

THE DEVELOPMENT OF MIGRANT AGRICULTURE  
IN NORTHERN SANTA CRUZ, BOLIVIA

by

RENE ROJAS R.

A THESIS

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A thesis submitted to the Faculty of Graduate Studies of  
the University of Manitoba in partial fulfillment of the requirements  
of the degree of

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I alone take responsibility for any errors contained in this thesis.

## ABSTRACT

This study examines the impact of migrant agriculture upon highland peasants after their resettlement in lowland northern Santa Cruz. Migrant agriculture is a household commodity production based upon the use of the slash and burn cultivation technique.

The objective is to document the processes that led to the development of highland peasant colonies in northern Santa Cruz, and the relations of production the peasant colonists entered while developing a household production.

The study focuses on the process of the development of a household production based upon the production of rice as a commodity, using the slash and burn technique. The resulting specialization in the production of rice made the colonist households dependent upon the market to obtain, in exchange for their rice, means of production and other commodities to complete and reproduce their production. Chronic inflation, a result of the position of Bolivia's capitalist production in the international labor division, and the control of rice marketing by middlemen deprived the colonists of most of the income obtained by the sale of rice.

Limitations of the ecosystem and unequal opportunities found in the market to reproduce their household production forced the colonists to become involved in additional occupations. This resulted in social stratification and migration to urban centres. This study suggests that migrant agriculture became an instrument to dissolve peasant

production and to incorporate peasant colonists into a rural and urban proletariat as well as into the petty bourgeoisie.

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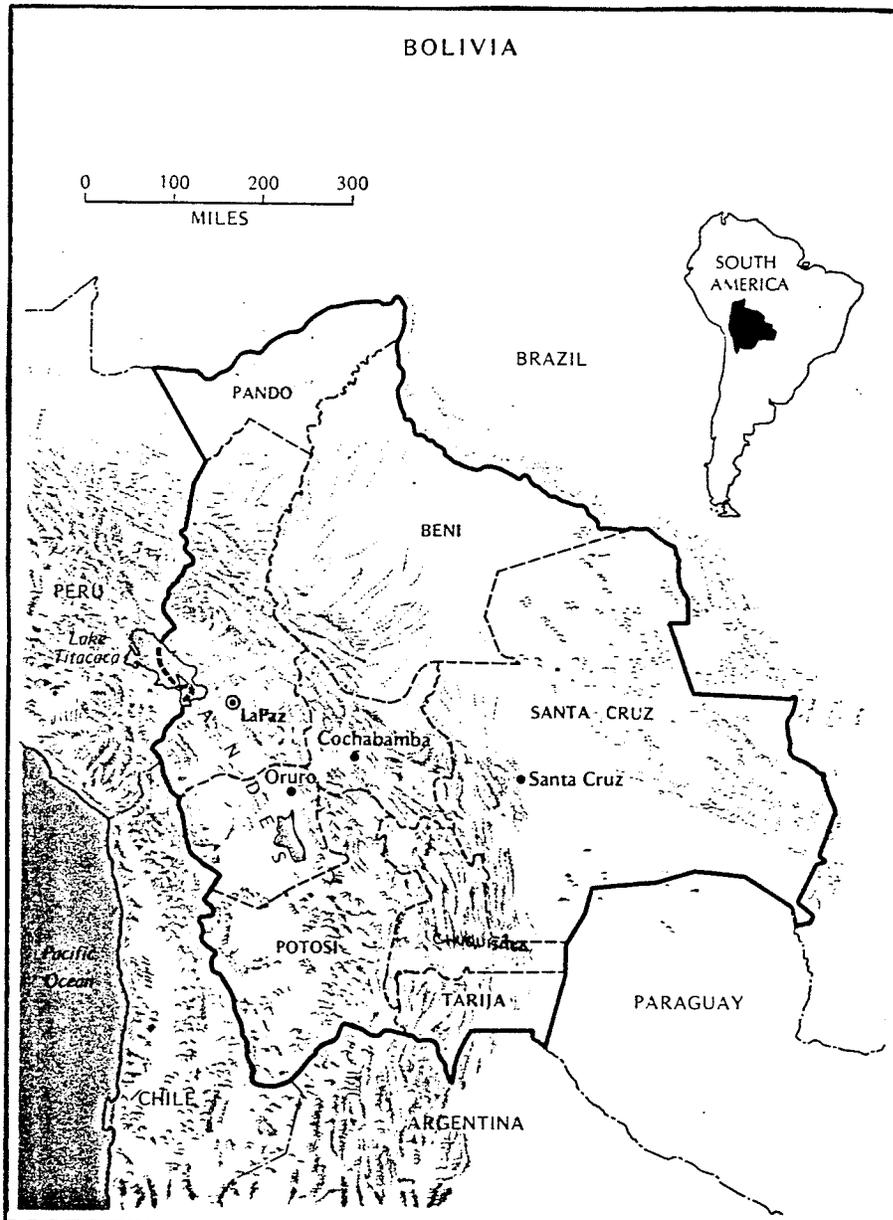


Figure 1. POLITICAL MAP OF BOLIVIA  
Source: McEwen 1975: 2 (modified)

## CHAPTER I

### INTRODUCTION

As a migrant to the department of Santa Cruz myself, I witnessed some of the processes described in this thesis. For several years I was involved in community development work with Menonite Central Committee (MCC), a religious North American volunteer organization. As a result of this experience I was in close contact with highland peasants who had resettled in colonies in northern Santa Cruz. Frequent trips to colonies to gather information about the communities and the households allowed me to become acquainted with the lives of the colonists, their use of the forest, slash and burn technique, and their movement from colony to colony. I helped MCC volunteers settle in colonies to promote "development" by implementing some specific programs with the participation of interested colonists. Classrooms were built to teach the first grades of elementary school, communal health care systems were established, and agricultural extension work carried out. Use of chemical inputs for agriculture were introduced, improved pastures promoted, and Brown Swiss heifers given to colonists participating in animal care workshops. I took part in many communal meetings and saw silent colonists listening to foreign volunteers, with college degrees, delivering their wisdom and their expectations for them. I also participated in endless meetings where volunteers planned their programs, set up goals and strategies, and evaluated their

approach and the results. Until then I also believed that development was a matter of capital investments in the introduction of technology. I found myself thinking of what would be best for the colonists in order to improve their lot, without taking into consideration the colonists' motivations in resettling, and their expectations in doing so.

I also spent almost a year coordinating the resettlement of 25 families of displaced colonists in a government sponsored colonization project (San Julian). This experience helped me to better appreciate the implications of becoming a colonist, adjusting to a tropical climate, and learning to use unfamiliar land cultivation techniques. I witnessed the development of a colonist household production.

These two experiences helped me to begin to understand the situation in which colonists found themselves trapped, and why they responded the way they did. All colonist households followed an agenda of their own in their migration to the lowlands. While there, their agenda changed according to the particular situation in which they became involved as a result of their decisions and fortuitously very much outside of their control, immersed as they were within the broader context of the Bolivian economic, social, and ideological reality.

This thesis reflects my personal interest in trying to understand the processes that led colonists to become involved in the development of migrant agriculture, and what its effects were upon the colonists. Three questions about migrant agriculture are to be addressed in this thesis: why did it develop?, how did it develop?, and what were the effects upon the colonists involved in it?

## OBJECTIVES AND SCOPE

This thesis focuses on highland peasants becoming involved in migrant agriculture after their resettlement in colonies in northern Santa Cruz. For analytical purposes these peasants are categorized as colonists and their production is identified as colonist household production. The concept "migrant agriculture" is used in this thesis to refer to a system of commodity production among colonist households utilizing the slash and burn cultivation technique. This usage is different from that of Wiggins. Wiggins (1976), in his evaluation of colonization in Bolivia, used the concept to mean a self-sufficient colonist household production based upon slash and burn cultivation. This household production, as examined in this thesis, is far from being self-sufficient; instead it relies upon the production of a commodity for sale in the market. Therefore, as used in this study, the concept implies commodity production with the use of the slash and burn cultivation technique by colonist households.

In this thesis the processes that led to the resettlement of highland Indian peasants in the lowland department of Santa Cruz are examined.<sup>1</sup> The development of the agro-industry in northern Santa Cruz and attempts made by the Bolivian government to relocate highland mine workers there, prepared the conditions for highland peasants to resettle in the region without government assistance.

The main purpose of this study is to document and analyze the relations of production entered into by highland peasants in the process of developing their household production after becoming colonists. This study will show how the highland colonists became

involved in producing crops for sale in the market (commodity production) making use of the slash and burn technique and its related technology. This commodity production drew the colonist households into capitalist market exchange, which became increasingly important for them to obtain their means of production (capital, tools). The colonists needed these means of production to continue carrying out their household production, and to ensure the physical survival of the household year after year (reproduction of the household production), as well as to reproduce new generations of colonist households (social reproduction).

Ecological constraints and growing dependence upon market exchange counteracted the re-peasantization of the colonists; in fact, they gradually became specialized in commodity production. In the market the colonist households found themselves confronted with middlemen who controlled the means of production (rice mills, transportation, storage facilities) the colonists lacked in order to directly market their commodity. Consequently, the middlemen appropriated a portion of the colonist households' production through the price system of the capitalist market. Furthermore, the cash income of the colonists was gradually absorbed by merchants from whom they had to obtain other commodities and services not produced by their households, but required for the reproduction of their production.

In the domestic market prices of commodities constantly rose while the value of the national currency fell, reducing the value of wages. This situation was directly related to the chronic inflation in Bolivia, a direct effect of the fluctuations of the country's import-export trade and the balance of foreign credits. As a result of

an historical process Bolivia had become specialized in the production and sale of raw materials and agricultural primary commodities in the international market, in exchange obtaining industrial commodities (technology and consumer goods) and capital to reproduce its national production as well as to sustain the reproduction of its social formation. In the domestic market the colonists encountered severely limited cash returns for their labor power investments in the production of commodities, and unequal access to means of production. These constraints, coupled with those of the ecosystem in northern Santa Cruz, motivated the colonists to become involved in other occupations. The result of this process was the emergence of social stratification among colonists, with this stratification showing their gradual proletarianization and incorporation into the ranks of the petty bourgeoisie.

I have limited the theme to the processes I witnessed in northern Santa Cruz to make use of my personal experience and to avoid other phenomena, such as production of coca leaves for cocaine, with which I was unfamiliar. In the early 1980's the Ichilo region (northern Santa Cruz) began to be used by cocaine producers to transport coca leaves from the Chapare region (department of Cochabamba) into the towns of northern Santa Cruz and into the department of Beni. Among the porters were highland peasant colonists; however, this is material for another thesis. For those interested in cocaine production in Bolivia Kevin Healy (1986) has published an interesting article on the subject. Finally, the material I present in this thesis covers only the years until the end of the 1970's.

## THEORY AND RESEARCH METHODOLOGY

This thesis is the result of combining library research with personal observations in the field. Library sources were used to put together the background information of the processes that led to the appearance of the phenomenon of migrant agriculture. I support my personal observations with data taken from primary sources such as: Allyn Maclean Stearman (1973a, 1973b, 1979), Phil Bender (1983), Ron Bietz (1985), Kenneth L. Graber (1972), and Marty Miller (1985). The first author worked in Santa Cruz as a Peace Corps' volunteer, producing relevant material on lowland peasants and colonization while studying anthropology. The rest of the authors have been involved in voluntary service with MCC for more than three consecutive years. The information they provide is the result of their personal experience while living in colonies. Other sources, used less frequently, are Dwight Heath (1970) and Steve Wiggins (1976). Heath conducted field work in Santa Cruz in the 1950's and Wiggins visited most of the spontaneous colonies in northern Santa Cruz, Chapare and Caranavi. His report and evaluation of colonization is based upon the analysis of settlement costs per family and overall government investments.

My approach in studying migrant agriculture is to focus on the analysis of the relations of production the highland peasants entered in the course of developing household production in northern Santa Cruz. These relations of production are viewed within the context of production in Bolivia and the broader international capitalist production. This is the method of historical materialism. The importance of the study of the relations of production was pointed out

by Marx (1974b: 137), who considered them to be the foundation that determines the social, political, and intellectual life processes in general; and to be the result of a long process of historical evolution. The social relations of production formed an economic structure which represented a mode of production, and the process of transformation of modes of production characterized the historical evolution of human societies (Marx and Engels 1974: 38, 39).

Marx (1973: 85, 86, 90) introduced the concept of mode of production as an analytical framework, developing a body of theory and analytical concepts around such a framework. He considered production to be a social process that involved specific relations between people while appropriating nature, modifying it to meet their needs at a definite stage of social development of a particular society, and in the process transforming themselves. Production as a totality had always been a social subject, active in the totality or in each particular branch of production. In taking food human beings reproduce their own body and new producers.

The relations of production, on the one hand, reflect technical relations developed by the people in their contact with the means of production in the actual process of production, and also using the product (Shaw 1983: 207). On the other hand, the structure of social relations of production in each mode of production is represented by a pair of opposed classes of people; a class of producers and a non-producing class that exploit the first group. The exceptions are modes of production in which the production is still in its simplest stage of development. These two opposed social classes are not primarily groups of people; but opposing positions they enter within

the structure of their social relations of production (Brewer 1982: 11, 12). This class conflict becomes the force behind the advancement of the forces of production, closely bound to the social relations.

The development of new forces of production force changes in the relations of production, in turn transforming the entire mode of production (Marx 1974a: 77, 78). However, each mode of production has its own mechanism to ensure the reproduction of its relations of production, because the economic structure of a society constitutes the foundation that sustains the development of a political-legal superstructure to which definite forms of social consciousness correspond (Marx 1974b: 137).

Finally, Marx considered that in a real society several modes of production are combined, with the combination of their social relations of production constituting its social formation. In this social formation the relations of production of one particular mode of production is predominant and influences the rest in varying degrees (Brewer 1982: 13, 14).

Marx studied in detail the emergence of the capitalist mode of production in Europe from the disintegration of the previous mode of production, which he identifies as the feudal mode of production (Ibid., pp. 39, 40). The feudal mode of production, according to Wolf (1982: 81), is a variant of the Asiatic mode of production also identified as such by Marx. Both modes of production have a resemblance better described by a common term introduced by Samir Amin (1973), tributary mode of production (Ibid.).<sup>2</sup>

Marx defines the capitalist mode of production as a generalized production of commodities for sale in the market. This production is

carried out by units of production under the control of capitalists, owners of the means of production, and a class of free but propertyless workers. These workers sell their labor power to capitalists for wages (Brewer 1982: 13). The capitalists convert the labor power they buy into actual work to transform materials into commodities (Ibid., p. 29).<sup>3</sup> The essential characteristic of this mode of production is its expanded reproduction, as a result of the accumulation of a part of the surplus value obtained as new capital. This expanded reproduction results from the pressure generated by competition among capitalists, with competition becoming the driving force of this mode of production (Ibid., pp. 31, 32, 35). The extraction of surplus becomes the specific way for exploitation to take place under capitalism. The price the capitalists obtain in the market through the sale of their commodities allows them to realize the surplus value in the form of profit (Ibid., p. 30). Surplus value is defined as the difference between the value created by labor power put to work a number of hours a day, and the value of labor power. The value of labor power is equivalent to the market value of commodities the worker and his (her) family require to subsist for a day (Ibid., p. 29).

The capitalist class, also known as the bourgeoisie, was during its early stage of formation a disparate group composed of fractions with different interests controlling industrial, commercial, and financial capital separately (Ibid., pp. 38, 39). Commercial capital is defined as the profit extracted by the sale of commodities in the market as a result of unequal exchange. The capitalists controlling commercial capital specialize in the purchasing and selling of commodities produced by industrial capitalists, at the expense of their

profit (Ibid., p. 38).

Cyclical depressions laid the ground for further advancements of the forces of production and the emergence of new social contradictions in the process of development and geographical expansion of this mode of production (Magdoff 1982).<sup>4</sup> These transformations had the virtue of integrating the capitalist production of many areas of the world, and consolidating the development of an international labor specialization and labor division. This labor division separated all capitalist countries into two main groups: the first integrated by countries with industrial manufacturing, the second integrated by countries lacking industrial manufacturing and relying upon the production of mineral and agricultural primary commodities.

This international labor specialization put each group of countries into a particular relationship of dependency upon each other for the reproduction of their production, mediated by trade in the international market. This relationship of dependency is defined by Munck (1984: 31, 32) as dependent reproduction. The industrialized countries established control of the international market as a result of their monopoly upon capital and technology, as well as upon the reproduction of both (interest rates, trademarks, patents, royalties). The reproduction and advancement of technology became closely linked to the reproduction of capital, and capital was only reproduced through international trade. The reproduction of the production of any capitalist country became dependent upon the acquisition of capital in the international market, either through the sale of commodities (industrial and raw materials) or through financial credits. The capital obtained in the international market allowed the purchase of

required commodities, services and technology. Finally, domestic market exchange in each country masks ordinary inter-class struggle under the appearance of business transactions, while international trade reflects inter-capitalist international contradictions.

Ecological constraints have been mentioned above as having a bearing upon the colonist household production. These constraints strongly suggest taking into consideration cultural ecology and its method of analysis. However, the influence of ecology upon the colonist household production in northern Santa Cruz is limited by other important factors not normally addressed by cultural ecology but brought into consideration by historical materialism. These factors are the mode of production the peasant colonists brought from the highlands to the lowland colonies, and Bolivian capitalist production. The impact of the interplay of these factors does not result in the transformation of peasant colonists into semi-nomadic horticulturalists and foragers, nor their re-peasantization, nor their becoming capitalist farmers. Rather, it results in their transformation into commodity producers, a stage next to partial or total proletarianization.

The development of migrant agriculture became a turning point for the social reproduction of the Bolivian peasantry, which had begun its process of social formation within a tributary mode of production. The reorganization of tributary relations of production by Europeans in the sixteenth century brought the formation of a peasantry in the Bolivian high plateau. Peasants are generally characterized as a group of people controlling their own means of production (land, tools, draft animals) and relying on household labor power to produce their own

subsistence. This household production includes the production of handicrafts and the exchange of surpluses in the market (Brewer 1982: 5 42).

The Bolivian peasantry fed the labor power needs of capitalism, introduced into South America (Chile, Argentina, Bolivia) in the nineteenth century, participating in the slow formation of a working class. The 1952 Revolution solved the social contradictions that had developed in Bolivia as a result of the penetration of foreign monopolies in the early twentieth century and their fostering of the formation of a petty bourgeoisie. The Revolution created the conditions for the dissolution of the peasantry. The petty bourgeoisie in power, while expanding capitalist production in the country, set this process in motion drawing the labor power it needed from the peasantry, thereby creating the conditions for the development of migrant agriculture. The petty bourgeoisie consists of small-scale owners and producers, and non-productive wage earners. The petty bourgeoisie emerges as a result of polarization between the bourgeoisie and the working class, given the fact that it is not at the centre of the dominant relations of exploitation. This class polarization produces complex adaptations of the political and ideological relations in which this grouping is placed (Poulantzas 1979: 206, 207).

In order to understand how migrant agriculture was developed I will examine first the social processes that led to the development of labor migrations and colonization in lowland northern Santa Cruz through an overview of the nature of capitalism in Bolivia and its relationship with international capitalist production.

## BOLIVIAN CAPITALISM: ITS MAIN FEATURES

The processes unleashed in Bolivia by the 1952 Revolution led to its transformation into a capitalist country fully integrated in the international capitalist production, specializing in the production of primary commodities (mineral and agricultural) to be exchanged in the international market for foreign currencies, industrial commodities, industrial and agricultural inputs, and technology. Foreign and national capital investments were primarily destined towards the production of primary commodities and banking. The banks, both foreign and national, financed the domestic consumption of imported industrial commodities. Foreign capital investments in Bolivia were also channelled into public loans which the government reinvested in the expansion of transportation, communications, and energy infrastructures, as well as to maintain and expand the reach of basic social services. However, public loan funds were also periodically transferred to the national bourgeoisie through the defaulting of private credits extended by state banks, official corruption, and development of public corporations to be transferred later to private capitalists.

Bolivia's small population and its isolation from the coast of the ocean made investments in manufacturing industries unattractive for multinational corporations. The small domestic market limited the size of any manufacturing industry to a small-scale operation. This constraint, coupled with high costs of transportation to ocean ports, made any export of industrial commodities produced in Bolivia uncompetitive, as compared with those produced in Argentina or Brazil.

In these two countries the population was significantly larger, raw materials were abundant, and the native capitalist classes benefitted more as partners of multinational capital than independently struggling to maintain their share in the international market.

The industrialized countries' monopoly upon the reproduction of technology and capital limited the establishment of manufacturing industries in Bolivia to final assembling and packaging of imported industrial products designed to reduce financial and transportation costs as well as custom duties in the final product. The exception to this situation was the establishment of a metallurgic industry which, however, produced metals for export and not for their domestic industrial transformation.

The capitalist development of Bolivia was closely tied to international capitalist production and, therefore, to the fluctuations of the demand and supply of raw materials, capital, industrial commodities, and technology in the international market. Under capitalist relations of production Bolivia continued reproducing capital (royalties, interests, dividends, and profits) for advanced and less advanced industrialized countries in return for their capital investments in the country. This situation also made Bolivia an exporter of skilled and unskilled excess labor power.

But there was a limitation to importations of foreign capital into Bolivia, once the capacity of the national production to reproduce capital was constrained by the exports of capital. This situation generally reflected an economic depression, and its most visible signs were soaring inflation, a debt crisis, and a sharpening of the social contradictions inside the country.

In summary, the economic and social formations of the Bolivian capitalism depended, for its reproduction, upon the capacity of the ruling class to obtain the required means of production in the international market, which was the visible part of international capitalist production. The new Bolivian bourgeoisie acquiesced to its role of subordinate client of international capital, and its social reproduction became dependent upon the continuation of such a role. These characteristics of the Bolivian capitalist production support Munck's (1984) model of dependent reproduction.

Having explored the main features of the formation of the Bolivian capitalist production the processes that led to the development of agro-industry in northern Santa Cruz will now be examined.

#### NOTES

- 1 Bolivia is divided into nine departments for political administration purposes. Each department is divided into provinces and provinces into cantones.
- 2 Under tributary relations of production a ruling elite placed at the top of the power system controlled access to the means of production through the use of force. A large segment of primary producers, peasants or herders, were forced to pay tributes to the rulers as a pre-condition to having access to the means of production. Part of the surpluses extracted as tributes were put into circulation and exchanged by merchant intermediaries, thus transforming the use value of goods into exchange value (Wolf 1982: 80, 84).
- 3 Labor power is a means of production which in its process of transformation into actual work develops other means of production such as skills, tools, and knowledge to harness new sources of energy. On the contrary, work (labor) is a social product, the result of the cooperation between individuals in their relationship to each other, either using tools to transform materials into products or appropriating nature. This social organization of labor constitutes a productive force (Marx and Engels 1974: 29, 30), and any mode of production is always

combined with a certain form of social cooperation and labor division, with sexual labor division being the earliest one (Marx 1973: 495).

