dates from the 1920's to the 1950's, mostly by families from the arid Northeast. Lagoa Nova, by its turn, is a village in the forested frontier of the state, created only two years ago, as a consequence of the collective action undertaken by landless peasants from neighboring locations. All five communities, although in different periods, have reacted to the dispossession imposed either by the landed local elite, or by the newly arrived state-supported entrepreneurs. These communities somehow succeeded in their struggle over the access to and control over the land. They all received support from local rural trade unions, from the Catholic Church, and from non-governmental organizations. In addition, their access to land was assured by state or judicial intervention. Yet, important variations regarding institutional support and intervention, resulted in distinct forms of tenure rights. Whereas Monte Alegre and Lagoa Nova are areas in which rancher were expropriated by the federal government and entitled to "settlement projects", São Manoel's lands were acquired by Maranhão's state government, also to install a similar project. São José's families secured their tenure rights in the early 1980's, through a judicial process in which the Catholic Church provided attorneys to represent the community. Alto Alegre's peasants, by contrast, made an agreement with the landowner, mediated by the state government and the Catholic Church, resulting in the "donation" of a limited area, and the recognition of the rights of the rancher upon the majority of the land.

The analysis of the forms through which these families and communities have been affected and have reacted to pasture conversion and concentration of land ownership comprises the understanding of peasant societies' economics and politics. Whereas an "open frontier" alternative prevailed until the mid 1980's, it has been increasingly limited by the progressive exhaustion of available lands westward, resulting in different responses, both in terms of economic behavior and collective action. These responses are important for the evaluation of previous policies' impact and the role of the state, for the comprehension of this peasants' rationale, and for the understanding of the development process according to the peasants' perspective.

Alto Alegre: limited land, urban influence, and seasonal migration: Up to the late 1970's, the 150 peasant families who lived in the villages of Alto Alegre and Lago da Cabaça were considered squatters (*posseiros*) within public lands (*terras devolutas*) of Lago da Pedra, a city emancipated in 1953. Lago da Pedra's urban growth⁵³, and the asphaltting of a road crossing Alto Alegre — distant only four miles from the city — stimulated interest in Alto Alegre's lands. In 1980, a few patches of primary forest remained, and most of the area was under secondary forest of babassu. Slash and burn, shifting cultivation was the major economic activity for peasant households. Land and the babassu stands were considered common property, with no rent obligations. Rising social tension, however, was a consequence of the disregard of peasants' pre-existing tenure rights through the concession of a property deed with no legal value to a member of the local elite. The conflict started in 1981, when gunmen planted pasture grass in peasant's agricultural fields. Illegally arrested, villagers received juridical assistance from the Catholic Church. Through an agreement sealed three years later, the 80 remaining families maintained possession of only 450 hectares, less than 20 percent of the total. The rancher remained with the bulk of the land, which he rapidly converted entirely to pasture. The state government's agrarian agency assumed a compromise to settle families at 5 hectares' plots along the paved road, and to provide support for agricultural intensification in the now restricted area. Officials only delimited the 5 ha plots to which families had to move, and Alto Alegre wasn't even considered as an official "settlement project". The imposed boundaries were far below for the traditional system of shifting cultivation and for family subsistence. Limitations in land constrained economic activities and forced the adoption of a series of survival strategies among the community.

A significant number of families, more than a half of the original settlers (34 from a sample of 55 families), sold their holdings. Most of this land was then converted to pastures, too. Easily disseminated by wind, predominant grass (*Hyperrhania rufa*), contaminated neighboring plots, augmenting peasants' frustration .

With the payment received for the sale of the usufruct rights over the land, a number (16 of the 34 families in the above mentioned sample) of those who sold their plots migrated to the west. Other families (12 from 34) have moved to the periphery of the city and built a rustic house. Still others, however (5 from 34), remained in Alto Alegre as landless peasants. This condition also occurred for many recently arrived families expelled from other villages. The proximity to the city and road allowed engagement in temporary wage labor, either in the city or at ranches. Small scale commercialization of regional vegetables, was performed by some in the city market. Moreover, urban influence and easy transportation stimulated seasonal migration. "Garimpeiros" living in the city of Lago da Pedra, influenced migration to the gold mines. Good roads facilitated

access to the southern portion of the county, a still forested region, distant about 80 km from the city, and where small farmers or medium-size ranchers were seeking laborers for sharecropping, and for pasture establishment. Higher productivity of rice and maize, the possibility to access and extract cheap hardwood for use in their plots, and friendly relationships with landowners in the “mata” region compensate the payment of rent in kind, and transportation costs. In addition, such a seasonality allows periodic returns to home during the five months’ agricultural cycle.

Families who remained in Alto Alegre have a higher worker/consumer ratio. This is the case of retired peasants, having the benefit of a monthly R\$112 payment from the social security system, and those having working age children, relying on their engagement in some waged activity. Indeed, the average age in the remaining 21 families in the sample above is 61 years old.

Given technology limitations, and the lack of investment capacity, those who still rely upon the productivity of their plots have to somehow optimize land use. Slash and burn is replaced with alternative systems of cultivation, mainly of beans and manioc. For those who can invest a little cash, as the retired peasants, another option is taking advantage of pasture dissemination, by buying a few cows and establishing permanent pastures in half of the plot.

In Alto Alegre, the sale of babassu kernels became essential for the survival of both landless peasants who sold their plots, and those who still own a small area but no longer can produce annual crops. Most of the monetary income of these families is provided by the extractive activity, although babassu stands are not viewed as a common resource, and landowners impose a series of constraints upon the execution of the activity.

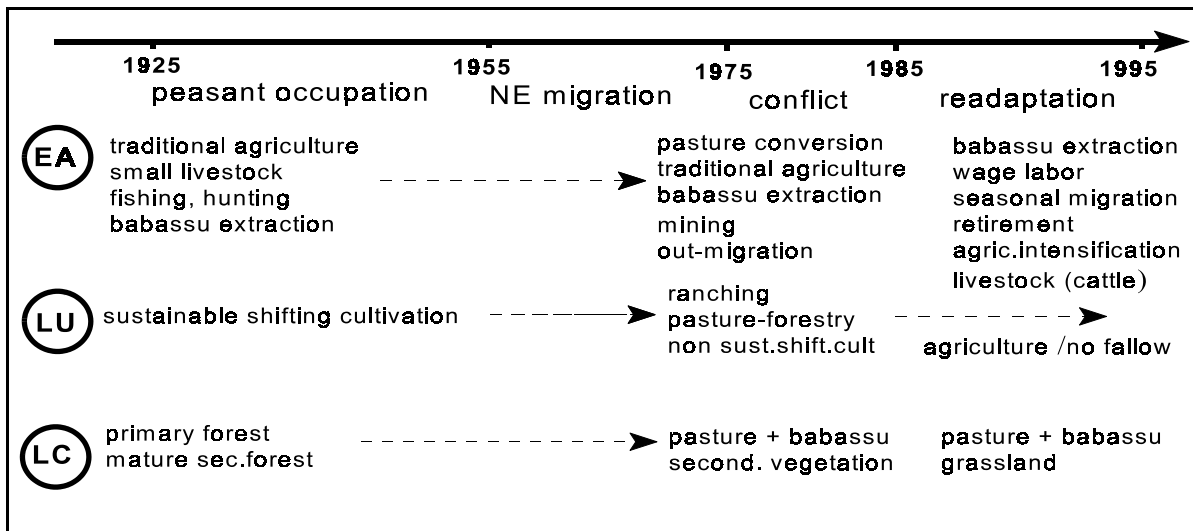


Figure 5: major facts, economic activity (EA), land use (LU), and land cover (LC) in Alto Alegre (1925 - 1997)

Alto Alegre reflects a situation in which peasants’ reliance on agricultural production and sales of babassu kernels was shaken when their social situation altered from squatters on public land to smallholders of private plots. Perhaps the ultimate manifestation of how multiple class relations is an apt concept for Alto Alegre nowadays is a large brick and tile processing plant

("cerâmica"), installed in one of the 5 ha plots of the village. Some of its one hundred temporary workers are Alto Alegre villagers. They receive salaries lower than the minimum wage, for more than 12 hour workdays, and no social security benefits. The wife of one of the community leaders at the 1981 confrontation is now selling snacks for the plant employees. The industry itself is owned by the family of the rancher who fought with the community. Figure 5 shows the evolution of the processes related to peasant economic activity since the arrival of non-indigenous people in the area of the community of Alto Alegre, and the associated patterns of land use and land cover.

