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MIGRATION TO NORTHERN GOIÁS: GEOGRAPHICAL AND
OCCUPATIONAL MOBILITY IN SOUTHEASTERN AMAZÔNIA, BRAZIL

By

Luis Eduardo Aragón

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ABSTRACT

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MIGRATION TO NORTHERN GOIÁS: GEOGRAPHICAL AND
OCCUPATIONAL MOBILITY IN SOUTHEASTERN AMAZÔNIA, BRAZIL

By

Luis Eduardo Aragón

This study describes and analyzes geographical and occupational mobility in the Amazonian region of Goiás state, Brazil, and seeks to show that migrants to this area follow a step-wise process inverse to the urban functional hierarchy in search of better places to reside. Primary and secondary data, extensive bibliographical review, and a full year (July 1976-July 1977) of field work constitute the main sources of information for this study. Close to 700 migrant heads of households (4 percent of the universe) were randomly interviewed in the area. Interviews revealed personal characteristics, demographic information, kinship ties, and occupational and migration history.

Northern Goiás is located on the periphery of two regions: southern Brazil and Amazônia. It is distant from São Paulo, but is also distant from Belém and Manaus, the two largest centers of Amazônia. In 1960 the Belém-Brasília highway joined the two cores of settlement and traversed northern Goiás. The zone grew tremendously. However, people

came mainly from nearby areas, from old towns located along traditional transportation routes on the Araguaia and Tocantins rivers. Today the area is one of low retention but high geographical mobility. Migrants come mainly from small towns and rural areas, but some have contacted large urban centers. Reverse hierarchical migration is noticeable, especially among urban-born migrants. As migrants move the tendency is to concentrate in urban centers and to change occupations. Occupations reported by the migrants, however, are among the lowest ranked in Brazil, and social mobility occurs mainly between these occupations.

Sixteen years after the Belém-Brasília road was opened, this study shows a high propensity to migrate from the area, especially toward the cities located at the two extremes of the highway. In the migration stream, relatives follow relatives, and children are already abandoning the area in favor of those cities, so it is expected that their relatives will join them in the near future. If the process found in northern Goiás is characteristic of other Amazonian regions where highways are being opened, the plans to integrate Amazônia may produce the opposite effect. To date, the opening of the transportation network of Amazônia is intensifying migration to the larger cities and increasing the urban explosion and related phenomena.

To my parents, Luis Antonio Aragón
and Agripina Vaca de Aragón

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CHAPTER I

INTRODUCTION

Between 1960 and 1970 about 21 million people migrated to urban centers in Latin America, and about 60 percent of the total Latin American population now lives in urban environments.¹ Hence, most investigations consider migration responsible for the urban explosion and progressive urban deterioration.² Up to 1970, more than 20 million Brazilians migrated to cities, but considerable numbers of people are migrating today to secondary centers and frontier areas.³ São Paulo and Paraná, once the leading states for in-migration, are experiencing lower retention

¹Stanley D. Brunn and Robert N. Thomas, "The Migration System of Tegucigalpa," in Robert N. Thomas, ed., Population Dynamics of Latin America: A Review and Bibliography (East Lansing: CLAG Publications, Inc., 1973), pp. 68-82; United Nations, Urban and Rural Population: Individual Countries 1950-1985 and Regions and Major Areas 1950-2000 (New York: United Nations, 1970).

²Robert N. Thomas, "Internal Migration in Latin America: An Analysis of Recent Literature," in Barry Lentnek, Robert L. Carmin and Tom L. Martinson, eds., Geographic Research on Latin America: Benchmark 1970 (Muncie, Indiana: Ball State University, 1971), pp. 104-118.

³Speridão Faissol, "Migrações internas e suas repercussões no crescimento urbano e desenvolvimento econômico," Revista Brasileira de Geografia 35 (1973): 3-102.

indices, while the Central-West (Goiás in particular) has the highest.⁴ Frontiers are being populated rapidly, but the magnitude, process and implications of migration flows to these areas are little known in Latin America.

Dozier considers that:

Some of the most rapid and drastic changes in Latin America are occurring in areas that formerly were thinly populated but now have scores of in-migrants, in areas that formerly were isolated but now have all-weather road links with the outside, in areas that were formerly tropical forest but now have cleared agricultural land. . . .⁵

Studies of migration to frontier areas are urgent. They can contribute significantly to urban decentralization, regional planning and further development of migration theory.

The Problem

This study describes and analyzes geographical and occupational mobility of migrants to the Amazonian region of Goiás state, Brazil, and seeks to answer the following questions:

⁴Milton de Mata, et al., Migrações internas no Brasil: Aspectos econômicos e demográficos (Rio de Janeiro: IPEA/INPES, 1973), pp. 69-71.

⁵Craig L. Dozier, "Geography and the Emergent Areas of Latin America," in Barry Lentnek, et al., eds., Geographic Research in Latin America: Benchmark, 1970 (Muncie, Indiana: Ball State University, 1971), p. 86.

1. What relationships exist between step-wise migration and functional hierarchy?⁶
2. What relationships exist between step-wise migration and occupational mobility?
3. What relationships exist between hierarchical migration and occupational mobility?
4. What are the perspectives for general improvement of the people migrating to northern Goiás?
5. Is the study area one in which the migrants tend to remain?

Hypothesis

This research suggests that migrants to the Amazonian region of Goiás state, Brazil, tend to follow a step-wise migration flow inverse to the functional hierarchy in search of places with better opportunities to reside. Operationally, the study seeks to show:

1. As the number of steps increases the percentage of migrants moving downward in the functional hierarchy increases.
2. As migrants change residence occupational change increases.
3. Occupational mobility occurs mainly between occupations of low social levels.

⁶A functional hierarchy is a spatial structure of nodal regions. The Instituto Brasileiro de Geografia e Estatística (IBGE) established the functional hierarchy of Brazil at the municipal level. Each município was considered a nodal region, with its respective capital being the center or nucleus of the region. They were classified in five hierarchical levels according to the social and economic functions of each município in relation to all others.

4. Migrants to northern Goiás represent a selected residual of those unable to survive in high hierarchical levels, plus those chronically moving between places of low hierarchical levels.
5. Northern Goiás serves as a temporary residence for migrants going to larger cities, especially for those going to the cities located at the two ends of the Belém-Brasília highway.

Theoretical Framework

Traditionally, migration has been considered to be the result of a decision made by the migrants relative to positive (pull) and negative (push) factors between their places of origin and destination, and the obstacles found between the two places.⁷ Since first described by Ravenstein, this movement has been referred to as a step-wise process.⁸ Recent studies identify in Ravenstein's law two complementary

⁷Good bibliographical reviews include: Gunnar Olsson, Distance and Human Interaction: A Review and Bibliography (Philadelphia: Regional Science Institute, 1968); J.J. Mangalam, Human Migration: A Guide to Migration Literature in English, 1955-1962 (Lexington: University of Kentucky Press, 1968).

⁸E.G. Ravenstein, "The Laws of Migration," Journal of the Statistical Society 48 (1885): 167-235; 52 (1889): 241-305; Everett S. Lee, "A Theory of Migration," Demography 3 (1966): 47-57.

processes: step-wise migration and stage migration.⁹ In step-wise migration the same person arrives at a place after several stops. Stage migration emphasizes replacement. A person leaves a given site and is replaced by another coming from somewhere else.¹⁰ Relating step-wise migration to urban hierarchy, a person moves from a small rural village to a secondary town and from there to a primate city.¹¹ Today, the process appears to be weakening, meaning that more people are migrating directly to primate cities.¹²

⁹Robert N. Thomas and James L. Mulvihill, "Temporal Aspects of Stage Migration in Guatemala," in Robert N. Thomas and John M. Hunter, eds., Internal Migration Systems in Developing Countries: African, Asian and Latin American Examples (East Lansing: Latin American Studies Center, forthcoming); J. Barry Riddell and Milton E. Harvey, "The Urban System in the Migration Process: An Evaluation of Step-Wise Migration in Sierra Leone," Economic Geography 48 (1972): 270-283.

¹⁰Bertil Wendel, "A Migration Schema: Theories and Observations," Lund Studies in Geography, Ser. B. Human Geography, No. 9 (1953).

¹¹Gunnar Kulldorf, "Migration Probabilities," Lund Studies in Geography, Ser. B. Human Geography, No. 14 (1955); Karl E. Taueber, "Cohort Population Redistribution and the Urban Hierarchy," The Milbank Fund Quarterly 43 (1965): 451-462; Curtis C. Roseman, "Changing Migration Patterns," AAG Resource Papers for College Geography 77-2 (1977).

¹²Robert N. Thomas and John C. Catau, "Distance and the Incidence of Step-Wise Migration in Guatemala," AAG Proceedings 6 (1974): 113-116.

Studies applying the classical model abound relative to Latin America, but few test empirically the relationships between urban hierarchy and step-wise migration, analyze the role of secondary centers, or study flows to rural areas or small towns.¹³ Numerous colonization studies analyze the adaptation of people in their new environments, describe the process of agricultural transformation, report colonist-Indian confrontations, call attention to environmental problems and plan for the development of future colonization areas. Almost none trace the migrant from time of birth until his arrival at the frontier.¹⁴

The classic model has been critically revised by several authors who found it rigid. For Mabogunje, migration results from stimulus, controls, and adjustments within a given area or environment.¹⁵ Considering just two places, with the destination being a primate city, studies applying

¹³Robert N. Thomas and Kevin F. Byrnes, "Intervening Opportunities and the Migration Field of a Secondary Urban Center: The Case of Tunja, Colombia," in Robert J. Tata, ed., Latin America: Search for Geographic Explanations (Boca Raton, Florida: CLAG Publications, Inc., 1976), pp. 83-88; Dale W. Adams, "Rural Migration and Agricultural Development in Colombia," Economic Development and Cultural Change 17 (1969): 527-539.

¹⁴Good bibliographical reviews include: Dozier, "Geography and the Emergent Areas in Latin America," pp. 86-94; Pierre A.D. Stouse, Jr., "Settlement Geography in Latin America," in Barry Lentnek, et al., eds., Geographic Research in Latin America: Benchmark 1970 (Muncie, Indiana: Ball State University, 1971), pp. 9-103.

¹⁵Akin L. Mabogunje, "Systems Approach to a Theory of Rural-Urban Migration," Geographical Analysis 2 (1970): 1-8.

the classical model omit analysis of a considerable number of migrants: those leaving a place who do not arrive at that specific destination, plus those who have already left this place. Surveys represent a specific point in time. For some people a place would be their origin, for others their final destination, and for still others their first, second or third residence. The origin and destination are, then, not independent, but are two points within an area which contain many other places that in total constitute the migration field of a given population. Migration is a continuous movement of people between structures whose intra and inter-relationships determine the dynamics of the process between different places of a given migration field.¹⁶ It is recognized in geographic literature that people move within an action space and that the center of gravity of such space changes through time. For Hagerstrand "these changes in the center of gravity correspond to what is usually termed migration."¹⁷ The localities within a migration field are usually organized hierarchically, and as the

¹⁶Elbio Neris Gonzales and Maria Inês Bastos, "Migração rural e o trabalho volante na agricultura brasileira," in IBGE, Encontro brasileiro de estudos populacionais (Rio de Janeiro: IBGE, 1976), pp. 240-261; J. Barry Riddell, "African Migration and Regional Disparities," in Robert N. Thomas and John M. Hunter, eds., Migration Systems in Developing Countries: Asian, African and Latin American Examples (East Lansing: Latin American Studies Center, forthcoming).

¹⁷Torsten Hagerstrand, "Migration and Area," in David Hannerberb, et al., eds., "Migration in Sweden: A Symposium," Lund Studies in Geography, Ser. B. Human Geography, No. 13 (1957), p. 25.

level increases, the complexity of the places also increases.¹⁸ Within this framework, step-wise migration appears to result from a continuous selection process. In each hierarchical level migrants survive who are capable of coping with the requirements of that level. Therefore, as the hierarchy level increases, the expulsion of migrants will be greater because fewer individuals are capable of surviving in those places. In each intermediate level migrants have four alternatives: 1) move up the hierarchy, 2) move laterally to places of the same level, 3) stay in the same place or 4) move down the hierarchy. Those migrants over-equipped for a specific place are positively selected and tend to move up the hierarchy, those better able to adjust in places of the same level tend to move laterally, and migrants already adjusted tend to remain where they are. Those under-equipped for a specific place are negatively selected and tend to move down the hierarchy. Those who reach the lowest levels, or are never able to move up, tend to become chronic movers and migrate among places of the same level (Fig. 1).

The model has empirical evidence in Brazil. Costa notes that return migration is insignificant, but that re-emigration is frequent. According to the 1970 census, he

¹⁸ John D. Nystuen and Michael F. Dacy, "A Geographical Theory Interpretation of Nodal Regions," Papers of the Regional Science Association 7 (1961): 22-42.

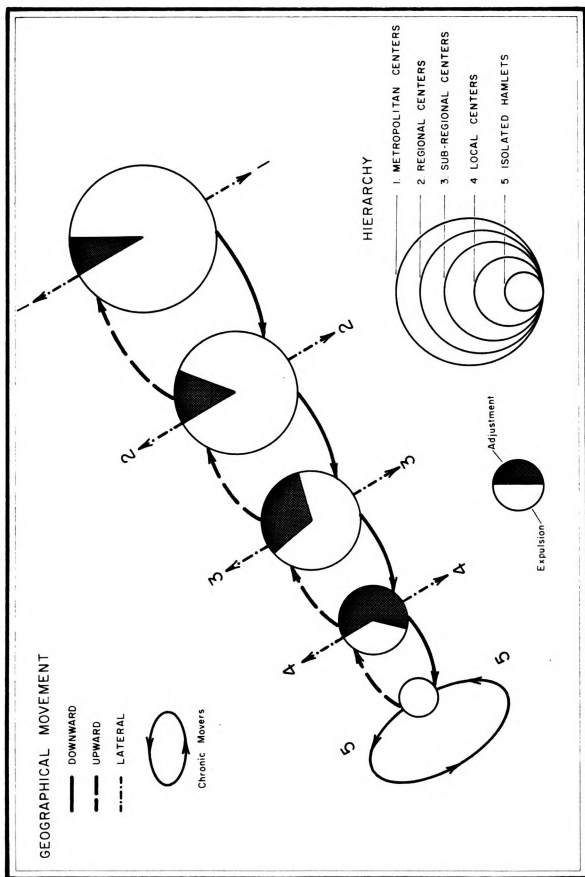


Figure 1 --A Theoretical Model of Hierarchical Migration

indicates that 26 percent of the inter-regional migrants report having stopped at least once after leaving their native region. This proportion increases to 37 percent for migrants born in São Paulo and to 40 percent for migrants born in Paraná.¹⁹ Martine concludes that there exists

. . . a high level of desertion or non-survival of migrants in the metropolitan areas of Brazil even though these are generally considered to be localities of great population attraction. Approximately 30 to 35 percent of the migrants, men and women, who arrived between September 1964 and September 1967 would have re-emigrated or died before the 1970 census. For those migrants who arrived between 1959 and 1964 the index of retention is between 40 and 63 percent, indicating that approximately 50 percent of all migrants at this time would not have survived until the date of the census.²⁰

Where do these migrants go? It appears that many are in secondary centers, and others are populating small towns along frontier areas of Amazônia.

Findings and Limitations of the Study

Spontaneous migrants to frontier settlements follow a step-wise migration between small places, but some come from large centers. The majority are subsistence peasants expelled from traditional colonization areas, today being

¹⁹Manoel Augusto Costa, "Urbanização e migrações urbanas no Brasil," in Manoel Augusto Costa, ed., Estudos de demografia urbana (Rio de Janeiro: IPEA/INPES, 1975), p.87.

²⁰George R. Martine, "Adaptação de migrantes ou sobrevivência dos mais fortes?" Projeto de planejamento de recursos humanos, BRA/70/550, Relatório 30 (Setembro 1970), pp. 18-20.

devoted principally to cattle and extensive agriculture. They move from farm to farm, but the majority eventually migrate to an urban center. From there they commute to work in the countryside, until moving to a large city. Change of occupations is frequent, but occupational mobility occurs mainly between occupations of low social levels. Migrants coming from large urban centers take the better occupations, while rural-born migrants adopt urban occupations of even lower levels. Children arriving with their parents in northern Goiás, plus those born there, are already leaving the area and moving to the large cities located at the two ends of the Belém-Brasília highway. The highway contributed greatly to the redistribution of population in the region but minimally to the attraction of people from large cities and distant places. Today propensity to migrate is high in the area and migrants will soon join their relatives in the large cities. If the process continues, the highway which was opened to populate the area may have the opposite effect by intensifying migration to the large cities of the two extremes of the road.

Migration is a complex process impossible to approach from a single point of view. To understand the process completely is a task beyond this study and the capabilities of many. This work constitutes a modest contribution to the knowledge and understanding of the migration process to sparsely populated areas in Latin America. Although in general the

study demonstrates the hypothesis formulated above, several limitations should be noted. Field work was conducted in a small area of Amazônia and in many instances generalizations were made only for those individuals interviewed. The hierarchy of Brazilian municípios was formulated in 1970, and some migration histories go back to 1900's. To what extent can a subjective classification be correlated to an objective one? Is the functional hierarchy of 1970 similar to that of 1900? The classification of occupations is a critical issue of debate by social scientists. Is a classification made at the national level valid for a small region? To what extent do occupations reflect socio-economic status? Primary data were collected in a foreign language. Was the informant answering honestly or just pleasing the interviewer? In any case, the researcher attempted to be as objective as possible, and the results are based on primary data. Hopefully these data reflect reality. If future research finds this study to be valid, or even worthy to be continued, I will be amply rewarded.

CHAPTER II

THE POPULATION DYNAMICS OF NORTHERN GOIÁS

When the first Portuguese arrived, more than 50,000 Indians in some twenty tribal groups inhabited the present state of Goiás.¹ Bandeirantes coming from São Paulo and missionaries from Belém explored northern Goiás. The bandeiras, official and private expeditions looking for metals and Indians, reached "os sertões de Goiás" around 1590.² Although Sebastião País de Barros approached the Tocantins-Araguaia confluence in 1673, the most important bandeira was the one by Bartolomeu Bueno da Silva (Anhangüera) who discovered gold in Goiás (1722) and stimulated tremendously future penetrations in the state. Da Silva explored the north and after reaching Belém returned to São Paulo in 1725.³

¹Luis Antônio da Silva e Souza, O descobrimento da capitania de Goyaz (Goiânia: Universidade Federal do Goiás, 1967), p. 62; João Manuel Pohl, Viagem ao interior do Brasil, Vol. 1 (Rio de Janeiro: Instituto Nacional do Livro, 1951), p. 299.

²Luis Palacín and Maria de Sant'Anna Morães, História de Goiás 1722-1972 (Goiânia: Universidade Federal do Goiás, 1975), pp. 6-7.

³Luis Palacín, Goiás 1722-1822: Estrutura e conjuntura numa capitania de minas (Goiânia: Oriente, 1972), pp. 17-21.

One of the earliest missionary penetrations coming from the north was via the Tocantins by Frei Cristovão de Lisboa and Castelo Branco in 1625.⁴ They explored the site of the present city of Cametá (Pará), but other missionaries reached the Tocantins-Araguaia confluence by 1659.⁵ By the end of the 18th century the territory of Goiás was well known in São Paulo and Belém, penetration roads were mapped and journeys were described in itineraries that passed from explorer to explorer.⁶ Then, a mobile population began to inhabit the state. People settled in mining towns, or arraias, which they abandoned as soon as gold was exhausted or its exploitation required excessive effort.

How many people moved into the state, what percentage settled in the north, and how did the historical process affect the present population distribution of northern Goiás? In Goiás, population distribution forms a distinct pattern according to relevant historical events. Until 1783 Goiás experienced a continuous influx of population, mainly slaves, to work at gold mining (Table 1). Between 1736 and 1781 the average rate of growth for the entire province registered

⁴Luis Paternostro, Viagem ao Tocantins (Rio de Janeiro: Companhia Editôra Nacional, 1945), p. 55.

⁵Ibid., p. 55.

⁶Palacín, História de Goiás, p. 18.

TABLE 1

HISTORICAL EVOLUTION OF THE POPULATION OF BRAZIL AND
GOIÁS STATE, 1736-1975¹

Year	Brazil	Goiás	Northern Goiás
1736	-	14,000 ^a	1,196 ^{a*}
1750	-	35,000 ^b	6,248 ^{b*}
1776	1,900,000 ^c	-	-
1781	-	58,829 ^d	-
1783	-	59,287 ^d	-
1804	-	50,764 ^e	19,703 ^e
1808	4,000,000 ^f	50,593 ^a	-
1819	4,396,132 ^g	-	-
1823	-	61,000 ^h	-
1824	-	62,318 ⁱ	-
1830	5,340,000 ^j	-	-
1849	-	79,000 ^k	-
1854	7,677,800 ^l	-	-
1856	7,923,000 ^m	122,000 ^k	-
1861	8,547,000 ^m	133,000 ^k	-
1872	9,930,478 ⁿ	160,395 ⁿ	-
1890	14,333,915 ⁿ	227,572 ⁿ	-
1900	17,438,434 ⁿ	255,284 ⁿ	-
1920	30,635,605 ⁿ	511,919 ⁿ	-
1940	41,236,315 ⁿ	826,414 ⁿ	281,877 ^o
1950	51,944,397 ⁿ	1,214,921 ⁿ	238,273 ^p
1960	70,992,343 ⁿ	1,954,862 ⁿ	316,396 ^q
1970	93,139,037 ⁿ	2,997,570 ^r	521,655 ^r
1975	107,145,168 ^s	3,557,879 ^s	643,186 ^s

* Slave population only.