4

The combination of industrial manufacturing and the concentration of banking, as well as the combining of both, brought about the establishment of industrial and financial monopolies. These monopolies struggled against each other, seeking to control markets for their commodities (Lenin 1977). Leading capitalist industrialized countries established international financial institutions (World Bank, International Monetary Fund) and agreements to regulate the international capitalist production and international trade (Curzon 1965; Kock 1969). These two major transformations in the international capitalist production led to its integration, as pointed out by Munck (1984).

5

Peasant households are part of a broader set of social relations of production which identify the particular mode of production that created the conditions for their existence, differentiation, and reproduction (Ennew, Hirst, and Tribe 1977; quoted by Munck 1984: 93).

## CHAPTER II

### THE DEVELOPMENT OF AGRO-INDUSTRY IN THE DEPARTMENT OF SANTA CRUZ

#### HISTORICAL BACKGROUND

The outcome of the Chaco War (1933-35) had a profound impact on the post-war history of Bolivia. It stimulated the development of new political organizations and raised the political militancy of a fraction of the petty bourgeoisie and the small working class. These two social classes converged in their opposition to the power of the three largest Bolivian tin mining corporations. These corporations were connected to British, United States, and a few European countries' monopolies in the tin industry and related industries (Almaraz 1980). The war also fostered the rise of militancy among hacienda colonos (land workers subjected to personal bondage), intensifying their opposition to the landowners.

After the Chaco War the nationalist petty bourgeoisie seized political power for a few years and organized its own political party in 1941: Movimiento Nacionalista Revolucionario (MNR), to lead the struggle against the power of the three large tin mining corporations (Whitehead 1969: 5). While in government they adopted anti-foreign monopoly fiscal and monetary policies, attempting to stimulate the development of an autonomous manufacturing industry in the country (Almaraz 1980: 86; Urquidi 1966: 365). By far the most important

measure was the formation of a state oil monopoly, Yacimientos Petroliferos Fiscales Bolivianos (YPFB), after expropriating the assets of Standard Oil (Almaraz 1980: 84; Arze 1981). The United States Department of State responded to the refusal of payment of compensation to Standard Oil by blocking any financial and technical assistance to Bolivia before World War II (Wood 1961: 188).

However, World War II changed the attitude of the United States government against Bolivia, due to the importance of Bolivian tin for its war production. In the early 1940's the occupation of British and Dutch tin mines in Southeast Asia by Japan, left the Bolivian mines as the only source of tin accessible to the Allies (Whitehead 1969: 5). This situation prompted the United States Department of State to increase its influence in the economic and political spheres of the country to counteract possible German and Japanese influence. To obtain the monopoly in the purchasing of Bolivian tin the United States government made available, to the Bolivian government, a credit package and technical assistance for several development projects (Wood 1961: 195, 198).<sup>1</sup> Furthermore, the United States government made sure of the provision of industrial supplies, materials, and food necessary to keep and expand the production of the tin mines. The extraction of tin in Bolivia became an integral part of the war production of the Allies, consequently falling under North American control. This development drew the entire production in Bolivia into a close dependency upon North American industrial commodities, technology and capital. Furthermore, the United States government used the opportunity to build a strategic reserve, stockpiling Bolivian tin. After the war this reserve was frequently used to check upward fluctuations of the price

of tin in the international market (Almaraz 1980: 251, 252; Whitehead 1969: 6). This subordination of the production in Bolivia to North American capital was consolidated by the joining of the country to the IMF and the World Bank.

During the war the MNR party leadership showed sympathy towards the Axis powers, opposed as the party was to the power of the large Bolivian tin producers (Alexander 1982: 69; Eder 1968: 22). The opposition of the MNR to the Allies was further stimulated by the agreement of the Bolivian tin producers to sell ore to the Allies at fixed prices for the duration of the war (Almaraz 1980: 238). This agreement hampered the use of tin as a vehicle to accumulate the capital needed to develop an import substitution industry in Bolivia.<sup>2</sup> The defeat of the Axis Powers left the MNR party with only one alternative to gain access to government: armed rebellion. After several unsuccessful attempts a traditional army revolt on April 9, 1952 was turned, by the MNR, into a popular insurrection after establishing a political alliance with the militant working class. The participation of mine, railway, and factory workers' armed detachments turned the battle against the army. The defeat of the army left the MNR in control, free to form a revolutionary government (Urquidi 1966: 326).

The new government expropriated the three tin mining corporations under the pressure of the workers who had organized an independent national labor confederation, Central Obrera Boliviana (COB), shortly after the revolt (Lora 1977: 282).<sup>3</sup> COB also demanded the expropriation of the haciendas (large land estates originated during the colonial period) to establish collective farms to be

exploited by peasant cooperatives (Ibid., p. 284). The petty bourgeoisie, represented by the MNR party in the new government, lacked real power to check the threat the COB militias represented. The party needed to remove this obstacle to conduct the Revolution along the path designed by the leadership. The solution to this direct class confrontation transpired through the expropriation and distribution of hacienda lands to the former colonos. Consequently the government enacted the Land Reform Law in August of 1953, taking advantage of the numerous land occupations made by hacienda colonos in the valleys of Cochabamba (Urquidi 1966: 331). The colonos were freed from bondage and became peasants owning a private plot of land carved out of former haciendas. They were organized into peasant unions and given weapons to form militia detachments, under the MNR party's command. The peasant militias were used to check and isolate the COB's radical leadership and militia apparatus.<sup>4</sup> However, the Land Reform Law also created the conditions for the gradual dissolution of the peasantry.

By abolishing the hacienda system the Land Reform Law removed what was left of the colonial ethnic social labor division.<sup>5</sup> This measure was symbolically represented by the outlawing of the term "Indian," substituting it with campesino (country dweller) (Erasmus 1970: 73). Furthermore, the disappearance of the hacienda system removed the major obstacle that had restrained the expansion of capitalist relations of production to other branches of the production.

While in government the nationalist bourgeoisie used the government apparatus to appropriate the funds of the national treasury, the domestic capital generated by the exports of tin and foreign credits, to grow into a full fledged national bourgeoisie. To nurture

its growth and to gain strength the new ruling class attempted to develop an import substitution industry in the country. The establishment of agro-industry in northern Santa Cruz became one of its first objectives.

#### THE ESTABLISHMENT OF SUGARCANE PLANTATIONS

After the enactment of the Land Reform Law, the Bolivian government requested economic and technical assistance from the United States government to develop a sugar industry in the Bolivian eastern lowlands. The entire region, lying to the north and northwest of the city of Santa Cruz, was considered to have great agricultural potential (see figure 2), but it had remained dormant lacking roads to break its geographical isolation (Heath 1970: 258). The United States government promptly replied, providing funds and other assistance not only to support the development of a sugar industry in Santa Cruz but also to sustain the party in power. The Bolivian government had argued that a communist takeover was imminent if their request went unassisted (Eder 1968: 593, 594).

The United States government responded by expanding its social and economic assistance programs through its mission office in Bolivia, the United States Operations Mission also known as Point IV, dating back to 1942. In 1948 Point IV had started an agricultural assistance program, Servicio Agrícola Interamericano (SAI), jointly with the Bolivian Ministry of Agriculture (Ibid., p. 80). In 1954 personnel of SAI were sent to Santa Cruz to build an agricultural experimental station, and set up a maintenance workshop for a pool of land clearing equipment in the town of Montero, 50 kilometers north of the city of

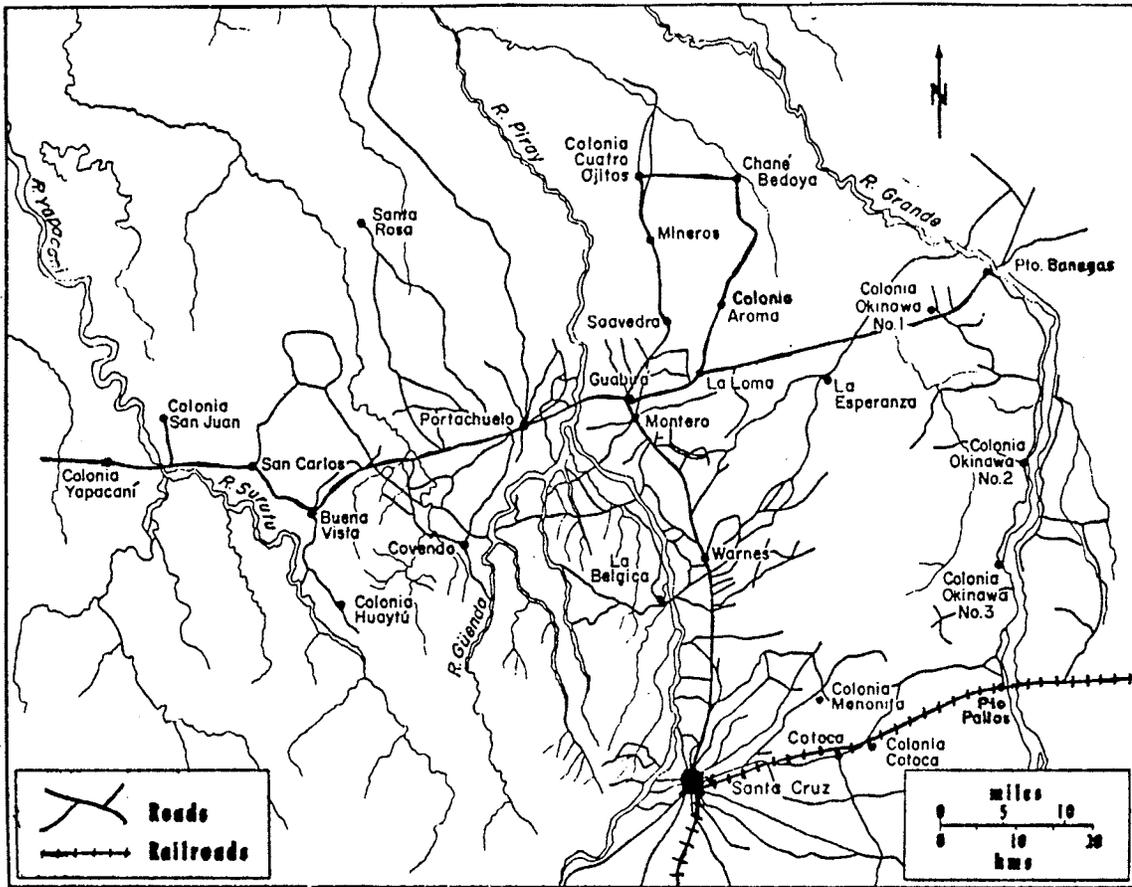


Figure 2. NORTHERN SANTA CRUZ AREA  
Source: Heath 1970: 250

Santa Cruz (Heath 1970: 285, 290). In the following year the United States government sent a consulting firm, International Development Services (IDS), to assist Point IV in organizing a program of supervised agricultural loans (Zondag 1966: 155). In the process the IDS experts trained personnel of the Bolivian Agricultural Bank to handle the credit program (Eder 1968: 534).

In northern Santa Cruz the Land Reform Law provided for an immediate expropriation of all underdeveloped large fincas, but the owners were allowed to retain up to 2000 hectares of their land if they transformed it into agricultural enterprises to produce sugarcane and other cash crops (Heath 1970: 290). Furthermore, the finca owners were offered agricultural loans using their land and future crops as collateral. SAI provided bulldozers to clear the forest and agricultural equipment to plant the fields of those who undertook the transformation of their fincas. SAI's rental fees were subsidized, and MNR party members and sympathizers were further rewarded with preferential treatment in the obtaining of loans, as well as privileges in the purchasing of agricultural equipment. The government imported tractors and implements which were sold at subsidized prices when inflation was already rampant (Ibid., p. 361).<sup>7</sup>

Large tracts of forests were cleared along the road from the city of Santa Cruz to the towns of Montero and Portachuelo, and the new fields planted with sugarcane (Ibid., pp. 290, 291). By 1958 the number of hectares of planted sugarcane had reached 5800 hectares (Simon et al 1980: 12).

## INSTALLATION OF A SUGARMILL AND CONSTRUCTION OF ROADS

At the time of the Revolution a highway between the cities of Cochabamba, in the highlands, and Santa Cruz was under construction, relying on United States funds and technical assistance. Eleven years before the United States government had offered to grant the Bolivian government a loan package through its Import-Export Bank to finance the building of the highway (Wood 1961: 198). After the materialization of the loan, the Bolivian government had created Corporacion Boliviana de Fomento (CBF), a government development corporation, as a counterpart to assist a United States corporation (Thompson and Cornwall) in the construction of the highway (Zondag 1966: 66). The construction of the 496 kilometer highway was started in 1945 with a \$us 50 million loan. It was opened to truck traffic two years after the Revolution, and in 1957 the paving was finally completed (Nelson 1973: 137).

However, in 1944, anticipating the opening of highland markets, an expatriate in Santa Cruz invested capital in the installation of the first sugar mill (La Belgica) to process 4500 metric tons of sugarcane annually (Ibid.). A second private sugar mill was installed in La Esperanza, a small town east of Montero, to process 500 metric tons of sugarcane (Heath 1970: 304).

To implement the projected sugar industry in northern Santa Cruz the government put CBF in charge of removing a tract of forest in Guabira, 3 kilometers north of the town of Montero, to prepare the building structures for the installation of a large sugar mill, and to extend the highway from Santa Cruz to the site of the mill (see figure 2). In 1953 CBF finalized negotiations with a French corporation

(Fives and Lille) to purchase and import sugar mill equipment to process 20,000 tons of sugarcane annually (Perez 1981). The new sugar mill began to operate in 1956 producing sugar, alcohol, and molasses (Heath 1970: 304). In the early 1960's the production of sugar covered the needs of the domestic market (Ibid., p. 297). This new sugar industry transformed the town of Montero into a sugar production center (Simon et al 1980: 13).

To facilitate the transportation of sugarcane to Guabira, CBF built three other highways which converged at the mill. Shortages of funds caused delays in the completion of the three highways, but they were finally paved in the 1960's. The first highway was 56 kilometers and reached Rio Grande, east of Montero, where Japanese immigrants had been resettled shortly after the Revolution. The second highway opened northern Montero to sugarcane cultivation, pavement covering the first 33.6 kilometers and a dirt road continuing northward. The third highway was 72 kilometers and reached the Yapacani River to the west (Zondag 1966: 156). It opened vehicle transportation to the Japanese colony established on the eastern shore of the river and to the old towns of San Carlos, Buena Vista, Santa Rosa and Portachuelo (see figure 2). SAI also cooperated with CBF in road building, grading secondary roads, and opening new ones to function as feeder roads to facilitate the transportation of sugarcane to Guabira and the other mills (Heath 1970: 291).

#### THE FORMATION OF A LABOR POOL FOR THE NEW SUGAR INDUSTRY

As expected, the new sugar industry in northern Santa Cruz developed a crisis in the labor market of the region. The demand for

labor power to harvest the sugarcane caused a shortage which increased wages (Ibid., p. 340). The government tried to solve this problem by projecting a colonization program, attempting to resettle discharged miners and unemployed highland workers in northern Santa Cruz (Stearman 1973b: 287; Heath 1970: 346). Forced cuts in the labor force of the new government owned mining corporation (COMIBOL), and purges of labor leaders had been made to weaken the organized resistance of the workers to government monetary policies, which had been adopted to stop the rampant inflation originated by the application of development programs (Eder 1968: 100, 225; Lora 1977: 302). The government resorted to colonization as an instrument to weaken the miners' labor organization, rather than as an effective solution to labor shortages in northern Santa Cruz.

The new commercial farmers recruited the labor power they needed from the new local peasantry, formed by the application of the Land Reform Law. But this new labor power pool was insufficient and too expensive. To tap a more abundant and cheap labor power they directed their attention to the highland departments where the Indian and mestizo (miscegenation between Spaniards and Natives) peasantry was also enlarged as a result of the Land Reform Law. To have access to this labor power, the sugarcane growers had to compete with the Argentinian agro-industrial capitalists controlling the sugar industry in northern Argentina. The sugarcane plantations and mills of that region had already been recruiting Indian peasant labor power in the Bolivian southern highlands since the end of the last century (Whiteford 1981: 19).

The Argentinian sugarcane planters had used Bolivian seasonal

workers to counteract the Argentinian plantation workers' demands of higher wages. The offer of employment and better wages than those obtained in the local labor market encouraged many Bolivian peasants to enter the neighboring country illegally to work in the sugarcane harvest (Ibid., p. 22).

The seasonal migration of Bolivian peasants was diverted to northern Santa Cruz only as a result of the intervention of the Argentinian government, which was afraid of the spread of labor conflicts into the rest of Argentina (Ibid., p. 46). The illegal labor migration of Bolivian peasants to northern Argentina had increased the number of Bolivians permanently established there and employed in other sectors of the production, while the number of seasonal workers kept swelling year after year (Urquidi 1966: 332). The restrictions adopted by the Argentinian government in 1967 drastically reduced the number of Bolivian seasonal workers allowed to enter that country (Whiteford 1981: 46). The only option left to many of the seasonal workers was the sugarcane harvest in northern Santa Cruz.

The government colonization programs and the diversion of the highland peasant seasonal migration to northern Santa Cruz were the two major factors that facilitated the development of spontaneous colonization by highland peasants in the region. Having examined the establishment of agro-industry the development of labor migration to northern Santa Cruz as well as colonization will now be studied.

## NOTES

- 1 These projects were the construction of a highway between the cities of Cochabamba and Santa Cruz, and the building of two oil refineries in the country.
- 2 The disruption of the international trade encouraged the development of a manufacturing industry in Argentina to supply its domestic market with industrial commodities previously imported from European industrialized countries. This industrial development was witnessed by high ranking MNR party leaders who spent a part of their political careers exiled in Argentina (Fellman 1954: 224). The party took import substitution industrialization as its economic policy for the development of the country. After World War II Bolivia was expending roughly 70 percent of its US dollar earnings exporting tin and importing industrial commodities, food, and fuel (Perez 1981).
- 3 The MNR government avoided a direct confrontation with the United States government by not applying the expropriation decree on a few Bolivian mines exploited by United States corporations. The government also accepted the United States government's demand to set a ceiling on the price of tin in the international market as a result of the Korean War (Whitehead 1969: 8; Almaraz 1980: 7).
- 4 The government battled for several years trying to remove the threat the COB represented. It resorted to undermining the support base of its leadership by stirring up factional disputes and conflicts between key trade unions, and sponsoring the organization of rival labor confederations with dissident trade unions (Lora 1977: 288, 289). Once COB fell in disarray the MNR succeeded in removing the major obstacle in fostering the capitalist development of the country.
- 5 This ethnic social labor division was a result of the organization of the colonial production by the Spanish settlers. The Spaniards rejected almost all manual labor, except goldsmithing and a few other selected occupations (Urquidi 1966: 141). The Indians were forced to provide labor power for mining, agriculture and construction. The mestizos were put in charge of craftmaking as well as other occupations such as petty trade. With the introduction of capitalism the ethnic social contradictions became intricately mixed and subsumed under the new social contradictions generated by capitalism. The complexity of similar ethnic and class contradictions were studied by Stavenhagen (1971) in Mexico and Guatemala.
- 6 This project relied upon measures designed to control inroads of foreign corporations. Price controls were introduced in the domestic markets (Eder 1968: 143) and areas of production, run by state corporations, were protected with the establishment of government monopolies (Almaraz 1980). However, the MNR party leadership established a convenient alliance with the United

States government, relying on its assistance to support its development projects and to put down its major class opponent, the small Bolivian proletariat (Lora 1977: 288; Corbett 1972: 35; Whitehead 1969: 23, 24; Wilkie 1969: 48). In the long run, this reliance on United States government assistance developed into a close dependency. The political survival of the party and the survival of the new bourgeoisie required the continuous financial support of the United States government, affected by the failure of the economic goals of the revolutionary government (see Chapter VI). The United States government took advantage of its tutelage upon the MNR government to remove all barriers to its free trade policies and the dismantling of state run corporations (Eder 1968: 148, 220; Whitehead 1969: 9; Zondag 1966: 233), while at the same time providing financial assistance to rival fractions of the new ruling class in order to foster the development of a private sector in the capitalist production in Bolivia (Eder 1968: 233, 530).

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For more information about inflation see Chapter VI.

### CHAPTER III

#### COLONIZATION IN NORTHERN SANTA CRUZ

Before the 1952 Revolution peasants from the valleys of Cochabamba were employed by CBF in the construction of the Santa Cruz-Cochabamba highway (Heath 1970: 272). After the Revolution CBF hired more peasants from the same region in the construction of the sugar mill in Guabira, and highways in northern Santa Cruz (Ibid., p. 305). When the highway from Cochabamba to Santa Cruz was opened to truck traffic in 1954 Guabira attracted more peasants, as well as unemployed wage laborers, not only from Cochabamba but also from other highland departments (Ibid., p. 350). This influx of labor power into northern Santa Cruz was, however, not sufficient to meet the shortages of labor power for the harvest of sugarcane in the new plantations, when CBF's mill began to operate in 1956. The critical labor shortage pushed up wages in the region (Ibid., p. 340).

To solve this problem the Bolivian government organized colonization projects to resettle dismissed mine workers and unemployed urban workers in northern Santa Cruz, while the sugarcane planters dispatched labor contractors to the southern highland departments with the purpose of attracting peasants involved in the seasonal migration to sugarcane plantations in northern Argentina (Ibid., p. 273). They were helped, when in 1967 the Argentinian government imposed restrictions on illegal Bolivian workers due to rising unemployment in

Argentina (Whiteford 1981: 37).

The influx of highland peasants to northern Santa Cruz also increased when adverse climatic factors in the early 1970's forced sugarcane planters in the region to shift into the production of cotton, stimulated by the rise of its price in the international market. Increasing landlessness in the highlands encouraged peasant seasonal migrants to look for land in northern Santa Cruz and settle there, forming spontaneous colonies. The seasonal labor migration to sugarcane and cotton harvests became the channel that nurtured the expansion of colonization, surpassing the colonization efforts of the national government.

#### LABOR MIGRATION TO NORTHERN ARGENTINA

According to Whiteford (1981) the migration of Bolivian Indian peasants and unemployed mestizos, from the southern high plateau to northern Argentina, was stimulated by the expansion of the sugarcane industry in the Argentinian provinces of Salta and Jujuy during the first decades of this century. This labor migration was accentuated by shortages of labor power in the sugarcane plantations in both provinces, as a result of the migration of the local seasonal workers to Buenos Aires. This rural-urban labor migration was caused by the growth of industrial manufacturing during the 1930's and 1940's, fostered by the depression and the interruption of international trade during World War II. The Argentinian government's support of trade unions increased the difficulties of the sugarcane plantations. The plantation owners responded by sending labor contractors to southern Bolivia in search of cheaper labor power.

The extension of the railway from Tucuman to the province of Jujuy in the 1880's encouraged the large landowners of Salta and Jujuy to expand their cultivation of sugarcane and to construct sugarmills to supply the needs of the Argentinian domestic market (Whiteford 1981: 32). The railway tracks were later extended to the southern Bolivian high plateau (Fifer 1972: 191, 192). Bolivian unemployed mestizos and Indian peasants were employed in the construction of this railway, after which they found employment in the sugarcane plantations as seasonal workers (Whiteford 1981: 19).