São Manoel: "mutirão", the collective action in the babassu zone: Some 30 miles from Alto Alegre, São Manoel is located in the neighboring county of Lago do Junco⁵⁴. Initially occupied in the late 1920's, lands that today include the community of São Manoel received families from the Northeast up to the 1950's. No landowners, nor pastures existed until the late 1960's. Small herds of cattle, when present, were raised within natural pastures and in the secondary growth ("capoeira"). In the 1960's, a richer peasant from a neighboring village took advantage of the state policy of land privatization, successively purchasing lands along the areas worked by the two communities. Gradually, pastures were formed, and on the mid 1980's, the 50-household community was surrounded by grassland, having practically no land for agriculture. Out of these 50 families, just a dozen could maintain small holdings bordering the area. The others had no right to have cattle, nor to plant perennial or semi-perennial crops. They heavily depended upon babassu sales. Babassu, associated with pastures, dominated the landscape, as the rancher also benefitted from the income generated from kernels' sale, receiving a share of the net income obtained by a concessionaire, to whom he granted rights to explore ("arrendar") the babassu.

The struggle for access to babassu motivated land conflict in São Manoel. Peasants took possession of the stock within the concessionaire's storehouse, initiating a widespread confrontation, that in 1987 resulted in the state government's purchase of part of the land, whereas another part was recognized as being public land. The rancher received payment for the improvements he had made in the total area of 444 hectares, and the 35 families rebuilt their houses, destroyed in the conflict. As the area was not enough for a 30 hectare plot for each family, the state agency's orientation was to offer collective ownership, through a juridical figure to be created in the community.

Receiving cooperation from other communities (the "mutirão"), São Manoel's families used to make collective fields during the 1986-1988 period. In order to represent the community in negotiations with the state, especially concerning the "settlement project", they created an association of producers. Contemporary to gaining land ownership, community participation was also decisive in the rural union movement, in the creation of a municipal-based babassu nutcracker's women association, as well as an agro-extractive cooperative. Through collective action and the organizational process, peasants from São Manoel were able to reduce the burden of a number of subsumed processes of extraction of value. Babassu was considered of free access in most of Lago do Junco ranches, and no monopsony was imposed. Women were able to break babassu in all the vicinities' ranches, and to sell kernels according to their wish. In addition, the agro-extractive cooperative effectively raised prices paid for babassu. They were successful in demanding the state for a road to access the village. Through community projects they acquired rice and manioc processing mills, both managed by the local association. Community members

have regional leadership in a number of functions, including the rural union, a city commissioner (“*vereador*”), director and staff of a regional non-governmental organization, as well as heavily influencing the activity of the Catholic church’s parish.

Contrary to the situation in Alto Alegre, alternatives such as seasonal migration and temporary wage labor were only marginal, if not nonexistent. Some of the degraded pastures are being recovered for raising a cattle herd obtained in part through a donation from the Catholic church and in part resulting from a loan included in the agrarian reform rural credit program, at low interest rates. Agriculture, since the conflict, remains a semi-collective process. Now, each household individually works and appropriates the results of their fields. Yet, an agreement between community members stipulates that every year they will select an aggregated area for everyone’s field, avoiding fires, recovering preserves, and secondary forests for agriculture.

Babassu still is a very important resource for São Manoel’s economy. Agricultural yields are basically for consumption needs, and for a limited surplus. Agriculture, however, is recovering a status that it had up to the 1960’s. As pastures with high babassu densities are the preferred lands for the extractive activity, the recovery of secondary forests for shifting cultivation represents a paradox in São Manoel’s allocation of resources, as it will reduce babassu’s productivity and provide a less suitable landscape for the extractive activity. That allocation is justifiable because of the availability and accessibility of babassu stands in neighboring areas.

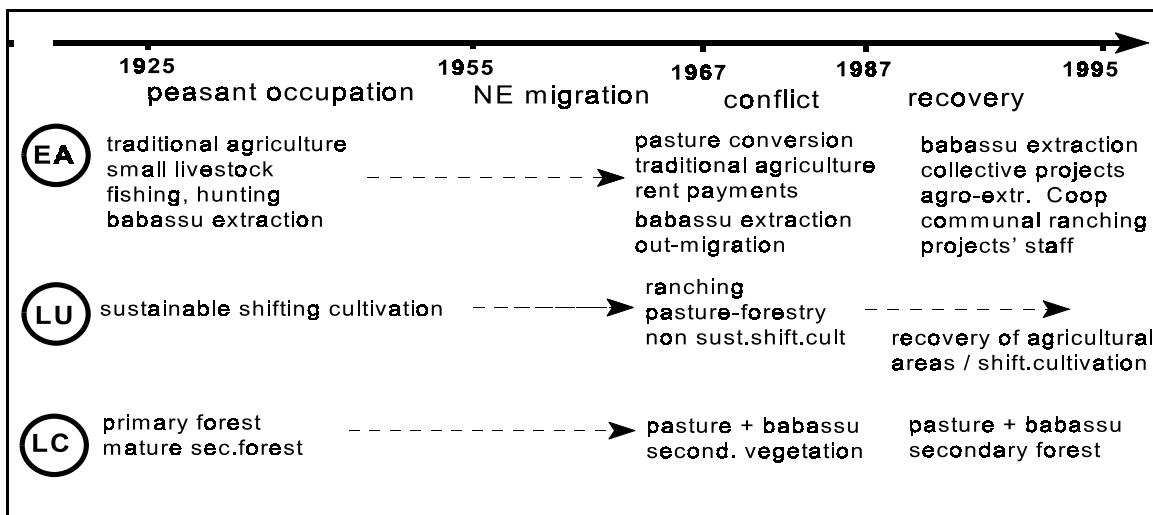


Figure 6: major facts, economic activity (EA), land use (LU), and land cover (LC) in São Manoel (1925 - 1997)

Whereas in Alto Alegre one of the major strategies for peasant survival was the engagement in temporary capitalist relations, a strong communal feature was associated with peasants in São Manoel. The distance from the city, transportation and communication difficulties, and the opportunity to constitute alliances with sectors of the social movement outside the village reinforced their differences with ranchers and the local elite. Adopting collective action, and engaging in collective relations of production, São Manoel’s peasants successfully maintained their unity. Their challenge now is to deal with another phase, in which

families are wishing a more autonomous livelihood based upon rules dictated by the association. Indicators of social differentiation have begun to appear. How these families will deal with this challenge will certainly shape their future. Figure 6 shows the evolution of the processes related to peasant economic activity since the arrival of non-indigenous people in the area of the community of São Manoel, and the associated patterns of land use and land cover.