¹ Figures of this table may vary in other sources. See, for example: Maria Luiza Marcillo, et al., Crescimento populacional (histórico e atual) e componentes do crescimento (fecundidade e migração) (São Paulo: CEBRAP, 1973).

SOURCES:

^a Luis Palacín, Goiás 1722-1822: Estrutura e conjuntura numa capitania de minas (Goiânia: Oriente, 1972), p. 33.

^b Ibid., p. 83.

TABLE 1 Continued

^cAbade Correa da Silva, as quoted by Instituto Nacional de Estatística, Anuário Estatístico do Brasil, Vol.2 (1936):41.

^dLuis Cunha Menezes, as quoted by Palacín, Goiás 1722-1822, p. 83.

^eLuis Palacín and Maria Augusta de Sant'Anna Morães, História de Goiás 1722-1972 (Goiânia: Universidade Federal do Goiás, 1975), pp. 12-13, 34.

^fI Recensamento do Brasil, as quoted by Instituto Nacional de Estatística, Anuário Estatístico do Brasil, Vol.2 (1936): 41.

^gInquérito efetuado pelo Conselheiro Veloso de Oliveira, as quoted by Instituto Nacional de Estatística, Anuário Estatístico do Brasil, Vol.2 (1936): 41.

^hPalacín and Sant'Anna, História de Goiás 1722-1972, p. 30.

ⁱRaimundo José de Cunha Matos, as quoted by Palacín, História de Goiás 1722-1822, p. 83.

^jMalte Brun, as quoted by Instituto Nacional de Estatística, Anuário Estatístico do Brasil, Vol.2 (1936): 41.

^kPalacín and Sant'Anna, História de Goiás 1722-1972, p.63.

^lRelatório do Imperio, as quoted by Instituto Nacional de Estatística, Anuário Estatístico do Brasil, Vol.2 (1936):41.

^mConselho Nacional de Estatística, Anuário Estatístico do Brasil, Vol. 22 (1961): 20.

ⁿIBGE, Anuário Estatístico do Brasil, Vol. 34 (1970): 43.

^oConselho Nacional de Estatística, Anuário Estatístico do Brasil, Vol. 8 (1947): 69-70.

^pIBGE, Censo demográfico 1950-Estado de Goiás (Rio de Janeiro: IBGE, 1956), pp. 88-89.

^qConselho Nacional de Estatística, Anuário Estatístico do Brasil, Vol. 25 (1964): 38.

TABLE 1 Continued

^r IBGE, Sinopse preliminar do censo demográfico--VIII
recensamento geral-1970--Goiás (Rio de Janeiro: IBGE,
1971), pp. 14-64.

^s IBGE, Brasil: Estimativa da população residente nas
regiões fisiográficas, unidades da federação, micro-
regiões homogêneas, áreas metropolitanas e municípios
em 1º de Julho de 1975 (Rio de Janeiro: IBGE, 1975).

3.2 per cent per annum (Table 2).⁷ The maximum gold production of the 18th century was in 1753, but by 1788 gold exploitation was no longer profitable.⁸ Without gold, immigration practically stopped, emigration increased, and growth was due primarily to natural increase. By the end of the 18th century most arraias were in complete decadence, and although subsistence agriculture increased as a result of the mining crisis, it was not until well into the 19th century that Goiás began to recuperate from the mining collapse. The 1804 census registered 50,764 people in the province, some 8,000 fewer than twenty-three years earlier, and the average rate of growth for the period (1781-1823) dropped to 0.1 percent per annum.

During the 19th century local agriculture attracted migrants. Miners and slaves became agriculturalists, and large fazendas were established in the south. By 1861 the state's population reached 133,000 and the average rate of growth for the period (1823-1861) rose to 2.0 percent per annum. The rate continued steady until 1900.

The few figures available for the northern part of the state reflect a similar migration history. Between 1736

⁷Average annual population growth is calculated according to the exponential change within a given period. See: Henry S. Shryock and Jacob S. Siegel, The Methods and Material of Demography, Vol. 2 (Washington, D.C.: Government Printing Office, 1975), p. 379.

⁸Palacín, História de Goiás, pp. 34, 137.

TABLE 2
 AVERAGE ANNUAL POPULATION GROWTH FOR BRAZIL AND GOIÁS STATE,
 1736-1970

Period	Brazil	Goiás	Northern Goiás
1736-1781	-	3.2	-
1781-1823	-	0.1	-
1823-1861	-	2.0	-
1861-1900	1.8	2.0	-
1900-1920	2.8	2.3	-
1920-1940	1.5	2.4	-
1940-1960	2.7	4.3	0.3
1960-1970	2.7	4.3	4.9

SOURCE: Table 1.

and 1750 the slave population in the north increased by 422 percent, or 5,002 people, reflecting the mining activity of the area. The 1804 census for the Correição do Norte reported 7,266 slaves (63 percent of the population of the Correição). This is only 2,214 more than in 1750, illustrating the decrease of mining activity and the resultant emigration from the area. During the 19th century, towns in the north showed increased signs of survival, due to the creation of prisons, ports, and Indian reductions along the Tocantins and Araguaia rivers.

During the last years of the 19th century navigation on the Araguaia and Tocantins was implemented, cattle raising increased, local industry developed, and some agricultural products were exported to other provinces. By 1900 Goiás "recovered" the population lost during the mining crisis and had a total of 255,284 people. During the present century colonization projects have been established, settlements built and roads opened. The 2,164-kilometer (1,343 miles) Belém-Brasília road was completed in 1960 and officially opened in 1965.⁹ So, the long-wanted link between São Paulo and Belém was finally achieved. The highway is today totally paved, traffic is intense, and a bus trip from Belém to Brasília takes just thirty-six hours.

⁹William Howard Allderdice, "The Expansion of Agriculture Along the Belém-Brasília Road in Northern Goiás," Unpublished Ph.D. Dissertation, Columbia University, Department of Political Science, 1972, pp. 74-76.

Although the annual average rate of growth of Goiás in total is now among the highest in the country (4.3) and for the northern part is even greater (4.9), population increase in the state began before the highway was opened. Between 1940 and 1960 the average annual rate of growth was 4.3 percent, and the total population increased by 57 percent during that period. The big family fazendas established in the south during the 1930's and 1940's stimulated migration to Goiás, so that by 1955 the agricultural frontier coming from Paraná and Minas Gerais passed the 13th parallel.¹⁰ Also during the 1930's and 1940's crystal became economically valuable and "new" arraias appeared, especially in the north between the Araguaia and Tocantins, as new garimpos (mines) were discovered.¹¹ After the second World War the exploitation of crystal decreased and some settlements changed their economic base to agriculture. This advanced the colonization fronts, some of which were active in the north since the beginning of the century.¹²

¹⁰Leo Waibel, Capítulos de geografia tropical do Brasil (Rio de Janeiro: IBGE, 1958), pp. 131-158; Comissão Executiva da Rodovia Belém-Brasília, Rodovia Belém-Brasília: A rodovia da unidade nacional e suas implicações de ordem técnica, econômica e política (Belém: RODOBRAS, 1960).

¹¹Orlando Valverde and Catharina Vergolino Dias, A rodovia Belém-Brasília (Rio de Janeiro: IBGE, 1967); IBGE, Enciclopédia dos municípios brasileiros--Goiás (Rio de Janeiro: IBGE, 1958).

¹²E.W. Shaw and J.L. Darnell, "A Frontier Region in Brazil: Southwestern Maranhão," Geographical Review, 16 (1926): 177-195; Alarico da Cunha Jr., Eudes Alves Simões and Levon Debelian, Barra do Corda: Uma experiência de colonização (Rio de Janeiro: Instituto Nacional de Imigração e Colonização, 1959).

The Belém-Brasília, then, coincided with an active colonization process in Goiás. Katzman estimates that in total the Belém-Brasília contributed to the north only 185,000 persons.¹³ Another study estimates that some 3.1 million people would have come by the year 1980 without the highway.¹⁴ How then does one explain the enormous growth of urban settlements along the highway? It appears that the towns attracted people mainly from the same state of Goiás and neighboring rural areas. About 54 percent of migrants residing in northern Goiás in 1970 were born in municípios of Goiás, and over 48 percent had their last residence in this same state.¹⁵ According to Katzman:

On the aggregate level, the percentage of total state population residing in northern counties of Goiás has remained low and fairly constant in the last fifty years. In the period 1960-1970, after the completion of the road, the northern region grew 60 percent as opposed to 52 percent in the rest of the state, thus raising its share from 14 to 16 percent of the total population. If we

¹³Martin Katzman, "Regional Development Policy in Brazil: The Role of Growth Poles and Development Highways in Goiás," Economic and Cultural Change 24 (October 1975): 104.

¹⁴Viabilidade técnico-econômico-financeira da implantação definitiva da rodovia Belém-Brasília. Relatório final, Vol. 1 (São Paulo: Hidroservice, 1968), as cited by Thomas G. Sanders, "Brazilian Interior Migration: Three Frontier Cities on the Belém-Brasília highway," The American Universities Field Staff Reports, Vol. 65, No. 2 (1971):9.

¹⁵IBGE, VIII recenseamento geral--1970, Goiás (Rio de Janeiro: IBGE, 1973), Tables 43, 52.

assume that all of the state's regions would have grown proportionally in the absence of the highway, as they have done before 1960, then only 8 points of the decadal growth in the north is due to the highway.¹⁶

Small farmers expelled from large fazendas migrate to towns recently established along the highway and commute to work for the fazendeiros in the neighboring rural areas. At least 15 percent of the economically active population of Goiás state in 1970 was composed of residents in urban areas who worked in agricultural activities.¹⁷

It is true that population of municípios located along the highway grew significantly faster than those away from it. However, municípios located off the road experienced growth rates about the same as that for the state.¹⁸ Therefore, it appears that the population movement toward older colonization fronts has continued, but at a slower rate than those located along the highway. Population leaving the municípios off the highway has been replaced by new-incoming migrants. According to Gonzales and Bastos these new migrants may be brought in by fazendeiros and will eventually

¹⁶Katzman, "Regional Development Policy in Brazil," pp. 101-102.

¹⁷Gonzales and Bastos, "Migração rural e o trabalho volante," p. 241.

¹⁸Katzman, "Regional Development Policy in Brazil," pp. 101-102.

be replaced by others or by mechanization.¹⁹ In the broader sense, routes of communication, especially the Belém-Brasília, expansion of urban centers, and relative proximity of major economic centers are factors contributing to change in the spatial structure of the region from one based on rural settlement and small-scale farming to one based on urban settlement and large-scale agriculture. Hence, a population distribution pattern has evolved which is different from the one based on mining during the 18th and 19th centuries.

¹⁹Gonzales and Bastos, "Migração rural e o trabalho volante," p. 241.

CHAPTER III

METHODOLOGY

A project focusing on frontier migration, prepared during course-work at Michigan State University, was adapted to the case of Brazil after extensive secondary data collection. Bibliographic, cartographic and other relevant materials were gathered in the United States at the library of Michigan State University, and in Brazil at the libraries of Museu Goeldi (Belém), Universidade Federal do Pará (Belém), Núcleo de Altos Estudos Amazônicos (Belém), Instituto Brasileiro de Geografia e Estatística (Belém, Brasília), Instituto Nacional de Colonização e Reforma Agrária (Brasília, Goiânia), and the Ministério do Interior (Brasília). Once the problem was focused on the Brazilian Amazônia, a careful selection of primary data already collected began. The Núcleo de Altos Estudos Amazônicos (NAEA) is undertaking research on non-planned colonization along the Belém-Brasília highway and employed a multiple-purpose interview schedule along the road during 1975-1976. The interviews obtained information on socio-economic characteristics of migrants, migration history and occupational mobility, and was randomly distributed to migrant heads of households, stratified according to three

colonization zones, number of settlements in each zone, and number of houses in each settlement.¹ Interviews collected in Amazonian Goiás have been partially used in this study.²

Field Work

Field research covered one full year (July 1976-July 1977) and included field trips, library work in Brazil, and teaching at the Núcleo de Altos Estudos Amazônicos, Belém. An exploratory study involving field work helped in the selection of a study area.

This study deals with spontaneous migration to small towns of Amazônia. Colonization fronts in Brazil are almost totally controlled by the National Institute of Colonization and Agrarian Reform (INCRA), so the process is largely planned colonization.³ The front along the Belém-Brasília, however, is still developing spontaneously. The central zone traversed by the road, with settlements almost exclusively of migrants, was ideal for the study of frontier migration, for analysis of the impact of the road on the region, and for evaluation of the possibility of migrants remaining in the area.

¹Jean Hébette and Rosa Elizabeth Acevedo Marín, "Colonização não dirigida na Belém-Brasília: Questionários," Belém: Núcleo de Altos Estudos Amazônicos, 1976, pp. 14-19 (Mimeographed).

²Whenever used, explicit notation will appear.

³Instituto Nacional de Colonização e Reforma Agrária--INCRA, Sistemas e programas de colonização na amazônia brasileira (Brasília: INCRA, 1976); Vania Pôrto Tavares, et al., Colonização dirigida no Brasil: Suas possibilidades na região amazônica (Rio de Janeiro: IPEA/INPES, 1972).

The exploratory field work was concentrated mainly in this area and included informal interviews with community leaders, fazendeiros, and workers at various levels; the collection of secondary data; the establishment of contacts for a longer field-work period; and practice of Portuguese with common people of the area.

The area of study finally selected included the Amazonian region of the state of Goiás. Physically and culturally northern Goiás state is markedly different from southern Goiás. The north has physical features typical of Amazônia while the south has physical forms associated with the Central Plateau. Vegetation is primarily tropical rain forest in the north, and campo cerrado (wooded savanna) in the south. In Köppen's climatic classification, the north is Af and Am, while the south is mainly Aw. As latitude decreases the dry season becomes shorter and finally unnoticeable in the extreme north of the state.⁴ After an analysis of physical, cultural and socio-economic conditions, the region was declared part of Brazilian legal Amazônia in 1953.⁵ Legal Amazônia is an administrative region for the purposes of planning and socio-economic development and

⁴Instituto Brasileiro de Geografia e Estatística--IBGE, Geografia do Brasil, região centro-oeste (Rio de Janeiro: IBGE, 1977).

⁵Arthur César Ferreira Reis, "O processo histórico da amazônia," in Movimento Universitário de Desenvolvimento Econômico e Social--MEUDES, Problemática amazônica (Rio de Janeiro: Editora do estudante do Brasil, 1969), pp. 79-86.

includes the states of Acre, Amazonas, and Pará; the federal territories of Rondônia, Roraima, and Amapá; and the states of Mato Grosso north of the 16th parallel, Goiás north of the 13th parallel, and Maranhão west of the 44th meridian. The region covers 4,900,000 square kilometers (59 percent of the Brazilian territory) and had some 7,000,000 people in 1970 (3.7 percent of the Brazilian population).⁶ In 1971, INCRA declared as state domain the zone within 100 kilometers on either side of the Belém-Brasília road, north of the 13th parallel.⁷ For purposes of this study northern Goiás (also referred to as Amazonian Goiás or the Amazonian region of Goiás state) includes the homogeneous microregions 345, 346, 347, 348 and 349, an area similar to the one delimited in 1953.⁸ According to the 1970 census, northern Goiás includes fifty-three municípios, with a population of 521,655 (18 percent of the state) and an area of 281,479 square kilometers (44 percent of the state) (Fig. 2).⁹

Six settlements were selected for the conduct of formal interviews according to the following criteria:
1) functional hierarchy of the settlement, 2) homogeneous

⁶INCRA, Sistemas e programas de colonização, p. 25.

⁷Ibid., p. 25.

⁸IBGE, Divisão de Brasil em micro-regiões homogêneas (Rio de Janeiro: IBGE, 1970), pp. 535-559.

⁹IBGE, Sinopse preliminar do censo demográfico, 1970--Goiás, p. 64.

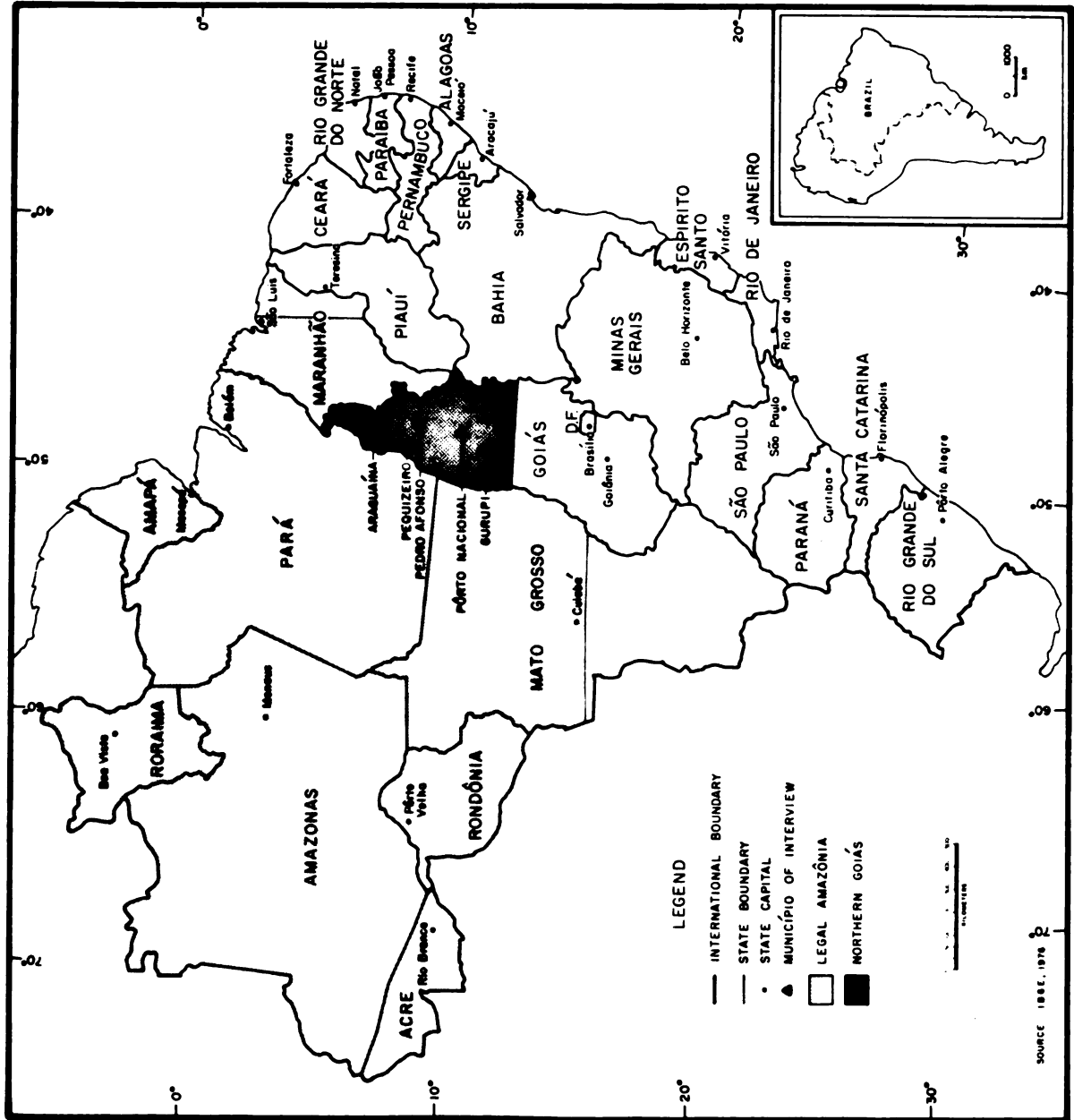


Figure 2 --Northern Goiás: Locational Map

microregion of the settlement, and 3) type of settlement. According to IBGE's classification of Brazilian municípios in urban functional regions, the municípios of northern Goiás are arranged in sub-regional centers, local centers, and isolated hamlets.¹⁰ After reading about the municípios of northern Goiás, and visiting many, I selected at least one settlement at each level. Brazilian municípios are also grouped in homogeneous microregions. A homogeneous microregion represents "a group of contiguous municípios that presents indices of similar socio-economic progress."¹¹ At least one settlement in each of the five homogeneous microregions of the area was selected, except for micro-region 349.

Today, four types of settlements are distinct in northern Goiás: 1) Those centers that dominated the economy during the 19th and beginning of the present century and today are stagnated or even losing population. Settlements along the Tocantins and Araguaia rivers, such as Pôrto Nacional, Araguacema and Pedro Afonso, represent this type. 2) Those settlements revitalized or newly established as a result of the Belém-Brasília. Such centers are located

¹⁰IBGE, Divisão do Brasil em regiões funcionais urbanas (Rio de Janeiro: IBGE, 1972).