The migration of Bolivian workers to northern Argentina was not significant until the Chaco War (1932-35), when thousands of deserters from the Bolivian army took refuge in northern Argentina and searched for work in the sugarcane and tobacco plantations (Ibid., p. 36). This event coincided with the beginning of the migration of local Argentinian plantation workers to Buenos Aires, attracted by industrial employment (Ibid., p. 20). When Peron came to power in 1945, a series of strikes and violent confrontations between unionized plantation workers and plantation owners occurred over wage increases and better working conditions. To solve this class confrontation the plantation owners sent labor recruiters to Bolivia to hire peasants who had to enter Argentina illegally (Ibid., pp. 35, 36). In Bolivia the targets of Argentinian labor contractors were Indian peasants from the southern high plateau, and the excess labor power of the haciendas in the valleys of Chuquisaca and Tarija. In these valleys the dismissal of the excess hacienda labor force gave rise to a segment of landless colonos, known as arrimantes. According to Erasmus (1970: 90) regular hacienda colonos allowed them to occupy and cultivate small fractions

of their plots of land in return for their help in fulfilling labor obligations to the hacienda. These arrimantes took the risk of going to the sugarcane harvest in northern Argentina (Whiteford 1981: 23, 24). Likewise, peasants of colono origin from the valleys of Cochabamba joined the seasonal labor migration to northern Argentina, many of them opting to remain there (Dandler 1969: 125). After the 1952 Revolution more peasants joined the labor migrations to northern Argentina. McEwen (1975: 37, 38) found that vineyard workers in southern Chuquisaca went to the sugarcane harvest every year because of better pay, better working conditions, and the provision of transportation by the Argentinian plantations.

In Argentina the ousting of Peron from power in 1955 had a direct impact upon the growth of Bolivian seasonal migration to northern Argentina. The new Argentinian government enacted a decree allowing the sugarcane plantations of Salta and Jujuy to hire Bolivian migrant workers. This decree was followed by a series of agreements between Argentina and Bolivia regarding some of the problems Bolivian illegal workers confronted in the sugarcane plantations. Both countries agreed to provide the workers with legal documentation and other assistance, as well as protection. Sugar production in northern Argentina expanded greatly, stimulated by the opening of the United States market to Argentinian sugar. This event was caused by the United States trade embargo on Cuba in 1960, and led to the recruitment of more Bolivian migrant workers; the plantations became entirely dependent upon migrant Bolivian labor power for the harvesting of sugarcane (Whiteford 1981: 25).

The influx of more Bolivian workers into northern Argentina

increased the number of those permanently established there, moving from the plantations in the north to other provinces to harvest other seasonal crops (Ibid., pp. 25, 37). The total number of Bolivians permanently established in Argentina was calculated at between 200,000 (Urquidi 1966: 332) to 500,000, with 200,000 seasonal migrants returning to Bolivia after the sugarcane harvest (Whiteford 1981: 27).

In the mid 1960's the overproduction of sugar caused a major crisis in the Argentinian sugar industry, leading to the closure of mills and the allocation of production quotas to remaining mills. Before the crisis the plantations had begun to mechanize the harvesting of sugarcane in order to reduce their labor power costs, thus increasing unemployment among local workers. Unemployment rose sharply during the crisis and preference in hiring Bolivian migrant workers was met with opposition by local workers, among them Bolivian residents. As a result of the protests the sugarcane plantations began to hire only those Bolivians with work permits. This measure blocked the entrance of many Bolivian seasonal workers to Argentina (Ibid., p. 37).

The Bolivian seasonal labor migration to northern Argentina was effectively curtailed by the Argentinian government in 1967, through the enactment of a law. This law reduced the hiring of Bolivian migrant workers to only 30 percent of the total labor power hired by plantations, and those Bolivians hired had to have their documents in order (Ibid., p. 46). At about this time in Santa Cruz the expansion of the milling capacity of sugar mills increased the demand for harvesters in the Bolivian plantations, after the expansion of the planting of sugarcane. The Bolivian seasonal migrant workers had the alternative to go to Santa Cruz.

## PEASANT LANDLESSNESS AND MIGRATION AFTER THE LAND REFORM OF 1953

The Land Reform of 1953 fostered the formation of new marketing centres in regions of the highlands where haciendas had been established. The national government also introduced some social services and expanded its presence in peasant towns and villages. The growing peasant participation in market exchange and access to some social services gave them the opportunity to become involved in occupations other than agriculture, as shortages of land were increasing. Furthermore, growing landlessness stimulated peasants to migrate into cities and other regions of the country in search of employment. Landlessness among highland peasants was caused by a rapid fragmentation of peasant holdings. The development of this phenomenon was inherent in the application of the Land Reform Law, fragmenting haciendas into small private peasant holdings, and introducing new land inheritance provisions.

Before the 1952 Revolution the old large towns (capitals of provinces) were the residences of local hacienda owners and mestizo craftsmen, the seat of government officials, and marketing centres; second only to the cities in importance (Albo 1972: 793). After the Revolution the MNR government established public elementary schools, small hospitals, and some government offices in peasant towns that were heads of cantones, and small schools in larger peasant villages (McEwen 1975: 321). These changes brought decadence to large towns, gradually shifting their former marketing role to smaller peasant towns which began to establish direct links with the cities.

After the Land Reform, the sindicato (peasant union) replaced

the ayllu<sup>1</sup> as an alternative form of communal organization and territorial division among the new peasants established on former hacienda<sup>2</sup> land (Albo 1972: 809, 810). These sindicatos built their own schools and requested school supplies and the placing of paid teachers from the national government (Ibid., pp. 800, 804). The establishment of schools in the larger villages of sindicatos and ayllus facilitated the formation of new towns and local marketing centres, and consolidated those that were in the process of formation. Weekly fair days in the new towns expanded market exchange, stimulating peasants to increase their production of commodities. Peasant sindicatos sought the status of a canton for their new towns from the national government, seeking to attract government services and elementary schools into them (Ibid., pp. 793, 794).

The national government, in granting the status of canton to new towns in peasant sindicatos, (territorial units) indirectly unleashed a process of fissioning of sindicatos and ayllus in the high plateau (Albo 1972: 807; McEwen 1975: 346, 347). In the valleys of Cochabamba the process of the formation of new peasant towns had started much earlier than the Land Reform (Dandler 1969: 47). In the high plateau large peasant villages split to form new sindicatos and ayllus, seeking to gain separate access to government resources and to more land (Albo 1972: 800). In contrast to the ayllu the sindicato, as a new communal organization, had the role of ensuring private ownership of former hacienda lands, without interfering in the transferring of plots of land to other members or aliens. The sindicato did not develop into a corporate organization as had been the main feature of the ayllu, however; it became, on the contrary, a political instrument for the

national government, and an alternative form of territorial division.

The type of land reform adopted by the MNR government in 1953 set the conditions for the fragmenting of peasant landholdings, by granting private ownership of small plots of land to single peasant households. This land fragmentation was accelerated by a provision incorporated into the Land Reform Law, changing former land inheritance procedures. The provision established that both male and female children were entitled to inherit equal shares of the land owned by their parents, upon the death of their parents. This legal measure led to a rapid fragmentation by inheritance of peasant landholdings derived from former hacienda lands. A growing shortage of land reduced peasant involvement in agricultural production, causing peasants to become involved in other occupations such as construction, trade, and craft production (McEwen 1975: 333, 334).

The ayllu peasant households ignored the new inheritance provision and continued to pass their right to ayllu land to their male children. Daughters inherited land only when there were no sons (Ibid., pp. 327, 328). Before the Land Reform Law these peasants had to ratify their rights to the land they cultivated by paying a land tax (tasa) to the government every year (Platt 1981: 679). These peasant households had two types of land, a plot (sayana, tasa) held almost as private property where the dwelling was built and secondly, several plots (aynoqas, mantas) cultivated in rotation within communally held land. These plots were used by the same households year after year, even though they were considered to be communally owned (Albo 1972: 785, 786). The fragmenting of the permanently occupied plots increased the use of communal plots, thereby reducing the number of plots under

rotation and the period of fallowing. Pressure on the land also forced the cultivation of marginal lands. The intensifying use of communal land forced the larger villages to split, forming new ayllus. In the negotiations to define new boundaries they tried to gain control of as much land as possible, in detriment of smaller villages (McEwen 1975: 347, 348).

The mounting pressure upon the land caused young peasants to leave their villages for temporary employment.<sup>3</sup> McEwen (1975: 326) reported that every year 25 percent of all adult males left the ayllus (territorial jurisdiction) of San Miguel in the department of Oruro, in search of seasonal jobs in Oruro, La Paz, Cochabamba, and Arica (Chile). In a survey carried out among peasant migrants established in the city of La Paz it was found that 41.8 percent were landless, while 45.7 percent had some land, but not enough to produce all they needed to subsist (Fernandez 1976: 317).

In the valleys of Cochabamba the division by inheritance of peasant holdings had increased peasant involvement in occupations other than agriculture much earlier than the Land Reform (Dandler 1969: 53, 54). In these valleys the Land Reform accelerated the above process after bringing about the formation of a new peasant segment, which after a while also began to face shortages of land (Sariola 1960: 82). These peasants had no choice but to join labor migrations to the cities and other regions of the country.

The migration of peasants to other regions of the country went in two directions, developing a fairly regular pattern. Peasants from the central and northern high plateau (Oruro and La Paz departments) tended to move to the inter-montane subtropical valleys of the

department of La Paz, and from there to Caranavi, a colonization area in the department of Beni (McEwen 1975: 326). Meanwhile, peasants from the departments of Potosi, Chuquisaca, Tarija, and Cochabamba went to the department of Santa Cruz to work in the commercial farms, and from there to the colonization areas (Hickman 1968: 400).

The 1952 Revolution through the dismantling of the hacienda system had expanded the source of labor power to feed the needs of Bolivian capitalism. Peasant households, Indian and mestizo, released their surplus labor power as the fragmentation of their landholdings increasingly limited their labor investments.

#### NATIONAL GOVERNMENT COLONIZATION PROGRAMS

Before any formal colonization programs were organized and executed the Bolivian government welcomed two separate contingents of Japanese immigrants, granting them land to build settlements and develop agricultural production. This resettlement of the Japanese was financed by the governments of Japan and the United States (Nelson 1973: 117, 118, 119). The Bolivian government justified the granting of land to the Japanese by arguing that they would stimulate the production of rice and provide a demonstration effect for local peasants (Ibid., p. 116). This Japanese colonization was taken as a model by the Bolivian government which attempted to relocate excess labor power from mining centres and landless highland peasants into northern Santa Cruz, with the participation of international organizations. The Bolivian government organized and conducted a large-scale colonization program assisted with foreign credit, when in 1961 COMIBOL discharged 6000 mine workers.

The first attempt to resettle highland Indian peasants in the department of Santa Cruz was carried out in 1954 as a joint project sponsored by the MNR government and the International Institute of Agricultural Sciences, an agency of the Organization of American States (Sariola 1960: 76). Several groups of Indian peasants from villages in the Upper Valley of Cochabamba were taken to an area northeast of Montero, establishing the colonies of Aroma and La Loma (Dandler 1969: 70). The second attempt was made in 1955, relocating 32 families of Indian peasants from Chuquisaca and Potosi near Cotoca, a town to the east of the city of Santa Cruz (see figure 3). This project was sponsored and conducted by the United Nations' Andean Mission (Henkel 1982: 283). Only 20 to 30 percent of the families chose to remain in the new colony, even though the investments per family were quite high (Stearman 1973b: 286).

At the same time that the Andean Mission was executing its colonization projects near Cotoca, the Bolivian government put CBF in charge of organizing a colonial regiment within the army, to start a colonization program assisted by Point IV (Heath 1970: 346).<sup>4</sup> The government was more interested in resettling miners and unemployed workers from highland towns and cities than peasants, in order to supply labor power for the sugarcane harvest in the new plantations. Young miners from the northern department of Potosi were conscripted into the colonial regiment (Stearman 1973b: 287) and brought to a place near Montero after a few months of military training. CBF employed them to clear land and open roads and eventually hired them as day laborers in the new sugarcane plantations (Heath 1970: 346). After six months of work the former miners were moved into two new areas to clear

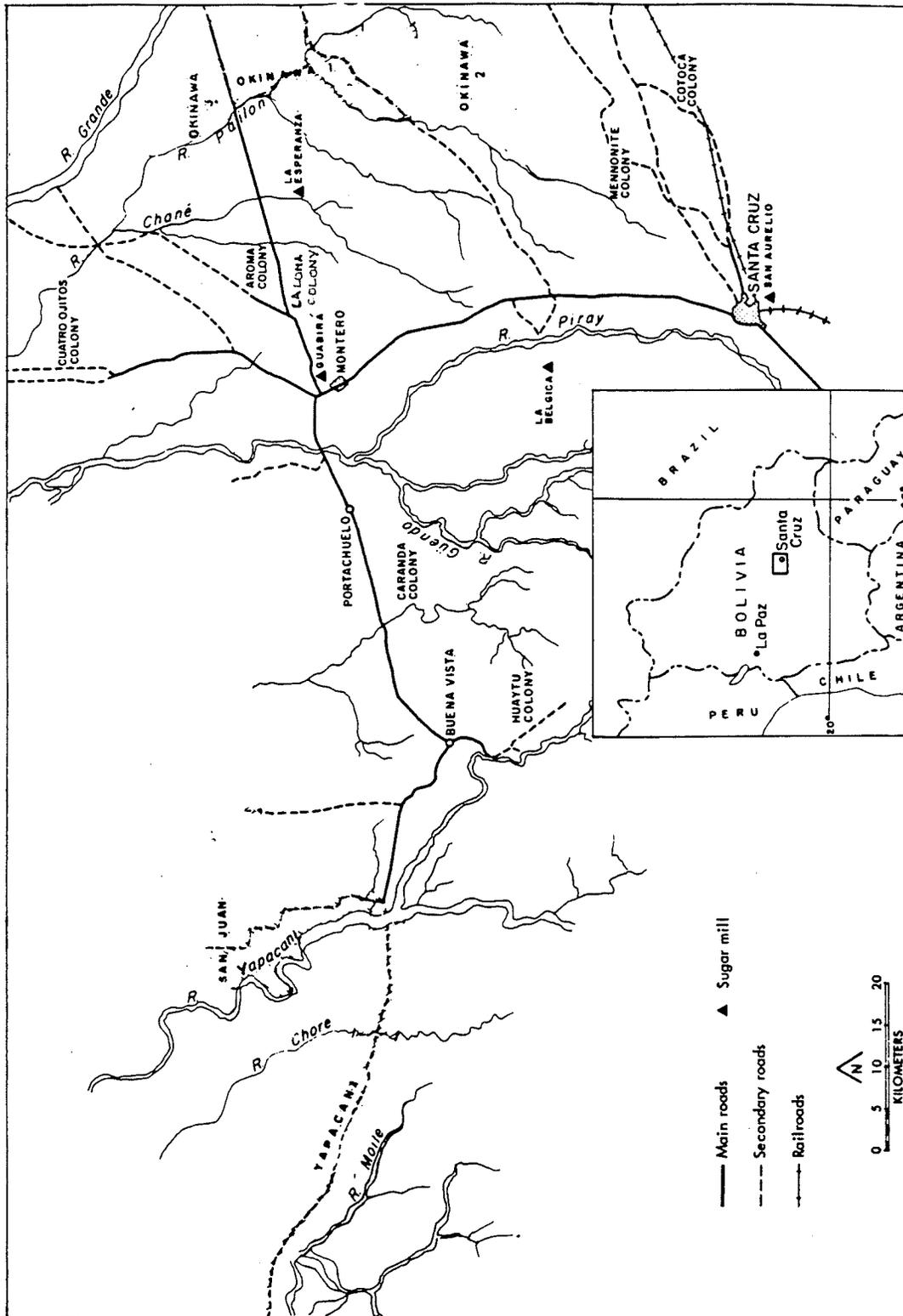


Figure 3. SANTA CRUZ COLONIZATION ZONE  
Source: Nelson 1973: 96 (modified)

land in order to establish two colonization centres: Cuatro Ojitos to the north of Montero, and Huaytu to the west (see figure 3) (Stearman 1973b: 286). In these two new colonies the conscripts planted crops and built living facilities. After their discharge from the army they were given plots of land and encouraged to become colonists. Less than 30 percent remained, the rest returning to the highlands (Stearman 1973b: 286,; Heath 1970: 346).

The Monetary Stabilization Program adopted in 1956 threatened to cut funds to CBF's colonization projects (see Chapter VI). However, the national government considered colonization a national priority and convinced Point IV to finance CBF and allow it to continue with its colonization projects (Eder 1968: 198). One of the measures adopted to implement the Monetary Stabilization Program was the dismissal of 6000 miners from COMIBOL's mines. The governments' option for these miners was their relocation into agricultural production, anticipating the organization of cooperative projects (Ibid., p. 225). These cooperative projects were colonization in northern Santa Cruz. The immediate consequence of the monetary stabilization measures was the closing of manufacturing industries, developing a catastrophic unemployment (Lora 1977: 308). COMIBOL postponed the discharging of miners anticipating a major confrontation with the miners' unions, thereby slowing CBF's colonization projects. CBF's colonization division suffered another setback when Point IV withdrew funding and personnel in 1958 (Heath 1970: 344). CBF's colonization division was left with a shortage of funds and without its foreign experts.

The government revived its colonization projects in 1961 when the United States, Britain, and West Germany conditioned the provision

of a loan package (Triangular Plan) to the discharging of 6000 miners<sup>5</sup> to rehabilitate COMIBOL's mines (Zondag 1966: 230). The United States government promised the Bolivian government special funds for colonization through several private and public financial corporations (Eder 1968: 561), to relocate the discharged miners in the eastern tropical lowlands of the country (Zondag 1966: 230). To prepare the public for the massive discharge of miners the Bolivian government put together and published a ten year (1962-1971) national plan for economic and social development, justifying the need of the loan to finance the recovery of COMIBOL's tin production. In this ten year plan the government projected to relocate approximately 100,000 families from the highlands to the eastern lowlands, intending to open 271,000 hectares of land to agricultural production (Wiggins 1976: Ch. 1, p.4).<sup>6</sup>

After the materialization of the Triangular Plan the government asked CBF's colonization division to prepare the ground for the resettlement of former miners in three new regions of the lowlands: Yapacani in the department of Santa Cruz, Chapare in Cochabamba, and Caranavi in Beni (Stearman 1979: 383). The three regions were selected first, because they had previously been chosen as sites through which the Bolivian section of the Carretera Marginal de la Selva (Jungle Peripheral Highway) was to be built, as a continuation of the Peruvian section (Nelson 1973: 176, 177). Secondly, before the ten year development plan was put together the government had already planned to prospect for oil and mineral deposits in the three regions. Thereby, the selection of the new colonization regions was done upon criteria other than agricultural (Stearman 1973b: 288).

Foreign credits for colonization materialized in 1963 when CBF received \$us 9.1 million through the Inter-American Development Bank. The Bank also granted a \$us 435,000 loan to the Bolivian government as additional funds for colonization to be administered by the Ministry of Peasant Affairs and the Bolivian Agricultural Bank (Eder 1968: 561). With the credit CBF projected to relocate 8000 to 10,000 families of former miners and landless highland peasants in the three designated areas as the first stage of the ten year plan (Stearman 1973b: 288).

The region of Yapacani was a basin located between the Yapacani and Ichilo Rivers in northwestern Santa Cruz (see figure 3). A 135 kilometer road, partly paved and partly gravel and dirt, connected the city of Santa Cruz with an army post on the Yapacani River (Ibid.). Some areas close to the Ichilo River had been used by pre-1952 national governments as concentration camps for political opponents, especially highland hacienda colonos' leaders (Urquidi 1966: 386). CBF sent the army's colonial regiment to Yapacani in 1962, to clean up and widen an old 60 kilometer trail from the Yapacani River to Puerto Grether, a former military post on the eastern bank of the Ichilo River. In 1963 the main road was improved and two transversal roads were opened, each seven kilometers long. When the prospective colonists arrived many of them returned immediately. The few who chose to stay were left on their own, without any assistance in selecting plots of land or in building temporary dwellings (Stearman 1973b: 288, 289). The land allotments were limited to between 10 and 15 hectares along the main road, and up to 50 hectares on secondary trails.

Discouraged by the lack of assistance, the first settlers abandoned their plots after a few months. The high rate of desertion

was reduced as wells for water were drilled, schools were built, and credits and some agricultural extension provided, partly accomplishing some of the promises made to former miners at the time of their discharge. These improvements reduced the high desertion rate, but 30 to 50 percent of the new arriving groups of settlers still abandoned the colony after their resettlement (Ibid., pp. 290, 291).

To improve the operation of colonization programs, CBF's colonization division was transformed into a semi-autonomous colonization agency: Division of Colonization and Development of Peasant Communities (Ibid., p. 291). In 1965, as a result of an evaluation of all colonization projects under way, the new agency was separated from CBF and given the sole responsibility for colonization, changing its name to the National Institute of Colonization (INC) (Wiggins 1976: Ch. 1, p. 5). The ten year period ended with the resettlement of approximately 9000 families instead of the 100,000 as had been the goal of the national government. Furthermore, the total number of families settled in the three regions was reduced to 5000, after the desertion of 40 percent of them (Ibid., p. 6).

The INC began to implement a new colonization project in San Julian, a region in northeastern Santa Cruz, in 1974. The funds for this new project were also obtained through credit, this time from the United States Agency for International Development (USAID). The INC planned to relocate from 4000 to 5000 families in San Julian, approximately 100 kilometers east of Montero, and to provide some assistance to around 6000 families established in Chane-Piray, north of Montero, who were settling on their own without any other assistance (Ibid., p. 7).

## SPONTANEOUS COLONIZATION

The existence of vacant plots of land in government sponsored colonies in northern Santa Cruz attracted the settlement of highland peasants involved in the sugarcane harvest. The government colonization agency allowed them to occupy the land without providing them with any type of assistance (Stearman 1973b: 286). This spontaneous settlement of highland peasants was given a boost when, in many plantations, sugarcane was replaced with cotton. The harvesting of cotton increased the influx of highland peasants into northern Santa Cruz, and after the harvest these peasants began to squat on unclaimed land, establishing new colonies near government sponsored colonies, and any other accessible areas in the region.

The first highland peasants brought to northern Santa Cruz by labor contractors in the late 1950's were all men. They worked in small groups, all being relatives or members of the same villages and returned to the highlands after the harvest (Stearman 1979: 385). The influx of highland peasants into northern Santa Cruz increased substantially when sugarcane plantations in northern Argentina began to reduce the hiring of Bolivian migrant workers in the latter half of the 1960's. These peasant seasonal workers, after learning about vacant plots of land in government sponsored colonies, went to occupy them after the harvest. The new colonists cleared land to plant rice going back to the highlands afterwards. They returned to the colonies for the harvest and the clearing of new fields, going back to the highlands again after planting the crop. They repeated this cycle for a few years before establishing permanent residency in the colonies (Ibid., p. 291).