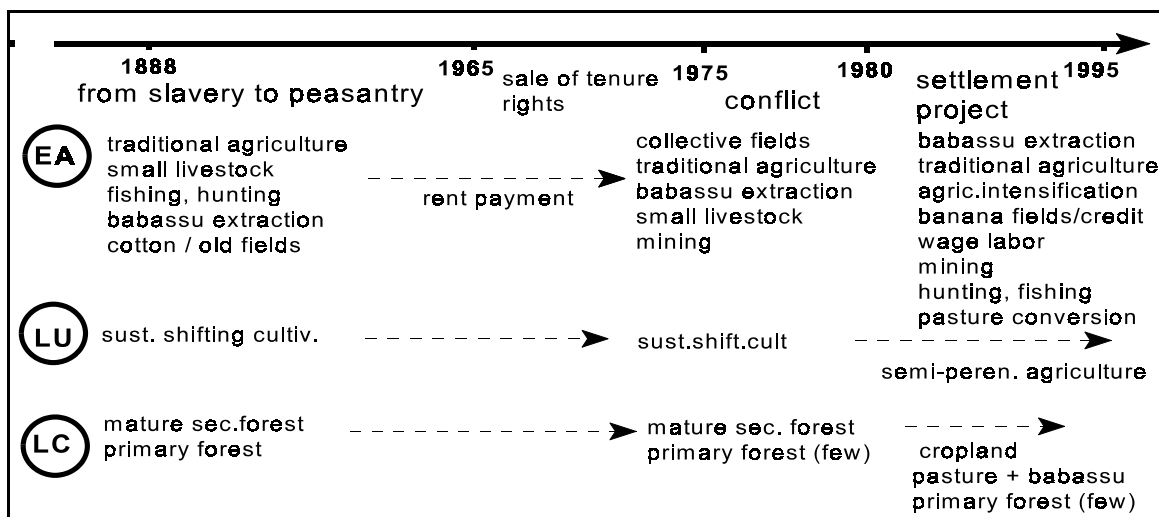
Monte Alegre: black community and agricultural projects: This is the oldest of the villages in this study. A former slavery-based cotton farm, Monte Alegre's lands were purchased by families of ex-slaves after abolition. Those families used to work communally in annual cropping during a certain period. They have, however, gradually adopted a small scale agricultural and extractive system, which has lasted undisturbed for almost a century. In the 1970's, heirs of the former slaves who three generations earlier acquired the land, intended to obtain the title for the area. However, after purchasing neighbor farms and expelling an entire community, an outside rancher proposed to buy the share of one of the heirs. After buying that holding, he promptly aimed to incorporate all Monte Alegre lands through an illegal deed (*grilagem*). Peasants, after being prohibited from farming annual crops in 1976, did not accept a second year with no yields and defied the prohibition. Judicially prosecuted, in 1979 they disassembled a fence for the containment of a 2,000-head cattle herd. On November 1979, rancher's hired gunmen burnt 93 houses. Homeless families received the support of more than 400 peasants to help reconstruct their homes, and participate in a communal field. After a series of actions, including a petition to the Brazilian president, the 2,922 hectares of Monte Alegre-Olho d'Água dos Grilos (another village in the same estate) were expropriated by the federal government, to benefit 169 families.

The bureaucratic process for the initiation of the settlement project lasted for some five years. Once the judicial question was solved, the proposal from the local extension service consisted of a project for the installation of banana fields, through access to a subsidized rural credit program (PROCERA — the "Agrarian Reform Rural Credit Special Program), which was available at the end of 1987. Even though banana production was an alternative already in use by landed peasants in the vicinities, no one in Monte Alegre had previous experience with commercial banana fields. After project installation, shifting cultivation is still essential for the production of rice for family subsistence. However, banana fields favored the limitation of the area for annual crops. The income provided by banana sales substitute the income formerly obtained through the sale of rice surpluses. The direct effect of banana production was to reduce the pressure on the remaining preserves of primary forests, as well as to extend fallow periods in shifting cultivation. Babassu extractive activity is performed by the majority of the families to obtain charcoal. However, the sale of kernels as a primary source of monetary income remains associated mainly with those households not benefitted by rural credit. As pastures in Monte Alegre were limited, extractive activity has been executed either in mature secondary forests, or in neighboring ranches, considered to be of free access.

This situation of relative equilibrium is being altered by a 1996 approval of another rural credit proposal submitted by the local association of producers (also created in the mid 1980's). This project aims at cattle raising in a communal pasture. Contrary to São Manoel, where land was already converted to pastures, the conversion of considerable portion of Monte Alegre's land to pasture is controversial among community members, who foresee conflicts with the need for areas to renew banana fields, and the maintenance of suitable fallow periods for agriculture.

The economic effect of banana fields was not equal for all those who received rural credit. For the most part banana production still consists of an extension of their small scale production system, managed entirely with household labor or through accessing reciprocal exchange labor. For those peasants, banana constitutes a small area, averaging one hectare, with a low level of adoption of more intensive practices. On the other hand, a minority of producers was able to dedicate more intensive care, expanding the area up to four hectares, and hiring labor for cultivation, which also represents an important provision for poorest peasants' subsistence.

Monte Alegre's association of producers reports to government agencies. They also have been aware of the rural union, women's, and political movements in Sao Luis Gonzaga, the county to which Monte Alegre pertains. However, aspects of their cultural identity somehow surpass these forms of organization. The duration of their occupation in the area resulted in a much more extensive network of relations with a number of rural and urban families, especially through religious and feast institutions. Perhaps this is one of the reasons for a greater flexibility towards the relationship with other classes, and for a long term maintenance of a community with great internal resilience, in spite of frequent disruptions. Figure 7 shows the evolution of the processes related to peasant economic activity in the area of the community of Monte Alegre, and the associated patterns of land use and land cover.



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7: major facts, economic activity (EA), land use (LU), and land cover (LC) in Monte Alegre (1888 - 1997)

São José: internal struggle and external support: In the mid 1930's, the chief of an indigenous tribe conceded lands at the right margins of Grajaú river to a peasant family, whose heirs constitute most of São José's community. The pioneer family came from the eastern part of the state, and was itself descendent of other Maranhão's indigenous group. During the following four decades, this family engaged in a mix of activities including traditional agriculture, fishing and hunting, and babassu extraction. Joined by a few others, they were ensured household maintenance from abundance of fish and game, and fertile alluvial soils for agriculture.

A village located at the margins of the Grajaú river, São José is 9 km west from Paulo Ramos city. In the late 1970's São José's suitable location motivated ranchers' interest over its lands, breaking the harmony thus far existent. Gunmen invasion of peasant dwellings, physical chases, crop destruction, and other damages were associated with this case. As in Alto Alegre, juridical assistance was provided by friars established in the Bacabal Dioceses. But contrary to Alto Alegre, this support was essential for the judicial decision favoring peasant community, and their survival with little resource bases disturbance. After a five year process, in 1984 a federal judge recognized São José's lands as belonging to the peasants.

Through the years of the conflict, the community was joined by a number of landless families that were living in the city, most of them of northeastern origin. This support was welcomed at that time, and still today is recognized as decisive for organization and resistance. Upon judicial decision, one of the major pieces of advice from the mediators to the pioneer family was to constitute an association of producers to receive communal land ownership. Although empowering the community in terms of an image of unity, it would negate previous social arrangements, motivating future disturbances. Promptly, a standardized by-law proposed by their assistants was adopted for the creation of a "small producers' society", which is still trying to obtain land title over 1150 hectares'.

Once the conflict was over, internal struggles began to force more external interventions. Leadership disputes between the pioneer family and some of the newly arrived reached their peak in 1988. Ultimately at stake were differences regarding of how to make a living, how to engage in survival strategies, how to utilize natural resources for survival. For those recently arrived, the local fishermen-hunter-extractive-agriculturalist strategy was initially viewed as an attractive scenario for their economic opportunities, since their previous experiences were often associated with relatively more intensive agricultural work. Using pejorative terms when referring to local families, they viewed them as lazy and with no future expectations of improvement. The other party, not at all a homogeneous group itself, began to use new institutional mechanisms to express their dissatisfaction and interest to recover a hegemonic position regarding São José's social organization. In the last seven years, that situation was accommodated, reducing the tension but not eliminating the problem. Among the initiatives for seeking equilibrium were a series of tentative conciliations mediated by the religious organization, the work of a non-government extension service institution, the installation of a middle school for agricultural education, and a failed irrigation project.