¹¹Otávio Lage Siqueira, Plano de ação do governo: Triênio 1968-1970 (Goiânia: Departamento Editorial da Cannes Publicidade, Ltda., 1968), pp. 65-67.

about each fifteen kilometers along the highway. Towns such as Guaraí or Paraiso do Norte are no more than fifteen years old, and others such as Gurupi or Araguaína would never have become the urban centers they are today without the highway. 3) The garimpos, or mining towns, which were dynamic urban centers from the 1930's through 1950's today are in the process of extinction. Towns such as Pequizeiro, or Arapoema located along feeder roads, live from services provided by towns along the Belém-Brasília and some local agriculture. 4) New frontier towns, which are receiving migrants from the centers along the Belém-Brasília, as well as fazendeiros from the south. Settlements such as the colony Bernardo Sayão and Colmeia represent this type (Fig. 3). At least one settlement of each type was selected for the conduct of interviews.

Selected Settlements

In total six settlements were selected for the conduct of formal interviews: Pedro Afonso, Pôrto Nacional, Araguaína, Gurupi, Pequizeiro and Colmeia. Pedro Afonso (município of 11,741 people, 1975) was one of the most important cities of northern Goiás before the Belém-Brasília highway. Founded as a center to pacify the Xerente Indians in 1845 on the confluence of the Tocantins and Sono rivers,

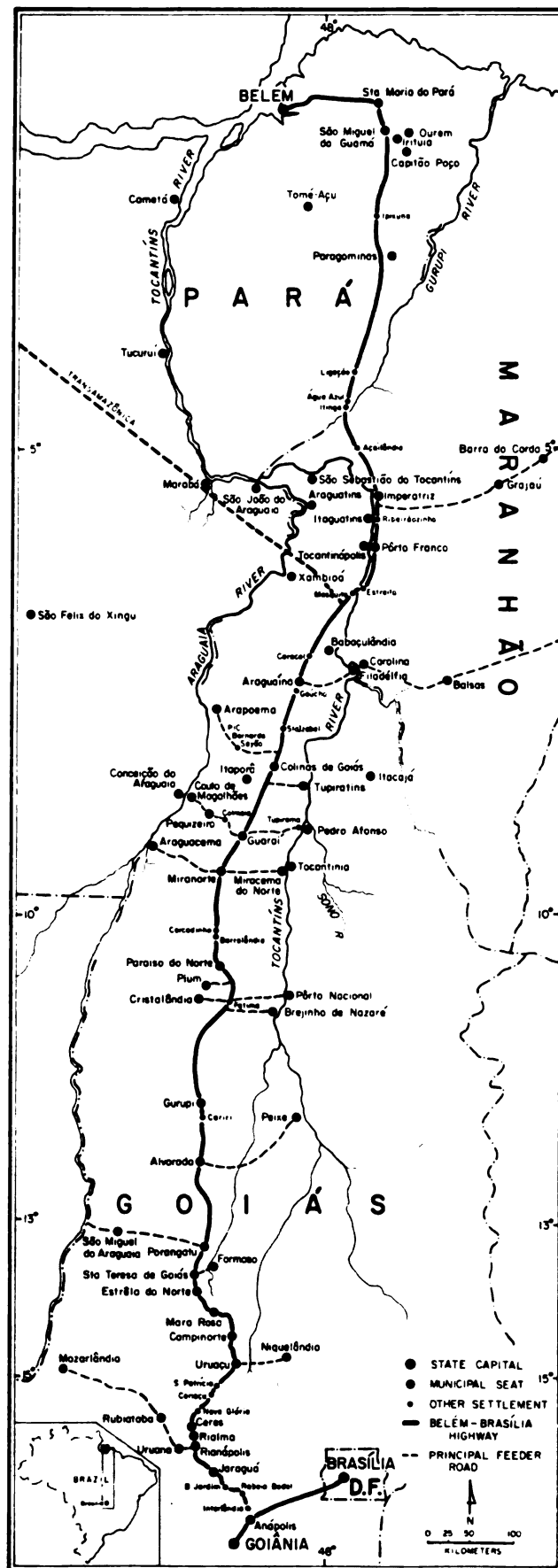


Figure 3 --The Belém-Brasília Highway

Pedro Afonso evolved as a dynamic commercial center.¹²

The progress of Pedro Afonso corresponded with the rubber boom that reached this area by 1910. When the rubber production declined, Pedro Afonso lost its regional importance. It did not regain its regional importance until the 1930's when navigation of the Tocantins was improved, making Pedro Afonso a commercial port. After World War II demand for cattle in Belém increased and Pedro Afonso managed to supply much of the demand. Then in 1960 came the Belém-Brasília road creating a new, faster, and cheaper route for the cattle. Without direct access to the road the economy and population of Pedro Afonso decreased sharply. Today, Pedro Afonso is considered by IBGE a local center (level 4 in the functional hierarchy) of micro-region 347.

Located south of Pedro Afonso, also on the Tocantins river, Pôrto Nacional (município of 39,440 people, 1975) suffered similar consequences. It emerged from a small village, Pôrto Real, in 1738, to become the most important city of northern Goiás before the highway was built.¹³

¹²Valverde and Dias, A rodovia Belém-Brasília, pp. 265-266. See also, SERFHAU, Relatório preliminar de desenvolvimento integrado--município de Pedro Afonso (Brasília: SERFHAU, 1970); IBGE, Enciclopédia dos municípios brasileiros, pp. 331-337; Anna Brito Miranda, História de Pedro Afonso (Goiânia: Oriente, 1973).

¹³Valverde and Dias, A rodovia Belém-Brasília, p.267. See also, SERFHAU, Relatório preliminar de desenvolvimento integrado--município de Pôrto Nacional (Brasília: SERFHAU, 1970); Antônio Carlos Azevedo, et al., "Saúde pública no estado de Goiás com ênfase na unidade mista de Pôrto Nacional," Revista de Patologia Tropical 1 (Janeiro-Março 1973): 1-40; IBGE, Enciclopédia dos municípios brasileiros, pp. 373-378.

Being a stop between Bahia and Goiás, and a center for the commerce of minerals abundant around the city, Pôrto Nacional took the leadership of the region until the Belém-Brasília appeared. Today, Pôrto Nacional, has the largest hospital in the area, high schools traditionally considered good, and tourist resources used especially by people from southern Goiás. Connected by a feeder road to the Belém-Brasília highway, and soon to be connected directly by a modern bridge on the Tocantins, Pôrto Nacional expects to regain its leadership. Urban planning is practiced in Pôrto Nacional, neighborhoods are designed and new areas are set aside for future growth. The local airport will be expanded and regular flights connecting Pôrto Nacional with the rest of Brazil are expected to be scheduled by the various airlines. Pôrto Nacional is still the only sub-regional center (level 3) in northern Goiás and is located in micro-region 348.

Araguaína (município of 48,193 people, 1975) is an old town, but has been revitalized by the Belém-Brasília. Founded in 1886 as Lontra, in 1944 Araguaína had only six houses.¹⁴ As soon as the highway was built people flocked into the town. Industries, hotels, commercial stores, construction, taxis, and buses help to make Araguaína a very

¹⁴Valverde and Dias, A rodovia Belém-Brasília, pp. 205-208. See also, SEFHAU, Relatório preliminar de desenvolvimento integrado--município de Araguaína (Brasília: SEFHAU, 1970).

busy place. Commercial goods are brought directly from the largest centers of Brazil: Rio de Janeiro, São Paulo, Goiânia and Belém. With the highway Araguaína took the leadership of microregion 348 and is considered today a local center (level 4).

Gurupi (município of 31,001 people, 1975) located in micro-region 348 is another boom town along the Belém-Brasília highway. In few cases does the founder of a city see it grow from a couple of houses to a community with most of the facilities of a modern city. Benjamín Rodríguez discovered the present place of Gurupi by accident in 1932¹⁵ and decided to establish a town. Colonization developed there, and when the Belém-Brasília was constructed it went directly through the middle of the town. By 1958 Gurupi had grown so much that it was officially ranked in the category of município, ceded from Pôrto Nacional. Banks, schools, hospitals, and an obligatory stop for buses traveling between Belém and Brasília, make Gurupi perhaps the most dynamic place of northern Goiás. IBGE classifies Gurupi as a local center (level 4).

Pequizeiro (município of 8,285 people, 1975), located in micro-region 346 is a typical dying mining

¹⁵Valverde and Dias, A rodovia Belém-Brasília, pp. 246-251. See also, SERFHAU, Relatório preliminar de desenvolvimento integrado--município de Gurupi (Brasília: SERFHAU, 1970); Adauto Correio Cavalcanti, Gurupi: A cidade que mais cresce no estado (Goiânia: Universidade Federal do Goiás, 1968).

town¹⁶. From approximately 5,000 people in 1950 the town of Pequizeiro decreased to 648 in 1970. When exploitation of crystal was economically feasible, Pequizeiro attracted people and obtained autonomy as a município from Araguacema in 1963. Today, the majority of people have left, mines are abandoned and its largest district, Colmeia (district of 3,215 people, 1970), disputes the municipal seat. Colmeia is receiving those fazendeiros coming from the south and expanding the agricultural frontier with bananas and cattle. The town is a collection center for these products, before distribution to São Paulo, Goiânia and Belém. Furniture manufacture, commerce, food industry, hotels, elementary schools and a local high-school are booming.

These six settlements, like all of northern Goiás, were tremendously affected by the opening of the Belém-Brasília highway. The most significant impact is the growth of towns along the road at the expense of those away from it. Table 3 illustrates the changes in population of these settlements between 1960 and 1975. The six settlements represent the general typology of towns in northern Goiás. Collectively, they are considered representative of the migrant population of the study area, but references to individual cases are mentioned frequently.

¹⁶SERFHAU, Relatório preliminar de desenvolvimento integrado--município de Araguacema (Brasília: SERFHAU, 1970); IBGE, Enciclopédia dos municípios brasileiros, pp. 46-49.

TABLE 3

POPULATION CHANGE IN FIVE SELECTED MUNICÍPIOS OF NORTHERN GOIÁS, 1960-1975

Município	Population			Percent Increase	
	1960 ^a		1970 ^b	1960-1975	
	Total	Urban	Total	Total	Urban
*Araguaína	10,826	2,382	38,838	258.7	660.0
*Gurupi	11,982	4,148	25,405	112.0	288.2
Pedro Afonso	10,033	3,175	10,972	9.3	24.3
Pequizeiro ¹	1,807 ^b	-	6,375	252.8	-
Pôrto Nacional	23,005	5,360	32,321	40.5	92.5

37

SOURCES: a. IBGE, "Resultados preliminares do recenseamento geral de 1º - IX - 1960," Anuário Estatístico do Brasil 22 (1961): 44-45.

b. IBGE, Sinopse preliminar do censo demográfico - VIII recenseamento geral, 1970 -- Goiás (Rio de Janeiro: IBGE, 1971), pp. 5-51.

c. IBGE, Brasil: Estimativa da população residente nas regiões fisiográficas, unidades da federação, micro-regiões homogêneas, áreas metropolitanas e municípios em 1º de julho de 1975 (Rio de Janeiro: IBGE, 1975), pp. 76-77.

* Municipal seat located on the Belém-Brasília highway.

¹ Includes the population of the district of Colmeia.

The Sample

According to the migrant population reported in the 1970 census to be living in urban centers, a stratified, unaligned random sample of at least 15 percent of migrant heads of households was collected in each selected settlement. The census defines urban population as those persons enumerated at the seats of municípios and districts, regardless of size, but migrant population living in urban areas is reported only at the municipal level. Therefore, the migrant population living in district seats is included. The interviews were conducted in the seats of municípios, except for Colmeia, which is a district of Pequizeiro. Therefore, the base used to establish the sample is somewhat larger than reality, increasing the real size of the sample. In the case of Colmeia, the total urban population was taken as the base. The migrant population (according to the census those residents non-native to the município) living in the urban area of the município was divided by five, the average size of family in the state of Goiás in 1970, to approximate the number of migrant households in the urban area. Then, this figure (the number of migrant households living in the urban area of the município in 1970) was divided by the total population of the município in 1970 to calculate the proportion of this population in relation to the entire population. Assuming that the population grew proportionally until 1975, the same percentage of migrant

households would be found in the 1975 IBGE's population estimates for the municípios of Brazil.¹⁷ This final figure was the base for the sample (Table 4).

According to the technique described by Berry, points corresponding to the number of interviews were randomly distributed on a map of each selected settlement.¹⁸ Interviews were conducted with heads of households not native to the locality. Migration history was recorded for each stop of one or more years between the locality of birth and the locality of interview. After the house corresponding to each point on the map was located the following decisions were made relative to the interviews:

- 1) If the head of the household was a migrant the interview was conducted there. If not, the closest migrant head of household located within the same quadrant of the map was interviewed.
- 2) If there were no houses, nor migrant heads of households in a quadrant, the closest migrant head of household in the neighboring quadrants was interviewed.
- 3) The quadrants outside the urban delimitation of the settlement were excluded.

The interview schedule detected socio-economic and demographic characteristics of migrants, occupational

¹⁷ IBGE, Brasil: Estimativa da população residente, pp. 76-77.

¹⁸ Brian J.L. Berry, Sampling, Coding and Storing Flood Plain Data (Washington, D.C.: United States Department of Agriculture, 1962).

TABLE 4
SAMPLE POPULATION

Settlements	1	2	3	4	5	6
Colmeia	996	199	3.1	257	100	38.9
Pedro Afonso	1,643	329	3.0	352	120	34.1
Pequizeiro	1,271	254	4.0	331	50	15.1
Pôrto Nacional	3,474	695	2.1	828	125	15.1
Araguaína*	13,383	2,677	6.9	3,325	165	5.0
Gurupi*	11,171	2,234	8.8	2,728	109	4.0
Northern Goiás	70,438	14,097	2.6	16,722	669	4.0

SOURCES: IBGE, VIII recenseamento geral, 1970--Goiás (Rio de Janeiro: IBGE, 1973), pp. 284-295, 530; IBGE, Brasil: Estimativa da população residente nas regiões fisiográficas, unidades da federação, micro-regiões homogêneas, áreas metropolitanas a municípios em 1º de Julho de 1975 (Rio de Janeiro: IBGE, 1975), pp. 76-77.

- 1 - Migrant population of the urban area of the município, 1970.
 - 2 - Migrant families living in the urban area of the município, 1970.
 - 3 - Migrant families living in the urban area of the município in 1970 as a percentage of the total population.
 - 4 - Estimated number of families living in the urban area of the município, 1975.
 - 5 - Number of interviews conducted.
 - 6 - Percentage of the universe.
- * Interviews conducted by the Núcleo de Altos Estudos Amazônicos.

mobility and migration history (Appendix A). Upon arrival in a settlement, I informed community leaders of the study objectives. But, help from any local institution in the direct conduct of the interviews was rejected to avoid association of the investigation with local community development programs or political objectives. Immediately after collection of the interviews, a thorough reading of each one was done to detect inconsistencies, omissions, or contradictions, and a decision was made to accept or reject it for further analysis. After editing, a code book was elaborated which includes five sets of data. Next, each interview was coded according to the code book on FORTRAN sheets. The coded data were punched on IBM cards, and several variables were selected to be processed. The spelling of geographic terms follows the index of toponyms for the map of Brazil, 1:1,000,000¹⁹

Field notes, primary and secondary data, and extensive bibliographic review are the basic sources of information for this study. Qualitative analysis is as important as quantitative analysis. Simple correlation and differences of means are the principal quantitative treatments used. However, tests for statistical significance were not run for two reasons: first, the data do not fulfill all requirements

¹⁹IBGE, Índice dos topônimos da carta do Brasil ao milionésimo (Rio de Janeiro: IBGE, 1960).

for such tests, and second, quantitative analysis is used as an aid in the description of a process and not in the prediction of future trends.²⁰ The results, however, I consider valid, and further studies will prove to what extent.

²⁰Denton E. Morrison and Ramon E. Henkel, eds., The Significance Test Controversy: A Reader (Chicago: Aldine Publishing Company, 1970).

CHAPTER IV

THE MIGRATION FIELD OF NORTHERN GOIÁS

The concepts of migration area and migration field permit one to analyze migration dynamically.¹ Study of the spatial organization of the area visited by a group of migrants, or the migration area, contributes to the understanding of why a particular population resides in a given place. Within an area some places are more likely to relate to others in terms of migration.² The field of attraction, or expulsion, of a place, or migration field, decreases with distance and is generally contiguous.³ However, places can

¹Hagerstrand, "Migration and Area"; Karl Erik Bergsten, "Variability in Intensity of Urban Fields as Illustrated by Birth-Places," Lund Studies in Geography, Ser. B. Human Geography, No. 3 (1951); Robert N. Thomas and Charles M. Croner, "Migration Paths to Tegucigalpa and San Pedro Sula, Honduras: The Role of Accessibility," Social and Economic Studies 24 (December 1975): 445-457.

²Curtis C. Roseman, "Migration as Spatial and Temporal Process," Annals of the Association of American Geographers, 61 (1971): 589-598.

³Torsten Hagerstrand, "The Movements of a Rural Population," The Swedish Geographical Yearbook (1947): 139-142; Torsten Hagerstrand, "Migration and the Growth of Culture Regions," Lund Studies in Geography, Ser. B. Human Geography. No.3 (1951): 33-36; Paul J. Schwind, "A General Field Theory of Migration: United States: 1955-1960," Economic Geography 51 (1975): 1-16.

attract (or expel) migrants from (or to) areas outside their immediate field. Distant places can supply labor needed in large cities or frontier areas.⁴ Nordestinos contracted directly to work for fazendeiros in the Central-West represent an example of channelized migration in Brazil.⁵ Brazilian internal migration is dominated by factors of expulsion, which show the degree of dependence a place has in relation to others, which is thought to be the primary cause of migration.⁶ Therefore, the identification, description and analysis of the places visited by migrants residing in northern Goiás will contribute to a better understanding of the process.

The Urban Functional Hierarchy

In 1970, IBGE defined the urban functional hierarchy of the 4,000 municípios of Brazil.⁷ A flow matrix was made for each município in terms of agricultural flows, distribution

⁴Curtis C. Roseman, "Channelization of Migration Flows from the Rural South to the Industrial Midwest," AAG Proceedings 3 (1971): 140-146.

⁵Gonzales and Bastos, "Migração rural e o trabalho volante," pp.240-261; Maria Conceição D'Incao e Mello, O bôia fria: Acumulação e miséria (Petropolis: Editôra Vozes, Ltda., 1976).

⁶Paul Singer, Desenvolvimento econômico e evolução urbana (São Paulo: Cia. Editôra Nacional, 1968).

⁷IBGE, Divisão do Brasil em regiões funcionais urbanas, pp. 1-112.

of goods and services to the economy, and distribution of goods and services to the population. Depending upon the number of contacts, each município was classified in one of five levels according to the following criteria:

Level 1 - Metropolitan Centers: To classify the centers of this level, which command the urban networks of Brazil, it was not sufficient to count only the number of contacts and examine the type of flows. Other indicators were added to better characterize them. They were: a) 1970 total population; b) total number of contacts in the entire national territory; c) total number of contacts within the area of influence; d) number of subordinate centers, and e) weight of functional infrastructure. . . .⁸

Level 2 - Regional Centers: Includes the centers that join directly level 1 and are, primarily, centers for the distribution of goods and services to the economy. . . . The regional centers have within the metropolitan areas the largest number of contacts. . . .

Level 3 - Sub-regional Centers: The centers of level 3 are subordinate to centers of level 2 (regional centers) or join directly the metropolis. . . . Their principal function is to be small centers for the distribution of services to the neighboring rural areas and small localities. . . .

Level 4 - Local Centers: These are subordinate to centers of level 3 or join directly regional or metropolitan centers. . . . In general, their influence is through services within short distances, such as high school, grocery store, and physician.⁹

Level 5 - Isolated Hamlets: Although IBGE does not explicitly refer to this level, those municípios subordinate to level 4 or which join higher levels automatically belong to a lower level, even though they only receive (do not provide) services.

⁸IBGE, Subsídios à regionalização (Rio de Janeiro: IBGE, 1968).

⁹IBGE, Divisão do Brasil em regiões funcionais urbanas, pp. 14-16.

This is the structure in which migration takes place but, since migration is a temporal process, how does it relate to a structure established in relation to one given year? Ideally, a different hierarchy would have to be established for each individual movement, but even if this were possible, people never leaving a place would have moved up or down the hierarchy if their places changed levels. Can they be considered migrants? To solve the problem, studies relating migration and hierarchy use the population of a given year or a pre-established hierarchy.¹⁰ In this study migrants were asked to rank each stopping place at each time of arrival as: 1) very large, 2) large, 3) medium, 4) small, 5) very small. In total, a positive Gamma coefficient (+.45) exists between the two classifications. Gamma increases (+.58) for urban centers and drops (+.24) for rural areas.¹¹ When considering places of origin and destination the association increases greatly. Urban last previous residence for non-direct migrants reached coefficients of +.86 for migrants arriving from urban centers and +.71 for migrants arriving

¹⁰For example, Taeuber, "Cohort Population Redistribution and the Urban Hierarchy," pp. 450-462; James O. Huff, "A Hierarchical Migration Model of Population Redistribution Within a Central Place Hierarchy," Geographical Analysis 8 (1976): 223-254.