The influx of highland peasants into government sponsored colonization areas led to an increase in the number of settlers in the colonies of Huaytu, Yapacani, and Cuatro Ojitos (Heath 1970: 346). A survey carried out in Huaytu in 1966 showed that 37 percent of the settlers had worked in Argentina or another country (Hickman 1968: 395). In Yapacani after filling all the vacant plots the peasant colonists extended the settlement towards Puerto Grether, establishing new homesteads along both sides of the road. Likewise, in areas north of Montero new spontaneous settlements appeared, once the vacant plots in Cuatro Ojitos were occupied (Heath 1970: 348).

This spontaneous colonization by highland peasants developed a second phase when they began to establish new colonies in areas other than the government sponsored colonies. They entered any road or trail that was open in the forest settling where they thought the land would be adequate for crop production (Stearman 1973b: 287). YPFB and foreign oil companies had opened numerous trails while prospecting for oil, and drilling exploration wells. Likewise, when lumber companies began to establish sawmills they cut trails in the forest to allow their logging trucks access to areas with trees sought for their market value. The spontaneous colonists settled on both sides of these forest trails and cut new ones to expand their settlements (Wiggins 1976: Ch. III, p. 22).

Spontaneous colonies proliferated, unexpectedly boosted by the boom of cotton production in Santa Cruz in the early 1970's. Many sugarcane growers shifted into planting cotton because of its attractive price in the international market, after suffering losses

with sugarcane due to consecutive droughts. After the Revolution cotton was grown in northern Santa Cruz by a private company (La Algodonera) assisted with government subsidies, and enjoying a monopolistic position. In 1968 this company had 6000 hectares of planted cotton. Four years later the Banzer military regime took away the monopoly of the company and encouraged sugarcane growers to plant cotton (Stearman 1979: 385, 386), providing them with soft credits. The area cultivated with cotton rose to 67,000 hectares in 1974 (Simon et al 1980: 32). The cotton harvest was not as physically demanding as the sugarcane harvest, thus making the employment of women and children possible. Consequently, the cotton harvest increasingly attracted entire families of highland peasants, instead of only men (Stearman 1979: 386). During the second half of the 1970's both the sugarcane and cotton harvest attracted 70,000 to 80,000 seasonal laborers annually (Simon et al 1980: 8). However, these figures also included local seasonal workers (Ibid., p. 40). In 1974, according to the Peasant Federation of Santa Cruz, approximately 14,000 seasonal workers did not return to the highlands, and in 1975 it was estimated that 30,000 highland peasants remained in Santa Cruz (Stearman 1979: 387).

The sugarcane and cotton harvest provided the means for highland peasants to move to Santa Cruz in search of land. While involved in harvesting they earned some money and had a place to stay for a period of three to four months. After the harvest they travelled to colonies in search of land (Ibid., p. 386). However, there were also highland peasants who travelled to Santa Cruz to look for land with their own resources. They contacted spontaneous colonists in market fairs in Montero and other towns in northern Santa Cruz, to inquire about land.

In Montero, they were also able to find information in the regional office of INC (Ibid., p. 393).

Twenty years after the beginning of the colonization programs it has been estimated that close to 60,000 families settled in the lowlands, the majority of them highland peasants, the rest being local peasants from other areas of the lowlands as well as foreign immigrants. The national government was either directly or indirectly responsible for the relocation of only 16 percent, with the rest resettling spontaneously, at their own risk and expense (Wiggins 1976: Ch. I, pp. 8,9).

When spontaneous colonization began to intensify, slash and burn cultivation technology became a viable means of developing a household production by highland peasant colonists who owned no means of production other than their own labor power, and some savings. In the following chapter the major characteristics of the ecosystem in northern Santa Cruz will be examined, along with the forms of agricultural production in the region before colonization was begun and the situation of the local peasant household production on the eve of the beginning of colonization. This material will underline the background to the development of migrant agriculture.

#### NOTES

- 1 An ayllu was a corporate descent group carrying out the production in a collective fashion as a result of communal control of natural resources. Casaverde (1978) defined ayllu as a corporate kinship group with an omnilineal descent affiliation, characterized by endogamous marriages but without establishing lineages; having a sexual division of labor that limited the control and management of the group's resources to males.

- 2 The sindicato became not only a peasant communal organization but also a territorial jurisdiction and a political organization, and in many cases a militia detachment. Buechler (1970) describes the sindicato as a communal and political organization, Albo (1972) presents a good account of the peasant sindicato as a territorial jurisdiction. In this case a sindicato was integrated by all the land, privately or communally held by all of its members.
- 3 The leaving of a sindicato generally implied giving up membership in such an organization, except when the peasants who left still owned a piece of land. In this case membership was retained and dues paid. On the contrary, leaving an ayllu did not imply giving up membership because of the nature of the involvement of kinship affiliation in such a corporate descent group.
- 4 Point IV assisted CBF's colonization program with funds and technical experts. Point IV was the United States government technical assistance mission (also known as US Operations Mission) that was in Bolivia since the early 1940's. This agency ran programs in health, agriculture, education, military and police training, civic action and participated in colonization programs in close cooperation with Bolivian government agencies and ministries (Eder 1968).
- 5 In the early 1960's a Soviet diplomatic mission arrived in La Paz and offered the Bolivian government an aid package of \$us 150 million to build a tin smelter in Bolivia, free of conditions. The Soviet offer alarmed the embassies of the United States, Britain and West Germany. These three countries quickly reacted, offering the Bolivian government a loan package to support the rehabilitation of COMIBOL's mines (Eder 1968: 521).
- 6 This particular reference format is due to the fact that Wiggins began each new chapter of his work with page one.

## CHAPTER IV

### MIGRANT AGRICULTURE

Slash and burn cultivation, according to Meggers (1971: 23), represents an adaptation to the special requirements of the soil and climate of the Amazonian lowlands; however, its success in not destroying the fertility of the soil is directly related to its capacity to allow relatively low concentrations of populations and the impossibility of developing permanent settlements. Slash and burn cultivation is a concept that represents not only a certain technology but a set of relations of production that make possible the development and use of that technology. An example of the relations of production of slash and burn and its technology was documented by Wagley (1977) in his study of the Tapirape Indians in the Amazon basin, to name one of the many similar works that exist. When the highland Indian peasants resettled in northern Santa Cruz they adopted the technology of slash and burn cultivation and incorporated it into the relations of production they brought from the highlands.

Wiggins (1976) used the concept "migrant agriculture" to identify the process of an annual rotation of land clearings and periodically of exhausted plots of land, adopted by highland peasant households in northern Santa Cruz. He maintained that this household production was self-sufficient, with a little surplus for sale in the market. In other words, he implied that the highland peasants were

able to reproduce their peasant household production after having resettled in northern Santa Cruz. However, the peasant colonists developed a household commodity production relying on high yields obtained in the first planting of land cleared in primary forests, and resorting to hiring extra labor power for land clearing and harvesting. Furthermore, to increase the efficiency of their labor power some of them began to introduce advanced tools such as chain saws and portable sprayers to control the weed infestation with herbicides. Thus migrant agriculture was the result of the use of slash and burn cultivation technology within the context of the relations of production the peasant colonists used to sustain their commodity production.

#### THE ECOSYSTEM IN NORTHERN SANTA CRUZ

Northern Santa Cruz is located in the southwestern portion of the Amazon basin. Extrapolation from available data for this basin suggests that hardly any humus accumulation takes place in northern Santa Cruz. The forests overcome this handicap by storing large volumes of nutrients in their biomass, by recycling their litter fall, and by developing an effective system to minimize nutrient loss.

The ecosystem in northern Santa Cruz forms part of a subtype of the Amazon basin ecosystem. This is supported by several common features, although there are some differences. Among the common features are a high rainfall pattern, high levels of humidity, and high temperatures influenced by an almost uniform elevation of the terrain (see figure 4) and little variation in solar radiation throughout the year.<sup>1</sup> There are two differences, the first related to its distance from the equator. As a result of this distance southern winds from the

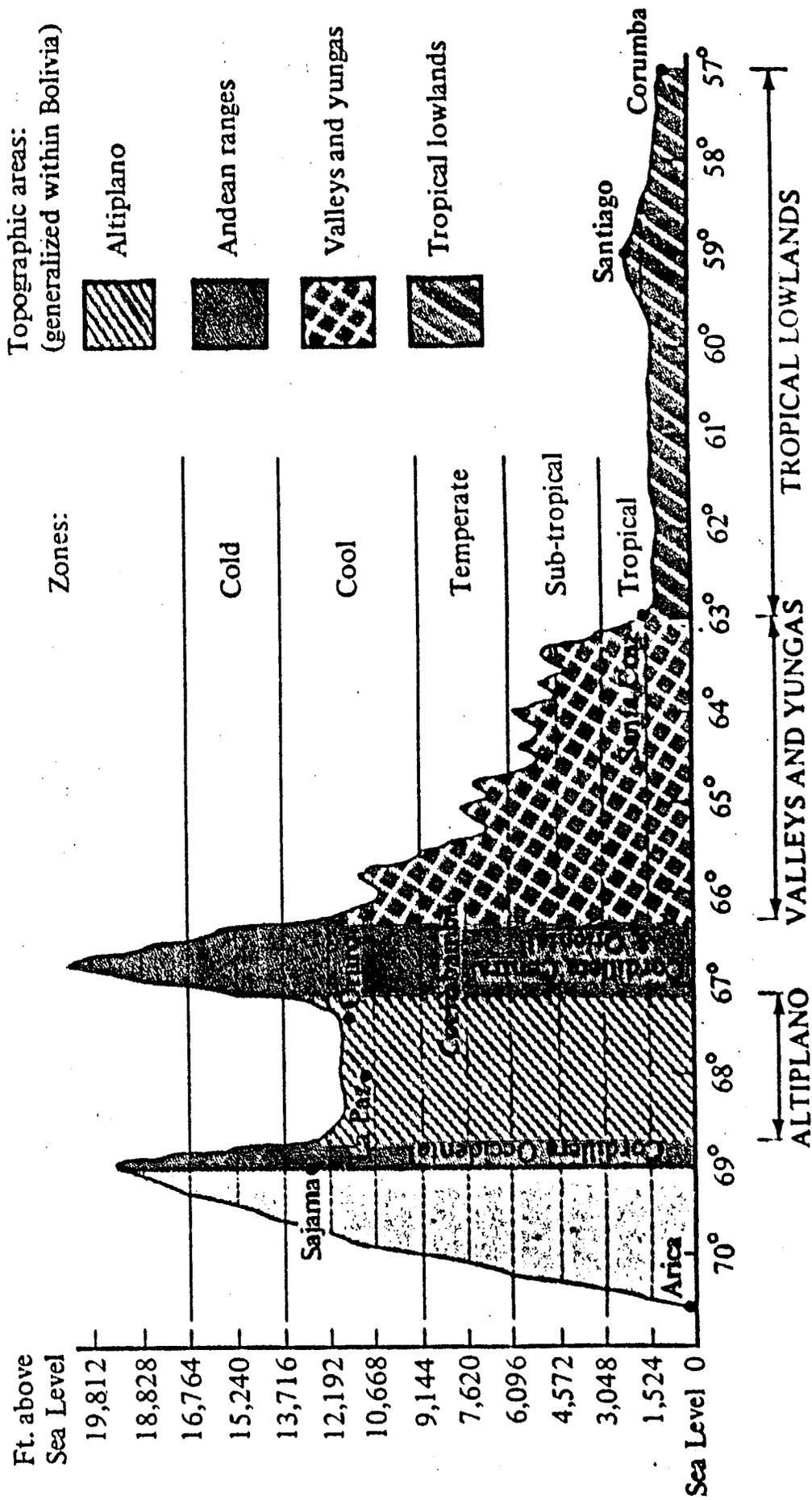


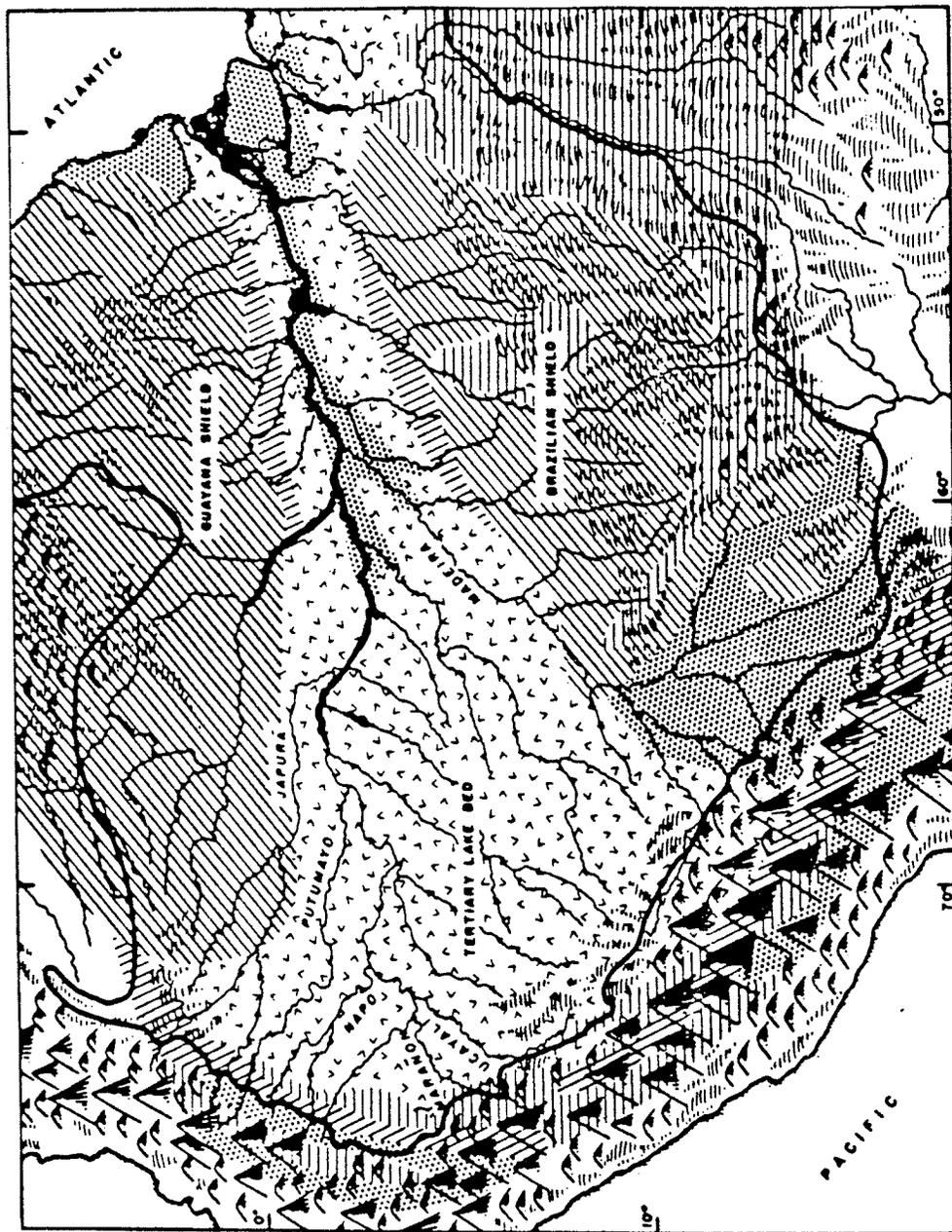
Figure 4. ECOLOGICAL ZONES OF BOLIVIA  
Source: Klein 1982a: 5

Antarctic sweep through northern Santa Cruz causing a drastic drop in temperature within a few hours. Furthermore, the rains are limited to approximately 4 to 6 months, between October and April. Therefore, there are two well defined seasons in the region, the dry and the rainy seasons.

The other difference is relative to the formation of the soil. The department of Santa Cruz, as well as the rest of the Bolivian eastern lowlands, form part of the Brazilian shield, formed during the Precambrian. Throughout much of the Pleistocene this shield was eroded and its soluble minerals leached. The soils that were left basically consisted of acidic sands and clays with varying textures.<sup>2</sup> However, most of the Bolivian lowlands were covered by alluvial sediments during the Quaternary, forming vast alluvial plains (see figure 5) (Meggers 1971: 8, 14) dating back to the interglacial period during the Pleistocene. The alluvial material was brought down from the Andean range by the tributaries of the Amazon basin. Alluvial material is still carried down to the floodplains every year, and in larger volume during periodic flooding. These alluvial materials contain rich sediment particles, containing large reserves of plant nutrients (Sioli 1973: 324).<sup>3</sup>

The soil in the alluvial plain is not uniform, varying from less than a meter in areas distant from rivers, to more than a meter on the shores of the large Bolivian tributaries of the Amazon River. However, there are also areas where the parent material is not covered by alluvial material, thus exposing acidic sands and clays (Heath 1970: 315).<sup>4</sup>

A transitional belt running from east to west transverses the



PRECAMBRIAN  
  PALEOZOIC  
  MESOZOIC  
 TERTIARY  
  QUATERNARY

Figure 5. GEOLOGICAL STRUCTURE OF THE AMAZON BASIN  
 Source: Meggers 1971: 9

southern part of the department of Santa Cruz separating the Amazon watershed from the Paraguay River and the Rio de la Plata, thus also marking a transition from the tropical ecosystem to the sparse and thorny forest of the South (Chaco) (Stearman 1983: 56; Riester 1976: 122).<sup>5</sup> The northwestern quarter of the department of Santa Cruz, where colonization has been taking place, forms the basins of two large rivers, tributaries of the Amazon, which sustain a seasonal semi-evergreen tropical forest.

Several studies conducted on the ecosystem of the Amazon basin indicate that climatic and geographical factors produce a complex combination which allows forest vegetation and grasslands to thrive in spite of poor soil conditions. The forest thrives stimulated by high air temperatures, excessive rainfall which maintains a high level of humidity, and longer hours of daylight. The soil serves mainly as a sustaining base for the trees and as a reservoir of water rather than as a supplier of nutrients.<sup>6</sup>

In the forests of the Amazon basin, in contrast to temperate forests, humus accumulation generally does not take place; although in some subtypes of forests it may take place minimally due to the alternation of seasons (dry and wet). In temperate forests organic materials of plant and animal origin accumulate on the top soil forming humus, a rich mixture of organic compounds.<sup>7</sup> This material is broken down by microorganisms and soil organisms, in the process releasing the inorganic nutrients of organic compounds in a form that can be captured by the plants.<sup>8</sup> On the contrary, in the tropical forests of the Amazon basin the organic matter is decomposed at a faster rate than in temperate forests. Warmer temperatures and higher levels of humidity

stimulate a higher rate of bacterial and fungal activity. According to Meggers (1971: 14, 15) humus accumulation takes place only when soil temperatures remain below 25 Celsius. On the average the top 15 centimeter layer of soil is warmer than the air at every season of the year (Brady 1974: 272). Nicholaides et al (1983: 102, 104) indicate that soil temperatures in the tropical forest of the Amazon basin are fairly constant during the year, with a mean temperature of 32.3° Celsius at a depth of 5 centimeters. In contrast the mean temperature of the air is lower, at 26.2° Celsius. This data supports the argument that humus accumulation hardly takes place in the forests of the Amazon basin. The lack of humus is overcome by the plants storing organic compounds in which atmospheric nitrogen (the most important plant nutrient) is fixed by highly specialized and very active microorganisms, such as bacteria and mycorrhizae fungi. These microorganisms exchange plant exudates with nitrogenous compounds readily absorbed by the plants. The nitrogenous compounds of the litter fall are also reabsorbed immediately by the plants after being decomposed. The constant recycling and storing of nutrients by the plants gives the forests of the Amazon basin the unique feature of maintaining an almost closed cycle of nutrients. <sup>9</sup> Loss of nutrients to leaching and soil erosion <sup>10</sup> are reduced to the lowest limits by the <sup>11</sup> plants growing tall and developing a dense forest canopy, a root mat extension on top of the soil, and rootlets in the upper layer of the soil at depths between 2 to 15 centimeters. To use all of the available nutrients, plants of different species juxtapose at different altitudes below the forest canopy, while individuals of the same plant species disperse.

The information presented above leads to the conclusion that in the forests of the Amazon basin the most important nutrients, necessary to grow crops, are stored in the trees not in the soil, as is the case in temperate forests. This is supported by Nicholaides et al (1983: 114, 115) who estimate that 90 percent of the soils in the Amazon basin have major deficiencies in nitrogen compounds and phosphorus, necessary for crop production. Potassium deficiency and aluminum toxicity are estimated to affect more than 75 percent of the soils, zinc and copper deficiencies 48 percent and 23 percent respectively. Calcium, sulphur, and magnesium are also estimated to be deficient.

The human response to the limitations of the Amazon basin soils for planting of crops is well known and widely documented. The development of the slash and burn cultivation technique allowed many ethnic groups to combine the growing of some food staples with hunting and foraging. A few cultivated crops were found to be adapted to acidic and infertile soil conditions, among them some varieties of rice, beans, and manioc. Rice and beans were found to tolerate high levels of aluminum in the soil, more than any other crop (Nicholaides et al 1983: 114, 116).

Clearing new fields every year and abandoning used ones, maintaining a low population density, and moving the location of the settlements every fifteen to twenty years has allowed Amazonian ethnic groups to have access to regenerated forests on an almost permanent basis. By clearing new forests they have tapped the required plant nutrients the burning of trees and underbrush provided to mature their few crops. At Yurimaguas, a Peruvian port at the Amazon headwaters, in a one hectare plot of land cleared by the slash and burn technique,

Nicholaides et al (1983: 120) found that the ashes deposited on the ground contained 67 kilograms of nitrogen, 6 kilograms of phosphorus, 3.8 kilograms of potassium, 75 kilograms of calcium, 16 kilograms of magnesium, large quantities of iron and manganese, and some zinc and copper. However, they observed that after eight months the levels of nitrogen and potassium had dropped drastically as a result of the rapid decomposing of organic compounds. The level of aluminum oxides had increased to toxic levels, thus acidifying the soil. A continuous use of the same plot of land resulted in a sharp reduction of phosphorus and magnesium during the second year, calcium after two and a half years and zinc in the fourth year. After eight years the soil of the observed plot of land was depleted of all its essential plant nutrients, with the exception of iron and chlorine (Nicholaides et al 1983: 129).

Permanent removal of forests in the Amazon basin expose the surface of the soil to the full impact of solar radiation and the damaging effects of rainfall. Bare soils warm up and cool off rapidly (Brady 1974: 272). Higher soil temperatures increase bacterial and fungal activity as mentioned above. The organic matter still present in the soil decomposes rapidly with nitrogen being released into the atmosphere in the form of gas ammonia (Meggers 1971: 15). This argument is further supported by Raven et al (1981: 546), who maintain that gas ammonia is produced in the decomposing process of large amounts of nitrogen rich organic compounds. This process takes place following the burning of trees for land clearing, the organic compounds in the ashes being decomposed at a higher rate by increased bacterial activity. The nutrients released are not recaptured at the same rate

by planted crops and weeds as by the forest vegetation. Consequently, important plant nutrients are released into the atmosphere through decomposing by bacterial and fungal activity. Rainfall sets in motion a self-perpetuating cycle of soil erosion on terrain with slopes, and leaching increases on surfaces without pronounced gradients. In the long range, the action of the rainwater reduces the permeability of these soils and compacts them, and lateritic soils are hardened with the direct impact of solar radiation (Meggers 1971: 15, 18).