Presently, concerns of the non-family-members are directed towards the area's resource bases. After the conflict, strategies adopted in São José avoided the arrival of other families. Moreover, a slight population reduction was experienced in this period. Land was not a limiting factor, and mature secondary forests allowed the adoption of equilibrated patterns of shifting cultivation. Lands edging the river, however, were not preserved, being used for agriculture upon gradually reduction of water level ("*vazantes*"). Deforested margins have been lowering river levels and affecting wildlife. In addition, a grant to build fences along the road, stimulated small scale cattle raising. According to the by-laws, each family can have up to 7 hectares of pasture. Finally, peasants from neighbor locations are being permitted to crop in the area.

Besides a small area at the edges of the river — mechanically cleared for a 1988 irrigation project, agricultural intensification was not attempted in São José. Perennial or semi-perennial crops exist only at yard sites. Babassu is important for charcoal and soap production, only secondarily for the sale of kernels. Even though considerable portion of the land is covered with

babassu palms, the activity is mostly oriented to its non-monetary purposes, through its use value. Female labor is said to be more important in activities supporting agricultural production. As households are still able to make their living from natural resources, from annual crops, and from introduced cattle raising, the burden of engaging in long journeys of babassu nut-cracking is avoided in São José. Whether the community is sufficiently aware of the exhaustion of resources and the need to change their management practices is still a question to be answered. Figure 8 shows the evolution of processes related to peasant economic activity since the arrival of non-indigenous people in the area of the community of São José, and associated patterns of land use and land cover.

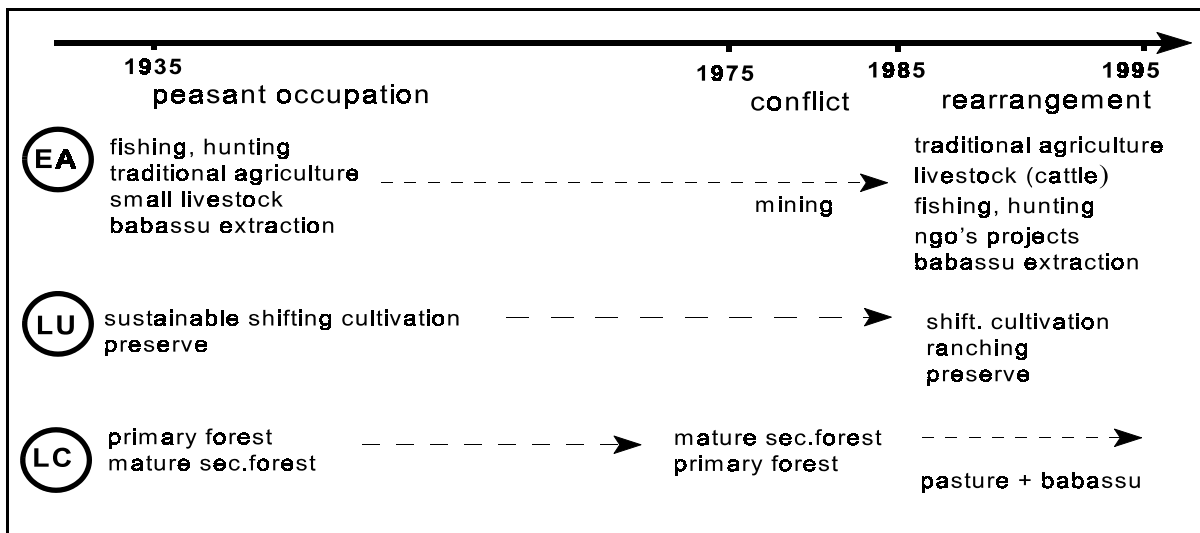


Figure 8: major facts, economic activity (EA), land use (LU), and land cover (LC) in São José (1935 - 1997)

Lagoa Nova - a new peasant frontier in the Grajaú river basin: This newly formed community is located within a 40,000-hectare farm, expropriated in 1995 by the federal government, after the murders of two peasants in the struggle for the access to the land. Primary rain forest still dominates 75 percent of the landscape, located at the margins of the Grajaú river, 80 kilometers from the city of Lago da Pedra and from a paved road. Lagoa Nova is 6 miles from Lagoa Grande, a 400 families' village, which in 1997 achieved political autonomy and has elected its first mayor and city council.

The occupation of lands in what was later named Lagoa Nova started in the 1970's, when a restricted number of families settled the area and started to cut down the forest in order to establish annual agriculture. In 1980, a rancher from Ceará state, who owns a great extension of lands in the region, purchased the usufruct rights of some of these families, and then incorporated the total of 40,000 hectares as his property. Using state incentives, he converted about three thousand hectares to pastures. Peasants were prohibited from planting annual crops in the whole

area. They were also prohibited from hunting and fishing, important survival strategies in the area. Babassu forests appear only in some three thousand hectares close to the margins of the river.

In 1994, eleven families from Lagoa Grande, some of whom had previously been working in the area occupied by the rancher, recognized the limited options for traditional agriculture, as pasture conversion was about to be completed in most surrounding farms. They entered the ranch area, and established crop fields. In the following year, they were joined by other Lagoa Grande families, as well as by landless peasants from several municipalities, organized through the nationally operating “Movimento dos Trabalhadores Rurais Sem Terra”. The rancher, through his manager, tried to reach an agreement with the peasants, by which he would keep half of the area, including pastures and all the improvements (sawmill, fences, installation for cattle, storehouses, 20 houses). The proposal was not accepted, and a confrontation resulted in the death of two peasants. The entire area was then expropriated in March 1996.

Lagoa Nova is therefore a village in the process of formation, accommodating families from a wide variety of localities. Already existing pastures would be, according to the wish of the families, considered as common property for collective stock raising. That, however, depends upon the access to subsidized rural credit, as it happened in São Manoel and Monte Alegre. Babassu palm forest also would be treated as common property, especially for the extraction of building materials, since charcoal in this area is mainly obtained from wood, and there is no practice of extracting kernels nor a consistent market for them. Another extractive product, jaborandi leaves — is in fact of much greater economic importance in the area, representing a potential for future economic initiatives. Upon the arrival of families used to the babassu extractive activity, Lagoa Nova is witnessing an incipient commercialization of kernels, sent to Lago da Pedra’s market. The bulk of Lagoa Nova’s land, according to the expressed wish of the peasants, would be divided into plots of 60 to 80 hectares.