¹¹For the use of Gamma see, Norman H. Nie, et al., SPSS: Statistical Package for the Social Sciences (New York: McGraw-Hill Book Company, 1975), p. 228; James A. Davis, Elementary Survey Analysis (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1971), pp. 72-76.

from rural areas. As expected, rural destinations were poorly classified: Gamma, +.16 for those arriving from rural areas and +.18 for those from urban centers. People usually classify places into three levels: high, medium and low. By combining the five levels into three, the association between perceived and objective hierarchy increases considerably, reaching coefficients of +1.00 for last previous residence of non-direct migrants (Table 5).

Migration Flows

The migration field of northern Goiás includes all five levels of the hierarchy, but the number of municípios in each level, the migrants born in each level, and the number of intermediate stops made in each level are variable (Figure 4). More than 75 percent of the sampled population was born in local centers and isolated hamlets, and about the same percentage of intermediate stops occurred at those levels (Table 6). Hence, the majority of migrants residing in northern Goiás were born or have previously resided in hamlets or small towns. This appears to be a general pattern for frontier areas in Brazil and other Latin American countries. Wilkening reports that most rural migrants in central Brazil come from other rural areas, Wesche found that most colonizers along the Transamazonic Highway are from the rural Northeast, and Flinn shows that in Granada (Colombia) a

TABLE 5
GAMMA COEFFICIENTS BETWEEN OBJECTIVE AND PERCEIVED HIERARCHY

Movements	Five Levels	Three Levels	N
Total	+ .454	+ .575	1,325
Urban	+ .482	+ .658	720
Rural	+ .240	+ .400	603
Rural to Urban ¹	+ .719	+ 1.000	32
Urban to Urban ¹	+ .868	+ .932	65
Rural to Rural ¹	+ .166	+ .526	143
Urban to Rural ¹	+ .184	+ .164	37

SOURCE: Interviews and field work in northern Goiás, 1977.

¹Movement to last previous residence of non-direct migrants.

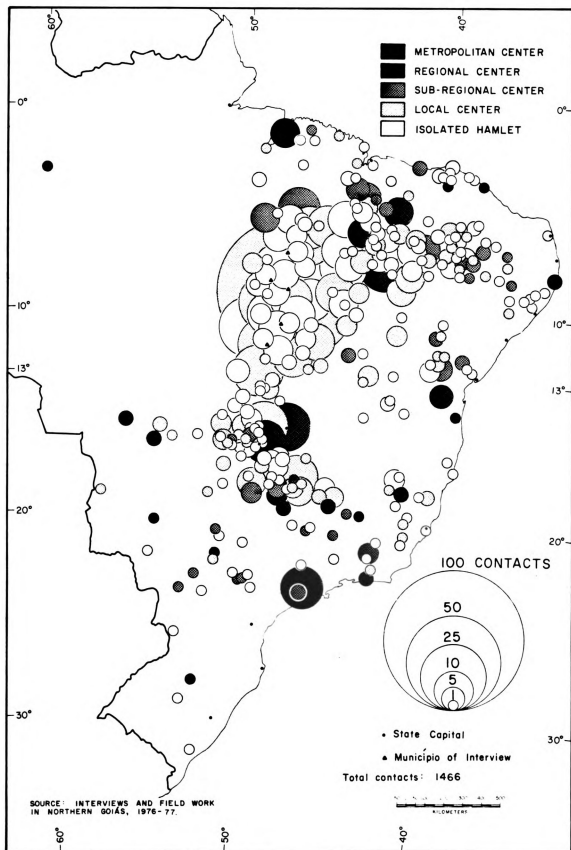


Figure 4 --Urban Functional Hierarchy of Municípios
ever Contacted prior to Final Residence

TABLE 6
HIERARCHICAL LEVELS VISITED BY HEADS OF
HOUSEHOLDS BETWEEN MUNICIPIO OF
BIRTH AND FINAL DESTINATION¹

Hierarchical Level	Number of Municípios	Number of People Born	Number of Intermediate Contacts	R
Metropolitan Centers	8	8	44	5.5
Regional Centers	20	35	51	1.5
Sub-regional Centers	37	103	139	1.2
Local Centers	73	190	243	1.3
Isolated Hamlets	196	244	409	1.7
TOTAL	334	580	886	1.5

SOURCE: Interviews and field work in northern Goiás, 1977.

¹Data collected by NAEA included.

R: Number of intermediate contacts
Number of people born

large proportion of the sampled population comes from other small towns.¹²

The ratio of the number of intermediate contacts (stops) to the number of natives leaving each level indicates that higher levels are, primarily, places of step migration, while lower levels are, primarily, places of stage migration. For each frontier resident born in a metropolitan center, six such residents stopped for at least a year in a metropolitan center but did not remain there. Hence, migrants to northern Goiás include persons moving between small centers and those who upon experiencing migration at higher levels sought survival at lower levels. Rural places appear to be areas of stage migration, while urban centers appear as places of step migration. For each native leaving a rural area one non-native of that rural area stopped there and continued, but for each native leaving an urban center two non-natives of that urban center stopped there and continued. Wilkening found 23 percent of his rural sample population coming from rural areas, stopping at least once in urban centers.¹³ Friberg reports that in Santander (Colombia) similar percentages reflect this

¹²E.A. Wilkening, "Comparison of Migrants in Two Rural and an Urban Area of Central Brazil," Land Tenure Center Reports No. 35 (1968); William L. Flinn and David C. Cartano, "A Comparison of the Migration Process to an Urban Barrio and to a Rural Community: Two Case Studies," Inter-American Economic Affairs 24 (1970): 37-48; Rolf Wesche, "Planned Rainforest Family Farming on Brazil's Transamazonian Highway," Revista Geográfica 81 (1974): 105-114.

¹³Wilkening, "Comparison of Migrants", p. 8.

rural-urban-rural movement.¹⁴ It appears, then, that the process described by Gonzales and Bastos as trabalho volante, a type of circular migration, where the laborers work on fazendas during the day and return to the urban center to sleep at night is common in Brazil and other Latin American countries.¹⁵ In northern Goiás, 34 percent of those making four stops moved to urban centers between place of birth and next residence, but 50 percent concentrated in urban centers at the last previous residence. So, once migration begins, the tendency is to move to large cities. If migrants making fewer stops are at the beginning of the process, the number of steps increases the tendency of urbanward migration, and few migrants in northern Goiás contacted larger urban centers, it is possible to conclude that many migrants residing in frontier settlements are likely to move in the future to large urban centers.

Martine shows that Brazilian metropolitan areas have relatively low migration retention rates.¹⁶ Northern Goiás

¹⁴Justin C. Friberg, "Rural Migrations: Indications from Two Colombian Municipios," Paper presented at the Conference of Latin Americanist Geographers, University of Calgary, Canada, June 28-30, 1973.

¹⁵Gonzales, and Bastos, "Migração rural e o trabalho volante," pp. 240-261; Mary E. Conaway, "Circular Migration: A Summary and Bibliography," Council of Planning Librarians Exchange Bibliography 1250 (March 1977); Mary E. Conaway, "Circular Migration in Venezuelan Frontier Areas," International Migration 15 (1977): 34-42.

¹⁶George Martine, "Os migrantes nos mercados de trabalho metropolitanos," Projeto de planejamento de recursos humanos BRA/70/550, Relatório No. 32 (Janeiro 1977).

includes few migrants who have contacted those centers. Where do the non-survivors go? According to Costa, at the regional level return migration in Brazil is low.¹⁷ Geiger argues that those re-emigrating from metropolitan areas move to other metropolitan areas, e.g. Recife and São Paulo, or to secondary urban centers near the metropolis.¹⁸ Therefore, non-surviving migrants in metropolitan areas appear to move laterally to other metropolitan areas or to nearby secondary centers. Those completely unable to adjust in higher levels may seek survival in the frontier areas.

Migration to northern Goiás includes two major streams: those coming from the Northeast and the Southeast. More than 80 percent of the sample population was born in the same state of Goiás or the states of Maranhão, Bahia, Piauí, or Minas Gerais (Fig. 5). Practically nobody was born or even stopped in the coastal states, the South or interior Amazônia. As Sawyer observed, the Belém-Brasília highway did not change the traditional migration streams, but simply accelerated the process in the area.¹⁹

¹⁷Costa, "Urbanização e migrações urbanas no Brasil," p. 87.

¹⁸Pedro Pinchas Geiger, et al., "Migrações internas na estruturação do espaço nacional," in IBGE, Encontro brasileiro de estudos populacionais, (Rio de Janeiro: IBGE, 1976), pp. 262-271.

¹⁹Donald R. Sawyer, "Penetration Roads and Population Growth: Patterns of Migration and Settlement on the Belém-Brasília Highway," B.A. Thesis, Harvard University, 1969.

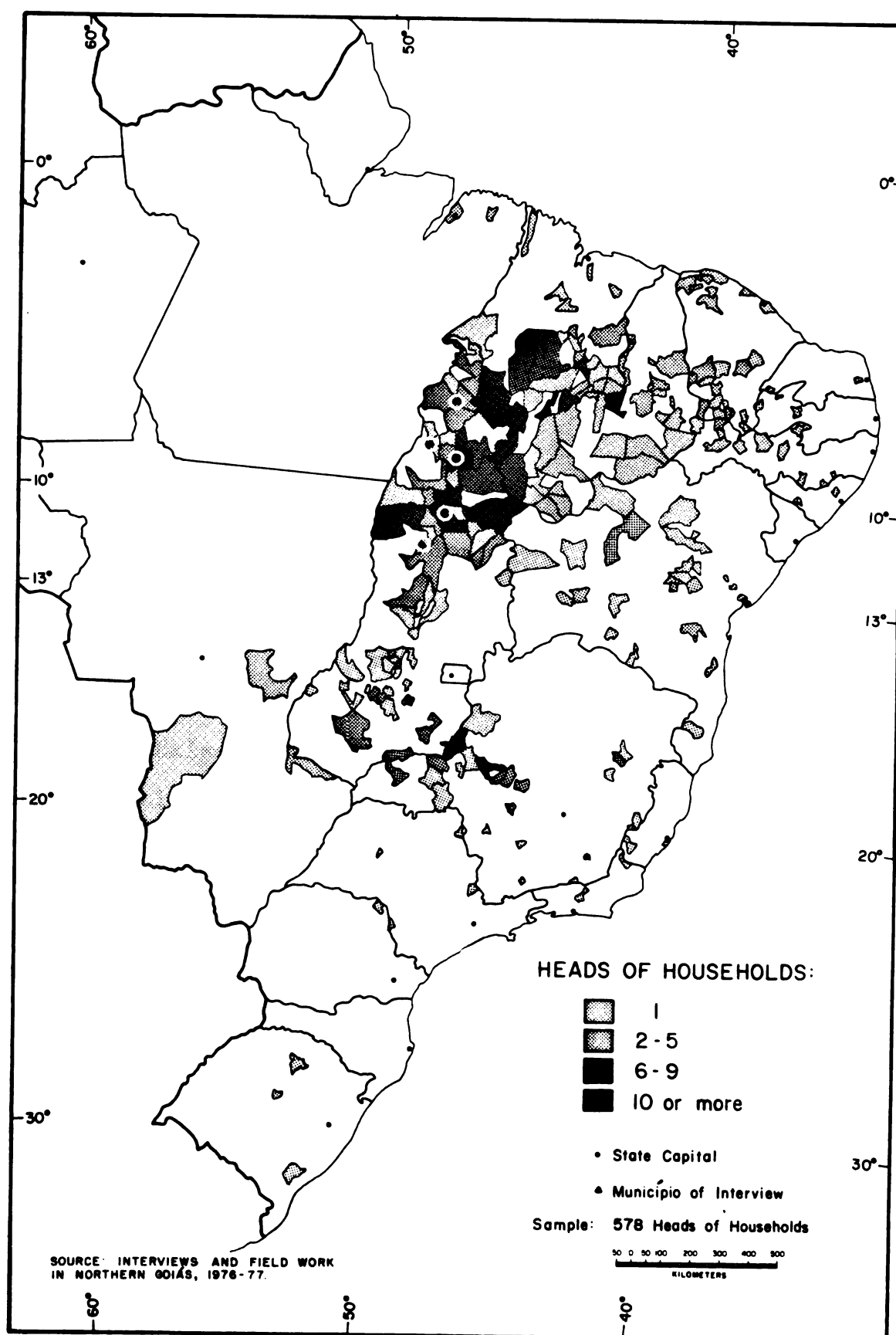


Figure 5 --Municípios of Birth

There exist places of collection of migrants along the two migration streams, and they are: 1) traditional large-farm areas (Rubiataba), 2) early colonization fronts (Céres, Carolina, Balsas, Barra do Corda), 3) towns located on the Belém-Brasília highway (Guaraí), and 4) places of high hierarchical level (Goiânia, Belém) (Fig. 6). Most of the people coming from the south stop around Rubiataba. Fazendeiros from the south can sell their smaller plots and with the money received buy larger ones in the North.²⁰ Some bring their workers so that a type of channelized migration develops in which peons communicate with their kin elsewhere to gain information about employment opportunities. Céres is an old colony officially created in 1941.²¹ Persons moving from there are those abandoning the colony. Carolina, Balsas and Barra do Corda are early colonization areas highly affected by the opening of the Belém-Brasília highway. Colonization is no longer active, and people are leaving there for large cities or settlements on the Belém-Brasília.²² Guaraí is a stopping place for those going to

²⁰Thomas G. Sanders, "Brazilian Interior Migration," D'Arc Hélène Rivière, "Le nord du Mato Grosso: Colonisation et nouveau 'bandeirismo'," Annals de Géographie 86 (1977): 279-306.

²¹SERFHAU, Relatório preliminar de desenvolvimento integrado--município de Céres (Brasília: SERFHAU, 1970), p.7.

²²Valverde and Dias, A rodovia Belém-Brasília, pp. 177-288.

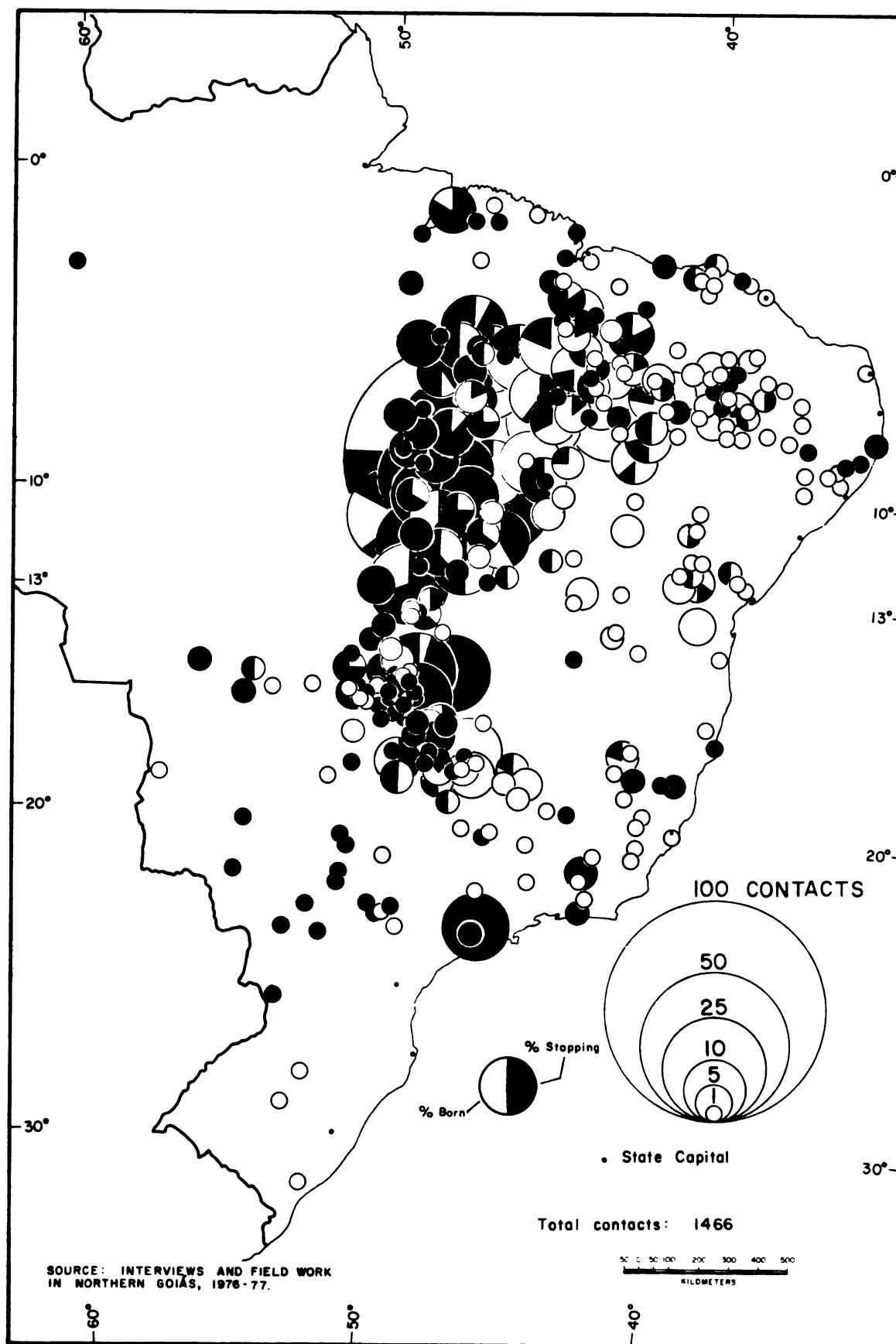


Figure 6 --Municípios ever Contacted prior to Final Residence

new frontier towns in the west. Few migrants stopped in Goiânia, Belém and other large centers before going to northern Goiás. Some places where nobody was born, but where some stopped, are located on the Tocantins and Araguaia rivers or farther westward. Places such as Conceição do Araguaia, Marabá or Imperatriz are areas of recent colonization. If migrants have tried these places and left, the present locations of residence may be just another step in their journey.

In summary, migrants to northern Goiás come primarily from rural areas and low hierarchical levels, but some contacted urban centers and high levels. Since urbanward migration increases with the number of steps, and few migrants come from large centers, it is concluded that northern Goiás receives migrants who fail to succeed in metropolitan or regional centers and are seeking survival in frontier areas, plus those continuously expelled from traditional colonization areas where labor is diminishing.

CHAPTER V

GEOGRAPHICAL MOBILITY

In 1885, Ravenstein wrote:

The inhabitants of the country immediately surrounding a town of a rapid growth, flock into it; the gaps thus left in the rural population are filled up by migrants from more remote districts, until the attractive forces of our rapidly growing cities makes it felt, step by step, to the last corner of the kingdom.¹

This was a formulation of the theory concerning hierarchical migration to large cities. But, in Latin America today, population movements to areas of low population density also occur. Practically all colonization studies on Latin America timidly refer to a step-wise migration process, and a number suggest that some migrants to frontier settlements come from larger cities.² This chapter presents

¹E.G. Ravenstein, "The Laws of Migration," 48:199.

²For example, Sakari Sariola, "A Colonization Experiment in Bolivia," Rural Sociology 25 (1960): 76-90; James J. Parsons, Antioquia's Corridor to the Sea (Berkeley: University of California Press, 1967); Rolf Wesche, "Recent Migration to the Peruvian Montaña," Cahiers de Geographie de Quebec 35 (1971): 251-260; Flinn and Cartano, "A Comparison of the Migration Process," pp. 37-48; Tavares, et al., Colonização dirigida no Brasil; Dennis Peter Enberg, "Motive and Distance in Migration: The Case of Portuguesa, Venezuela," Unpublished Ph.D. Dissertation, University of North Carolina, Department of Geography, 1975.

evidence of hierarchical migration to frontier settlements and illustrates variations according to time of migration and origin and age of migrants.

More than 74 percent of the sample population made at least one intermediate stop of a year or more, and migrants stopping once represent the largest proportion: 34 percent.³ Table 7 presents the hierarchical distribution in each residence according to the number of stops in the migration history. For example, of those persons making three stops (third panel), 43.7 percent were born in isolated hamlets, 33.3 in local centers, 15.7 in sub-regional centers, 5.2 in regional centers, and 2.1 in metropolitan centers. A close examination of Table 7 reveals that in all panels larger percentages are concentrated in the lower levels. But, with one exception, groups of migrants making one to three stops, at the first stop include larger proportions living in metropolitan and regional centers. None of the migrants making four or five stops were born in metropolitan centers. And, a smaller proportion of all migrants were born in metropolitan and regional centers than stopped in such centers immediately before going to northern Goiás. These findings suggest that some migrants in the sample made a complete cycle in their migration, from an isolated hamlet

³Percentages include data collected by NAEA. The percentages are identical when excluding these data.