Indiscriminate expansion of land clearings under the pressure of the expansion of production of crops for market exchange damages the regenerative capacity of the tropical forests, replacing the latter with a secondary growth of drought resistant plant species. The clearing of wide ranges of forests for crop production effectively destroys mature seedlings, available sources of seeds, underground roots, and bulbs of species present in primary forests, and removes seed dispersion agents as well (Gomez-Pompa et al 1972: 763, 764).

Lastly, the floodplains of large rivers benefit from new sediment deposited every year either by the overflow of the water or by periodic floods caused by heavy rains in the Andes. In the department of Beni the floodplains of the Mamore River form extensive grasslands which are usually flooded every year, causing the loss of large numbers of cattle (Klein 1982a: 7). The floodplains of the Rio Grande in the department of Santa Cruz, on the contrary, suffer only periodic flooding as reported by Graber (1972: 4) and Nelson (1973: 117). This continuous process of soil formation in the floodplains of the rivers in northern Santa Cruz counteracts the weathering of soils by the climatic agents as indicated above and provides soils with a limited

potential for crop production (Stearman 1983: 54; Meggers 1971: 28, 29; Sioli 1973: 330, 331), but not for slash and burn cultivation. The use of this cultivation technique relies upon the tapping of plant nutrients stored in the forest rather than those found in the soil.

#### AGRICULTURAL PRODUCTION IN SANTA CRUZ BEFORE THE COLONIZATION PROGRAMS

The early agricultural production in the department of Santa Cruz basically relied on a modified version of the Amazonian Indian slash and burn technique to clear patches of forest and plant crops. On the large estates developed in the seventeenth and eighteenth centuries, Spaniards and their mestizo descendants combined agricultural production with the raising of European livestock on the natural grasslands. This production required a sizeable dependent labor force and large extensions of forested land and grasslands. Unchallenged for two centuries isolated villages of lowland Indians used some European tools and techniques to maintain an almost self-sufficient small scale production, by combining the planting of crops with foraging activities in remote areas of the department. These two forms of agricultural production were suddenly modified under the direct impact of the introduction of capitalism, as a result of the 1952 Revolution.

The expansion of the Spaniards into the lowlands of Bolivia beginning in the sixteenth century, and the isolated missionary efforts of the Jesuits constituted the background to the development of agricultural production. Aruac and Chiquito speaking Indians were concentrated in segregated Indian towns (reducciones) in the eastern and northeastern region of the department of Santa Cruz between 1692

and 1767 by Jesuit missionaries. These reducciones were agricultural settlements where Christianized Indians adopted the use of European tools to clear forested land, and learned to raise European livestock. The Indians were also taught to manufacture necessary crafts, as well as tools. The expulsion of the Jesuits in 1767 removed the major obstacle the Spaniards and their mestizo children encountered in their intention of occupying the reducciones, and thus exploiting the "tamed" Indian labor (Riester 1976: 141). The advancement of the Spanish presence in the former Jesuit reducciones led to the appearance of villages of free Indian refugees in remote areas of the northeastern regions of the department (Ibid., p. 138).

In the former reducciones the Spaniards established land estates, forcing the Christianized Indians to work in them and later also tapping labor power from the isolated Indian villages, forcing them into debt peonage. These land estates were known as establecimientos or estancias, and around the city of Santa Cruz and nearby towns as fincas (Ibid., pp. 136, 137).

In spite of the isolation of Santa Cruz from the highland departments and its limited production for trade, the fincas went through a gradual process of fractioning which might be attributed to inheritance and sale. At the end of the 1940's the extension of the fincas varied considerably, from less than 50 hectares to several thousand (Heath 1970: 324). It seems the name finca came to be used indistinctly both for large land estates and small mestizo owned peasant holdings, as well as small estates used as country residences by city dwellers. The large fincas usually had their own labor pool made up of a resident population of mestizo households, kept under debt

peonage (Stearman 1973a: 7). The large fincas produced rice, manioc, and other food staples for domestic consumption (Heath 1970: 285). The principal crops were coffee and sugarcane, the latter processed into sugar and alcohol (Heath 1970: 289, 304; Stearman 1973a: 80, 83). Sections of forests were also cleared to expand the natural grass to provide fodder for the finca's livestock. Existing natural grasslands were used by fincas to graze their livestock (Stearman 1973a: 95).

Blocks of brown sugar and animal skins were bought from fincas by highland mestizo traders to be taken to highland towns in their mule packs (Ibid., p. 48). Rice and other surplus finca produce was usually shipped to the city of Santa Cruz by oxcart, to be sold in the market and to resupply the pantry of the finca owners' city residences. On their return trip the oxcarts brought imported and locally available commodities supplied by the city merchants (Heath 1970: 324).

The peon households depended almost entirely on the finca owners to obtain their food and clothing, as well as other items such as tobacco and alcohol. Aside from their work in the finca these households were allowed to use some finca land to produce rice and a few other crops for their own consumption. In some fincas the peons were paid wages for their work, but the income was retained as payment for their debts (Stearman 1973a: 14).

Alongside the fincas, free mestizo peasants sustained a household production combining land cultivation, using the slash and burn technique, with household industries and occasional wage labor. According to Stearman (1973a: 7) these free peasants did not differ from peons in their living conditions; the only differentiating factor was their higher social status. There were some affluent peasants who

managed to begin barter trade in their towns. These petty merchants sold agricultural produce and animal skins in Santa Cruz and on their way back loaded their oxcarts with commodities for their peasant customers (Stearman 1973a: 11).

Peasant participation in market exchange was reduced to the acquisition of a few items, mainly clothes, tools, and alcohol. Occasional employment and sales of household products to itinerant and local town traders allowed peasants to save some cash for their usual household expenses and emergencies. Itinerant traders sought jaguar skins for which they paid good prices. Peons and peasants organized hunting trips to obtain the prized skins (Ibid., pp. 11, 13). Peasants located close to the city of Santa Cruz had more opportunity to engage in market exchange as compared to those established in remote and isolated towns. Travel to distant places was made extremely difficult by rivers and streams that became swollen during the rainy season, and by the lack of roads. The roads were trails in the forests used by pack animals and oxcarts.

The fincas and peasant landholdings were established around small and large towns located along a few main trails that connected the city of Santa Cruz with other important settlements in the department of Beni (formerly Moxos), and with the former Jesuit reducciones in the northeastern part of the department (Chiquitos). Secondary trails branched off the main trails and connected the towns with peasant holdings and fincas. Beyond the limits of the fincas the forest was unclaimed and roamed by feared bands of foragers belonging to several ethnic groups.

The lowland peasants were part of a large context of social

relations in which they exchanged surpluses and labor power to obtain what they needed to ensure their household production. This confers with Wolf's (1966: 3, 4) characterization of peasants, even though these lowland peasants did not pay tributes. Their access to the means of production (forested land, tools, firearms) was closely associated to the capacity of the fincas to keep raids of hostile Indian foragers at bay, as well as the expansion of the fincas into the forest frontier. This expansion created empty spaces that were filled by peasants. This situation made it imperative that peasant households be anchored to towns and fincas to ensure their production and reproduction. However, the towns, in being permanent settlements, represented a handicap since the peasants relied on food production based on the use of slash and burn cultivation. To avoid leaving in search of a new forested plot of land once they finished clearing the forest in their old plot of land, the peasants developed a household production in which land cultivation was not their main occupation, combining it with other occupations such as sporadic wage labor and hunting. Weed infestation did not force them to abandon their fields after the first crop; on the contrary, they used them for a few more years to plant manioc, beans, maize, and banana trees after weeding. Meanwhile, in the new fields cleared every year rice and maize were planted. Shortages of forested land forced peasant households to rent from finca owners, and to squat on lands of absentee finca owners (Stearman 1973a: 7) or on the fringes of the isolated fincas. A small minority of peasants were pioneers establishing new frontier settlements in the forests (Heath 1970: 327, 328).

Information about these peasants before the 1952 Revolution is

lacking, therefore aspects concerning the organization and size of their households cannot be assessed properly. However, it seems safe to assume that, although the peasant population was small, pressure on the land was increasing. This fact would explain the established practice in northern Santa Cruz of clearing the secondary growth for crop production after only six or seven years (Stearman 1973a: 29).<sup>12</sup>

The circumscription of fincas and peasant landholdings to the traditionally inhabited areas, along with more than 200 years of slash and burn cultivation, replaced all the primary forests with secondary forests in most areas around the towns north of Santa Cruz (Stearman 1973a: 29). Only large fincas and those located far from towns had access to primary forests, while smaller fincas and those in the vicinity of towns had virtually no primary forest left.

After 1952, portions of finca lands were distributed to their peons, organized into peasant unions by MNR party activists. These peasant unions were needed as pressure groups to force the application of the Land Reform Law, enacted in 1953. The former finca peons became peasants, who owned plots of land varying in size (Heath 1970: 335, 337). Those finca owners able to secure government assistance used SAI's bulldozers to clear large tracts in the remaining portions of their fincas in order to develop capitalist farming.

The 1952 Revolution freed the finca peons from their bondage to finca owners, but their newly acquired freedom was slowly turned into a new type of bondage under the control of merchants, through the mediation of the market and the increasing circulation of cash among the peasants. The Revolution stimulated some former finca owners and formerly free peasants into trade, operating retail stores in order to

fill a vacuum created by the expansion of capitalist relations of production. Merchants proliferated, attracted by new opportunities that came about as a result of the expansion of the production of rice as a cash crop by the peasant households, and the transformation of old trails into roads (Stearman 1973a: 8).<sup>13</sup> Communication with the city of Santa Cruz improved, opening formerly isolated towns to market exchange. Trucks replaced oxcarts and reduced transportation costs of commodities, which became accessible to any peasant household. The cash needs of peasant households increased, stimulating them to expand the production of agricultural surpluses in order to sell them (Ibid., p. 13).

The major effect of the expansion of the market exchange was to increase the pressure on the land, disrupting the traditional role of land cultivation in the local peasant household production, and stimulating peasants and new commercial farmers to occupy and clear formerly untouched primary forests. While bulldozers and agricultural machinery expanded sugarcane plantations, slash and burn cultivation expanded the production of rice for market exchange.

#### PEASANT HOUSEHOLD PRODUCTION: ITS MAIN FEATURES

It is important to insert a description of the main features of local peasant household production before the arrival of the highland peasants for two reasons. First, a comparison needs to be made with the household production developed by the highland peasants and second, because the highland peasants learned from them the use of the slash and burn technique, as well as other techniques for grain storage and house building.

After the Land Reform the peasant households were composed of nuclear families. This represented a break in the former extended family structure, as in the case of those of peon origin (Stearman 1973a: 50, 51). Between five and seven surviving children (Ibid., p. 71) provided additional labor power complementing that of the peasant couple. This household alone was able to clear two hectares of forested land annually, as well as perform all the additional tasks to ensure the production of their main crop. The new field was planted with a variety of rice commonly known as dorado (Ibid., pp. 28, 29) and interspersed with rows of maize (Ibid., p. 93). All the tools used and owned by the household were manual--a long handled flat shovel, an axe, a pair of machetes, a brush axe (heavy curved short blade with a long handle) (Ibid., p. 33) and a rice planter introduced by Japanese immigrants (Heath 1970: 349) to replace the digging sticks. After harvesting the rice the old plot was used for another two or three years to plant maize, beans, manioc, and banana trees, as well as peanuts in sandy soils (Stearman 1973a: 29). After this period of time the old field was left for fallowing, to allow the weeds to develop into a secondary forest. Each year the cultivated area, including both the new field planted with rice and the older fields still in use, moved further from the household's dwelling or initial clearing. This type of land use resembled a rotation of land clearings.

The peasant households also planted a few perennial crops around their dwellings and raised some livestock to complement their production. A few bushes of coffee, a small patch of sugarcane, a few cacao trees and some fruit trees provided the raw materials for some household industries. Men pressed sugarcane to make brown sugar and

women prepared coffee, chocolate bars, tobacco, and soap for their own use and for sale in the local market (Stearman 1973a: 37, 40). Chickens and hogs provided additional protein and cash earnings, while horses were raised for transportation purposes. The wealthier peasants also owned a few head of cattle (Ibid., p. 58).

On a two hectare plot of newly cleared virgin forest a rice crop yielded between twelve to fourteen fanegas (1 fanega equals 384 pounds) of unhulled rice. This yield dropped considerably if affected by inadequate rainfall or a delayed rainy season. In fields cleared in premature regrowth the yields were usually cut in half. To help in case of poor yields or to expand the volume of their rice production to pay debts or cover emergencies the peasant households tried to clear more land to plant more rice. For this purpose they invited friends and relatives to enter different forms of sharecropping arrangements. However, a common practice for peasants was to do any temporary job as day laborers during the dry season. The savings were used to contract extra labor power to clear and cultivate additional land. Other sources of additional resources were the merchants and storekeepers who extended credits against deliveries of rice, or bought portions of future crops at arbitrary prices (Ibid., pp. 29, 30).

The key factor in the reproduction of peasant household production was the control of sufficient extensions of primary or adequate secondary forests to ensure the rotation of land clearings. The forests were the vital source of nutrients necessary for the maturation of the few crops planted, while the quality of the soil was of secondary importance. Secondly, the cleared land needed to be located close to developing markets or middlemen to sell the surpluses,

increasingly produced for sale.

With the expansion of the market and the monetization of the relations of production, this peasant household production was becoming more dependent on its cash crop production and was gradually undergoing a process of change. The local peasants were slowly emerging as rice producers and a potential source of labor power for the developing sugarcane plantations.

This was the type of lowland peasant household production the first highlander colonists found when they arrived in northern Santa Cruz during the latter half of the 1950's.

#### THE DEVELOPMENT OF MIGRANT AGRICULTURE

Migrant agriculture among highland colonists was the direct result of the gradual development of a household production based on rice cultivation as a main cash crop. On the contrary, colonists who were able to plant sugarcane as a main cash crop developed a fairly stable and sedentary small scale agriculture.

Sugarcane production in colonies north of Montero must be mentioned because of its importance in making comparisons and in pointing out differences between the two types of household production. Sugarcane became an important cash crop as a result of the building of the large sugar mill in Guabira, and the development of sugarcane plantations sponsored by the national government.

As indicated in Chapter III, the first colonies established in northern Santa Cruz under government sponsorship were located in two separate areas, removed from old local settlements. The colony of Cuatro Ojitos was 45 kilometers north of Montero, and Aroma 35

kilometers northeast. The other two colonies were located to the west of Montero; Yapacani at 80 kilometers and Huaytu at 50 kilometers (Graber 1972: 2, 3). Lack of bridges often isolated the colonies of Yapacani and Huaytu making transportation of crops difficult, while the colonies north of Montero were more accessible as the road was not transversed by any major river (see figure 3). In this region the quality of the soil was better than the soil in the colonies west of Montero. The area north of Montero was a floodplain lying between two rivers, the Piray and the Rio Grande. In the colonies located in this area sugarcane became the main cash crop of the colonist households, while in the colonies west of Montero rice cultivation gained importance. Higher costs of transportation discouraged the colonists of the second area from engaging in sugarcane production.

As the first settlers abandoned the colonies north of Montero local and highland peasants spontaneously moved in, either buying or simply occupying the abandoned plots of land. The gradual improvement of the road to Cuatro Ojitos and its extension to Chane, a new colony north of Cuatro Ojitos, as well as its eventual paving (Miller 1985) allowed for the expansion of land clearing for sugarcane planting by spontaneous colonists. In this way the number of colonies increased in areas north of Montero.

Plots of land granted to the first settlers in Cuatro Ojitos consisted of 20 hectares (Ibid.). In other colonies the size of plots varied from 15 to 30 hectares (Graber 1972: 7). Sugarcane production averaged 70 tons per hectare, which was considered a good yield. The colonists replanted old fields without making use of crop rotation, resulting in the spread of diseases which were not treated (Ibid., p.

20). The area of sugarcane planted by a household varied from less than 3 to approximately 10 hectares (Ibid., p. 60).

Until 1970 the colonists fought to market their sugarcane directly to the sugar mills. The large sugarcane plantations had control of the marketing through a quota system. The colonists had to sell their sugarcane to intermediaries who had access to marketing quotas, receiving lower prices than those paid by the mills (Ibid. p., 13). At the end of the 1960's the colonist sugarcane growers organized marketing cooperatives in their colonies to obtain marketing quotas from the mills (Hickman 1968: 401).

Between 1970 and 1971 the large plantations reduced their production of sugarcane due to a severe drought and soil exhaustion, shifting to the production of cotton. These developments forced the sugar mills to drop their quota system, thereby freeing the sugarcane market (Graber 1972: 14).

The production of sugarcane attracted new colonists and local peasants to the sugarcane producing colonies. The demand for land increased its value, and partial sales caused the fragmentation of the original extension of the plots of land. The result was that in Aroma 54 percent of the plots of land varied between only one and 15 hectares. In other colonies the situation varied in relation to their distance to the sugar mill (Ibid., p. 44).

In the area north of Montero, lack of good roads and geographical isolation limited the production of sugarcane to colonies established close to the paved highway or to fairly good secondary roads. As the distance to the mills increased transportation costs made cultivation of sugarcane unfeasible, thereby stimulating the

production of rice. In other colonies, established in other regions in northern Santa Cruz, the colonists relied on the production of rice as their main cash crop to generate their monetary income (Wiggins 1976: Ch. II, p. 4). The majority of the colonies in northern Santa Cruz produced rice, growing 90 percent of the rice produced in the department of Santa Cruz (Simon et al 1980: 33).

In contrast to colonist households engaged in sugarcane cultivation, those involved in the production of rice were not able to settle in one place permanently. They were forced to move to new areas in search of primary forests, after depleting the forest in their plots of land. The first spontaneous colonists who moved into the abandoned plots in the Yapacani colony in the mid 1960's were asked by officials of the government colonization agency to assume the unpaid debts of the previous occupants.<sup>14</sup> To invalidate such claims the colonists moved out and settled on previously unoccupied sections of the colony (Nelson 1973: 195). After staking out the boundaries of their plots of land in the forest they cleared a patch of forest and planted rice and a few other crops. Once the planting was finished these colonists moved back to their highland villages before the tropical rains began (Stearman 1979: 287). Back in the highlands they rejoined their households in preparing the fields for planting. The timing of the beginning of the rainy season in the lowlands coincided with the planting season in the highlands (Hickman 1968: 399). The colonists returned to their plots in the lowlands to weed and harvest their crops, and repeated the cycle once again (Stearman 1979: 287).

The spontaneous colonists were attempting to gain access to natural resources in two different ecological zones to expand their

agricultural production, combining it with casual employment as wage laborers (Ibid., p. 395). The colonists took advantage of the market exchange to convert their tropical agricultural produce into cash savings. This management of their labor power kept them from becoming more dependent upon wage labor for some time.

In the process of becoming colonists highland peasants cleared the land alone or with the help of relatives and friends, returning to the highlands for the first few years. As these peasants became more acclimatized to the tropical climate their wives and small children also left the highlands to take up permanent residency in the colonies. The households then became more regular in the accomplishment of their production. Close and distant kin used these established households as a transition stage in their efforts to also settle in the same colony or in another one.

The colonies were a mixture of highland peasants drawn from different villages and towns scattered throughout the southern highland departments of Bolivia. This diversity of land cultivators, used to different customs and narrow local communal solidarity, worked against the formation of solid communal organizations. The highland colonists did establish communal organizations moved by their common goal of occupying a tract of forested land, and to support their land possession claims in government offices, however, these organizations were divided into informal subgroups representing kinship networks, common village origin, as well as friends. Relatives and friends clustered together in one section of the colony and formed mutual interest blocks in communal meetings. Furthermore, in almost all of the spontaneous colonies the plots of land were located along the roads

in a piano keyboard fashion, with the household's dwellings generally built on their plot of land, separated and isolated from each other.

The extension of the plots of land the first spontaneous colonists occupied varied in size from 10 and 30 hectares. In government sponsored colonies the extension of the plots of land was from 15 to 30 hectares, inspite of the fact that the government had made a provision in the Land Reform Law to guarantee the former finca peons access to 50 hectares of land (Stearman 1973b: 287). This legal provision was seldom implemented during the first years of colonization.

The colonists, accustomed to a different technique of land cultivation and a different management of the soil in the highlands, found the slash and burn technique to be easier because it did not require the use of plows and oxen; however, land clearing was found to be very demanding in labor power. Weed infestation after the first year increased labor power investments, while the yields were negligible. This situation stimulated them to abandon the old fields and clear new land every year. This move allowed them to secure good yields with a minimal labor power investment in weeding the planted crops.

The colonists quickly adapted to the cycle of slash and burn cultivation, clearing as much forest as they could relying upon their household's labor power. The amount of land cleared every year varied from 2 to 4 hectares. During the peak periods of intense work in the fields these households required extra labor power, especially during the harvest (Bender 1983: 4). The labor power of the colonist household alone was usually inadequate to harvest the rice crop before the grain shattered after ripening. Access to extra labor power as

available in the highland peasant villages through kinship, compadrazgo, and traditional communal institutions became obsolete in the colonies. Wiggins (1976: Ch. II, p. 26) rightly observed that any form of labor cooperation was substituted by paid labor and individual competition. A major portion of the rice produced by the colonist households was therefore destined to be sold in the market to secure cash savings to pay extra labor power required to carry out their crop production, as well as to acquire other goods and services not produced by the households.

The land clearings were expanded whenever the households were able to hire wage laborers. The high yields of rice cultivated in new clearings caused the colonists to use their fields mainly for the production of one rice crop (Bender 1983: 4). The high yield was relative to the use of the slash and burn technique and its technological baggage. In the second year the cleared fields were left to regrowth (Ibid.).

The colonists' close dependence on the market, to ensure the reproduction of their household production, motivated them to expand their cash income by increasing their production of rice through some technological innovations. The households that could afford to purchase portable sprayers with a manual pump or a small engine adopted the use of herbicides to control weeds in their rice fields in order to reduce labor costs. In a survey Bender (1983: 9) found that 40 percent of colonist households were using herbicides. Chain saws were introduced to speed up the land clearing process. This new tool allowed the colonists to significantly expand the extension of their land clearings. The colonist households that could afford chain saws

and had resources to hire extra labor power expanded their land clearings by an average of 10 to 15 hectares per year (Wiggins 1976: Ch. II, p. 32).

The colonist households gradually became specialized in the production of rice; however, the result of this labor specialization was the integration of the market exchange into the circuit of their production as a necessary stage, mediating between their production and their social reproduction. Clothes, tools, household appliances, and social services were acquired with the money they obtained in the market by the sale of their rice crops.

Colonist households with smaller plots of land faced a critical situation after the first few years. They depleted all of the primary forest they had in their plots of land and found the regrowth too immature to be cleared. This phenomenon became known as the barbecho (regrowth) crisis (Bender 1983: 5). Before this crisis became generalized the number of colonies continued increasing as new groups of highland peasants arrived, hoping to acquire a plot of land. This proliferation of colonies gradually resulted in the occupation of vast stretches of primary forests in all accessible regions in northern Santa Cruz.