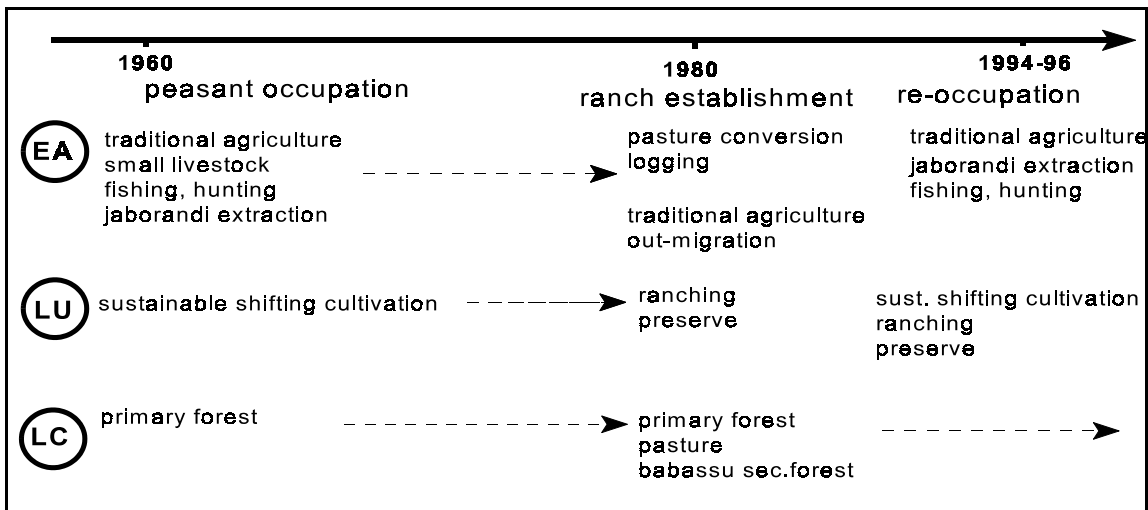


Figure 9: major facts, economic activity (EA), land use (LU), and land cover (LC) in Lagoa Nova (1960 - 1997)

Land is abundant in Lagoa Nova. Contrary to the situation of almost all the expropriated lands, primary forests still dominate the landscape. Hardwood is still found, although selective logging performed by the rancher significantly depleted the stocks. Extremely high yields were obtained in these two years after families re-occupied the land. How they will act in the near future will be a real test of the nature of peasant economic behavior and their current perspective toward natural resources. Figure 9 shows the processes related to peasant economic activity in the area of the community of Lagoa Nova, and the associated patterns of land use and land cover.

Concluding this section, tables 2 to 4 present a summary of the demographic and socioeconomic data, occurrences and processes acting in these five peasant communities.

Table 2: occupation, tenure rights, and land availability in five peasant communities in the “babassu zone”

community município	Alto Alegre L. da Pedra	São Manoel L. do Junco	Monte Alegre S.L.Gonzaga	São José P. Ramos	Lagoa Nova Lagoa Gde
occupation	1930's	1920's	19 th century	1930's	1970's
origin	NE	NE	black	NE + indig.	mixed
tenure	1984	1987	1984	1984	1996
type	agreement with rancher	state settlement	federal settlement	judicial recognition	federal settlement
tenure rights	individual	common	common	common	undecided
area (ha)	400	444	2922	1124	40,000
households	80	34	169	35	200
ha/hhold	5	13	17	32	200

Table 3: location and patterns of land use in five peasant communities in the “babassu zone”

community	Alto Alegre	Sao Manoel	Monte Alegre	Sao Jose	Lagoa Nova
distance /km from road	0 (1)	30 (4)	20 (3)	10 (2)	90 (5)
pastures	> 75% (1)	50 % (2)	< 10 % (4)	15-20 % (3)	< 10 % (5)
babassu	total/sparse (3)	total/dense (1)	total/dense (2)	total/sparse (4)	< 15 % (5)
perennial crops	no	no	banana	no	no
forested	no (5)	10 % (4)	20 % (3)	30 - 40 % (2)	80 % (1)
average years fallow	3	6	6	10	primary forest

Table 4: Frequency of major economic alternatives in five peasant communities in the “babassu zone”

community		Alto Alegre	Sao Manoel	Monte Alegre	Sao Jose	Lagoa Nova
annual crops	% ha	40 1.1	71 0.9	45 1.4	94 1.6	94 2.4
peren. crops	% ha	0	0	68 0.9	0	0
cattle	% #	28 6	68 3	9 1	79 4	< 5
babassu extract.	% Kg	60 43	84 45	73 42	26 40	0
fishing	%	48	32	81	89	45
hunting	%	12	13	54	52	78
wages	%	52	32	54	21	12
mining	%	36	32	50	42	38
retirement	%	48	33	32	16	14
profession middlemen	%	28	19	13	21	15
additional information		seasonal migration	agro-extract. cooperative	rural credit	riverside agriculture	jaborandi extraction

6 - UNDERSTANDING PEASANT DECISION-MAKING IN MARANHÃO

These communities' trajectories provide elements to analyze peasant decision making and the context in which distinct economic activities are undertaken. The understanding of these processes helps to interpret capitalist development in the frontier, transforming peasant societies and guiding land uses and land cover change in the "babassu region."

Complementarity between agriculture and extractive activities is the basis for household survival and reproduction for a large majority of these families. Such a complementarity assumes distinct features according to internal and external aspects. Investigating the latter, this study focused on external factors resulting in lower land and natural resources availability, and changes in community organization. Specifically, this paper addresses state intervention, either through "development" policies favoring capital penetration and pasture conversion or by seeking to "modernize" peasant economy through settlement projects. Variation in the outcomes attests the large range of mechanisms adopted by peasants to survive. Division of labor within and among households, collective action, the establishment of coalitions, and the alternative to engage in a multiplicity of class relations, proved to be decisive elements in this strategy of survival. This section will discuss the economic alternatives adopted by peasants in the babassu zone, their association with the political economy and with transformations in land use and land cover.

Given traditional practices characterizing shifting cultivation adopted by this peasantry, significant variation in resource allocation occurs according to household structure and to the patterns of land accessibility. When land is not the major constraint, peasants pursue optimization of returns to labor as an objective function. Families in their initial life cycle, or those who are not headed by males, will allocate their labor in order to maintain annual fields in a size compatible with their labor availability, relying upon babassu as a source of monetary

income, and on fishing and hunting for the remainder of the family needs for food. Along the evolution of family's life cycle, annual agriculture assumes the position of main economic activity. Consumption needs are primarily obtained through the engagement of all available family labor-force in agriculture. In addition, an extensive array of reciprocal institutions operates -- through labor exchange -- optimizing certain tasks' execution on schedule. Family members engage either in direct field operations, or through the indirect support represented by raising small animals and preparing meals for larger teams of laborers. Families in this situation conceive the execution of extractive activity as a fundamental source of products for their survival, such as housing materials, charcoal, and kernels for oil production and soap making. There is, however, no strict dependency upon cash provided by the sale of kernels, which assumes a secondary role.

With adequate fallow periods, shifting cultivation maintains organic material recycling, and steady harvests. In such a management system, rice yields reach 2 tons per hectare, even when inter-cropped with maize. Rice is the major staple in Maranhão, with household consumption ranging from 500 to 1500 kg per year, according to the family's position in life cycle⁵⁵. As rice productivity in these areas reaches 1.5 to 2 tons, about a third of hectare (smaller families) to one hectare (larger families) would suffice for consumption needs. The cultivation of no more than 3 hectares, therefore, is usually enough, even for larger families, for the obtaining of surpluses which are sold in the market, in order to match households' monetary needs. The lack of capital for investments, however, limited cattle raising or semi-perennial crops. In fact, small pastures, and home orchards of citrus and banana were common strategies only for better-off peasants.

Secondary forest of babassu is essential for household survival, and predominates in the landscape in these situations. Even relatively large landowners used to have an interest in having peasants on their land, and to maintain this pattern of land use, as rent was their primary source of income. The greatest benefit babassu forests provide has been its incorporation in the agricultural system, assuring households' survival and social reproduction.

When land becomes scarce, families are forced to gradually reduce fallow periods. Because of alterations in the political economy, land is commoditized, assuming values that peasants cannot afford, while at the same time they lack mechanisms to address its accessibility. Social differentiation within peasant communities (São Manoel, Monte Alegre), the appropriation by local elites (Alto Alegre), and the arrival of outside entrepreneurs (Monte Alegre, Lagoa Nova, São José) are all results of policies oriented to integrating the area into the broader economy, dissolving the basis for peasant economy's reproduction. Declining yields result in averages of rice productivity of less than one ton per hectare, when no major weather-related problems occur, or even half of that in critical conditions (Alto Alegre). Moreover, most of the land is converted to pastures. Secondary forests left for shifting cultivation have insufficient time to regenerate. Increasing labor requirements and diminishing yields will motivate the reduction of annual crops to a minimum for the provision of food supply.