TABLE 7
HIERARCHICAL DISTRIBUTION OF MIGRANTS ACCORDING TO NUMBER OF STOPS
AND SUCCESSIVE RESIDENCES¹

Stop	Residence	Hierarchical Levels					Total	N
		Metro- politan Centers	Regional Centers	Sub- regional Centers	Local Centers	Isolated Hamlets		
1	Birth 1	1.2	4.9	16.8	28.0	49.1	100.0	161
		*	*	18.0	67.1	14.9	100.0	161
2	Birth 1 2	1.7	5.0	21.8	28.5	43.0	100.0	179
		2.2	2.2	14.6	39.1	41.9	100.0	179
		*	*	15.7	57.5	26.8	100.0	179
3	Birth 1 2 3	2.1	5.2	15.7	33.3	43.7	100.0	96
		3.1	9.4	21.9	27.1	38.5	100.0	96
		9.4	2.1	15.6	29.2	43.7	100.0	96
		*	*	23.0	51.0	26.0	100.0	96
4	Birth 1 2 3 4	0.0	2.4	19.5	34.2	43.9	100.0	41
		4.9	4.9	9.7	29.3	51.2	100.0	41
		4.9	2.4	9.7	36.6	46.4	100.0	41
		2.4	7.3	7.3	29.3	53.7	100.0	41
		*	*	29.3	43.9	26.8	100.0	41
5	Birth 1 2 3 4 5	0.0	9.5	9.5	47.6	33.4	100.0	21
		9.5	9.5	28.6	28.6	23.8	100.0	21
		14.3	9.5	19.1	9.5	47.6	100.0	21
		9.5	14.3	14.3	33.3	28.6	100.0	21
		4.8	14.3	9.5	23.8	47.6	100.0	21
		*	*	38.1	42.9	19.0	100.0	21

SOURCE: Interviews and field work in northern Goiás, 1977.

1 Data collected by NAEA included. Migrants making more than five stops excluded, due to insignificant numbers.

* These levels do not exist in northern Goiás.

to a regional or metropolitan center and then to a local center or again to an isolated hamlet. Others appear to have followed a similar process but never reached a metropolis, and still others appear to have moved only between local or isolated hamlets.

Between places of birth and the first stop, groups of migrants with more extensive migration histories (more stops) show larger proportions moving upward in the functional hierarchy. Inversely, at the last previous residence, groups with shorter histories show larger proportions moving upward (Table 8). Fifty-seven percent of those making five stops moved upward between place of birth and next residence in comparison with the 14 percent (of the same group) that made such a move between the third and fourth stop (last previous residence). Thirty-one percent of those making two stops moved upward, while 57 percent of those making five stops made such a move between place of birth and next residence. At the last previous residence this percentage decreases systematically as the number of stops increases. This relationship is similar in all groups, except for direct migrants. At the final destination, even though only the lower three levels were considered, the tendency is to move upward as the number of stops increases. These statistics suggest that migrants in northern Goiás moved upward in the functional hierarchy, but after a number of steps moved downward or laterally. Migrants residing in frontier settlements apparently began their migration together with those

TABLE 8

MIGRANTS MOVING UPWARD, DOWNWARD AND Laterally ACCORDING TO NUMBER OF STOPS
AND SUCCESSIVE RESIDENCES (PERCENTAGES)¹

Residence	Movements	Number of Stops				
		1	2	3	4	5
1	Upward	44.1	30.7	39.6	31.7	57.1
	Downward	24.8	36.3	27.1	34.2	19.1
	Lateral	31.1	33.0	33.3	34.1	23.8
2	Upward		29.1	25.0	31.7	33.3
	Downward		25.1	33.3	24.4	33.3
	Lateral		45.8	41.7	43.9	33.4
3	Upward			30.2	21.9	38.1
	Downward			29.2	29.3	38.1
	Lateral			40.6	48.8	23.8
4	Upward				36.6	14.3
	Downward				17.1	38.1
	Lateral				46.3	47.6
5	Upward					42.9
	Downward					23.8
	Lateral					33.3
NUMBER OF CASES		161	179	96	41	21

SOURCE: Interviews and field work in northern Goiás, 1977.

¹Data collected by NAEA included. Migrants making more than five stops excluded, due to insignificant percentages. Columns of each panel total 100.0

presently residing in metropolitan and regional centers, but after a number of stops those better prepared continued to larger places, while those less prepared moved to small frontier settlements.

Although 73 percent of the sampled population was born in rural areas, urban-born show greater mobility. Fifty-five percent of those born in urban centers made four or more stops, as compared with 22 percent of those born in rural areas. Among urban-born migrants, as the number of stops increases the proportion moving downward in the urban functional hierarchy increases. Excluding direct migrants, at the last previous residence rural-born migrants with more extensive migration histories moved laterally in larger proportions, while urban-born migrants show larger proportions moving downward (Table 9). This table leads to the assumption that migration to northern Goiás is affected by the origin, rural or urban, of the migrants. After moving upward between places of birth and next residence, urban-born migrants tend to move downward, while rural-born tend to move between places of a similar level.

More than 87 percent of the sample population arrived at the final destination 15 years of age or older, but only 49 percent left their places of birth before this age.⁴ In

⁴Final destination or final residence refers in this study to the place where interviews were conducted. This, of course, is not necessarily the final residence or destination for many, since a large proportion will continue on.

TABLE 9

MIGRANTS MOVING UPWARD, DOWNWARD AND Laterally according to numbers of stops, successive residences, and rural or urban origin (percentages)¹

Residence	Movements	Number of Stops							
		1		2		3		4	
		Rural Born	Urban Born	Rural Born	Urban Born	Rural Born	Urban Born	Rural Born	Urban Born
1	Upward	44.3	28.6	24.1	32.0	34.1	47.1	38.1	28.6
	Downward	14.3	52.4	37.4	36.0	34.0	35.3	42.9	21.4
	Lateral	41.4	19.0	38.5	32.0	31.9	17.6	19.0	50.0
2	Upward			27.7	32.0	23.4	35.3	23.8	42.9
	Downward			21.7	12.0	31.3	47.1	28.6	21.4
	Lateral			50.6	56.0	45.3	17.6	47.6	35.7
3	Upward					29.8	35.3	23.8	28.6
	Downward					14.9	47.1	19.1	42.8
	Lateral					55.3	17.6	57.1	28.6
4	Upward							33.3	35.7
	Downward							14.3	21.4
	Lateral							52.4	42.9
NUMBER OF CASES		70	21	83	25	47	17	21	14

SOURCE: Interviews and field work in northern Goiás, 1977.

¹Migrants making more than four stops excluded, due to insignificant percentages. Columns of each panel total 100.0.

total the mean age at departure was 17 years, versus a mean age of 31 years at the time of arrival. Urban-born migrants left their places of birth younger (mean age 14) than rural-born (mean age 17). Fifty-four percent of urban-born left their place of birth before age 15, versus 47 percent of the rural-born. At arrival, mean age for rural-born was 33 years, while the mean age for urban-born was 28 years (Table 10). This difference in the age pyramid between time of departure and time of arrival indicates that the migrants established permanent residence at intermediate places. In fact, the migrants in total resided an average of eight years at each intermediate residence. At the last previous residence migrants remained an average of ten years. Here, rural migrants show a longer length of residence, more than twice that of urban residents: 15 to 7 (Table 11). For the last previous residence, at least, rural residents now living in settlements along or near the Belém-Brasília highway, show more permanence on the land than urban residents.

In total, about 80 percent of the migrants arrived at the final destination after 1960, when the Belém-Brasília road was opened, but only 35 percent left their place of birth after that date. As to the previous residence, 47 percent arrived there before 1960, and only 17 percent departed from there before that year (Table 12). Migrants last resided mainly in municípios of northern Goiás or nearby states, where subsistence agriculture and spontaneous

TABLE 10
AGE OF DEPARTURE FROM PLACE OF BIRTH AND ARRIVAL AT FINAL DESTINATION
(PERCENTAGES)

Age Years	Departure from Place of Birth			Arrival at Final Destination		
	Rural Born (N=284)	Urban Born (N=106)	Total (N=390)	Rural Born (N=284)	Urban Born (N=106)	Total (N=390)
0 - 14	46.8	53.8	48.7	11.3	14.2	12.1
15 - 24	26.4	30.2	27.4	20.4	22.6	21.0
25 - 34	14.4	11.3	13.6	26.8	37.7	29.7
35 - 44	6.4	2.8	5.4	20.4	12.3	18.2
45 - 54	5.3	1.9	4.4	11.6	8.5	10.8
55 and over	.7	.0	.5	9.5	4.7	8.2
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
MEAN AGE	17	14	17	33	28	31

SOURCE: Interviews and field work in northern Goiás, 1977.

TABLE 11

LENGTH OF STAY AT LAST PREVIOUS RESIDENCE, NON-DIRECT MIGRANTS,
RURAL AND URBAN RESIDENTS (PERCENTAGES)

Years of Residence	Rural Residents (N=188)	Urban Residents (N=103)	Total Residents (N=291)
Less than 1	1.6	7.8	3.8
1 - 5	33.5	55.3	41.2
6 - 10	24.5	15.5	21.3
11 - 15	11.7	7.8	10.3
16 - 20	10.6	11.7	11.0
21 and over	18.1	1.9	12.4
TOTAL	100.0	100.0	100.0
MEAN LENGTH OF RESIDENCE	15	7	10

SOURCE: Interviews and field work in northern Goiás, 1977.

TABLE 12

YEAR OF DEPARTURE FROM PLACE OF BIRTH AND LAST PREVIOUS RESIDENCE, AND YEAR OF ARRIVAL AT LAST PREVIOUS RESIDENCE AND FINAL DESTINATION, RURAL AND URBAN RESIDENTS (PERCENTAGES)

Year	Departure from Place of Birth			Arrival at final Destination			Arrival at Last Previous Residence			Departure from Last Previous Residence					
	Rural		Total	Rural		Urban	Total	Rural		Urban	Total	Rural		Urban	Total
	Born	Born	Born	Born	Born	Born	Born	Resi- dent	Resi- dent	Resi- dent	Resi- dent	Resi- dent	Resi- dent	Resi- dent	Resi- dent
Before 1960	65.5	65.1	65.4	19.9	20.9	20.6	53.2	35.0	46.7	16.0	18.4	16.8			
1960 and after	34.5	34.9	34.6	80.1	79.1	79.4	46.8	65.0	53.3	84.0	81.6	83.2			
TOTAL	100.0 (287)	100.0 (106)	100.0 (393)	100.0 (287)	100.0 (106)	100.0 (393)	100.0 (188)	100.0 (103)	100.0 (291)	100.0 (188)	100.0 (103)	100.0 (291)			

SOURCE: Interviews and field work in northern Goiás, 1977.

¹Direct migrants excluded.

colonization were characteristic before the highway was opened (Fig. 7). The time at which migration took place and the distribution of migrants at the last previous residence suggest that the opening of the Belém-Brasília highway contributed a great deal to the expulsion of subsistence agriculturalists from nearby areas, and only minimally to the attraction of migrants from large cities and distant places. These phenomena have been reported already by several authors, including Katzman who argues that the Belém-Brasília did not bring people from distant places but redistributed the population already living in Goiás. Tamer found colonizers along the highway to be mainly from nearby northeastern states and Goiás, and Sawyer argues that the traditional migration streams to northern Goiás remained unchanged after the Belém-Brasília was opened.⁵

In conclusion, migration to northern Goiás is affected by origin, age and time of migration. Reverse hierarchical migration is noticeable among urban-born migrants. They also began migrating earlier both in time and age, and have had greater geographical mobility than rural-born migrants. Rural-born migrants tend to move between local centers and isolated hamlets. The process was affected tremendously by

⁵Katzman, "Regional Development Policy in Brazil," p. 104; Alberto Tamer, Transamazônica: Solução 2001 (São Paulo: APEC, 1970), p. 68; Sawyer, "Penetration Roads and Population Growth," pp. 31-42.

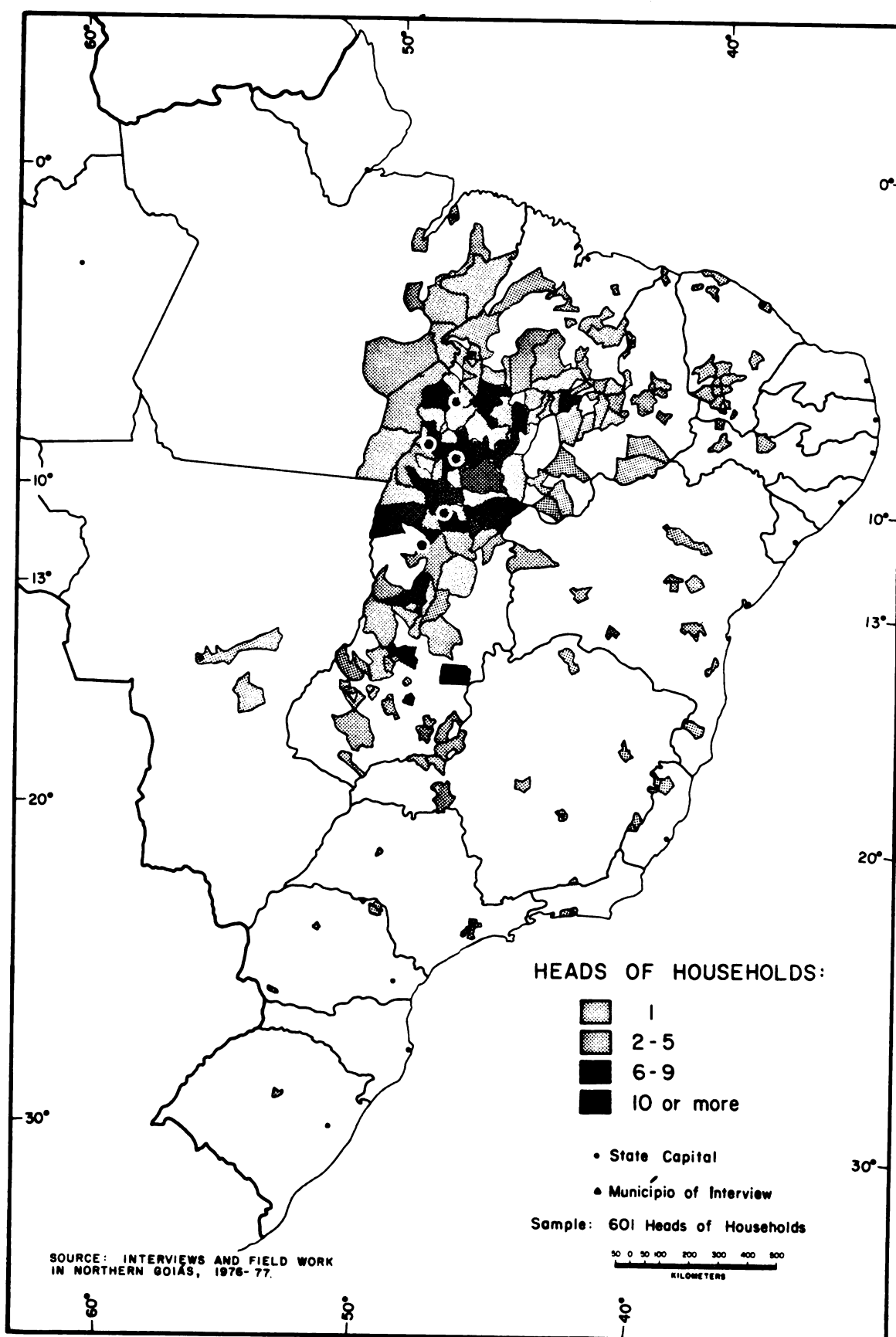


Figure 7 --Municípios of Last Previous Residence

the opening of the Belém-Brasília highway. For the urban-born, the road diverted them from the more pronounced migration streams to large cities; for rural residents, the highway brought them to the nearest urban center. The highway increased the economic value of the land, devoted now to extensive agriculture and cattle, and local subsistence peasants left the rural area to become low-salary workers in urban areas or commuters from the urban centers to work in the countryside. For some, this was the first time they were pushed from the land; for others the second, third or even ninth time. They will continue to move, some further westward to other frontier settlements, but the majority will migrate to large cities.

CHAPTER VI

OCCUPATIONAL MOBILITY

There is no single indicator of social class, but Blau and Duncan argue that although "occupational position does not encompass all aspects of the concept of class, it is probably the best single indicator of it."¹ Therefore, a common way to study social change is by analyzing occupational mobility.² During the 1950's, Hutchinson and Castaldi classified occupations and studied

¹Peter M. Balu and Otis Dudley Duncan, The American Occupational Structure (New York: John Wiley and Sons, Inc., 1967), p. 6.

²For example, D.V. Glass, ed., Social Mobility in Britain (London: Routledge and Kegan Paul, Ltd., 1954); Neil J. Smelser and Seymour Martin Lipset, eds., Social Structure and Mobility in Economic Development (Chicago: Aldine Publishing Company, 1966); Bertram Hutchinson, Social Status in Dublin: Marriage, Mobility and First Employment (Dublin: Economic and Social Research Institute, 1973); Bertram Hutchinson, Social Status and Intergenerational Mobility in Dublin (Dublin: Economic and Social Research Institute, 1969); Otis Dudley Duncan and Robert W. Hodge, "Education and Occupational Mobility: A Regression Model," American Journal of Sociology 68 (1963): 629-644; Reeve Venneman, "The Occupational Composition of American Classes: Results from Cluster Analysis," American Journal of Sociology 82 (1977): 783-807.

occupational mobility among immigrants in São Paulo.³ In 1974, Silvers and Moreira, by stratifying occupations in seventeen categories and by using Markov chains sought to predict occupational mobility in medium-size cities of the Central-West region.⁴ More recently, Martine used Silva's classification of Brazilian occupations to study social mobility in metropolitan areas.⁵ In that study each occupation reported in the 1970 census was scored according to "the national means of income and education associated with each occupation."⁶ After the social scores were assigned, the occupations were grouped into twenty-eight categories, according to: 1) homogeneity of scores, 2) homogeneity of sectors and type of activity, and 3) relevance of

³Bertram Hutchinson, "The Social Grading of Occupations in Brazil," British Journal of Sociology 8 (1957): 176-189; Bertram Hutchinson, "Structural and Exchange Mobility in the Assimilation of Immigrants to Brazil," Population Studies 12 (1958): 111-120; Carlo Castaldi, "Nota sobre a hierarquia de prestígio das ocupações, segundo um grupo de emigrantes italianos e seus descendentes na cidade de São Paulo," Boletim do Centro Brasileiro de Pesquisas Educacionais 1 (1956): 109-124.

⁴Arthur L. Silvers and Morvan de M. Moreira, "Migração e absorção em vinte cidades," Pesquisa e Planejamento Econômico 4 (Fevereiro 1974): 83-118.

⁵George Martine and José Carlos Peliano, "Migração, estrutura ocupacional e renda nas áreas metropolitanas," in Manoel Augusto Costa, ed., Estudos de demografia urbana (Rio de Janeiro: IPEA/INPES, 1975), pp. 161-196; Nelson do Valle Silva, "Posição social das ocupações," IBGE, 1973 (Mimeographed).

⁶George Martine, "Os migrantes nos mercados de trabalho metropolitanos," Projeto de planejamento de recursos humanos BRA/70/550, Relatório 32 (Janeiro 1977): 24.

some specific occupations to the evaluation of migration.⁷ Occupations range from a highest score of 88.75 (magistrates) to a lowest score of 1.81 (rustic straw hat makers), as shown in Appendix B. Since this classification permits an analysis of occupational mobility between occupations of very close social scores, it was found convenient for use in answering the following questions: 1) Is the occupational structure at the final destination affected by the sex and origin of the migrants?, 2) How is step-wise migration related to occupational mobility?, 3) How is hierarchical migration related to occupational mobility?, and 4) What are the perspectives for general economic improvement by the people migrating to northern Goiás?

Present Occupational Structure

Occupations reported by informants at the final destination are among the lowest ranked in Brazil: social score mean (\bar{X}_f) of 9.89, with a standard deviation (S_f) of 2.11 and extreme values of 2.68 and 35.07. Migrants work mainly in the primary sector, "home occupations," or small businesses. Most of the men commute to work in the countryside in occupations such as agricultural laborer, miner or cowboy; own small businesses such as bars, restaurants, photography shops or miscellaneous stores; or work in the

⁷Ibid., p. 24.

construction industry. Most of the women are housekeepers, work in small clothing factories, are employed as domestic servants, or teach in the elementary schools. Rural-born migrants, although employed mainly in the primary sector, include small proprietors, workers in small clothing factories and domestic servants. Urban-born migrants own small businesses, serve as administrators, and work in local industries (Table 13).

In general, migrants tend to retain their original occupational levels at the final destination (mean score difference, $\bar{X}_{f-b}=.84$), but urban-born migrants ($\bar{X}_{f-b}=1.30$) and men ($\bar{X}_{f-b}=2.67$) appear to have better opportunities to improve socially than rural-born migrants ($\bar{X}_{f-b}=.68$) and women ($\bar{X}_{f-b}=-.04$).⁸ Correlation coefficients (r) between social scores at the place of birth and final residence indicate frequent change of occupations ($r_{fb}=.388$), especially among urban-born migrants ($r_{fb}=.240$) and women ($r_{fb}=.221$) (Table 14).