The colonists' response to the barbecho crisis was to acquire new plots of land, either participating in the formation of new colonies or joining recently established ones. Old plots of land covered with immature regrowth were in some cases kept, in other cases transferred in exchange for some money to newly arrived highland peasants caught in their naivete.

Those colonists located near important roads usually retained

their plots of land and continued residing there. During the dry season they temporarily moved their residence to the colony where they had another plot of land, staying there until the clearing and planting were accomplished, and returning for the weeding and the harvest.

The majority of the colonists circumvented the Land Reform Law by claiming plots of land in several colonies under the names of their wives, sons, or close relatives. In this way the colonists were able to control more than one plot of land (Graber 1972: 7). These extra plots allowed them to overcome the barbecho crisis and to insure continuity to their household production in providing for its social reproduction. However, this periodic migration from colony to colony caused the colonist households to become transient, thereby acting against the continuity and strengthening of the already weak communal organizations. This fact was instrumental in the fast adoption of capitalist relations of production by the colonists, and the beginning of a process of social stratification among them.

When the barbecho crisis became widespread in the colonies in northern Santa Cruz, untouched primary forests were still to be found in more remote and isolated areas. However, indiscriminate land clearing had gradually pushed the forest frontier farther from old population centres (Wiggins 1976: Ch. II, p. 16). The decision to move to the forest frontier became increasingly difficult due to the distance and isolation. As the distance increased and the trails deteriorated transportation costs tended to cancel the market value of the rice. These factors discouraged the establishment of new colonies beyond a certain distance from marketing centres.

This new difficulty was partially solved with the clearing of

regrowth in old plots of land after five to seven years; however, the yields obtained in these fields were substantially lower as compared to those obtained in primary forests. The colonist households that cleared the regrowth for crop production were forced, by the low yields, to become more involved in wage labor, either locally or elsewhere. This was the beginning of the proletarianization.

The colonist households in their journey from colony to colony did, however, gain experience in the management of the slash and burn technique and expanded their agricultural production. Besides rice they planted some maize which was used to raise chickens and hogs as well as for their own consumption. Chickens and hogs were seldom consumed by the households, they were taken to the market and sold. During some years shortages of maize in the market raised its price; thus additional cash income was generated by the sale of maize. A small proportion of colonist households made gardens to produce some vegetables and beans for their own consumption (Bender 1983: 8, 9). From the local peasants the majority of colonist households incorporated the planting of manioc, peanuts, and banana trees, as well as citrus trees. For transportation purposes they acquired horses, and according to Bender (1983: 8) in each colony 50 percent of the colonists also sought to incorporate one or two cows into their livestock, even though they had not planted any pasture in their plots of land (Bender 1983: 9).

Compared to the local peasant household production the colonist households had no cottage industries, and their use of tropical plants for food substitutes and medicine was incipient (Ibid., p. 8). Some colonists acquired firearms to hunt, but this activity was done in

spare time only. Game became more scarce as large animals retreated into the primary forests, chased by the indiscriminate expansion of land clearings. Therefore, hunting did not provide an alternative source of protein for colonist households.

In summary, dependency upon the market made it impossible for colonist households to develop a peasant production, which is contrary to Wiggins' (1976: Ch. II, p. 22) argument in his study of colonization in Bolivia. Ecological limitations and the direction of their production, as dictated by the market, were the main conditioning factors the colonist households faced in the development of their production. The re-peasantization of the colonists was more fictitious than real.

Finally, the colonist households were unable to keep their practice of migrant agriculture indefinitely. The market and the technological package in use set conditions and limitations to the reproduction of their household production. The lack of new plots of land with either primary forest or a mature regrowth, coinciding with unfavourable distances from marketing centres developed the crisis that threatened the colonist household production with an immediate collapse. The unfavourable distances to marketing centres jeopardized the returns of the households' labor power investments in the production of their cash crop.

The solution for this crisis meant to adopt a new technology, which implied abandoning the practice of migrant agriculture. But to adopt this new technology the colonist households needed to accumulate capital to invest in the equipment and knowledge it required. However, the nature of the formation of prices of commodities and labor power

under capitalist relations of production, and the control of marketing channels by market agents, set restrictions for the accumulation of capital by colonist households. The gradual adoption of capitalist relations of production by the colonists increased their ties with the market, while at the same time transforming their production into a specialized occupation.

In Santa Cruz the expansion of the production of rice stimulated the formation of rice merchants and the establishment of rice-hulling mills. This increasing social labor division and social labor specialization reflected the needs and the direction of capitalist production in the country as a whole. In the following chapter the marketing of rice and its effects on the colonist households will be brought into consideration.

#### NOTES

- 1 The altitude of the department of Santa Cruz varies from between 300 to 400 meters (Zondag 1966: 14); and the average annual rainfall varies from a low of 1500 millimeters to a high of 2200 (Henkel 1982: 281).
- 2 Taking into consideration the characteristics of the subsoil, nearly 75 percent of the Amazon basin soils are classified as oxisols and ultisols. The oxisols are weathered parent materials with a deep sandy structure, acidic, low in fertility, and varying in color from red to yellow. The ultisols have a deep claylike structure, with the clay proportion increasing with depth. These soils are low in fertility and extremely acidic with colors varying from red to yellow (Nicholaides et al 1983: 105, 107).
- 3 Alluvial deposits with varied draining conditions and fertility are classified as entisols, which constitute approximately 21 percent of the whole basin (Nicholaides et al 1983: 111).
- 4 Digging in construction sites in the city of Santa Cruz uncovered a purely sandy subsoil after approximately the first 50 centimeter layer of alluvial deposit was removed. In some sites the alluvial deposit was thinner yet.

- 5 By coincidence the Santa Cruz-Corumba (Brazil) railway marks the transition from a tropical forest in the north, to a sparse and thorny forest in the south (Riester 1976: 122).
- 6 The studies considered were authored by: Nicholaides et al (1983), Hames and Vickers (1983), Moran (1981), Gomez-Pompa et al (1972), Sioli (1973) and Meggers (1971). Other disciplines such as plant biology, soil sciences and ecology were also consulted; Raven et al (1981) in plant biology, Brady (1974) in soil sciences, and Smith (1980) in ecology.
- 7 Smith (1980) defines humus as a dark-colored chemically complex material that is the result of the accumulation of organic compounds and unchanged plant chemicals which, through a process of decomposing and conjugation are broken down into amino-compounds, carbohydrates, and silica materials.
- 8 In temperate forests the top 20 centimeters of fertile soil is estimated to contain approximately five metric tons of fungi and bacteria per hectare (Raven et al 1981: 212, 213).
- 9 Most plant species require sixteen inorganic nutrients for normal development that they derive from the air and water. Carbon (C), hydrogen (H), oxygen (O), potassium (K), calcium (Ca), phosphorus (P), magnesium (Mg), sulphur (S), iron (Fe), chlorine (Cl), copper (Cu), manganese (Mn), zinc (Zn), and a few others are absorbed by plant roots in forms available as a result of the weathering of rocks and minerals. Nitrogen (N) reaches the soil forming part of the organic matter, it is entirely derived from the atmosphere (Raven et al 1981: 557).
- 10 As a result of leaching silica and compounds of silica are carried into streams and rivers, while iron and aluminum oxides are left in the soil due to their insolubility in pure rainwater. In these soils, weathered to great depths, the clay has a stable structure and the iron oxides give the soil a reddish color; their deficiency in inorganic plant nutrients make these soils acidic (Smith 1980: 45, 46; Meggers 1971: 15).
- 11 On the average 25 percent of daily precipitation is withheld by the leaves; the rainwater reaching the ground as a fine spray. A side effect of the forest canopy's protective function is its contribution in reducing the effects of leaching of the soil to a slow rate. It reduces the accumulation of water on the ground which would otherwise percolate into the subsoil in larger quantities (Meggers 1971: 16, 17, 18).
- 12 According to Wagley (1977: 51), to reestablish the conditions of a primary forest the regrowth requires at least twenty years to mature, while Wiggins (1976: Ch. II, p. 12) considers between ten to fifteen years to be sufficient.

- 13 This occurred after the opening of the Cochabamba-Santa Cruz highway to truck traffic.
- 14 The government colonization agency had established a set of conditions to be met before the extension of title deeds to occupants of plots of land in the colonies. The colonists had to maintain effective residency in their colony for a minimum period of five years, and to repay resettlement expenses to the agency. Finally, the colonists were not eligible to acquire other land property (Nelson 1973: 190)
- 15 Exploitation of resources in different ecological zones has been studied by Murra (1975); for more details refer to his models of ecological vertical complementarity.

## CHAPTER V

### THE RICE MARKETING SYSTEM AND THE RISE OF MIDDLEMEN

The expansion of rice production in northern Santa Cruz was stimulated by the opening of highland markets as a result of the completion of the Cochabamba-Santa Cruz highway, and an increased demand for rice in the local markets. The large tin mining centres and cities in the highlands imported rice from Peru and other countries. Until the 1950's rice was still imported; Graber (1972: 13) cited the figure at 11,000 metric tons in 1958. In the 1960's the importation of rice declined steadily until it ceased as a result of the self-sufficiency achieved in domestic production. The demand for rice increased in the local Santa Cruz markets in relation to the growing number of wage laborers employed in the development of commercial farms, and the concentration of large numbers of highland workers in Guabira (Heath 1970: 273). CBF (Corporacion Boliviana de Fomento) was employing them in the construction of the sugar mill and a network of roads to service future sugarcane plantations.

The production of rice in northern Santa Cruz began to expand in the mid 1950's in the peasant holdings of former finca peons, new commercial farms, and in land worked by Japanese immigrants. The Japanese settlers introduced new varieties of upland rice (Nelson 1973: 116).

In 1955 CBF built the first rice mill to hull the increasing

volume of rice produced in northern Santa Cruz, thus eliminating the bottleneck manual hulling would cause in marketing. By 1964 twelve more rice mills had been built in the city of Santa Cruz and a few other towns of the north by private capitalists (Zondag 1966: 153). In 1971 the number of rice mills had increased to 213 (Graber 1972: 12).

Once self-sufficiency was achieved overproduction began to accumulate excess supplies of rice in the domestic market, leading to a wide seasonal and annual fluctuation of its market price. Northern Santa Cruz contributed nearly 90 percent of the total volume of rice produced in the country (Nelson 1973: 116); consequently the producers of rice in Santa Cruz began to face uncertainties in the annual marketing of their crops.

#### DEVELOPMENT OF A RICE MARKETING SYSTEM

In northern Santa Cruz the Land Reform Law brought the abolition of debt peonage, transforming former finca peons into peasants. However, these changes also brought the need to expand the role of market exchange in the redistribution of the production. The finca owners were no longer able to supply their former peons with necessities to keep them under a permanent debt. The new peasants had to obtain directly from the market those goods they had been given before by finca owners, as well as other goods they required to carry out their household production. With the application of Land Reform the government had mediated the replacement of tributary relations of production with capitalist ones. In the transition from the old mode of production to the new, the market exchange in northern Santa Cruz faced limitations in its expansion, given the absence of enough

mediators in the exchange of goods. According to Stearman (1973a) this vacuum was filled by some finca owners, and a few formerly free peasants who were attracted to becoming merchants, thereby establishing their own stores.

Before the 1952 Revolution finca owners were familiar with the operation of the market and its price system because they used to sell their fincas' surplus production and purchase locally manufactured and imported commodities in the city of Santa Cruz. Likewise, peasants who were free before the Land Reform also had some understanding of the market system, thereby making their involvement in the operation of small stores not unusual.

After the Land Reform not all finca owners had access to credit to transform their remaining portions of finca lands into sugarcane plantations. According to Stearman (1973a), some finca owners were reduced to a peasant condition, having to cultivate their land personally or hire wage laborers. Many finca owners did not have access to credit due to their opposition to the MNR government (Heath 1970: 291), and because of the geographical isolation of their fincas. The new sugarcane plantations were concentrated along the new highway between the city of Santa Cruz and the town of Montero, as well as along the road from Montero to the town of Portachuelo (see figure 3). The fincas located beyond this area had a precarious access to roads until CBF was able to complete the construction of the projected highways for northern Santa Cruz.

The new storekeepers combined their new occupation with agricultural production. Their stores supplied the new peasants with processed food items, alcohol, imported industrial tools, household

utensils, and some medicines. Lack of cash among peasant households made barter and credit the regular means of market transactions. Credits were repaid with unhulled rice during the harvest season (Stearman 1973a: 11, 13). Storekeepers sold the rice to the rice mills, making a profit through the difference in prices. In this manner, the new storekeepers became mediators in the marketing of local peasant rice production, thriving upon their credit operations with peasant customers. The peasants were slowly caught in a new cycle of debts, becoming dependent upon credits or cash advances from the storekeepers to accomplish their production year after year. The profitability of rice marketing encouraged some storekeepers to expand their purchase of unhulled rice during the harvest season (Ibid., p. 30). These rice merchants developed a client relationship with the rice-hulling mills conducting transactions of large volumes of rice which the mills needed to keep operating.

However, not all store owners were able to develop a middleman position because of lack of capital investment in transportation facilities and credit operations. Many stores remained small because of limitations inherent in the credit system, since the small capital invested in commodities and sold under credit to peasants did not circulate for almost half a year. The peasants required credits during the planting season and repaid them at harvest. Consequently, storekeepers with limited capital investments were not able to expand their operations into the marketing of rice and remained only storekeepers, even though they were somewhat involved in selling rice to the mills or the large rice merchants.

A parallel development was the influx of merchants from the city

of Santa Cruz who opened stores and brought their own trucks (Ibid., p. 28). After a while these new storekeepers became involved in the purchase of unhulled rice from peasants to sell to the mills. The gradual improvement of roads and building of bridges facilitated truck access to formerly isolated towns. This increased road traffic allowed other truck owners to compete with rice merchants in purchasing unhulled rice from peasants during the harvest. The truckers paid cash and brought their own bags to load the rice (Ibid., pp. 110, 112). Futhermore, the truck owners enjoyed a monopoly over transportation of freight throughout the country as a result of their unionization after the Revolution. This monopoly was reflected in the rates they charged.

The truck owners formed their unions in response to confrontation with the drivers they employed. Truck owners, along with bus and taxi owners, organized their own unions to neutralize strikes and other actions used by drivers' unions to obtain wage increases and social benefits. The truck owners' unions went further, pledging their support to any new government, therefore, being rewarded with concessions of either reduced tariffs or no payment of customs duties in the importing of replacement parts, tires, and new vehicles. When the government introduced measures to raise the price of fuel and lubricants while freezing transportation rates they went on strike to challenge the measures, thereby stopping all public transportation. Eventually the government acquiesced to the monopoly the truck, bus, and taxi owners' unions had developed in public transportation, having little control over transportation rates.

## RICE MERCHANT MONOPOLY IN THE MARKETING OF RICE

The rice merchants used the credit needs of peasants to secure future supplies of rice. The peasants were forced to sell a certain number of fanegas of their future rice crop in exchange for credit, with part of the cash obtained immediately expended in the purchase of commodities from the same rice merchant's store. With this type of business operation the rice merchants could charge outrageously high interest rates on the amount of money invested in credit.<sup>1</sup> They also profited in the sale of commodities to their peasant debtors (Stearman 1973a: 30; Wiggins 1976: Ch. II, p. 19).

A usual practice of rice merchants was to go to peasant homesteads before the harvest and offer them a loan to finance the harvest of their rice crop. Loans were tied to the sale of rice to the creditor. The rice merchants also offered to buy their future crop (Graber 1972: 13). In these transactions the rice merchants used the market price of unhulled rice of the previous year; the result generally stripping the peasants of their rice crop. When the peasants began to harvest, the rice merchants arrived at their homesteads with their trucks to collect the rice they had bought in anticipation or that was owed to them as payment of credits. The rest of the harvested crop they bought, paying cash. The peasant households were left with only a few fanegas of rice for their consumption and for seed to be used the following season.

The rice merchants accumulated all the unhulled rice they purchased and received as payment, waiting for a price increase during the rainy season. Once they estimated that the price had reached its

peak they hauled the rice to the mills. The rice mills reinforced the control the rice merchants developed in the marketing of rice by discriminating against those peasants who took the initiative to take their rice directly to the mills. The mills conducted transactions when large volumes of rice were involved, refusing to deal with small volumes. This forced peasants to deliver their rice to rice merchants (Stearman 1973a: 30).

The price of unhulled rice was usually fixed by the national government before the harvest (Graber 1972: 12), although the real market price of rice was established by the owners of large rice mills. This price fluctuated in response to the effective supply and demand for unhulled rice from all the existing mills. After reaching its lowest level the price rose steadily after the harvest to reach its maximum level during the rainy season (Stearman 1973a: 30).

Prices of rice for the years 1967 and 1971 serve to show the variation in rice prices associated with the intervention of middlemen. In 1967, the rice merchants paid \$b 60 (\$us 5) per fanega of unhulled rice during the harvest, while the price paid by the mills was \$b 100 (\$us 8.33). During the rainy season the rice merchants resold the same fanega of rice to the mills, receiving \$b 250 (\$us 20.83) (Ibid., p. 90). In 1971 the government fixed the purchasing price of unhulled rice for the mills at \$b 150 (\$us 12.50), but the rice merchants paid less than \$b 120 (\$us 10). For 1972 the government raised the purchasing price for the mills to \$b 165 (\$us 8.25) (Graber 1972: 8). The 37.5 percent increase was not enough to compensate the 66.66 percent devaluation of the Bolivian peso in reference to the US dollar. In 1972 the rice merchants quite possibly paid the peasants less than

\$b 150 per fanega of unhulled rice.

Some rice merchants operated with only a small truck, equipped for the trails entering the peasant homesteads. They contracted larger trucks to take the rice from their storage facilities to the mills. The established rice merchants ran well stocked retail stores, had large storage facilities, and owned at least one truck (Wiggins 1976: Ch. II, p. 3). As truck owners the rice merchants were also members of truck owners' unions; this fact gave them a virtual monopoly over the marketing of unhulled rice in the areas where they carried out their operations.

Some rice merchants increased their capital accumulation by purchasing small gasoline operated mills (Stearman 1973a: 90). They began to participate in the marketing of hulled rice and provided a service to peasants by hulling small quantities of rice for their household consumption. The more prosperous of these merchant entrepreneurs succeeded in accumulating enough capital to secure large loans from the financial market to invest in the importation of a large rice mill. In this way they expanded their accumulation of capital to an even larger scale by combining the role of rice merchant and mill owner, which explains the fast growth of the number of rice mills operating in northern Santa Cruz during the 1960's.

#### THE RICE MARKETING SYSTEM AND THE COLONIST HOUSEHOLDS

When the spontaneous colonists began to settle in northern Santa Cruz, they found a well developed rice marketing system under the monopoly of the rice merchant/mill owner connection. Their response to this situation varied from dealing with rice merchants to taking their

rice directly to the mills. The rice merchants expanded their activities into the colonies, but were not able to control the marketing of all the rice produced by colonist households. Furthermore, the increase in the number of rice mills in northern Santa Cruz developed competition for unhulled rice, forcing mill owners to deal with colonists who brought their rice directly to the mills. This new marketing strategy allowed the mill owners to compete with established rice merchants in the purchasing of unhulled rice. However, as stated above, rice merchants had also become mill owners, thus expanding their middlemen position in the marketing of unhulled rice.

The mills benefitted more in dealing with colonists than with rice merchants. The colonists brought their rice to the mills right after harvesting, but because of the seasonal excess of supply and the inferior quality they were paid less than the government's established price. The colonists needed to sell their crops to start clearing land for the following planting season. Having little withholding power (Wolf 1966: 45) they could not wait until the rainy season for the price of rice to rise as the merchants did. Furthermore, once the rains began it was impossible to haul the rice out of the colonies, except from those established close to all-weather roads.

In ten colonies surveyed in 1971, Graber (1972: 8) found that 68 percent of colonists took their crops to the markets, but this figure also included colonists producing sugarcane. However, in spite of the fact that a large number of colonists brought their crops directly to the market the role of the rice merchants was not reduced because, as Graber's study also indicated, in more isolated colonies the percentage

of colonists dealing with rice merchants tended to increase substantially. In those colonies the rice merchants were still an important source of credit for colonists, and as mill owners the rice merchants continued in their role as middlemen.

The colonists who marketed their rice directly confronted ever increasing transportation costs and low prices paid by the mills. The trucks the colonists contracted to haul their rice out charged high rates because of the poor conditions of the trails in the colonies. These trails deteriorated every year during the rainy season and were in constant need of repairs. Repairing the trails became increasingly difficult since the gradual departure of colonists from their exhausted plots of land left fewer and fewer households in the old colonies.

In 1972 a decision made by the national government to intervene in the marketing of rice consolidated the role of the middlemen, instead of reducing it as was its purpose. The government established the Empresa Nacional del Arroz (ENA), a state run corporation to control the marketing of rice in order to eliminate the wide seasonal fluctuation of prices of unhulled rice, and to regulate the wholesale and retail prices of hulled rice. However, this new government measure was also designed to bring the operations of the rice mills under control (Torrico 1982: 270). Until then the rice mills were not restricted in marketing hulled rice, although the Bolivian Agricultural Bank had participated in the marketing of hulled rice to wholesalers in a limited way as the the official government agency in the marketing of hulled rice (Graber 1972: 12).

ENA installed large silos outside the town of Buena Vista in northern Santa Cruz (see figure 3) intending to use private rice mills

to mill the unhulled rice that would be purchased. When ENA began to operate it purchased rice from middlemen (Torricco 1982: 270) because it lacked a fleet of trucks and road repair equipment to haul the rice out of the colonies. It also lacked special funds for credits that the local peasants and colonists obtained from rice merchants. Furthermore, colonists and local peasants who brought their rice directly to the silos were disappointed with the low prices they were paid.<sup>2</sup>

The rice merchants adjusted to this new situation by reducing their costs of operation in order to be able to keep a margin of profit. They adopted the practice of entering the colonies in their trucks, also bringing a threshing machine and wage laborers to harvest the rice they bought from the colonists.

In summary, the specialization of colonist households in the production of rice made it necessary for them to participate in market exchange in order to obtain cash, which they used to acquire commodities and services not produced by themselves. A portion of their cash income had to be saved for investment in extra labor power required for the following agricultural cycle. Therefore, participation in market exchange became essential for colonists in the reproduction of their household production.

The marketing of rice had two stages due to the need of hulling the grain before its consumption. The technology and capital required to hull rice was not under the control of colonists; they were therefore forced to deliver their grain to mill owners. This was the first stage in the marketing of rice. In the second stage the mill owners sold the hulled rice to wholesalers or retail stores. This

stage was completely taken away from colonist households, with the mill owners becoming the most important middlemen in the marketing of rice. In the first stage the rice merchants and truckers mediated in transferring the crop from the colonists to the mills--rice merchants through their credit operations and truckers with transportation. Lack of adequate transportation and capital to run extra labor power costs caused the colonist households to become dependent upon rice merchants and truckers.