Extractive activity partially replaces household needs for cash. The alternative of engaging in extractive activity, becomes more fruitful than investing in agricultural production in depleted fields. The female and child labor force will intensively engage in babassu gathering and breaking, reducing its participation in agricultural-related activities. As fields are smaller, there is no need to have large teams of laborers, and meal preparation becomes secondary. On one hand,

pasture conversion, except in areas cleared of palms, maintained regular babassu densities. In this circumstance, babassu's productivity is greater than when in closed secondary forests. In addition, women usually prefer gathering babassu in pastures than in closed secondary forests. On the other hand, the existing market for babassu kernels allows daily sales to local middlemen, and the cash for the purchase of food and household supplies. Although there is a certain resistance by males in engaging in extractive activity, a growing participation exists in such circumstances. Therefore, the permanence of a large peasantry in most of Maranhão is in part explained by natural occurrence of babassu stands. The maintenance of these stands by ranchers, as far as it does not motivate peasants' claims for land, guarantees their minimum survival conditions. In addition, it supports a subsumed class relation through which the product of peasant labor is extracted by a merchant class. Although limited in value, season, and supply, the payment of wages to temporary workers for clearing pastures provides cash to some families, especially those with no female labor force and those in which the male has no skills in the extractive activity. In fact, where peasants did not react against subjugation, secondary forests of babassu are replaced by a landscape in which lower densities of palms are associated with pastures. This situation, aggravated with the 1969 "Law of Lands", and government subsidies in the 1970's and early 1980's, is illustrated by the occurrences in Alto Alegre and São Manoel before the conflict.

To the burden imposed by the reduction of agricultural areas and exploitative commercial relations, were added higher rent obligations in still available agricultural areas, the disappearance of game as a source of food, the substitution of rent payments by cattle ranching as the more profitable economic option for landowners, and the consequent diminishing of reciprocal benefits to peasants from those landowners. Living at the margin, a number of peasant communities in the Mearim and Grajaú valleys reacted when ultimate survival mechanisms were affected. Such are the cases of Alto Alegre, in which peasants reacted to the sowing of pasture grass in their small agricultural area, or in São Manoel, where collective action followed restriction to the access to babassu stands, through a concession. In Monte Alegre, an outside rancher attempting to gain control of the land encountered an unified community maintaining secondary forests in most of the area. There, as well as in São Jose, reaction impeded pasture conversion itself. Recently, Lagoa Nova is viewed as an example of peasant consciousness of unequal access to resources. The maintenance of large areas of primary forest, just for the benefit of a rich entrepreneur, was viewed as immoral, and motivated reaction at the very local level, promptly strengthened by a broad conflictive process.

The culmination of the Monte Alegre, São Manoel, and Lagoa Nova processes led to a state intervention through settlement programs. The meaning of these programs, however, differs according to the standpoint. For government agencies, it would focus on transformation in settlers' rural realities, approximating their social condition to a small-farmer type of identity, and incorporating dependency upon state-related mechanisms for their survival strategies. For peasant communities, it means tenure security, and the relaxation of pressures imposed to them. Their economic activities, however, have to adapt to environmental transformations. Reduced land availability is greater in São Manoel (average of 13 hectares per family) than in Monte Alegre (average of 18 hectares per family). In both areas, as well as in dozens of other expropriated areas in Maranhão, traditional patterns of shifting cultivation have to be supplemented by other economic alternatives. The condition of settlement areas -- mainly achieved through collective action -- in being supposedly supported by government programs and

incentives, results in an attempt of the peasant society in Maranhão to exercise these alternatives.

Through different strategies, peasants included in settlements are experiencing a transition in which they reorganize their factors of production and reestablish a pattern of economic rationality. Maintaining a heavy community-based planning and execution of certain activities, this new rationality follows alterations of environmental conditions, and opportunities of embracing other class relations, through the mediation of the state, market mechanisms, alliances with non-governmental organizations, and with a wider integration in the broader society. The strategy adopted in São Manoel seeks the reestablishment of a reasonable stock of agricultural areas through progressive degradation of pastures and recovery of secondary growth. Conscious of the limitation of their land, peasants from São Manoel have decided to maintain collective forms of decision-making as the basis for land-use strategy. On the other hand, the envisionment of restricted agricultural yields lead them to incorporate livestock production in their survival strategy, taking advantage of the existent pastures. Although babassu extractive activity remains an important source of cash to the households, and the option to maintain areas of pastures for livestock production, restoration of lands for agriculture reduces the relative weight of babassu in the households' budget. Collective action was fundamental to the fate of São Manoel's families. First, through the struggle to recover tenure rights. Second, having acquired the right of open access to neighboring babassu stands. Third, through the creation and effective support to a number of institutions operating coalitions with external organizations, facilitating the access to material goods and information. Finally, in sharing its ideals regionally, the community itself became an agent of social transformation.

Monte Alegre's peasants, after successfully avoiding pasture conversion and the loss of tenure rights, took advantage of a rural credit project. The installation of small banana fields, as a matter of fact, only generated capitalist class relations in a few situations. Considered unsuccessful according to financial and extension service institutions, most of the individual cases, in fact, represented the alleviation of pressures over land for annual agriculture, and over the remaining preserves. Contrary to what happens in São Manoel and Alto Alegre, Monte Alegre's peasants still count on a relatively high variety of hunting opportunities. On the other hand, banana provided cash for family needs, and for small investments. The subsumed class relations formerly characteristic of the commercialization of annual crops, were in part transferred to the relationship with the banana's middlemen. Incorporation of semi-perennial crops in these circumstances, despite reducing babassu densities in selected areas, contributes to an overall long-term balanced pattern of land utilization, as banana fields, after a 8-10 years cycle, tend to be incorporated in an extended system of shifting cultivation. Thus, settlement implementation and partnerships with the extension service and agrarian agency, have leveraged Monte Alegre's families' identification of a successfully strategy for the maintenance of their cultural identity, and for the community's social reproduction. However, as in the case of the elders in São Manoel, that can not accompany some of the decisions of the association regarding productive activities, the trajectory of Monte Alegre also excludes community segments, that had no access to rural credit's benefits. For those, babassu still remains the major economic reference. This fact, however, is somehow assimilated throughout the community. Monte Alegre's long term existence, indeed, provided a great deal of resilience and a strong capacity to resist social differentiation.

Whereas São Manoel and Monte Alegre's strategies were supported by collective action, active social organization, and the participation in state-related programs, the permanence of a

peasant community in Alto Alegre has a quite distinct explanation. Alto Alegre's privileged location is a decisive factor in the fate of local householders. First, by putting peasants in disadvantage in the dispute over land tenure. Second, reducing their resistance against rancher's persecution. Third, by providing an easy way to the alleviation of demographic pressures by permanent and seasonal migration. And fourth, by offering opportunities for the allocation of community labor. The pertinence of Chayanov's ideas about the demographic life cycle as the "law of motion" of peasant economy, is observed through the predominant paths associated to the economic responses employed by different family categories (in size and composition). Despite the small amount of land, it constitutes the main element for peasants' survival. Locally, babassu became the most important economic alternative, assuming a heavy market orientation. However, the ownership of a small plot provides the condition that families do not totally depend on purchased inputs and goods. Given the situation in Alto Alegre, insofar as a peasant household is able to meet its subsistence requirements from direct production alone -- being an adapted form of agriculture in his plot, sale of babassu kernels, or agriculture in the forested region -- it still is relatively autonomous in relation to capitalism. When this condition no longer exists, the reproduction of the peasant household will also depend upon wages. But, the sale of their labor is not proletarianization, being part of a multiple survival strategy.