Step-wise Migration and Occupational Mobility

The longer the migration history (number of stops) the greater the change of occupations. The relationship can

⁸The larger proportion of women to men in the sample does not mean there are more women than men in northern Goiás, but that most of the men were working in the fields at the time of the interview. In such cases the wife was interviewed. In 1970 in northern Goiás the sex ratio was 108, for urban centers 95 and for rural areas 115. IBGE, Censo demográfico, 1970--Goiás, pp. 284-286.

TABLE 13

OCCUPATIONAL CATEGORIES AMONG MIGRANTS TO NORTHERN GOIÁS:
FINAL DESTINATION, BY SEX AND ORIGIN (ABSOLUTE NUMBERS)

Number ¹	Category	Rural	Urban	Men	Women	Total
3,7	Proprietors	28	9	29	8	37
4,10	Administration and desk occupations	2	1	2	1	3
8	Technicians	0	2	1	1	2
9	Teachers	8	7	0	15	15
14	Transportation	1	5	6	0	6
15,26	Construction Industry	7	4	11	0	11
18	Textile Industry	28	4	4	28	32
12,16, 19,20	Other Industries	9	2	6	5	11
21,17	General Laborers	6	4	9	1	10
22,23	Domestic Servants	15	8	3	20	23
24,25	Commercial Occupations	6	2	1	7	8
27	Primary Sector	33	7	40	0	40
28	Housekeeper	133	46	0	179	179
28	Other	3	1	3	1	4
TOTAL		279	102	115	266	381

SOURCE: Interviews and field work in northern Goiás, 1977.

¹See Appendix B for a detailed description of occupations.

TABLE 14

MEAN DIFFERENCES AND CORRELATION COEFFICIENTS IN SOCIAL SCORES OF OCCUPATIONS OF
MIGRANTS TO NORTHERN GOIÁS, BETWEEN PLACES OF BIRTH AND FINAL DESTINATION
BY SEX AND ORIGIN OF MIGRANTS

Migrants Identification	Place of Birth		Final Destination		Difference	Corre- lation
	(\bar{X}_b)	(S_b)	(\bar{X}_f)	(S_f)		
Men (81) ¹	7.04	5.56	9.71	6.29	2.67	.474
Women (174)	10.00	2.25	9.96	2.68	-.04	.221
Difference (\bar{X}_m-w)	-2.96		-.25			
Rural Born (194)	9.02	3.65	9.70	3.89	.68	.456
Urban Born (61)	9.14	4.62	10.44	4.67	1.30	.240
Difference (\bar{X}_r-u)	-.12		-.74			
TOTAL	9.05	3.90	9.89	4.12	.84	.388

SOURCE: Interviews and field work in northern Goiás, 1977.

1. Numbers in parenthesis indicate the number of cases in the correlation.

\bar{X} = Mean
 S = Standard deviation
 r = Correlation
 b = Place of birth
 f = Final destination
 m = Men
 w = Women
 r = Rural
 u = Urban

be affected by age, but mean age is not drastically different between migrants of different migration histories in the case of northern Goiás (Table 15). Occupational change is frequent, but occupational mobility occurs mainly between occupations of low social scores. At the final residence the mean occupation level (\bar{X}) increases with the number of stops (Table 16), and the correlation coefficient (r) between occupations at each succeeding residence decreases systematically according to the number of stops. Also, the correlation coefficient (r) between the occupations at the place of birth and each succeeding residence, although similar in trend, is lower (Table 17). Therefore, although migrants change occupations as they move, more migrants with shorter migration histories retain their previous occupations. For example, migrants making two stops show $r = .484$ between occupations at last previous residence and final residence and $r = .270$ between occupations at place of birth and final residence, a difference of .214 points. Migrants making five stops show $r = .309$ between occupations at last previous residence and final residence and $r = .283$ between occupations at place of birth and final residence, a difference of .026 points. While the coefficients are almost equally low among those making five stops, they are considerably different among those making two stops. The relationship is consistent among the other groups, which supports the idea of chronic exchange of

TABLE 15
MEAN AGE OF MIGRANTS TO NORTHERN GOIÁS BY NUMBER OF STOPS

Number of Stops	Number of Migrants	Mean Age 1977	Maximum Value	Minimum Value	Standard Devi- ation
1 (Direct)	100	40	17	81	15.76
2	120	42	19	83	14.38
3	75	41	20	80	13.87
4	48	44	23	72	13.46
5	21	45	20	70	15.70
6 or more	28	47	23	76	15.73
TOTAL	392	42	17	83	14.76

SOURCE: Interviews and field work in northern Goiás, 1977.

TABLE 16
 MEAN SOCIAL SCORES AT EACH RESIDENCE BY NUMBER OF STOPS
 DURING MIGRATION¹

Residences	Number of Stops				
	1	2	3	4	5
Birth	9.21	9.24	9.56	8.12	8.92
1	9.46	9.11	9.15	8.91	8.00
2	-	9.81	9.82	8.74	8.68
3	-	-	9.71	9.01	8.46
4	-	-	-	9.72	11.10
5	-	-	-	-	10.28

SOURCE: Interviews and field work in northern Goiás, 1977.

¹Migrants with more than five stops were eliminated, due to insignificant numbers.

TABLE 17

CORRELATION COEFFICIENTS BETWEEN SOCIAL SCORES AT EACH
SUCCEEDING RESIDENCE, AND BETWEEN SOCIAL SCORES AT PLACE
OF BIRTH AND EACH SUCCEEDING RESIDENCE, BY THE NUMBER OF
STOPS DURING MIGRATION¹

Residences	Number of Stops				
	1	2	3	4	5
	<u>Succeeding Residences</u>				
Birth and 1	.665	.728	.763	.235	.594
1 and 2	-	.484	.655	.797	.504
2 and 3	-	-	.432	.553	.713
3 and 4	-	-	-	.397	.420
4 and 5	-	-	-	-	.309
	<u>Birth and Each Residence</u>				
Birth and 1	.665	.728	.768	.235	.594
Birth and 2	-	.270	.558	.352	.210
Birth and 3	-	-	.293	-.120	.271
Birth and 4	-	-	-	.183	.280
Birth and 5	-	-	-	-	.283

SOURCE: Interviews and field work in northern Goiás, 1977.

¹Migrants with more than five stops were eliminated,
due to insignificant numbers

lower score occupations. As they say "eu faço de tudo" (I do anything).

The difference between social scores of rural-born and urban-born migrants at the place of birth (\bar{X}_{r-u}) decreases with the number of stops migrants have made. That is, rural-born migrants with shorter migration histories appear lower in the social scale in relation to the urban-born than those with longer migration histories (Table 18). This suggests that urban-born migrants began "better off" than rural-born migrants, but in the migration process those of higher occupational status probably move to larger cities. Only those with low social levels reach the frontier. Hence, the urban-born migrants arriving in northern Goiás are those more similar to rural-born in terms of occupational scores. But, even with this selection process urban-born migrants continue to be "better off" at the final destination. With reference to sex differences (\bar{X}_{m-w}), men tend to improve their occupational status, while that of women tends to remain the same or even decrease.

Hierarchical Migration and Occupational Mobility

According to Blau and Duncan:

In part the direct relationship between size of place and status of first job is undoubtedly due to a process of selective migration; with promising men who are able to obtain better first jobs moving to more urbanized places. In any case, men now living in the largest central cities had more auspicious career beginnings

TABLE 18

DIFFERENCE IN MEANS AND CORRELATION COEFFICIENTS BETWEEN
SOCIAL SCORES AT PLACE OF BIRTH AND FINAL DESTINATION BY
SEX, ORIGIN AND NUMBER OF STOPS DURING MIGRATION

Stops	Identifi- cation	Place of Birth		Final Destination		Differ- ence (\bar{X}_{f-b})	Corre- lation (r_{fb})
		(\bar{X}_b)	(S_b)	(\bar{X}_f)	(S_f)		
1 (Direct)	Men (22) ¹	8.60	8.44	9.44	6.79	.84	.798
	Women (55)	9.47	2.83	9.47	3.18	.00	.347
	Difference (\bar{X}_{m-w})	-.87		-.03			
	Rural-born (61)	8.64	4.49	9.38	4.56	.74	.706
	Urban-born (16)	11.41	6.76	9.76	4.13	-1.65	.674
	Difference (\bar{X}_{r-u})	-2.77		-.38			
2	Men (21)	6.76	4.65	8.88	4.79	2.12	.413
	Women (59)	10.13	1.96	10.17	2.62	.04	.019
	Difference (\bar{X}_{m-w})	-3.37		-1.29			
	Rural-born (64)	9.42	3.29	9.96	3.48	.54	.378
	Urban-born (16)	8.56	3.04	9.45	3.12	.89	-.227
	Difference (\bar{X}_{r-u})	.86		.51			
3 or more	Men (38)	6.24	3.39	10.33	6.88	4.09	.127
	Women (60)	10.36	1.83	10.09	2.39	-.27	.177
	Difference (\bar{X}_{m-w})	-4.12		.24			
	Rural-born (69)	9.00	3.11	9.69	3.76	.69	.122
	Urban-born (29)	8.20	3.51	11.26	5.45	3.06	.167
	Difference (\bar{X}_{r-u})	.80		-1.57			

SOURCE: Interviews and field work in northern Goiás, 1977.

¹Numbers in parenthesis indicate the number of cases in the correlation.

than men living anywhere else, but their final occupational achievements are not quite so good as those men in somewhat smaller cities. . . . Migrants find their best chances for upward mobility in small cities, regardless of whether they were raised in larger cities, small cities or rural areas.⁹

The size of the place in which a person is raised affects occupational success. Generally speaking, the larger the place the greater the opportunity to begin higher in the occupational scale. In the sample few people were born in higher hierarchical levels, but the occupational scores of migrants born in metropolitan centers are markedly higher than those of persons born elsewhere. At the final destination, migrants coming from metropolitan and regional centers achieve higher occupational levels. In addition, the higher the hierarchical level of the place of birth, the more likely the migrant is to retain his original occupation at the final destination. Hence, the lower a migrant moves in the urban hierarchy when moving, the better the chances are for him to improve socially (Table 19). This is almost self-explanatory. In general, people residing in higher levels possess a higher occupational status than those living in lower levels. People of low social levels living in larger centers when moving to smaller ones will experience upward social mobility by the standards of the host community even without changing occupations. They

⁹Blau and Duncan, The American Occupational Structure, pp. 248, 261.

TABLE 19

MEAN SOCIAL SCORES AND CORRELATION COEFFICIENTS BETWEEN
OCCUPATIONS AT PLACE OF BIRTH AND FINAL DESTINATION BY
HIERARCHICAL LEVEL OF THE PLACE OF BIRTH AND FINAL
DESTINATION

Hierarchical Level	Place of Birth		Final Destination		Differ- ence	Corre- lation
	(\bar{X}_b)	(S_b)	(\bar{X}_f)	(S_f)	(\bar{X}_{f-b})	(r_{fb})
<u>Place of Birth</u>						
1. Level: Metro- politan Centers (3) ¹	10.64	0.00	10.67	.08	.03	.999
2. Level: Regional Centers (6)	8.64	3.36	11.83	5.97	3.19	.479
3. Level: Sub- regional Centers (45)	9.55	4.55	9.91	3.78	.36	.428
4. Level: Local Centers (72)	8.49	3.04	9.50	3.31	1.01	.416
5. Level: Isolated Hamlets (103)	8.99	3.50	10.01	4.24	1.02	.211
<u>Final Destination</u>						
3. Level: Sub- regional Centers (65)	8.68	3.05	9.52	3.12	.84	.156
4. Level: Local Centers (87)	9.77	5.12	10.05	4.73	.28	.679
5. Level: Isolated Hamlets (102)	8.77	2.94	10.03	4.26	1.26	.157

SOURCE: Interviews and field work in northern Goiás, 1977.

¹Number in parenthesis indicates the number of cases
in the correlation.

are simply moving to a community with an average occupational level lower than that in the one where they have been. These are local administrators, businessmen or merchants unable to compete in larger cities to whom smaller towns offer better opportunities. In fact, migrants coming from larger places have higher occupational scores and greater mobility than those moving in the opposite direction between places of birth and final destination. Migrants moving between places of similar size tend to have lower occupational status and more frequent change of occupations than those moving to larger or smaller places (Table 20).¹⁰ Migrants coming from the countryside take urban occupations of a lower level than those of urban-born migrants, permitting the latter to move socially upward. Indeed, rural-born migrants moving between places of similar size between places of birth and final destination improved only .95 points, while the urban-born moving in a similar direction improved 2.58 points. Moreover, the status of rural-born migrants in relation to urban-born is lower at both the place of birth and final destination. When moving to larger places urban-born and rural-born migrants began at a similar social status, but at the final destination,

¹⁰It is important to be cautious in these affirmations since only the lowest three hierarchical levels are represented at the final destination.

TABLE 20

MEAN SOCIAL SCORES AND CORRELATION COEFFICIENTS BETWEEN OCCUPATIONS AT PLACE OF BIRTH AND FINAL DESTINATION BY TYPE OF GEOGRAPHICAL MOVEMENT

Type of Geographical Movement	Place of Birth		Final Destination		Difference	Correlation
	(\bar{X}_b)	(S_b)	(\bar{X}_f)	(S_f)	(\bar{X}_{f-b})	(r_{fb})
1. Upward (78) ¹	9.06	3.81	9.87	3.74	.81	.471
2. Downward (77)	9.17	4.08	10.00	3.75	.83	.447
3. Lateral (75)	8.53	2.87	9.80	4.30	1.27	.016
Difference (\bar{X}_{1-2})	-.11		-.13			
Difference (\bar{X}_{2-3})	.64		.20			
Difference (\bar{X}_{1-3})	.53		.07			

SOURCE: Interviews and field work in northern Goiás, 1977.

1. Numbers in parenthesis indicate the number of cases in the correlation.

rural-born migrants tend to maintain similar scores while urban-born tend to move to higher occupational levels. The opposite is true when moving to smaller places. The urban-born began "better off", but at the final destination rural-born migrants tend to move to higher occupations while urban-born tend to maintain the same levels. However, as seen in the general trend, even with this selection, rural-born migrants living in urban environments work at lower level occupations than those of urban-born migrants (Table 21). Since the number of steps increases the proportion of urbanward migration (Chapter IV, page 52), the relationships shown above indicate that a step or stage-wise migration to larger cities is operating in the area. Those urban-born migrants moving to higher hierarchical levels may be the children of early rural-born migrants residing in small centers (stage migration). But, if rural-born migrants presently living in small urban centers are willing to continue migrating, the next step is more likely to be a large city (step migration).

Discussion

The three most important findings of this chapter are:

1. A chronic change of occupations as migrants change residence.
2. A rigid social structure, in which the majority of migrants occupy the lowest social levels, and in which social mobility occurs

TABLE 21

MEAN SOCIAL SCORES AND CORRELATION COEFFICIENTS BETWEEN
OCCUPATIONS AT PLACE OF BIRTH AND FINAL DESTINATION BY
TYPE OF GEOGRAPHICAL MOVEMENT, ORIGIN AND SEX OF MIGRANTS

Geographical Movement/ Migrant Identification	Place of Birth		Final Destination		Differ- ence (\bar{X}_{f-b})	Corre- lation (r_{fb})
	(\bar{X}_b)	(\bar{S}_b)	(\bar{X}_f)	(\bar{S}_f)		
UPWARD						
Men (21) ¹	6.95	5.30	8.52	5.82	1.57	.424
Women (57)	9.84	2.75	10.32	2.62	.48	.383
Difference (\bar{X}_{m-w})	-2.89		-1.80			
Rural-born(60)	9.28	3.90	9.53	3.23	.25	.467
Urban-born(18)	8.32	3.48	10.79	4.76	2.47	.491
Difference (\bar{X}_{r-u})	.96		-1.26			
DOWNWARD						
Men (29)	7.65	5.90	9.63	5.30	1.98	.543
Women (48)	10.08	1.98	10.22	2.38	.14	.122
Difference (\bar{X}_{m-w})	-2.43		-.59			
Rural-born(54)	8.81	2.59	9.85	3.91	1.04	.340
Urban-born(23)	10.00	6.35	10.26	3.46	.26	.611
Difference (\bar{X}_{r-u})	-1.19		-.41			
LATERAL						
Men (24)	5.23	1.08	10.21	6.67	4.98	-.119
Women (51)	10.15	1.92	9.62	2.70	-.53	.208
Difference (\bar{X}_{m-w})	-4.92		.59			
Rural-born(60)	8.50	2.83	9.45	3.69	.95	.148
Urban-born(15)	8.65	3.12	11.23	6.14	2.58	-.265
Difference (\bar{X}_{r-u})	-.15		-1.78			

SOURCE: Interviews and field work in northern Goiás, 1977.

¹Numbers in parenthesis indicate the number of cases in the correlation.

mainly between occupations of very low social scores.

3. Although migrants still work primarily in agriculture and related occupations, rural-born migrants are adopting urban occupations of even lower levels than those of the urban-born.

In northern Goiás landholdings are increasing in size, while the number of owners is decreasing. When the route of the Belém-Brasília highway became known "almost all of the land on either side was claimed by the old landed families or politicians." Thus, by 1967 about 60 percent of the farmers in northern Goiás did not own the land they worked, and the proportion of landless was increasing.¹¹ In 1976 rural properties of 1,000 hectares or more, owned by 20 percent of the landholders, comprised at least 50 percent of all private land in the municípios of northern Goiás.¹² The area is increasingly being devoted to cattle, raised privately but with strong support by official programs.¹³ Subsistence farmers occupying these lands are pushed to other farms or to the nearest village. For example, in 1970 Colmeia was a hamlet of 996 people.¹⁴ When I visited Colmeia

¹¹Allderdice, "The Expansion of Agriculture," pp. 120, 130.

¹²Jean Hébette and Rosa E. Acevedo Marín, "Colonização espontânea, política agrária e grupos sociais," Belém, 1977, p. 4 (Mimeographed).

¹³Ibid., pp. 36-38.

¹⁴IBGE, VIII recenseamento geral, 1970--Goiás, p. 448.

in 1977, its population had grown to about 2,500 and within two weeks ten new shacks were constructed. Most of the families came from the nearby area, now devoted to cattle raising. Some 37 percent of the sample population referred to land conflicts and job conditions as the principal motives for leaving their last previous residence (Table 22). Rural migrants move from place to place each time a farm is converted into pasture, roughly as follows:

First year:

1. Forest vegetation is cut and burned by early January. This process probably started during the previous year.
2. Rice and maize are planted in February, in most cases under a sharecropping arrangement between the laborers and the owner.
3. Grass is also planted in February. This may be done by broadcasting the seeds in the fields with the rice and maize or by transplanting seedlings.
4. Beans may be planted in April if they are to be included in the cropping cycle.
5. The mature crops are harvested in June or July.

Second year:

1. The pasture is not grazed and no other crops are planted. If necessary, more grass seedlings may be set out.
2. The tenant (or sharecropper) moves to new areas within the ranch property (where he continues deforestation), or to another rancher's property.
3. The pasture may be burned in the month of August or September.

TABLE 22

MOTIVES FOR LEAVING LAST PREVIOUS RESIDENCE

Reasons/Motives for Leaving	Absolute Numbers	Percent- age	Absolute Numbers	Percent- age
Economic Reasons			165	46.0
Land Conflicts	84	23.4		
Job Conditions	48	13.4		
Business Conditions	21	5.8		
Other	12	3.4		
Social Reasons			91	25.3
Lack of Services	67	18.7		
News About a Place	19	5.2		
Other	5	1.4		
Personal Reasons			83	23.1
Family Reasons	34	9.5		
Dependent Migration	28	7.8		
Wanted Independence	13	3.6		
Other	8	2.2		
Environmental Reasons			20	5.6
Drought and Other				
Environmental Hazards	18	5.0		
Other	2	.6		
TOTAL	359	100.0	359	100.0

SOURCE: Interviews and field work in northern Goiás, 1977.

Third year:

1. The cattle are turned into the pasture to graze.
2. Laborers leave the place for another farm or an urban center.¹⁵

As rural areas become increasingly devoted to cattle ranching, the expulsion of laborers to urban centers increases. In Araguaína, for example, 1,212 of the 3,000 hectares of a ranch were in pasture and only twenty-five men, ten permanent and fifteen seasonal workers, were needed to operate it. Here, one cowboy could handle some 200 head of cattle.¹⁶ Peasants agglomerate in villages, commute to the countryside whenever they get a job, and do whatever is available to subsist. They move continuously with the hope of obtaining land. However, in most cases they settle on private land. When the owner of the land appears, their exploitation begins. He then says that he bought the land and if anyone wants to stay, he has to plant pasture or to do other work for him three days per week. "There is too much land ahead for us to alter that," they say.¹⁷ Or as Tamer pointed out:

One village disappears, but immediately another one appears, and then another one, and one more, in a succession without end of

¹⁵For a similar description see, Allderdice, "Agricultural Expansion," pp. 125-126.

¹⁶Ibid., p. 127.

¹⁷Alberto Tamer, Transamazônica: Solução para 2001, p. 127.

small villages that hang desperately to the highway (Belém-Brasília), where their dwellers search in the land or in the movement of cars for the difficult subsistence, without other ambition than survival, even though vainly. . . .¹⁸

For the great majority of migrants in northern Goiás migration is an escape for survival and the village their refuge. Normally, the small towns become mere intermediate stops en route to the large city.