The middlemen effectively interfered in the efforts colonist households made to accumulate savings as potential capital. Mill owners and rice merchants used the seasonal fluctuation in the price of rice, as well as credit assistance, to appropriate a part of the colonist households' production. Truckers relied upon their control of transportation to appropriate a portion of the colonist production as well, although to a lesser extent as compared to the first two groups. The marketing of rice became the major limitation in the production of colonist households, reducing the amount of money they received for their crops. Any expansion in the production of rice benefitted the middlemen (mill owner, rice merchant, trucker) more than the colonist households.

The social reproduction of mill owners, rice merchants, and to a lesser degree truck owners depended upon the reproduction of colonist and local peasant household production. Finally, the reproduction of colonist households' production depended upon the reproduction of the cycle of migrant agriculture.

Chronic inflation of the Bolivian currency kept reducing the real value of the cash the colonist households obtained for their rice

crop. It also caused constant increases in the price of commodities colonists purchased in the market, therefore, increasing their need for more cash to cover ordinary purchases. Inflation and its effects upon colonist household production will be presented in the following chapter.

#### NOTES

- 1 The most common interest rates charged in these credit operations fluctuated between 4 to 10 percent monthly.
- 2 The organization of ENA was done with good intentions. The government intended to reduce the fluctuation of the prices of unhulled rice and to control the speculation of the prices of hulled rice, seeking to benefit both producers and consumers. But the government also envisioned ENA as a new source of resources for the national treasury; this would be done by squeezing the middlemen and eventually forcing them out of business. However, to organize the corporation and to build facilities and contract personnel the government relied on foreign credits to be repaid by the profits of the new corporation. Frequent changes of government affected ENA as any other state run corporation and frequent change of personnel, at least at the top management level, facilitated corruption and mismanagement. Eventually the corporation became another job opportunity for government sympathizers.

## CHAPTER VI

### INFLATION AND ITS RELATIONSHIP TO SOCIAL STRATIFICATION AMONG COLONISTS IN NORTHERN SANTA CRUZ

Inflation in Bolivia has been a chronic problem, but since the Chaco War it has increased to the point of becoming rampant (Lora 1977: 302). The loss of purchasing capacity of the national currency has affected the stability of the prices of commodities, services, labor power, and other means of production to varying degrees. The major factor in the development of inflation was the printing of paper money by the national government to finance its treasury deficits. The resulting increase in the total supply of money in the country stimulated the inevitable rise of domestic prices.

However, the ultimate causes for the development of inflation in Bolivia were related to the position of the country in the international division of labor, as a primary commodities producer; secondly, to the relationship of Bolivia to the United States as a client state under the sphere of influence of the US dollar; and thirdly, to the Bolivian ruling class because of its use of the government structure to adopt and enforce fiscal and monetary policies to direct the country's production in a desired direction. The combination of the effects of international trade upon export production of Bolivia, the state of production in the United States, and the Bolivian government's fiscal and monetary policies affected the value of Bolivian currency and the stability of the prices of

commodities and services in the country.

The gold reserves and the balance of US dollars held by the national treasury supported the supply of money in the country. However, these gold and US dollar reserves fluctuated in direct relationship to the results of the country's international trade (Ibid., p. 39). Custom duties on imported commodities and taxes on national exports generated a larger share for the national treasury's revenues than the collection of other taxes (Cariaga 1982: 149). To stimulate the growth of the country's production the government adopted the Keynesian model of economic growth, assisted by United Nations experts (Zondag 1966: 69; UN Report 1954: 2, 3). This model considered a moderate inflation to have positive effects in the growth of the country's production (Sprinkel 1971: 6). Therefore, the expansion of the money supply to stimulate the rise of domestic prices became an official monetary policy of Bolivian governments. The effects of this policy were the gradual reduction of the value of labor power, and the transference of income from the working class, peasants, and segments of the petty bourgeoisie to the national bourgeoisie, the government, and industrialized capitalist countries. The capitalist production in Bolivia could not grow independently from the international market unless it responded to the needs of capitalist production in the industrialized countries. In sum, the direction production in Bolivia took was given by the international market and the industrialized countries that controlled it.

The development of migrant agriculture was a particular response to the vicissitudes of the total production in the country, when colonist households were attempting to develop a suitable production in

northern Santa Cruz. The reproduction of a peasant household production by colonists was gradually blocked by the unequal opportunities they encountered in the capitalist market system, their dependence upon the market, and their gradual adoption of capitalist relations of production. The ultimate results were the partial or total alienation of the colonists from their peasant background, and their gradual integration into the country's class structure, a product of Bolivian capitalism.

#### INFLATION IN BOLIVIA

During World War II the expansion of tin production, stimulated by the war requirements of the Allies, increased the gold, US dollar, and sterling pound deposits of the Bolivian government at the Federal Reserve Bank of New York (Eder 1968: 47) and the Bank of England. This increase in gold and foreign currency deposits in the United States and Britain were matched in Bolivia by the expansion of the money supply. The Central Bank financed the government treasury's deficits with short term loans which were never repaid. In the 1940's the annual average government deficit was calculated at Bs. 150 million (\$us. 3,750,000) (UN Report 1954: 44). This deficit was met by printing new paper money, with the money supply growing 840 percent from 1940 to 1951 (Benavides 1972: 195).

While the production of tin was increasing Bolivian deposits in foreign banks, Bolivian imports of industrial commodities from the United States also rose in value. The rise of wholesale prices of industrial commodities in the United States was caused by a drop in the value of the dollar by 50 percent from 1940 to 1953 (Eder 1968: 231).

While the rise of prices affected every commodity produced in the United States, the price of Bolivian tin was kept frozen during the war years (Almaraz 1980: 238), thus substantially reducing the income of the country. Furthermore, the United States government established a mechanism to directly intervene in the manipulation of the prices of tin in the international market through its federal agency, General Service Administration (GSA). This agency represented the United States in the new International Tin Council (ITC) (Almaraz 1980: 251; Zondag 1966: 187). This manoeuvre of the United States reduced even more substantially the capacity of Bolivia to benefit from the rise of tin prices in the international market, when its demand pushed them up.

The 1952 Revolution unleashed chaos in the price system, a direct result of fiscal and monetary policies adopted to stimulate the development of capitalist production in Bolivia. A series of measures from control of domestic market prices, monopoly on the exportation of minerals, control of importations through the selling of licenses, to multiple exchange rates for the US dollar stimulated the development of a booming black market and contraband commodities in and out of the country (Heath 1970: 276). Speculation and hoarding of commodities pushed the domestic prices up. The situation was further aggravated through the expansion of government public expenditures by enlarging its bureaucratic apparatus in its ministries, agencies, and corporations, to expand the social services and investments in development projects.

The expansion of government expenditures was met by deficits which kept sapping the gold and foreign currency reserves of the national treasury (Zondag 1966: 55). The national budget deficits were

financed, as usual, with credits given by the Central Bank, and were never repaid. These credits were financed through the printing of new paper money (Eder 1968: 100). From 1951 to 1956 the money supply increased by 400 percent (Benavides 1972: 195; Eder 1968: 501) and the domestic prices responded by skyrocketing: a rampant inflation was in place.

During the first half of the 1950's the official exchange rate of the national currency, in reference to the US dollar, was changed several times, hoping to reduce the inflation rate. In 1953 the official value of the US dollar went from Bs. 42 to Bs. 60, while on the black market the value of the dollar had reached Bs. 210 (Eder 1968: 34), and Bs. 2000 by the end of the year (Zondag 1966: 55). The government responded by once again raising the official exchange rate to Bs. 190. In 1956, after the adoption of a new exchange rate of Bs. 7700, the value of the US dollar was allowed to float on the market as a result of the United States Department of State sponsored Monetary Stabilization Program. The United States government backed this program with a stabilization fund, credits to private capitalists, and budget support with dollar grants (Eder 1968: 233, 274; Whitehead 1969: 13) on the condition that free markets and free enterprise be reestablished. In 1958 the US dollar was quoted at Bs. 11,935 (Eder 1968: 584), and from 1957 to 1963 the money supply increased, surpassing 400 percent (Benavides 1972: 268).

In the 1960's the slackening of inflation brought some measure of stability to prices as a result of the convergence of several factors. In the early 1960's a favourable rise in the price of tin in the international market (influenced by the Vietnam War) allowed the

Bolivian government to accumulate gold and US dollar reserves in its treasury. This inflow of foreign exchange also allowed the government to complete the building of highways in northern Santa Cruz, in support of the new agro-industry. However, the government still increased the money supply by just over 200 percent from 1964 to 1970 (Ibid., p. 272). Another price stabilizing factor was the policy adopted by the government to keep the US dollar exchange rate fixed from 1959 on. A third factor was the self-sufficiency the country achieved in the domestic production of rice, and the beginning of export of sugar, petroleum, and smelted tin.

Sugar exports to the United States were begun in 1966, as a result of the granting of an export quota with subsidized export prices to the Bolivian government (Grissa 1976: 18). The milling capacity of two private sugar mills was doubled with funds made available by the Interamerican Development Bank through the monetary stabilization support program of the United States (Eder 1968: 530). The national government also doubled the milling capacity of its sugar mill in Guabira (Heath 1970: 304). The sugar export quota absorbed all the surplus production of sugar (Grissa 1976: 115). In 1969 the expropriation of the oil fields developed by the United States corporation Gulf Oil,<sup>1</sup> boosted the Bolivian exports of petroleum (Mitchell 1977: 108, 109). The installation of a large smelting plant in the country (Eder 1968: 551; Klein 1982a: 258) made it possible to begin exporting smelted tin rather than the raw ore. This provided Bolivia with substantial savings in transportation and insurance costs, and freed the tin industry from its dependency on British and United States smelters.

The crisis in the early 1970's in the production of sugarcane, as mentioned in Chapter III, was overcome when the commercial farmers of Santa Cruz shifted to the production of cotton for export. They were assisted with a massive transfer of capital by a new government administration (Torricco 1982: 271). This production of cotton for export also relied on a United States loan package and grants given to support the new government monetary stabilization measures.

The inflation rate of the Bolivian peso was over 66 percent from 1959 to 1971.<sup>2</sup> The peso was devaluated, changing the official exchange rate of the US dollar to \$b 20. This monetary measure was adopted to reduce the market price of labor power, in order to attract foreign capital investments (Klein 1982a: 260). The inflation rate surpassed 450 percent in the 1970's (Ladman 1982: 327).

The rise of petroleum prices in the international market between 1973 and 1974 (Mitchell 1977: 122), made it possible to obtain surpluses in the country's balance of trade for a few years. This favourable situation was exploited by the government to contract credits from private and public foreign financial institutions for urban development, systems of communication, new highways, and airports (Klein 1982a: 259). At the same time the government expanded its expenditures, bringing about a parallel expansion of its administrative bureaucracy (Klein 1982b: 54, 55; Wilkie 1982: 113, 115). Government jobs employed, either directly or indirectly, approximately 10 percent of the population of the country (Romero 1982: 312), which was estimated at nearly 6 million by the end of the 1970's (Whitaker and Wennergren 1982: 237).

The growth of exports were matched in volume and value with a

parallel expansion in the importation of industrial commodities, wheat, flour, and other basic foodstuffs (Zondag 1966: 181), as well as semi-processed industrial materials for the national manufacturing industry. Other items, later added to the list of major imports, were inputs for commercial agriculture and a variety of consumer goods, among them luxury items (Garcia 1982: 170).

The almost total dependence on the United States to import industrial commodities during World War II, was reduced with the reestablishment of trade links with some European countries, and the beginning of trade with Japan and other Asiatic countries in the 1960's. The trade with other South American countries was boosted as a result of the development of a flourishing contraband (Zondag 1966: 183, 184). The value and volume of illegal trade, originating in Brazil and Argentina, grew to the point of constituting a strong competition to legal importers. According to Fifer (1972: 229), 70 percent of the cargo brought by the trains from Brazil (Corumba) to Santa Cruz were imports of Brazilian industrial commodities, with only a small portion being imported legally. This train provided jobs for a swarm of small and large contrabandists who became permanent train passengers. In similar fashion, the trains arriving in Santa Cruz from Argentina (Pocitos) contributed their share to the flourishing of contraband of industrial commodities. The total US dollar value of this illegal trade escaped the official figures in the balance of trade, which therefore became unreliable.

The diversion of a portion of Bolivian imports of commodities from the United States to Asiatic and Latin American countries also stimulated the diversion of Bolivian exports to those countries, making

Bolivia less dependent upon the United States (Klein 1982a: 259). However, the United States still maintained its role as the main trading partner of Bolivia, as well as becoming its largest creditor country (Zondag 1966: 188). At the end of the 1970's the external public debt of the country was approaching \$us 3,000 million. The average annual repayment was \$us 250 million, representing 30 percent of the country's total exports (Ladman 1982: 326). The country was nearing a debt crisis which would force the domestic prices to rise even more, already affected by chronic inflation.

The expansion of Bolivian export production and of trade links with countries other than the United States only increased inflation rather than reducing it, as a result of the expansion of imports of commodities and foreign credits which were needed to support the production for export.

#### THE REGIONAL MARKET IN NORTHERN SANTA CRUZ AND ITS INFLUENCE ON COLONIST HOUSEHOLD PRODUCTION

Sustained capital investments by the government in the department of Santa Cruz, beginning in the 1950's, facilitated the development of the agro-industry and the expansion of the petroleum industry. This growth of production gave the national and foreign private capitalists operating in highland departments incentive to invest in Santa Cruz. Large commercial houses, banks, and service firms started to operate branches in the city of Santa Cruz, and local trading firms expanded their operations. The transfer of capital into Santa Cruz was accompanied by an influx of people from other departments and interior provinces of the department seeking employment

and new investment opportunities. Urban workers, professionals, petty merchants, truckers, and self-employed service providers moved into the city of Santa Cruz and towns in the north. Santa Cruz became the most important centre of production and marketing in the Bolivian eastern lowlands. Its geographical location facilitated the influence of its markets into other regions of the Bolivian lowlands (Stearman 1979: 390).

The town of Montero grew into an agro-industrial centre as a direct result of the sugar mill in Guabira. The convergence of the highway system to the mill gave Montero a key location in the provision of commodities and services initially demanded by highland workers employed by CBF (Heath 1970: 304), and later by local peasants and highland colonists. Other old towns north of the city of Santa Cruz, attracted local peasants to urban lots, where they built their dwellings (Stearman 1973a: 51). The population increase in these towns and the building of roads stimulated the establishment of retail stores and the formation of middlemen in the marketing of peasant cash crops, while local blacksmith workshops and traditional services lapsed, due to the competition and easy access to better services in Montero or Santa Cruz (Ibid., pp. 32, 33).

The completion of the railway to the port of Santos (Brazil) on the Atlantic, and Rosario (Argentina) in Rio de la Plata (see figure 6) stimulated the diversion of a portion of Bolivia's international trade with Europe, Brazil and Argentina into Santa Cruz. The city of Santa Cruz not only became a transit point for industrial commodities imported for the highland markets, but also developed into a prominent market to redistribute industrial commodities imported by local



merchants, to other departments of the country and to its regional provincial markets. Lumber, sugar, and cotton destined to markets in Europe and neighboring countries left Santa Cruz to be shipped to the ports of Santos and Rosario. These same commodities were trucked to the markets in highland departments.

The market in Santa Cruz attracted large numbers of colonists seeking cheaper prices for imported industrial commodities (clothes, tools, personal and household appliances), either in large specialized stores or in the fairs where contraband commodities were sold. Wednesday and Saturday were the two weekly days of fair. During these two days large crowds of shoppers from the city and surrounding areas gathered at the location of the fair.

In the development of the regional marketing system Montero joined the city of Santa Cruz in its prominent position as a primary marketing centre. The market operations in other towns in northern Santa Cruz developed into satellite markets of the city of Santa Cruz and of Montero. Meanwhile, the limited and sporadic market exchange in isolated local peasant villages constituted the terminal points of the regional marketing system.

The town of Montero also attracted the establishment of more rice mills than any other town in the north. These private capital investments were stimulated due to the colonists preference in taking their unhulled rice directly to Montero. The colonists needed cash to obtain supplies before returning to their colonies, or before starting their trip back to highland villages. The increasing influx of colonists boosted the market activity in Montero, giving rise to the development of businesses geared to provide services to colonists.

Retail stores multiplied in number and the older more successful ones either expanded their stock of commodities or became specialized shops (Heath 1970: 306). The growth of the market in Montero also encouraged the establishment of other services, such as legal services, health clinics, banking branches, and government social services, all previously limited to the city of Santa Cruz (Stearman 1979: 390). Petty merchants also brought contraband commodities to Montero on its fair day, held on Sundays. However, the prices they charged were much higher than those charged in Santa Cruz. As a result of these developments Montero was transformed into a fast growing new city and became an important regional centre in the marketing of agricultural products.

In the colony of Cuatro Ojitos, north of Montero, the army post Puesto Fernandez had initially attracted the establishment of some services, such as small retail stores and small bar-restaurants for government personnel and army officers in charge of the colonization project. As the years progressed Puesto Fernandez slowly developed into an urban setting, attracting more services directed towards the colonists (Miller 1985). As the road continued to be lengthened north of Montero, other new towns besides Puesto Fernandez developed.

In the colony of Yapacani a similar process transformed the army post into a new town, Villa Busch (also known as Comando). This post was located on the main road, 3 kilometers west of the Yapacani River. On the eastern side of the river at approximately the same distance another new town, Cero, developed, boosted by business activity. Its strategic location at the crossroads of the road from Montero to the Japanese colony (San Juan) stimulated the establishment of a few

stores, bars, and small restaurants.

As truck traffic increased after the gravelling of roads and the building of bridges on the three main highways in northern Santa Cruz, new small towns sprang up. The gravelling of the main road to the Yapacani colony and the completion of the bridge across the Yapacani River increased the marketing activities of the new town of Villa Busch. The prospects of business attracted petty merchants and peddlers, and the establishment of new stores, bars, and restaurants, as well as a few other services. A weekly marketing day was started on a limited scope. The newcomers bought urban lots and built houses (Stearman 1973b: 290). The building of schools and small hospitals or health posts with government paid personnel, consolidated these new towns as secondary markets.

In the marketing of their products the colonists related either directly to Santa Cruz and Montero or to secondary markets, where the closest rice mills provided milling services. However, in the purchasing of supplies and demand of services the colonists went directly to Montero or Santa Cruz, at the same time making their minor or urgent purchases in the closest town or village store. Consequently, the colonies also became the terminal points of the Santa Cruz regional marketing system.

The distribution of commodities (imported and produced in the country) through the market system, increased their prices every time they were transferred from merchant to merchant and from market place to market place, as the distance from the supplying centre increased. From the wholesaler in Santa Cruz to the consumer, the commodities went through a minimum of three transactions; wholesaler, specialized store

or itinerant merchant, and consumer or retail store. In every transaction additional costs, indirect taxes, and profits were added to the initial price of the commodities. Therefore, the prices charged for services also increased as the distance from the main service centres increased.

In similar fashion the rice produced by colonist and local peasant households went from place to place increasing its price before reaching the consumer. The unhulled rice was taken to towns in northern Santa Cruz where the mills processed it. The mills distributed the clean rice to local stores and wholesale merchants out of Montero and Santa Cruz who redistributed it to retail stores. The surpluses were shipped to markets in the highlands by trucks. This heavy mediation in the market exchange facilitated the development of part-time and full-time marketing agents whose social reproduction was accomplished at the expense of direct producers, in either agriculture or industry. The result of this increasing social labor division and specialization was higher consumer prices, which provided employment for a swarm of market agents instead of directly benefitting the producers. The consumer prices in Santa Cruz rose to become, on the average, the highest in the whole country, surpassing those in La Paz.

This particular structure of prices, added to the chronic inflation, became the major obstacle for colonist households to accumulate savings for potential capital. Furthermore, government decrees to increase salaries after a devaluation of the national currency were not accompanied with an increase in the prices of agricultural products originating in the peasant and colonist households. On the contrary, the government at times attempted to

freeze the prices of those products. The result was a slow increase in the market prices of those products. The other damaging effect of devaluations of the national currency was the sudden loss of value of the cash savings peasants and colonists kept in their dwellings (see figure 7).

#### EFFECTS OF THE INTEGRATION OF MARKET EXCHANGES ON COLONIST HOUSEHOLD PRODUCTION

The colonist households' dependence upon market exchange was the result of their specialization in the production of rice as a commodity. Although ecological limitations and the technology in use were also two other important factors in the development of such specialization, their dependence upon the market became a major barrier in their efforts to obtain means of production and other resources needed to insure the reproduction of their household production. The market not only limited the kind of crops to be grown, but also mediated in the transference of a portion of the colonists' cash income to other social classes through numerous market agents, as described above.

The demand for rice in the domestic market was limited, and high costs of transportation discouraged its exportation. Rice constituted one of the main food staples only in the Bolivian eastern lowlands, while in the highlands rice was consumed mostly in the large cities and mining centres. In towns and peasant villages the diet was mainly based on the consumption of other cereals such as maize and wheat. The high costs of transportation were the result of an expensive outlay of capital needed to build highways in Bolivia (ruggedness of the terrain

Year	Index	Year	Index
1953=100	100	1967	130
1954	223	1968	142.1
1955	402	1969	145.3
1956	1120	1970=100	151.0
1957	2410	1971	103.6
1958=100	2500	1972	110.4
1959	120	1973	145.2
1960	134	1974	236.3
1961	144	1975=100	255.1
1962	152	1976	104.5
1963=100	151	1977	113
1964	110	1978	124.7
1965	113	1979	149.3
1966	121		

Figure 7. BOLIVIA: COST OF LIVING INDEX

Note: This chart represents the percent increases in the cost of living beginning in 1953, which is the first year base (=100). The following year figure represents the percent increase taking the year base figure as 100 percent.

Source: International Monetary Fund. International Financial Statistics

in the highlands and shifting rivers in the lowlands), and the geographical isolation of the country from ocean ports. Therefore, the excess rice in the market always faced a potential fall in price during the harvest season. Other tropical plants suitable for planting under slash and burn cultivation had little demand and therefore little market value.

The colonist production had no government support, in contrast to the agro-industry and other sectors of the national production. Government investments in northern Santa Cruz in the development of a network of highways, secondary roads, railways, and warehouses were made to support the expansion of the agro-industrial production and derived industries for export, and to satisfy the domestic market. The colonist households' production depended upon the location of their colonies in relation to the nearest market place. Many colonies remained isolated for up to six months during the rainy season (Bender 1983: 6), as their trails of access were cut by rivers and streams. Many of these trails, opened by YPFB and sawmills' road equipment, were repaired annually while operations in those areas continued. Once their operations ceased the trails were never repaired again. The distance to the markets and the lack of adequate transportation facilities restricted the opportunities the colonist households had to transform most of their labor power invested in the production of cash crops into cash.