The three mentioned communities represent variations of a predominant pattern in the Mearim and Grajaú river valleys, in which occupation occurred decades ago, and the small patches of remaining primary forests are viewed as preserves. These areas present types of land cover that mainly include babassu secondary forests, pastures associated with babassu palms in various densities, open pastures -- in which babassu was eliminated by ranchers and emergent areas of relative initial agricultural intensification, characterized by the installation of fields of semi-perennial crops. This is not the case of Lagoa Nova. The richness of natural resources present in that area constitutes an exception in this region of the state. Curiously, it was exactly the lack of the area's utilization by the owner, and the conservation of most of its primary forests, that activated peasants' re-occupation of "Fazenda CIGRA", resulting the expropriation of 40,000 hectares. The success of the operation, strategically performed through a suitable combination of very local and totally external agents, brought a fuel injection to peasant communities in the region. The affluence of families from all neighboring municipalities reproduced in minor scale, within the region, the process of westward migration in search of new forested lands. Many families arriving to Lagoa Nova have experienced a number of struggles over the land in their original (or most recently occupied) sites. Most of them were living in marginal conditions, such as in Alto Alegre. Organized through previous experiences, and feeling the fulfillment of their wish, now they are starting to accommodate themselves in a permanent fashion. Whether such a heterogeneous community would be able to manage pastures and babassu forests as common resources is a question that still has to be answered. What they successfully are already doing is occupying the area, demarcating their individual plots, and relying in the incorporation of the primary forest in their economic system. Reproducing with important new elements, a condition that remains paramount to peasants in Maranhão: the finding of the "green flags" ("bandeiras verdes")⁵⁶.

7 - CONCLUSION: INTERPRETING A CHANGING UNIVERSE

The feasibility of long-term maintenance of peasant agricultural practices in the context of growing population pressures is questioned by various authors. A number of these authors foresee the complete depletion of natural resources in the Amazon, if restrictions are not imposed to peasant communities' traditional land uses. Development oriented scholars and policy makers, on one hand, and influential sectors of the considered leftist political and social movements' arenas, on the other hand, through different standpoints, condemn the maintenance of this system, viewed as backward and perpetuating poverty.

Until the early 1970's, life at peasant communities in the Mearim and Grajaú valleys, as well as in most of rural Maranhão, reflected the poorly understood conditions of land and natural resources availability. Peasants simply determined an allocation of their factors of production in order to match consumption needs, taking advantage of extensive cultivation. Encountering either primary or mature secondary forests, they adopted sustainable shifting cultivation, allowing eight or more years of fallow, and proportioning an equilibrated regeneration of the environment through the preservation of nature's basic cycles. Supported by the natural subsidy provided by babassu products, the household could act as an equilibrated economic agent, balancing male and female activities, both for subsistence needs and for sales in the market. Nothing better for this peasant rationale than the non coincident peak seasons for labor demand in agriculture (March/June), and in the extractive activity (September/December). Female family members could participate in the rice harvest with no negative effects in the overall babassu production. By the same token, after the harvest and before next year's sowing, males could extract babassu products, too. Fish and game were often in sufficient stocks, and high agricultural yields facilitated the raising of small animals.

Characteristics of peasant societies in Maranhão, and the manner through which they addressed nature, provided the necessary flexibility for an economic behavior responding to the evolution of the life cycle of the household. Land, forests, and babassu stands, were viewed as common resources, with access communally regulated, proportioning long term optimization of their utilization at the community level, responding to variations in family size and composition.

Even in the case of many areas considered as private, under the ownership or usufruct right of a landowner, extraction of rent constituted a subsumed process somehow assimilated, because of the expectation of reciprocal mechanisms provided by the landowner. For landed peasants, or farmers already socially differentiated, a friendly relationship with landless peasants was the basis for major mechanisms of extraction of wealth, through rent, unpaid labor, and commercialization. On the peasant side, the alternative of an open frontier counted as an important factor as limiting landowner claims.

For most of the peasants, the adoption of activities such as small scale livestock production, or semi-perennial crops was considered beyond the horizon of feasible economic alternatives. They neither had the finances nor the access to credit mechanisms. Moreover, their rationale did not foresee the allocation of resources for activities aiming at accumulation. The survival strategies adopted by these peasants were conceived as maximizing the returns to labor, as far as the drudgery of this labor was maintained in acceptable levels. Their pressing needs were being met, either through the natural environment, or through the activation of community mechanisms. The interpretation of such behavior remains controversial, with a great deal of

prejudice, expressing basically the same negative opinion concerning peasants' way of life as the quotation at the beginning of this section. When we observe data on deforestation in Maranhão, however, and conclude that until 1975, although migration that since the 1920's brought an enormous population to the state, the area cleared was only 1.1 percent of the total, we conclude that this society was efficient in its maintenance and social reproduction.

Certainly, a watershed in this process was represented by government policies, incentives and subsidies. Incorporation of lands in the market resulted in profound alterations in social and biophysical conditions affecting peasant society and the environment. Escalating social differentiation, as occurred in the case of São Manoel, or the instrument of "grilagem" by local elites (Alto Alegre), or corporations (Monte Alegre, Lagoa Nova, São José) were only two of the negative effects of this policy. In less than fifteen years, peasants found themselves in a distinct social situation, expressed through restrictions in the resources essential for their subsistence.

Many communities disappeared upon initial manifestation of these impacts. Consequences of peasant dispossession are viewed both in the occupation of other Amazonian states, and in the unbalanced process of urbanization. However, after experiencing these transformations, and directly suffering the impact of land commoditization, peasants still constitute the larger part of Maranhão's population. Their endurance, indeed, results from the assimilation of changing realities in their daily life, and the use of a repertoire of survival strategies. In a relatively small area including the communities of this study, I have shown that peasants altered their way to address nature and their decision-making process. Survival strategies, for each case, require adequate responses to external processes. As the sample of communities demonstrates, responses are not homogeneous, and although the household remains the focus of the resource allocation, its role is now quite different. Demographic differentiation still is important, but only as a complementary aspect. The ability and flexibility of household members to engage in a multiplicity of activities, ranging from receiving capitalist wages associated to temporary work, to the participation in collective fields of annual crops, have become the leading factor in peasant allocation of resources nowadays.