¹⁸Ibid., p. 68.

CHAPTER VII

PROPENSITY TO MIGRATE

Potential migration patterns can be predicted by identifying family linkages and locational preferences. In the case of northern Goiás after the Belém-Brasília highway was opened, population concentrated in settlements along the highway and this zone grew tremendously.¹ However, the settlements appear to be intermediate stops for migration streams to large cities. More than 43 percent (172) of the heads of households interviewed would like to change their present place of residence, and more than one-fourth of these have immediate plans to leave. If planning is to be effective in the region, serious consideration must be given to the locational preferences of the migrant population and the identification of key factors affecting outmigration from the region.

Migrant preferences can be grouped in three major categories: 1) large cities, 2) municípios of active colonization, and 3) settlements along the Belém-Brasília

¹Sanders, "Brazilian Interior Migration," p. 1.

highway (Fig. 8). Thirty-five percent would like to go to the cities located at either end of the Belém-Brasília: Goiânia, Brasília, Anápolis and Belém. Large cities less preferred include Belo Horizonte, São Paulo, Teresina and Recife. Education for the children, medical facilities, transportation and economic conditions are among the factors considered. In practically all cases relatives are reported to be living at the potential destinations.

A smaller proportion would prefer areas of active colonization such as Tucuruí or São Félix do Xingu. This trend was identified by Tavares when studying planned colonization in Amazônia and by Sanders in his research on the Belém-Brasília.² Of all municípios of active colonization selected by the migrants, Conceição do Araguaia attracted the largest proportion, 6 percent. This município is characterized by a rapid increase in cattle raising, extensive agriculture and timber exploitation. But, migrants prefer the urban center to the countryside, so if migration takes place, it will be toward the city and not the rural area. Conceição do Araguaia is perhaps the most active local center (município of 41,210 people, 1975) of Pará state in this area.

The attraction of growing settlements along the Belém-Brasília road is reflected by the number of migrants

²Tavares, et al., Colonização dirigida no Brasil, pp. 72-79; Sanders, "Brazilian Interior Migration," pp. 1-10.

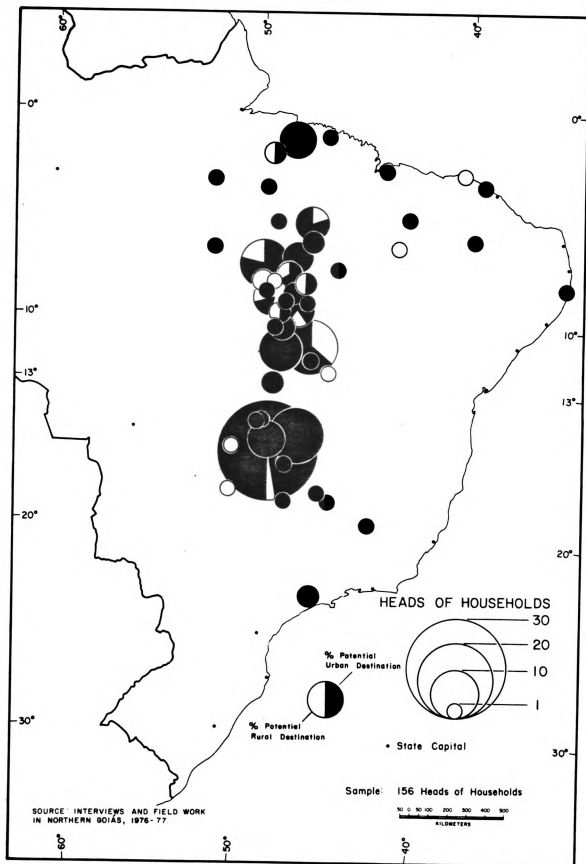


Figure 8 --Locational Preferences

willing to go to Imperatriz, Araguaína, Gurupi and Guaraí. The município of Imperatriz grew from a population of 39,331 in 1960 to 108,265 in 1975, and is today the second largest city of Maranhão state. Extensive agriculture, a concentration of large farms, increased accessibility, and educational, health and commercial services make Imperatriz attractive to local people as well as to farmers and businessmen from the South.³ Today one already perceives in Imperatriz the problems and advantages of a large city: fancy neighborhoods along with the invasion of shacks, public and private local transportation, movie houses, expensive hotels, modern hospitals, and shops of all types and condition. For a city where the first automobile arrived in 1953, the change has been "fantastic".⁴ Gurupi (município of 31,000 people, 1975) and Araguaína (município of 48,193 people, 1975) are also "miracle cities" along the highway polarizing the economic development of northern Goiás. Some industry, banks, hospitals, educational facilities, and commerce exist in these places. Guaraí (município of 13,948 people, 1975) grew so fast that in 1968 the seat of the município of Tupirama, located on the Tocantins, was officially transferred to Guaraí, a district located on the highway.⁵ Today,

³Sanders, "Brazilian Interior Migration," p. 8.

⁴Ibid., p. 9.

⁵SERFHAU, Relatório preliminar de desenvolvimento integrado, município de Guaraí (Brasília: SERFHAU, 1970), p.10.

Tupirama is a dying settlement, while Guaraf is a dynamic town.

Most migrants prefer urban centers (83 percent) and large cities (40 percent). Even migrants willing to go to settlements along the highway or active colonization areas would like to live in urban centers. Migrants are simply abandoning the rural areas to locate in urban centers and preferably in large cities.

Family links probably explain to a considerable extent how migration takes place in the area. Only 3 percent of household heads sampled left their place of birth alone and arrived at the final destination alone. The majority (61 percent) left in the company of their parents or their spouses, and arrived with the same group (59 percent) (Table 23). In addition, 32 percent came because they had relatives living here (Table 24). In northern Goiás, there exist farmers who employ entire families in the fields, and the role of relatives is very important in hiring personnel. Also, relatives working for relatives is a common practice. Indeed, 36 percent of the sample arrived at the homes of relatives. Friends also play an important part in hosting the newcomers, but some migrants buy or rent a house before migrating (Table 25).

Kinship ties are traditionally strong in migration, and the spatial distribution of children may consequently help identify future movements. Migrants reported 1,695

TABLE 23

RELATIVES ACCOMPANYING HEADS OF HOUSEHOLDS BETWEEN PLACE OF BIRTH AND
FINAL DESTINATION

Departure	Arrival				Total (N=342)
	Alone (N=28)	With Parents ¹ (N=31)	With Spouse (N=144)	Other Relatives and Friends (N=139)	
Alone	42.9	.0	5.5	1.4	6.4
With Parents ¹	39.3	100.0	37.5	31.7	40.9
With Spouse	.0	.0	38.2	9.3	19.9
Other Relatives and Friends	17.8	.0	18.8	57.6	32.8
TOTAL	100.0	100.0	100.0	100.0	100.0
PERCENT	8.2	9.1	42.1	40.6	100.0

SOURCE: Interviews and field work in northern Goiás, 1977.

¹Includes those traveling with just one parent.

TABLE 24
MOTIVES FOR COMING TO PRESENT RESIDENCE

Reasons/Motives	Absolute	Percent- age	Absolute	Percent- age
Economic Reasons			84	23.4
Looking for Land	18	5.0		
Looking for Employment	43	12.0		
Looking for Business	19	5.3		
Other	4	1.1		
Social Reasons			90	24.9
Looking for Services	70	19.4		
News About the Place	12	3.3		
Other	8	2.2		
Personal Reasons			135	37.6
Relatives or Friends	114	31.7		
Family Reasons	19	5.3		
Other	2	.6		
Spatial Reasons			51	14.1
Closest Place	21	5.8		
Larger Place	25	6.9		
Other	5	1.4		
TOTAL	360	100.0	360	100.0

SOURCE: Interviews and field work in northern Goiás, 1977.

TABLE 25

LODGING AT TIME OF ARRIVAL IN PRESENT PLACE OF RESIDENCE,
BY KNOWLEDGE THAT HEADS OF HOUSEHOLDS HAD ABOUT THE PLACE
BEFORE LEAVING PREVIOUS RESIDENCE

Lodging at Time of Arrival	Knowledge About the Place		Total
	Knew About the Place (N=183)	Heard or Did Not Know About the Place (N=193)	
Relatives	36.1	36.3	36.2
Friends	9.3	15.5	12.5
Local inhabitants	4.4	8.3	6.4
Own House	24.0	12.4	18.1
Rented House	10.4	13.5	11.9
Other	15.8	14.0	14.9
TOTAL	100.0	100.0	100.0
PERCENTAGE	48.7	51.3	100.0

SOURCE: Interviews and field work in northern Goiás, 1977.

children alive at the time of interview, from families with one child to those with twenty, an average of five children per family. About 20 percent of the children reside in municípios other than those of their parents (Table 26). Of the children born in the municípios of interview, 14 percent have already moved elsewhere. Considering that the majority of migrants arrived after 1960, and that many of the children leaving the municípios of their parents' residence are married, 14 percent represents a high proportion of out-migration. Moreover, children arriving with their parents continue migrating later. In Pôrto Nacional, for example, about 30 percent of the children accompanying their parents to this município have already left.

Figure 9 shows the spatial distribution of children living outside their parents' município of residence. Goiânia, Brasília and Anápolis together host some 30 percent. The rest are scattered in settlements along the Belém-Brasília, i.e. Araguaína and Gurupi, and colonization areas, such as Conceição do Araguaia, Pequizeiro and Itacajá. Except for Belém, the locational preferences of the heads of households approximate the location of the children. Like the parents, the children prefer large cities and urban centers in which to reside (Table 27).

The delay of migration until relatives located outside the donor community improve their status economically is a practice common to what is known as the "stem family".

TABLE 26
MUNICÍPIOS OF BIRTH OF INFORMANTS' CHILDREN BY MUNICÍPIOS
OF CHILDREN'S RESIDENCE (PERCENTAGES)

Children's Birth Place	Children's Residence		Total (N=1656)
	At Informant's Município of Residence (N=1,316)	Out of In- formant's Município of Residence (N=340)	
At Informant's Município of Residence	45.2	29.1	41.9
Out of Informant's Município of Residence	54.8	70.9	58.1
TOTAL	100.0	100.0	100.0
PERCENTAGE	79.5	20.5	100.0

SOURCE: Interviews and field work in northern Goiás, 1977.

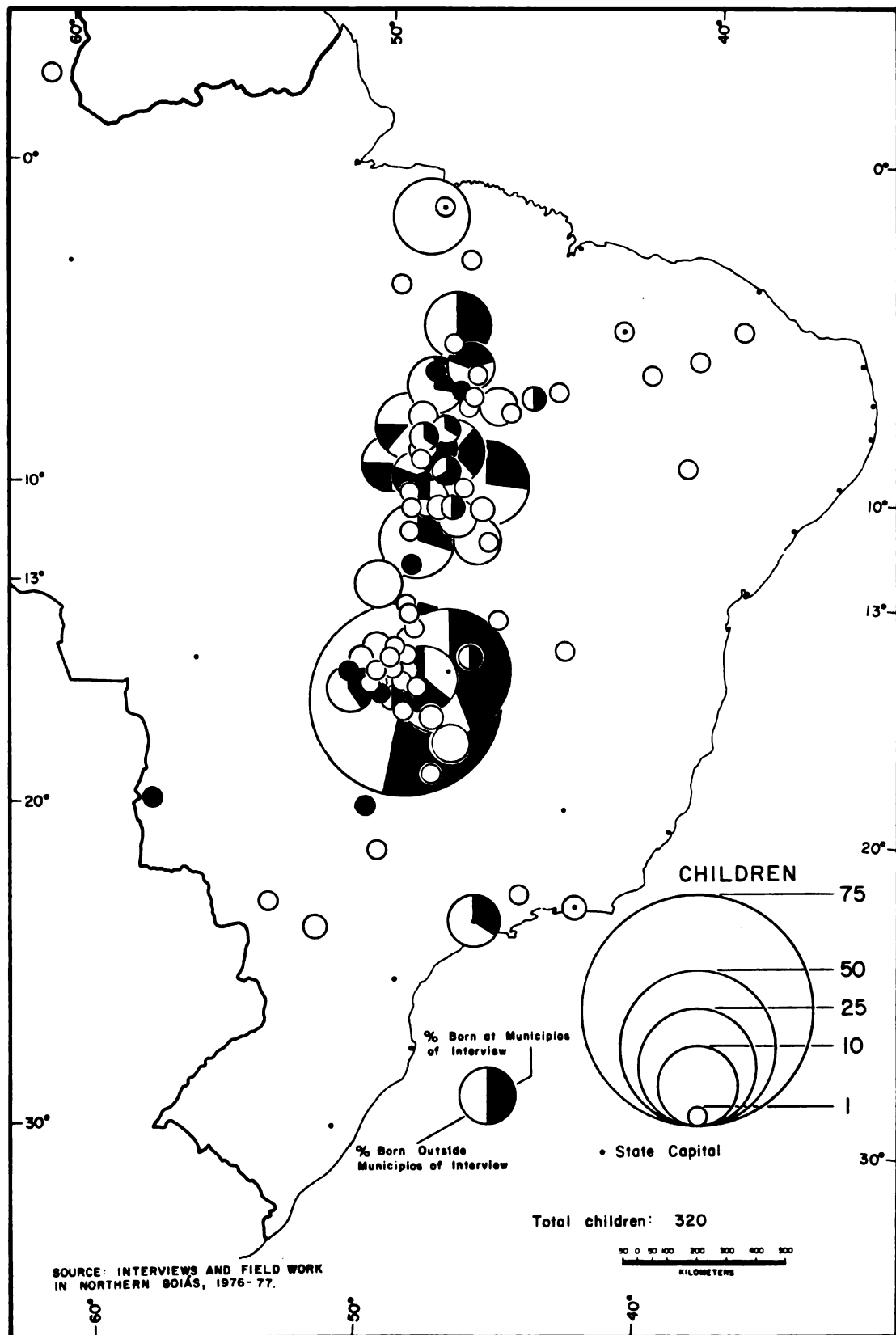


Figure 9 --Municípios of Residence of Children Living Away from their Parents' Municípios of Residence

TABLE 27

HEADS OF HOUSEHOLDS' LOCATIONAL PREFERENCES AND PLACE OF RESIDENCE BY CHILDREN
LIVING AWAY FROM INFORMANTS' PLACE OF RESIDENCE

Place of Residence	Heads of Households' Locational Preferences			Children's Residence		
	Rural (N=26)	Urban (N=130)	Total (N=156)	Rural (N=97)	Urban (N=214)	Total (N=311)
Metropolitan Centers	3.9	32.3	27.6	.0	31.8	21.9
Regional Centers	0.0	14.6	12.2	1.0	17.3	12.2
Sub-regional Centers	19.2	13.1	14.1	4.1	6.5	5.8
Local centers	26.9	23.9	24.3	32.0	19.6	23.5
Isolated Hamlets	50.0	16.1	21.8	62.9	24.8	36.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
PERCENTAGE	16.7	83.3	100.0	31.2	68.8	100.0

SOURCE: Interviews and field work in northern Goiás, 1977.

The relatives become of critical importance when economic conditions are difficult, since they can provide aid and eventually facilitate the change of location. The process continues as the family extends.⁶ Within this conceptual framework northern Goiás is considered a "holding area", where migrants wait for relatives living elsewhere to improve their economic status before themselves moving. This coincides with Wilkening's affirmation that "relatives tend to follow relatives in the migration channels of Brazil."⁷

Selectivity also operates in frontier settlements. Concerning education and civil status, the better educated and single people of northern Goiás tend to leave. The rate

⁶
 Frédéric Le Play, Les ouvriers européens, 6 Vols. (Paris: Tours A. Mame et fils, 1878); Frédéric Le Play, The Organization of Labor, translated by Gouverneur Emerson (Philadelphia: Claxton, Remsen & Haffelfinger, 1872); Dorothy Herberston, The Life of Frédéric Le Play (Ledbury: Le Play House Press, 1950); Petrim Sorokin, Contemporary Sociological Theories (New York: Hager and Brothers, 1928), pp. 63-98; Carle F. Zimmerman, and Marie E. Frampton, Family and Society (New York: D. Van Nostrand Company, Inc., 1953), pp. 73-150; James S. Brown, Harry Schwarzweller, and Joseph J. Mangalam, "Kentucky Mountain Migration and the Stem Family: An American Variation on a Theme by Le Play," Rural Sociology 28 (March 1963) : 46-69; Harry Schwarzweller, James S. Brown, and J. J. Mangalam, Mountain Families in Transition: A Case Study of Appalachian Migration (University Park: Pennsylvania State University Press, 1971).

⁷
 E. A. Wilkening, João Bosco Pinto, and José Pastore, "The Role of the Extended Family in Migration and Adaptation in Brazil," Paper presented at the Annual Meeting of the Rural Sociological Society, San Francisco, California, August 26-28, 1967, p. 20. See also, J. C. van Es, Eugene A. Wilkening, and João Bosco Guedes Pinto, "Rural Migrants in Central Brazil: A Study of Itumbiara, Goiás," Land Tenure Center Reports 29 (June 1968).

of literacy is high (85 percent) among children seven years of age or older born in the municípios of interview, but the mean education of those leaving is almost twice as high as that for those staying. The literacy rate is relatively low among heads of households interviewed (42 percent) but is considerably higher among those willing to leave than among those willing to stay (Table 28). More of those willing to stay are married, than is true of those willing to leave. However, children fourteen years of age or older born in the municípios of interview, but living elsewhere, include a larger proportion of married people than is true of those remaining (Table 29). Thus, children may leave their parents' municípios of residence upon getting married, or they may leave single and marry later in other municípios.

Judging from the role of relatives in migration, the number of children leaving the area, and the proportion of heads of households willing to change their place of residence, one concludes that northern Goiás is an area of low retention but of high geographical mobility. The number of migrants in settlements located on the Belém-Brasília road may not decrease in the near future, but the turnover will increase considerably. If one accepts the assumption that relatives follow relatives, it will be only a matter of time before migrants in northern Goiás join their relatives living mainly at the two ends of the road. One study has already shown that:

TABLE 28

EDUCATION OF CHILDREN SEVEN YEARS OR OLDER BORN IN THE MUNICIPIOS OF INTERVIEW BY PLACE OF RESIDENCE, AND EDUCATION OF HEADS OF HOUSEHOLDS BY LOCATIONAL PREFERENCE

Years of Education	Children's Residence			Heads of Households' Locational Preference		
	At Município of Birth (N=277)	Out of Município of Birth (N=86)	Total (N=363)	Willing to stay (N=175)	Willing to Leave (N=109)	Total (N=284)
Self-educated	.0	.0	.0	2.8	2.7	2.8
Illiterate	14.4	17.4	15.2	50.9	28.5	42.3
1 to 5 years	63.2	37.3	57.0	35.4	44.0	38.7
6 or more years	22.4	45.3	27.8	10.9	24.8	16.2
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
MEAN EDUCATION	3.5	6.6	4.2	3.0	4.0	3.4

SOURCE: Interviews and field work in northern Goiás, 1977.

TABLE 29

CIVIL STATUS OF INFORMANTS' CHILDREN FOURTEEN YEARS OR OLDER BORN IN THE MUNICIPIOS OF INTERVIEW BY MUNICIPIOS OF RESIDENCE, AND CIVIL STATUS OF HEADS OF HOUSEHOLDS BY LOCATIONAL PREFERENCE

Civil Status	Children's Residence		Heads of Households' Locational Preference			
	At Informant's Municipios Residence (N=161)	Out of Informants' Municipios of Residence (N=79)	Total (N=240)	Willing to Stay (N=218)	Willing to Leave (N=169)	Total (N=387)
Single ¹	75.8	59.5	70.4	7.1	8.3	7.7
Married ²	24.2	40.5	29.6	77.5	70.2	73.4
Separated ³	.0	.0	.0	4.7	5.5	5.2
Widowed	.0	.0	.0	6.5	12.4	9.8
Other	.0	.0	.0	4.2	3.6	3.9
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
PERCENTAGE	67.1	32.9	100.0	56.3	43.7	100.0

SOURCE: Interviews and field work in northern Goiás, 1977.

¹Never married.

²Civil, religious marriage or both.

³Divorced or separated.

Amazonia seems destined to produce a new area of poverty and subsistence for the disenfranchised majority. Under these conditions, the poor will tend to desert the farms and migrate toward the urban centers, creating new slums, or favelas.⁸

These favelas are already growing in Belém and Goiânia. If the process continues, time may show that construction of the transportation network intensified migration to the larger cities of Brazil, rather than helped to populate the Amazon Basin.

⁸John C. Jahoda and Donna L. O'Hearn, "The Reluctant Amazon Basin," Environment 17 (October 1975): 20.