Credit from the financial market was available only to those colonists who had membership in a Credit Union. Government and private banks restricted their credit operations to the production of export crops such as sugarcane, cotton and soybeans, but not rice (Simon et al

1980: 83). At the same time, the banks' credits were tied up as collateral to land mortgages, which in many cases were given as a result of political influence (Ibid., p. 23). Colonists were also ineligible for credits since they had no titles to their plots of land, due to their frequent relocation from colony to colony. The practice of migrant agriculture discouraged colonists from spending their meager resources on obtaining land titles for all the plots of land they possessed, and according to the Land Reform Law they could clear a title for only one plot of land. Many colonists cleared titles for their plots of land in the first colonies they settled in (Bender 1983: 4). The lack of investments in these legally owned plots of land gave them a minimum value in their use as collateral in obtaining credits. Land titles on plots of land in colonies located along all weather roads (gravel) had some market value, as well as those plots of land in the colonies established in the sugarcane producing region. However, some credit was made available to colonists that settled in government sponsored colonies, such as the one in Yapacani (Stearman 1973b: 291), because of foreign credits the government received for such a purpose. (Eder 1968: 561).

In some colonies the colonists organized rice producing cooperatives, and were able to obtain some credits from the Agricultural Bank (Graber 1972: 13) through the Ministry of Agriculture and Peasant Affairs and, I presume, through the National Confederation of Peasant Unions. These credits were defaulted because the cooperatives only functioned until the credits were obtained (Bietz 1985: 1). The total amount of money received was later distributed among all the members, who used the money for their own purposes.

To break their dependence on the middlemen in the marketing of rice, the colonists needed a sizeable capital to invest in rice threshing machines, small rice-hulling mills and transportation facilities, such as trucks or horse drawn wagons. These investments would allow them to market their rice directly to wholesalers and retail stores.

In sum, unequal access to resources and unequal opportunities found in the market either forced the colonists to develop other occupations to complement their production, or to abandon their practice of migrant agriculture and seek other occupations to provide for the reproduction of their households. This new stage in colonization witnessed the gradual development of social differentiation among colonist households, as they gradually became incorporated into both the regional class structure and the class structure of the whole country.

#### THE DEVELOPMENT OF SOCIAL STRATIFICATION AMONG COLONIST HOUSEHOLDS IN NORTHERN SANTA CRUZ

During the initial stage of colonization, when land appeared to be plentiful, it was not difficult for colonists to move to a second or even a third colony. However, as the distance from the closest market increased it became more difficult for the colonist households to keep moving from colony to colony. The isolation and the lack of essential services affected those households with small children more than those without children. In my opinion, the factor determining the direction the colonist household production took was the level of returns to their labor power investments in the production of rice. Besides the

distance from the market and the prices they were paid for their crop, the colonists confronted differences in yields. The yields varied from colony to colony, and from one plot of land to another within the same colony. Graber (1972: 19) reported rice yields of eighteen fanegas per hectare which, if affected by pests, could be reduced to two fanegas per hectare; other yields reported were from eight to ten fanegas per hectare (Bietz 1985: 1). Lack of cash savings to secure enough harvesters also affected the volume of the crop picked. Some years the colonists were not even able to bring their rice to the mills or to sell to middlemen, because of the extreme deterioration of the roads and the early rains. They then waited until the following year.

The colonists that settled in government sponsored colonies, and the spontaneous colonists who were either able to occupy abandoned plots of land or to settle along the road at their own initiative, benefitted from gradual improvement of the roads. In the colony of Yapacani the first 21 kilometers of the main road was gravelled, and bridges were built. North of Montero the colonists also benefitted from similar improvements. Many colonists who settled along these roads and in colonies close to a main road kept their plots of land because of the easy access to transportation; few sold and left. After depleting the primary forest in their first plots of land these colonists also acquired plots of land in other colonies to keep up their crop production. This arrangement allowed them to keep their cycle of migrant agriculture.

Among the highland peasants who became colonists in northern Santa Cruz there were some who had participated in labor migrations to Argentina and some who had worked in a variety of occupations. It is

possible that some of these colonists invested their savings in small stores stocked with commodities demanded by fellow colonists, while at the same time keeping their crop production. However, it would be presumptuous to assume that the amount of savings accumulated would be enough to start a small store and keep it operating. It was common to see small stores operating for only one season or even a few weeks because of the lack of reinvestment in the stocking of commodities, or the diversion of small capital into other endeavours. Some savings brought from the highlands, some source of credit, and some previous experience in the running of a store may have helped owners of these small stores stay in business. Although the initial capital needed to stock a small retail store was not large, the most important aspect to be considered by the storekeeper was the capacity to provide credit without losing capital or customers, because colonist households lacked cash liquidity. The new storekeepers' success depended on the ability to rotate small capital as many times as possible in more expendable items such as beer and alcohol. An additional investment in a gas operated refrigerator allowed them to charge a higher price for beer. The acceptance of rice as payment for credits was an option that helped the owners of fairly well stocked stores to expand their operations to the activities of a middleman. During the off season colonists from isolated colonies took a couple of bags of rice to the nearest store to sell their rice and get some cash and other commodities. These small stores were established at intervals along the main roads and in some isolated areas where there were several colonies close to each other. The additional income the stores generated was used to expand the production of rice in the plots of land by employing other colonists as

low paid wage laborers.

In the colonies relying on sugarcane production, more reliable income allowed colonist households to invest their savings in contracting labor power to plant rice on land obtained in other colonies in the same region. Colonists who were also running stores used their resources to invest in extra labor power to harvest their sugarcane, and to produce rice in other colonies. These colonists may have invested in chainsaws to reduce the labor costs in the clearing of land.

Prosperous colonist storekeepers engaged in larger production of rice than the average colonist, working their way up to become moneylenders and beginning to engage in middlemen activities (Wiggins 1976: Ch. II, p. 27). I am aware of one particular case in which a colonist became a middleman. He initially worked for a middleman who had a small truck and a small rice mill. The colonist bought a small used truck to engage in purchasing rice from other colonists and eventually bought the small rice mill, after his former employer started operating a new large rice mill.

These new middlemen lacked connections with rice mill owners who were mainly Cambas (lowland mestizos), and known for their mistreatment of colonists and hatred for highlanders in general. For those middlemen who were able to purchase a truck, membership in any of the truck owners' unions cost them a heavy initial fee and bribes to union officials; otherwise they were unable to operate on the main highways. The decline of their business encouraged these middlemen to shift exclusively into trading (Ibid., p. 40), by investing their accumulated capital into a more specialized store, usually in Montero. Another

occupation that attracted them was the operation of a combination bar-restaurant.

One alternative sought by highland colonists to save a portion of their income was to purchase a cow. This investment was possible right after the sale of the annual crop which gave them a large amount of money. But not every colonist was able to do so since it depended on the amount of cash they had left after paying their debts. The cows were bought with cash and sold when the household needed cash. Lack of vaccinations and good quality pasture made these cows prone to infectious diseases (Bender 1983: 9; Graber 1972: 22). The colonists were unfamiliar with the kind of tropical diseases endemic to livestock, and were also unaware of the poor nutritional value of weeds and natural grasses.

The colonists with plots of land along main roads increased their investments in cows for the production of milk and cheese. In the survey carried out by Graber (1972: 68) in Yapacani, 9.15 percent of the households were found to own one or two head of cattle, with very few colonists having more than three. The same held true in colonies located close to a main road. According to the same survey, in the colony of Huaytu 47 percent of the colonists had cattle. A similar process also occurred in the colonies established in the sugarcane producing region. Meanwhile, isolated and distant colonies had hardly any cattle (Ibid., p. 9). According to Wiggins (1976: Ch. II, pp. 17, 21), in the colony of Yapacani dairy production grew in importance as the colonist households enlarged their herds. Homesteads established along the road had herds of 20 to 30 head, while in other colonies the number of cattle the colonists possessed had increased to

between five and ten.

The diversification of their household production allowed prosperous colonists in Yapacani to remove the stumps in their plots of land and begin to plow their fields with rented agricultural equipment. They began to cultivate their land and to plant improved pasture with the help of wage laborers (Ibid., pp. 38, 39).

The gravelling of the main road in the colony of Yapacani and the completion of the highway system in northern Santa Cruz attracted urban entrepreneurs, truckers, professionals and others to invest capital in the colonies. Tapping credits in the financial market and using technical expertise, these newcomers either bought plots of land from colonists eager to move into a town, or occupied abandoned plots of land. They secured their land acquisitions from the government colonization agency (INC). These entrepreneurs cleared the regrowth to plant either pasture for cattle or to start commercial farming, and hired colonists for low wages (Ibid., p. 28).

Over the long term a gradual social differentiation appeared among colonists. Their effort in developing a suitable household production encountered limitations, posed by the interplay between the conditions of the ecosystem in northern Santa Cruz and their close dependency upon the Bolivian capitalist market system. These limitations, added to other factors relative to the colonists' social and personal background, had a determining influence in the direction the colonist household production took. The result showed a gradual development of social stratification among colonists.

Store owners, middlemen, and prospective capitalist farmers formed an enterprising group, employing other colonists as low paid

wage laborers to improve and expand their own capitalist production (Ibid.). These prosperous colonists started to break away from migrant agriculture, adopting technology available in the market, in fact they became the new members of the petty bourgeoisie. In contrast, the majority of the colonists were still trapped in the cycle of migrant agriculture. The social reproduction of these colonists became increasingly more dependent on wage labor than on the marginal production of rice in their isolated colonies. They were a potential source of cheap labor power for local entrepreneurs, commercial farms (Ibid., p. 39), and agricultural processing plants. They had virtually become a rural semi-proletariat.

However, this social stratification was an uneven development, varying from colony to colony. It was more accentuated in some colonies than in others, because its development was closely related to the location of the colonies and their accessibility to the markets. In isolated colonies hardly any clear social differentiation took place, for there were few households left. Those colonists who departed either resettled in colonies with better access roads to the markets or in the few towns along the main highways. This physical relocation of the household was made to have access to essential services such as schooling for younger children and health care, and secondly, to look for additional occupations in order to increase the income of the household in the time between the planting and harvesting of crops. In the meantime the households kept clearing land back in their colonies. In the long run this relocation of colonists into the new towns was only an intermediary step in their migration to either Montero or Santa Cruz. In these two urban centres they expected to

find better employment opportunities. (Stearman 1979: 393, 394).

To move into one of the new small towns along the main highways a colonist household rented a house or built a new one on a lot they purchased. Once established in their house, the husband returned to the colony to work on their plot of land (Hickman 1968: 398). He either returned to town for the weekend or commuted daily if their colony was not too distant. Meanwhile, the wife would try to run a small store stocked with a few food items, or if she was a seamstress she started a shop (Stearman 1979: 394). Other possible occupations for women were to sell fruit, vegetables, and prepared food or drinks in the market place.

Montero, besides being an important marketing centre and providing services, developed into a socializing centre for colonists. They met relatives and friends living in other colonies and celebrated these meetings in bars and restaurants run by fellow highlanders. Montero attracted colonist households because of some employment opportunities found there. The most flourishing occupation was running small bars and restaurants to sell highland dishes and chicha, an alcoholic beverage brewed from maize. The majority of these businesses operated only during the weekend because the fair day was on Sunday.

Wives and older daughters also found employment as petty merchants, reselling foodstuffs and prepared food in the two large open market places. The husbands and older sons worked for nearby commercial farms and a few truck farms (Ibid., p. 393). The younger men alternated wage labor by peddling all sorts of items at the Sunday fairs (Heath 1970: 306). Thus, former colonist households tried to draw their earnings from a diversity of occupations. However, there

were also households that retained their colonist condition, continuing with the production of rice in the colonies and trying diverse occupations while staying in Montero.

The city of Santa Cruz attracted more colonist households than Montero. The growing concentration of people in the city kept creating new opportunities for investments and employment in trade and provision of services, as well as some jobs in the new agricultural processing plants. Neighborhoods of former colonist households began to spring up on the outskirts of the city, increasing the growing number of marginalized urban dwellers (Simon et al 1980: 33). Former colonist women found employment at the gates of several market buildings reselling foodstuffs, and selling prepared food and cold drinks (Heath 1970: 349). Bribes and fees paid to the market administration office allowed some women to obtain a small selling place inside the market buildings. Young men and women, as well as older children peddled all sorts of commodities at the entrances of market buildings and bus stops, either on a piece of cloth they spread out on the sidewalks or encircled by small carts and shallow baskets. Most of the commodities offered for sale were supplied by contraband (Ibid., p. 306).

In 1971, when the establishment of spontaneous colonies in northern Santa Cruz was in its growing stage, Graber (1972) conducted a survey in ten colonies. Among them were the first four colonies started under government sponsorship, with the remainder being spontaneous colonies. The main cash crop in three of the colonies was sugarcane, while in the rest it was rice. This distinction in the type of cash crop produced became relatively minor because of the inter-relationship between both groups of colonies. Colonists relying

on the production of rice generated extra earnings as wage laborers in sugarcane producing colonies. This fact shows how important the production of sugarcane was to many colonists who, either complemented their rice production with employment in the sugarcane harvest, or relied more upon wage labor than in producing rice for the market.

The survey has a methodological limitation in that the household income was calculated by taking into consideration only the market value of the crops produced with the household's labor power and the additional contracted extra labor power. The additional income generated by the household working for others was not measured and included in the calculations of the total household's income; likewise, it did not include other production the households accomplished for their own consumption. Another important limitation of the survey was the gathering of information without categorizing the households according to the capital invested in their production, such as the kind of tools used and the amount of money invested in hiring wage laborers. In spite of the limitations indicated, the information provided by the survey gives some idea of the development of social stratification in the colonies in northern Santa Cruz.

In considering all ten colonies, Graber (1972: 76) found that 48 percent of colonist households controlled more than 88 percent of the total annual income. In rice producing colonies 45 percent of the households controlled a little over 77 percent of the total income, while in sugarcane producing colonies 18 percent of the households controlled 46 percent of the total income. The greatest disparity in the distribution of annual income was found in the three sugarcane producing colonies. The lowest average income was \$b 270 (\$us 22.5)

with the highest average being \$b 49,204 (\$us 4100) (Graber 1972: 77, 78, 79).

In nine of the ten colonies there were a few colonist households whose annual income was above \$b 20,000 (\$us 1667) (Ibid., p. 11). The higher levels of income were found to be in close association with higher investments in extra labor power (Ibid., p. 25). Taking all ten colonies into consideration it was found that 63 percent of the households hired extra labor power, mainly for the harvest, while around 25 percent of the households had one of its members employed as a wage laborer for some period of time. This latter figure varied from 11 percent in one colony to 80 percent in another (Ibid., p. 8).

In 1976 another study was carried out in several colonization areas of the country. The study was limited to only spontaneous colonies, and was based on a sample of 714 colonist households. It was found that 10 percent of the households had incomes higher than \$b 9000 (\$us 750), and controlled 37.2 percent of the total income of all the households sampled (Wiggins 1976: Ch. III, p. 11).

In summary, specialization in the production of rice as a commodity caused the colonists to become dependent upon the market. In the market they sold their rice, and with the cash they acquired commodities and services not produced by their households, and also the means of production they needed to reproduce their household production. The existence of numerous marketing agents inflated the prices they paid for commodities and services. In the marketing of their rice they were forced to share a part of their production with rice mill owners, rice merchants, and truckers who had control of certain means of production they lacked. Furthermore, the government's

method of financing its deficits with the expansion of the money supply resulted not only in the loss of the value of the national currency, but also caused the constant rise in domestic prices of commodities and services. This situation was closely related to the position of the country in the international division of labor; as it depended upon its sales of primary commodities in the international market, obtaining in exchange capital, technology, industrial and agricultural inputs, and industrial commodities in order to sustain the reproduction of the national production, and its expansion. In the market the colonists found unequal access to resources and unequal opportunities, stimulating them to develop other occupations either to expand or to complement their household production. The results were a social stratification that gradually emerged in the colonies, and the migration of colonists to the urban centres.

The partial or total migration of the colonists to the city in search of employment resulted in their partial or total proletarianization. While there were some colonists who shifted back and forth between the city and the colony (partial migration) a large number moved to the city permanently to rely upon part-time occupations, including self-employment. A few colonists managed to integrate the labor force of factories and commercial farms. This proletarianization affected not only men, but increasingly women and children. The former colonist household (once a single productive unit) was now forced to disperse in order to invest their labor power in multiple occupations to provide for their daily subsistence. The "rich colonists" on the contrary, had become small entrepreneurs combining their capitalist accumulation in several businesses, from

large scale commodity production to restaurants and bars. They were, in fact, the new petty bourgeoisie. This path of transition from peasants to proletarians closely follows one of the hypothesis Goodman and Redclift (1981: 108, 109) formulate in their study of this process. The difference is in the time-scale and the means that facilitate such a transition. Colonization became the means that accelerated the process instead of prolonging the social reproduction of the highland peasantry. The fragmenting of peasant holdings in the highlands triggered the peasants to search for additional land in the colonies. In the colonies "external proletarianization" (Lenin 1971) created a gradual differentiation among colonists. This differentiation was facilitated by their commodity production and their gradual integration into the market exchange.

## NOTES

- 1 Gulf Oil is a subsidiary of Standard Oil.
- 2 In 1969 a new paper currency, peso boliviano (\$b) was substituted for the old boliviano (Bs.) without affecting the exchange rate of the US dollar. The new peso was equivalent to 1000 bolivianos (Benavides 1972: 268).

## SUMMARY AND CONCLUSIONS

The 1952 Revolution solved the contradictions between the nationalist fraction of the Bolivian petty bourgeoisie, led by the MNR party, and the tin magnates and their petty bourgeois supporters. The revolutionary government expropriated the three large mining corporations and dismantled the hacienda system. In so doing it expanded its social support base, fostering the transformation of former hacienda colonos into peasants, and removing barriers to the expansion of capitalist production in Bolivia.

The petty bourgeoisie in power sought to accomplish the economic development of Bolivia by investing capital in the expansion of capitalist production, in order to grow into a full fledged capitalist class. For this they used the earnings of the country through the exports of tin, and financial and technical assistance from the United States (the class contradiction of the nationalist petty bourgeoisie was with the tin magnates and not United States capital). The development of agro-industry in northern Santa Cruz was the result of this effort.

To supply labor power required by the sugarcane harvest in Santa Cruz the government conducted colonization programs, attempting to resettle mine workers discharged from the state mining corporation and the growing number of landless peasants in the highlands. In northern Santa Cruz several colonies were established, but desertion of settlers was high.

However, once the sugar mill in Guabira began to operate wages rose quickly, affected by a shortage of labor power in the sugarcane plantations. To remedy this situation the sugarcane plantations sent labor contractors to the southern highland departments of the country, to divert the seasonal peasant migration to the sugarcane plantations in northern Argentina. This labor migration had increased after the Chaco War, stimulated by labor power shortages in the Argentinian sugarcane plantations in the 1940's, and conflicts for wages between local plantation workers and plantation owners. The crisis of the Argentinian sugar industry in the 1960's diverted the Bolivian peasant seasonal migration to northern Santa Cruz.

The influx of highland peasants into the sugarcane harvest in Santa Cruz facilitated their settlement in vacant plots in government sponsored colonies. The shift from sugarcane to cotton production in the plantations in the early 1970's also attracted women and children into the harvest, thereby increasing the migration of highland peasant families to Santa Cruz. This boosted the establishment of spontaneous colonies, settled by highland peasants.

In northern Santa Cruz the characteristics of the ecosystem conditioned the crop production to a specific management of the available natural resources. Due to the lack of humus accumulation on the ground, essential plant nutrients for crop maturation were obtained by burning primary forests or mature secondary growth. The soil only provided some mineral elements, therefore, its role was secondary for crop production. Floodplains were the exception, because the soil was periodically enriched by new silt deposits. Consequently, before 1952 agricultural production in northern Santa Cruz relied upon modified

uses of the slash and burn cultivation technique. Large land estates, with a bonded labor force, produced limited surpluses for market exchange. On the contrary, peasants achieved only a certain degree of self-sufficiency in their production.

After 1952 the expansion of market exchange and the increasing use of money stimulated a surplus production of rice within the enlarged peasantry that resulted from the application of the Land Reform Law. Highland peasants took this local peasant household production as a model to develop their own household production after resettling in the colonies.

Transformed into colonists the highland peasants developed a household production based upon planting rice as a commodity. Rice was well adapted to soil conditions in northern Santa Cruz, and under slash and burn cultivation it produced good yields when planted in newly cleared fields. The production of rice, stimulated by the opening of roads, expanded the establishment of rice mills and the growth of its demand in the market. This commodity production gradually increased the colonists dependence upon market exchange to complete their household production and to ensure its reproduction. Exhaustion of primary forests in their plots of land forced the colonists to get access to new plots of land in forested areas. Thus they moved from colony to colony in order to insure the reproduction of their household production. Longer distances from the marketing centres increased the difficulties the colonists encountered in repeating the cycle of migrant agriculture, because rising costs of transportation tended to cancel their labor power investments in the production of their commodity.

The resulting specialization in the production of rice made colonists dependent upon market exchange to complete their production, but in marketing their rice they were confronted with middlemen (rice merchants, rice mill owners, truckers). Lack of capital to finance extra labor power, lack of transportation facilities, and rice mills made the colonists dependent upon the middlemen who controlled these means of production. The oversupply of rice in the market during the harvest had the effect of reducing the price of unhulled rice, to the detriment of the colonists. This oversupply could not be alleviated even by exports, which were discouraged by high transportation costs. The middlemen used the seasonal fluctuation of the price of rice to purchase unhulled rice at low prices, and to obtain high interest rates in their credit operations with the colonists. The colonists also confronted another major obstacle in their production. Their cash income was constantly reduced in value by inflation of the national currency, caused by frequent printing of paper money by the government to finance its deficits. This situation was directly related to Bolivia's position in the international labor division. As a producer and exporter of primary commodities the country was dependent upon the international market to obtain necessary means of production to reproduce its production. This dependency resulted in a growing indebtedness which was reflected in the domestic prices of commodities, services and wages. Furthermore, unemployment stimulated the formation of market agents who mediated, several times, in the marketing of commodities from the wholesaler or the producer to the final consumer. This situation, coupled with chronic inflation, made domestic consumer prices unusually high.

Over the long term a gradual social differentiation appeared among colonists. Their effort in developing a suitable household production encountered limitations, posed by the interplay between the conditions of the ecosystem in northern Santa Cruz and their close dependency upon the Bolivian capitalist market system. These limitations, added to other factors relative to the colonists' social and individual background, had a determining influence in the direction the colonist household production took. The results showed a gradual development of social stratification among colonists and their migration to the city.

In conclusion, the development of migrant agriculture, inserted within the context of capitalist relations of production, made colonization a useful instrument in the dissolution of the peasantry. The re-peasantization of highland peasants involved in colonization became impossible. Migrant agriculture became the unexpected ally of the Bolivian capitalist class in its efforts to expand capitalist relations of production throughout the country. Therefore, the colonist household production had no peasant characteristics; on the contrary, it became an intermediate stage between peasant production and proletarianization, as well as their integration into the petty bourgeoisie.

Having studied the process of the development of migrant agriculture and having identified its results in social and economic terms, I ask the following questions of those who are involved in working to better the lives of colonists and local peasants. Does this study stimulate one to explore solutions to the problems the colonists have? Can anything be done to develop alternative ways of land

cultivation besides the traditional slash and burn technique or mechanization -- such as the paddy system developed in Southeast Asia? Solutions can be found only when the people themselves are helped to find them.

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