NOTES

1. One of the central issues in peasant studies is whether or not peasant economy constitute a mode of production with theoretical status equal to the concept of capitalist mode of production. Throughout this study, I will assume that it does. For an overview of this debate, see Deere, C. D. 1990. Household and class relations. pp 3-11
2. Sen, Amartya (1981: 7-8)
3. For the dynamics of land utilization associated to agricultural intensification, see Boserup, E. 1965. The conditions of agricultural growth. pp 15-22; and Pingali, P. and H. Binswanger. 1988. Population density and farming systems.
4. Kearney (1996: 108-109) mentions as example of intense intellectual warfare the debate between classical Marxists (proletarianists) and Chayanovians.
5. Leslie Anderson, in her theory of peasant's political ecology, considers four components of the peasant world: the individual, the village, the natural environment, and the national society. Anderson, L.E. 1994. The Political Ecology of the Modern Peasant. pp 7-8.
6. Schultz's theory is based on two ethnographic studies: Sol Tax's "Penny Capitalism", and W.D. Hooper's "The Economic Organization of a Village in North-Central India". From the latter, he quotes "each man comes close to doing the best he can with his knowledge and cultural background". Schultz, T.W. 1964. Transforming Traditional Communities. pp 45-46.
7. Ellis, Frank. 1988. Peasant Economics. pp 64
8. Lipton, Michael. 1968. The Theory of the Optimizing Peasant. pp 346
9. Adams, John. 1986. Peasant Rationality: Individuals, Groups, Cultures. pp 277
10. Lipton (1968, 346); Adams (1986, 277)
11. Scott, James C. 1976. The Moral Economy of the Peasant.
12. Popkin, S. 1979. The Rational Peasant: the Political Economy of Rural Society. pp 29
13. Scott lists rent, taxes, and debts as social claims. As impersonal forces, he mentions uncertainties of weather, soil quality, level of techniques, the risk of illness, and the availability of arable land. Scott, J. 1975. Exploitation in Rural Class Relations. pp 505-507.
14. As "subsistence danger level" Scott means the threshold below which the qualitative deterioration in subsistence security, family cohesion, and social status is massive and painful. Scott (1975, 507).
15. Roumasset et al., 1979; Binswanger and Sillers, 1983
16. Ellis (1988, 102)
17. Chayanov, A. V. 1976. The Theory of Peasant Economy. pp 41.
18. Chayanov (1976, 76) points out that the level of labor intensity is determined by internal and external factors. The internal factors are those related to pressures of family consumption demands. The external ones are those production conditions which determine the level of productivity.
19. Chayanov. (1976, 60) explains demographic differentiation as: "every family, depending on its age, is in its different phases of development a completely distinct labor machine, as regards labor force, intensity of demand, consumer-worker ratio, and the possibilities of applying the principles of complex cooperation"
20. Heynig, Klaus. 1982. The Principal Schools of Thought on the Peasant Economy. pp 129.
21. Harrison, Mark. 1979. Chayanov and the Marxists. pp 89;
Harrison, M. 1976. The Peasant Mode of Production in the Work of A.V. Chayanov. pp 329-334.
22. Resnick and Wolff distinguish between fundamental and subsumed class processes. The former refers to performance and to extraction of surplus labor, whereas the latter consists of its distribution, through specific social

functions. Subsumed classes, according to them, maintain themselves by means of shares of extracted surplus labor distributed by the fundamental extracting classes. Resnick and Wolff. 1982. *Classes in Marxian Theory*. pp 3.

23. Deere (1990, 314)

24. Kearney (1996, 43)

25. Kearney (1996, 120)

26. Kearney (1996, 141)

27. Kearney (1996, 159)

28. Kearney (1996, 148)

29. Kearney (1996, 169)

30. Anderson, L.E. (1994, 12)

31. Deere, Carmen D. & de Janvry, A. 1979. A conceptual framework for the empirical analysis of peasants.

32. Deere (1990, 267)

33. World Commission on Environment and Development. (1987), *Our common future*. p 28

34. Broad, R. 1994. *The poor and the environment: friends or foes*, p. 813.

35. For a complete analysis of the political ecology of the peasant, see Anderson, L.E (1994, 14-18)

36. Almeida, A.W.B. 1994. *Universalismo e localismo: movimentos sociais e a crise dos padrões tradicionais da relação política na Amazônia*.

37. Anderson, L.E. (1994, 170)

38. The babassu zone corresponds to lands located in both North and Northeastern Brazilian regions. It includes the north-west of Piauí, the central, eastern, south-western, and northern parts of Maranhão, the very northern portion of Tocantins (locally named “Bico-do-Papagaio”), and a small fraction of the south-east of Pará. This denomination was adopted by major academic authors focusing babassu related economy, biology, and population (May, 1990; Anderson, May, and Balick, 1991; Wagner, 1995).

39. According to Van Damme (1990), the indigenous population that inhabited the coast of the state upon the arrival of the Europeans was estimated in 1 million people. Forced as slave labor up to 1754, the indigenous groups progressively moved to the interior, usually along the rivers. For more details about the indigenous groups in Maranhão, see Raimundo de S. Gayoso, 1970. *Compendio Historico-Politico dos Principios da Lavoura no Maranhão*.

40. The prohibition of indigenous slavery in the 1750's, motivated the trade of African slaves, as a counter good upon primary goods acquired by the English. For more information about slavery in Maranhão, see Viveiros, J., 1992. “*Historia do Comércio no Maranhão -- 1612-1895*”.

41. A succession of severe droughts since the beginning of the century, and the fragmentation of properties are considered the main reasons for this movement westward. For more details see Andrade, M.C. 1984. *Ensaio sobre a Realidade Maranhense*.

42. Sawyer, D. 1993. *População e meio-ambiente na Amazônia*

43. According to the IBGE, the 1992 area destined in Maranhão to rice production (740,000 ha) and manioc production (240,000 ha) corresponds respectively to 17% and 13% of the total area destined to these two crops in Brazil. The 650,00 tons of rice and 2 million tons of manioc harvested in Maranhão, correspond to 6.5% and 9% of the national production. (IBGE, 1994, *Anuário Estatístico do Brasil*)

44. Anderson, May, and Balick, 1991. *The Subsidy from Nature*; and Peter H. May, 1990. *Palmeiras em Chamas: Transformação Agrária e Justiça Social na Zona do Babacu*.

45. According to the IBGE, in 1986 there were 202,000 families (188,000 of those in Maranhão) in the extraction of babassu. In the same year, population estimations for rubber and Brazil-nuts were respectively 95,000 and 40,000 families. (IBGE. 1986. *Censo da Produção Agropecuária*).

46. Manioc flour is produced in the village through manual or diesel powered “casas-de-farinha”, under a 5 to 10 percent fee. Paddy is processed in “piladores de arroz” that charge a fee of 1 kg per 30 kg, plus all by-products (used as swine’s feed) and associated mis weighting: in the commercial mills, 30 kg of paddy are usually converted to 21 kg of rice, although producing up to 24 kg.

47. Amaral Filho, J. (1990, 233-235)

48. According to IBGE census, the 1991 population of the two largest urban centers of Maranhão was 700,000 (Sao Luis), and 210,000 (Imperatriz).

49. During the oil shortage of World War II, for instance, a report from the US Vegetable Oil mission evaluated babassu’s potential value as “... five times the value of Brazilian coffee crop” (Brazilian Government Trade Bureau, 1950). The last period in which babassu deserved the attention of government authorities was during the mid 1980’s oil crisis, when it was created the federal based “Babassu’s Institute”, extinct after a few years, when petroleum supplies was no longer an acute problem.

50. Improved varieties of soybeans substituted babassu oil in the food industry. Indeed, babassu and cottonseed edible oils were the most consumed in Northeast Brazil until the 1970’s. Babassu oil keep only a small portion of this market, progressively substituted by soy oil. Synthetic raw materials, on the other side, are substituting babassu oil in the cosmetic and hygienic industry. See Peter May, “Babassu Palm Product Markets”

51. Movements such as the “ACR -- Animation of the Rural Christians”, “MEB -- Movement for the Basis’ Evangelization”, and “MER -- Movement for Rural Evangelization” were embraced by significant portion of the villagers, according to the location.

52. Although the Agrarian Reform was a priority for the first civilian government since 1964, and an ambitious program was elaborated with the massive participation of the rural unions, the version finally adopted was a shiny reduction of the former. Even this version, however, had less than 10% of its goals accomplished.

53. Estimations of the State Department of Statistics attribute a 1955 population of 7,717, resulting in a 1.8 inhabitants per square kilometer demographic density. According to the Brazilian Institute of Geography and Statistics (IBGE), Lago da Pedra’s 1994 estimated population was 47,591 inhabitants, 37% urban and 63% rural.

54. According to the IBGE, Lago do Junco’s 1994 estimated population was 19,580 inhabitants

55. the average rice consumption in these five communities is 18 kg/month/adult equivalent

56. Bandeiras verdes was a millennial movement that motivated Northeasterners to migrate westward, supposedly to find “green flags”, or the trees of the rain-forestry (an alternative version attributes the term as a representation of the babassu leaves). The finding of the green flag would liberate peasants from the Final Judgement).

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