CHAPTER VIII

CONCLUSIONS AND RECOMMENDATIONS

This study describes and analyzes the process of migration to small towns of the Brazilian Amazônia. Tracing migrants from place of birth to present residence and predicting future movements facilitates an understanding of how migration takes place, who participates in the process and why certain areas retain or expel migrants. Northern Goiás is located on the periphery of two regions: southern Brazil and Amazônia. The Amazonian region of Goiás state is distant from São Paulo, but also distant from Belém or Manaus, the largest centers of Amazônia. In 1960 the Belém-Brasília highway joined the two cores, São Paulo and Belém, and traversed northern Goiás. The zone opened by the highway grew tremendously, but its population came mainly from old towns located along traditional routes of transportation, the Tocantins and Araguaia rivers. The highway coincided with active colonization in the area, so even without the highway it is believed that the area would have grown. In fact, some authors estimate that the highway contributed minimally to the increase of population in the area. Sixteen years after the road was opened, this study found a high propensity to migrate from the area, especially toward the cities

located at the two extremes of the road: Brasília, Anápolis, Goiânia and Belém. The study shows a high tendency for relatives to follow relatives in the migration streams to northern Goiás, and a high concentration of the children already leaving the area in the cities of Goiânia, Brasília and Anápolis. Therefore, the area is one of low retention but high geographical mobility. The settlements of present residence are only intermediate stops within the strong migration streams to larger cities.

This study concludes that:

1. The migration field of northern Goiás includes all five hierarchical levels in which the municípios of Brazil have been classified. People come from or have visited metropolitan centers, regional centers, sub-regional centers, local centers, and isolated hamlets. But, the number of municípios in each level, the number of heads of households born in each level, and the number of intermediate stops made in each level are variable. High levels and urban centers, such as Goiânia, are places of step migration, where people now residing in northern Goiás have stopped but from which few natives migrated to frontier settlements. Conversely, low levels and rural areas are places of stage migration from which the same number of

natives are now residing in northern Goiás as the number of such residents who have stopped at those places. Reverse hierarchical migration is noticeable, especially among urban-born migrants. After starting migration upward in the functional hierarchy, urban-born migrants tend to move downward, while rural-born tend to move between places of a similar level. As migrants move, the tendency is to concentrate more in urban centers. Therefore, once migration begins it is likely that a large number of migrants will eventually reach major urban centers.

2. A chronic change of occupations was observed as migrants changed residences. And, a rigid social structure prevails, in which the majority of migrants occupy the lowest social levels and social mobility occurs mainly between occupations of low social scores. Although migrants still work principally in agriculture and related occupations, rural-born migrants are adopting urban occupations of even lower levels than those of urban-born migrants.
3. The settlements located on the Belém-Brasília may not decrease in population within the near future, but the turnover will increase

considerably. The highway brought higher economic value to the land, mainly devoted today to cattle and extensive agriculture, so subsistence peasants had to leave the traditional colonization areas to become low salary workers in the nearest urban center or commute from the center to work in the countryside. From here they will likely move to large cities. The young and better educated will leave first, but their relatives will follow.

There are no simple solutions to complex problems such as those which have evolved in northern Goiás through the years. Detailed studies in the settlements of the area, as well as in the cities located at the two extremes of the highway, aimed at testing further the impact of the highway on out-migration from the region are urgently needed. The attitudes of migrants relative to the highway, modernization, and urban development are critical to planning for any improvement in the region. Education, attitudes, skills and many other personal characteristics appear to be different among the migrants coming from the South as compared with those from the Northeast. It is noticeable in the area, for example, that most of the larger farmers, successful businessmen, and those with better occupations are coming from Minas Gerais, southern Goiás, Paraná or São Paulo. The arguments of Singer in Brazil and Blau in the

United States concerning the impact of conditions at the place of origin, especially in terms of occupational achievements, appear applicable in the case of northern Goiás. Further studies of this type are needed in the area.

Some 40 percent of the sample population showed dissatisfaction with the present place of residence. Housing, jobs, entertainment and all types of services (medical, educational, commercial) were mentioned as principal needs of the different communities visited by the author (Table 30). But, the legalization of land titles must be of highest priority in the area. Channelized migration operates in the region, so migrants will move where their relatives are better off. A piece of land is the request of many people willing to stay in the area, but whose economic conditions urge them to leave for the larger cities. However, the problem is not solved here, and actually worsens even further. Reinforcement of local economies is important. Cities in the area are growing spontaneously. But, without adequate services, commerce and industry, the migrants attracted by these "miracle centers" will continue to larger cities. Gurupi, Araguaína, Imperatriz and Pôrto Nacional must receive special attention for the location of services in the area. The success of local planning will depend largely upon the regulation of land titling and improvement of services in the urban centers of the area. The objective would not be to stop

TABLE 30
URGENT NEEDS AT THE PLACE OF FINAL DESTINATION MENTIONED
BY HEADS OF HOUSEHOLDS

Needs	Absolute	Percentage
Services	216	63.7
Employment	36	10.6
Economic aid in general	32	9.4
Commerce	20	5.9
Housing	16	4.7
Better administration	14	4.1
Other	5	1.6
TOTAL	339	100.0

SOURCE: Interviews and field work in northern Goiás, 1977.

migration to larger cities, because that has been proven impossible, but to control migration streams and hold the population at intermediate stops. Once a person begins migration he is likely to continue, and although he can move in many directions the final destination is almost always the large city.

If the process observed in northern Goiás is typical of that in other areas of Amazônia where highways are being opened, time will demonstrate that projects undertaken to populate and integrate Amazônia will have the opposite effect. As of today, the opening of the transportation system in Amazônia is intensifying migration to larger cities and increasing the urban explosion and related phenomena.

APPENDICES

APPENDIX A
INTERVIEW SCHEDULE



SERVIÇO PÚBLICO FEDERAL
UNIVERSIDADE FEDERAL DO PARÁ
NÚCLEO DE ALTOS ESTUDOS AMAZÔNICOS

CARTA DE APRESENTAÇÃO

Venho através desta, apresentar o Professor LUIZ EDUARDO ARAGON VACA, do Núcleo de Altos Estudos Amazônicos (NAEA) da Universidade Federal do Pará.

O referido professor desenvolve no NAEA estudos e pesquisas referentes a assuntos de movimento de população, pelo que gostaríamos de gozar de sua atenção e facilitação no que for possível e pertinente à sua área de atuação, pelo que ficaríamos gratos.

Atenciosamente

Assinatura manuscrita de Paulo Sérgio Rodrigues Cal, escrita em tinta preta.

Paulo Sérgio Rodrigues Cal
Vice-Coordenador do NAEA, em exercício

UNIVERSIDADE FEDERAL DO PARÁ
NÚCLEO DE ALTOS ESTUDOS AMAZÔNICOS

"O PROCESSO MIGRATÓRIO
NO GOIÁS AMAZÔNICO."

Entrevista para os
chefes de hogar

DATA DA ENTREVISTA _____ ENTREVISTA No. _____

LOCALIDADE (endereço) DA ENTREVISTA _____

MUNICÍPIO _____ ESTADO _____

(1) Rural

(2) Urbano

NOME DO ENTREVISTADO _____

1. Qual é o seu (do informante) lugar de residência?

Localidade (endereço) _____

Município _____ Estado _____

(1) Rural

(2) Urbano

2. Quanto tempo faz que você (o informante) mora nesta casa?

() Anos () Mês(es) () Dias

3. Quanto tempo faz que você (o informante) mora nesta localidade (cidade)?

() Anos () Mês(es) () Dias

4. Sexo do informante
- (1) Homem
- (2) Mulher
5. Idade do informante
- (_____) Anos completos em 1976
- (____/____/____) Data do nascimento
dia mês ano
6. Estado civil do informante
- (1) Solteiro
- (2) Casado
- (3) Separado
- (4) Desquitado
- (5) Divorciado
- (6) Viuvo
- (7) Amigado
- () Outro: _____
7. Qual seu (do informante) grau de instrução?
- (97) Analfebeto
- (98) Assina nome e/o faz contas
- (99) Autodidata
- (____) Ano primário completo
- (____) Ano ginásio completo
- (____) Ano universitário completo
- (____) Ano pós-graduação completo
- () Outro: _____
8. Você (o informante) trabalha atualmente?
- (1) Sim: (profissão ou ocupação): _____
- (2) Não.
9. Sua (do informante) esposa (o) trabalha? : (1) Sim
- (2) Não
10. Qual é a profissão ou ocupação dela (dele)? : _____
11. Onde trabalha ela (ele)?
- Município _____ Estado _____
- (1) Rural
- (2) Urbano

12. Onde nasceu ela (ele)?

Município _____ Estado _____

(1) Rural

(2) Urbano

13. Quantos filhos nascidos vivos, em total, ela teve? _____

14. Quantos filhos nascidos vivos faleceram com menos de um ano de vida? _____

15. Lugar de nascimento do informante:

Município _____ Estado _____

(1) Rural

(2) Urbano

16. Como classifica você (o informante) seu lugar de nascimento?

(5) Muito pequeno

(4) Pequeno

(3) Tamanho médio

(2) Grande

(1) Muito grande

17. O informante possui ou possuía casa no seu lugar de nascimento?

(1) Possuía

(2) Possui

(3) Não possui ou possuía

18. Caráter de propriedade da casa

- (1) Não possui ou possuía casa
- (2) Proprietário sem título
- (3) Proprietário com título provisional
- (4) Proprietário com título provisorio de INCRA
- (5) Proprietário com título definitivo
- (6) Ocupante de terras devolutas
- (7) Arrendatário
- (8) Parceiro
- () Outro: _____

19. O informante possui ou possuía terra no seu lugar de nascimento?

- (1) Possuía: Número total de hectares: _____
- (2) Possui: Número total de hectares: _____
- (3) Não possui ou possuía terra.

20. Caráter de propriedade das terras

- (1) Não possui ou possuía terra
- (2) Proprietário sem título
- (3) Proprietário com título provisional
- (4) Proprietário com título provisorio do INCRA
- (5) Proprietário com título definitivo
- (6) Ocupante de terras devolutas
- (7) Arrendatário
- (8) Parceiro
- () Outro: _____

21. Profissão ou ocupação principal de seu pai quando você (o informante) nasceu _____
22. Instrução de seu pai quando você (o informante) nasceu _____
23. Profissão ou ocupação principal de seu pai quando você (o informante) tinha 14 anos _____
24. Instrução de seu pai quando você (o informante) tinha 14 anos _____
25. Idade em que você (o informante) começou a trabalhar _____
26. Profissão ou ocupação principal que você (o informante) tinha em seu lugar de nascimento _____
27. Quantos anos você (o informante) tinha quando saiu pela primeira vez a residir fora de seu lugar de nascimento?
(_____) Anos ou (_____) Ano de saída.
28. Estado civil quando você (o informante) saiu pela primeira vez a residir fora de seu lugar de nascimento?

29. Número de pessoas que saíram com você (o informante) quando você (o informante) saiu pela primeira vez a residir fora de seu lugar de nascimento:

() Sózinho

() Pai

() Mãe

() Espôsa (o)

() Irmão e irmãs (inclue-se o informante)

() Filhos e filhas

() Amigos, parentes e outros

30. Grau de instrução quando você (o informante) saiu de seu lugar de nascimento:

(97) Analfabeto

(98) Assina nome e/o faz contas

(99) Autodidata

() Ano primário completo

() Ano ginásio completo

() Ano universitário completo

() Ano pós-graduação completo

() Outro: _____

31. Quais foram os motivos que fizeram você (o informante) sair de seu lugar de nascimento? _____

32. Como conseguiu você (o informante) o trabalho atual?

(1) Indicação de amigos

(2) Firma ou negócio da família

(3) Firma ou negócio próprio

(4) Jornal

(5) Concurso

() Dona de casa (não empregada doméstica)

() Outro: _____

33. Que motivos levaram você (o informante) a mudar-se para esta casa?

(1) O preço (o informante comprou a casa feita)

(2) Patrão cedeu

(3) Parente cedeu

(4) Comprou o solo (chão) e fez a casa

(5) A prefeitura (ou outra instituição oficial) cedeu
a casa ou o solo (chão) para fazê-la (especifique)

(6) Alugada

() Outro: _____

34. Você (o informante) tem empregados?: (1) Sim (2) Não

(_____) Empregados diretamente contratados

(_____) Empregados contratados através de empreiteiros

(_____) Fixos

35. Você (o informante) recebeu benefícios do FUNRURAL?

() Sim: _____

() Não.

36. Você (o informante) recebeu benefícios do BNH?

() Sim: _____

() Não.

37. Você (o informante) recebeu benefícios de INCRA?

() Sim: _____

() Não.

38. Você (o informante) recebeu benefícios de outras instituições?

() Sim: _____

() Não.

39. Quem pagou (ou costuma a pagar) o tratamento dos doentes em sua (do informante) família?

(1) A própria família ou parentes

(2) INPS

(3) FUNRURAL

(4) Patrão

(5) Amigos

(6) Não houve doentes

() Outros: _____

40. Você (o informante) acha que sua situação familiar em geral com sua chegada nesta localidade:

(1) Melhorou: Por qué? _____

(2) Mantem igual: Por qué? _____

(3) Piorou: Por qué? _____

41. Você (o informante) acha que com sua chegada nesta localidade as condições de vida em geral de seus parentes:

() Melhoraram: Por quê? _____

() Mantiveram igual: Por quê? _____

() Pioraram: Por quê? _____

() Outro : _____

42. Você (o informante) mantém contato com familiares (ou parentes) em seu lugar de:

(1) Nascimento

(2) Outros lugares fora desta localidade (cidade),
residência atual.

43. Você (o informante) mantém contato com amigos em seu lugar de:

(1) Nascimento

(2) Outros lugares fora desta localidade (cidade),
residência atual.

44. Que você (o informante) gostaria que seus filhos fossem no futuro?

45. Onde você (o informante) gostaria que seus filhos estudassem?

Município _____ Estado _____

(1) Rural

(2) Urbano

46. Onde você (o informante) gostaria que seus filhos trabalhassem?

Município _____ Estado _____

(1) Rural

(2) Urbano

47. Você (o informante) gostaria de se mudar desta casa?

(1) Sim: Por que _____

(2) Não.

48. Você (o informante) pensa em se mudar desta localidade (cidade)?

(1) Sim: (2) Não

Município _____ Estado _____

(1) Rural

(2) Urbano

49. Você (o informante) tem planos imediatos para sair?:

(1) Sim (2) Não

Mês em que o informante pensa sair: _____

Ano em que o informante pensa sair: _____

50. Você (o informante) acha que existe algum perigo
nesta localidade para a gente morar? (especifique) _____

51. Que você (o informante) acha que esta localidade
precisa mais primeiramente para que seus moradores
melhorem de vida (em geral)? _____

52. FILHOS VIVOS

Nome	Idade '76 ou data de nasci- mento.	Sexo H/M	Instru- ção.	Estu- da atual- mente	Trabalha (profissão ou ocupação)	Município/Estado (nascimento)	Município/ Estado ^A (Residência atual) R:Rural/U: Urbano	Mora em Casa (V)	Estado Civil
1.						R	U R	U	
2.						R	U R	U	
3.						R	U R	U	
4.						R	U R	U	
5.						R	U R	U	
6.						R	U R	U	
7.						R	U R	U	
8.						R	U R	U	
9.						R	U R	U	
10.						R	U R	U	
11.						R	U R	U	
12.						R	U R	U	
13.						R	U R	U	
14.						R	U R	U	
15.						R	U R	U	
16.						R	U R	U	
18.						R	U R	U	

53. OUTRAS PESSOAS MORANDO EM CASA NO MOMENTO DA ENTREVISTA (FORA DE FILHOS E O PRÓPRIO INFORMANTE)

Nome	Relação familiar com o informante.	Sexo H/M	Idade '76 ou data de nascimento	Município/Estado (nascimento) R:Rural/U:Urbano	Instrução	Trabalho (Ocupação ou Profissão)	Estado Civil
1.				R U			
2.				R U			
3.				R U			
4.				R U			
5.				R U			
6.				R U			
7.				R U			
8.				R U			
9.				R U			
10.				R U			
11.				R U			
12.				R U			
13.				R U			
14.				R U			
15.				R U			
16.				R U			
17.				R U			

54. HISTÓRIA DA MIGRAÇÃO (UM ANO O MAIS EM CADA PARADA)

Pa- ra- da No.	Estado	Município R: Rural U: Urbano	Classi- ficação pessoal	Idade ou ano da chegada	Pessoas com você na chegada: /A sozinho/B pai/C mãe/D esposa(o)/ E irmãos (as)/F filhos(as)/G outros/	Intru- ção que comple- tou nesta loca- lidade	Tempo de perma- nência ou ano de saída.	Profissão ou ocupação principal durante este tempo	1 Possui 2 Possui 3 Não casa nesta localidade	Carac- ter de propriedade da casa
1		R	U		/A/B/C/D/E____/ /F____/G____/					
2		R	U		/A/B/C/D/E____/ /F____/G____/					
3		R	U		/A/B/C/D/E____/ /F____/G____/					
4		R	U		/A/B/C/D/E____/ /F____/G____/					
5		R	U		/A/B/C/D/E____/ /F____/G____/					
6		R	U		/A/B/C/D/E____/ /F____/G____/					
7		R	U		/A/B/C/D/E____/ /F____/G____/					
8		R	U		/A/B/C/D/E____/ /F____/G____/					
9		R	U		/A/B/C/D/E____/ /F____/G____/					
10		R	U		/A/B/C/D/E____/ /F____/G____/					

54. HISTÓRIA DA MIGRAÇÃO (CONTINUAÇÃO)

Pa- ra- da No.	1 Possui a 2 Possui 3 Não 1-2 terra nesta localidade	Número de hectares	Cará- ter de propriedade da terra	Por que você saiu do lugar anterior	Antes de sair você: 1 conhecia bem 2 conhecia pouco: 3 Não conhecia esta localidade	Nesta loca- lidade você chegou casa de 1 Parentes 2 Amigos 3 Conterrâneos 4 Gente pouco conh.no lugar 5 Outro(esp.)	Por que selecionou esta localidade para mudar-se?
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

APPENDIX B
OCCUPATIONAL CATEGORIES

CLASSIFICAÇÃO DE OCUPAÇÕES E CATEGORIAS OCUPACIONAIS¹

<u>Categorias Ocupacionais</u>	<u>Índice Social</u>
<u>1. Administração e proprietários</u>	
Industriais	41,83
Administradores de bancos e companhias de seguros	42,22
<u>2. Profissionais e técnicos de nível superior</u>	
Inspetores de trabalho	40,31
Engenheiros	84,57
Arquitetos	77,97
Químicos	58,17
Farmacêuticos	44,51
Geólogos	63,00
Agrônomos	52,52
Veterinários	50,26
Médicos	85,98
Dentistas	47,41
Economistas	62,21
Contadores	45,41
Sociólogos	42,17
Professores superiores	63,99

¹Baseado em: Nelson do Valle Silva, "Posição social das ocupações", Centro Informática/FIBGE, 1973 (mimeo).

Categoriais Ocupacionais	Índice Social
Magistrados	88,75
Procuradores	76,53
Advogados e defensores	75,63
Escritores e jornalistas	40,06
Aviadores civis	48,18
Delegados	42,48
3. <u>Proprietários</u>	
Pecuaristas	26,49
Avicultores e criadores	38,57
Outros proprietários	35,07
4. <u>Administração</u>	
Administradores do serviço público	34,27
Outros administradores	32,33
5. <u>Profissionais e técnicos</u>	
Agentes fiscais	32,54
Oficiais e técnicos de administração	27,59
Coletores e extratores	25,68
Técnicos de contabilidade	27,50
Taquígrafos	28,43
Redatores	34,66
Intérpretes e tradutores	33,22
Programadores	35,33
Meteorologistas	26,18
Naturalistas	38,18
Enfermeiros diplomados	38,56

Categoriais Ocupacionais	Índice Social
Estatísticos	37,03
Professores secundarios	32,15
Inspetores de ensino	26,82
Tabeliões e oficiais de registro	29,56
Religiosos	24,87
Assistentes sociais	33,07
Oficiais da marinha mercante	29,62
Representantes comerciais	20,94
Propagandistas	27,80
Corretores de seguro	30,92
Corretores de títulos de valores	31,87
Corretores de imóveis	24,94
6. <u>Técnicos e administradores do setor primário</u>	
Agrimensores	18,61
Técnicos agrícolas	17,99
Trabalhadores na extração de petróleo	18,57
Administradores na agropecuária	9,77
7. <u>Proprietários de nível médio</u>	
Comerciantes	16,95
Hoteleiros e donos de pensão	17,87
Agricultores	17,97
8. <u>Técnicos e auxiliares</u>	
Caixas e tesoureiros	16,80

Categoriais Ocupacionais	Índice Social
Bibliotecários e docentes	22,97
Operadores	18,75
Desenhistas	22,51
Fisioterapistas	17,81
Protéticos	16,17
Operadores de raio X	18,61
Práticos de farmácia	15,00
Laboratoristas	11,35
Escrivões e auxiliares	22,09
Agentes sociais	20,33
Escultores e pintores	18,58
Músicos	12,62
Artistas de cinema e teatro	18,50
Locutores	15,92
Decoradores e cenógrafos	20,45
Cinegrafistas e operadores	15,14
Fotografos	12,60
Outros técnicos de cinema	12,68
Pracistas e viajantes	20,94
Outros agentes e corretores	23,13
Compradores	23,22
Linotipistas	17,23
Clicheristas e gravadores	13,05
Revisores na industria gráfica	18,05
Aeromoças	22,81
Maquinistas de embarcação	15,08

Categorias Ocupacionais	Índice Social
Agentes na estrada de ferro	14,42
Condutores e chefes de trem	13,58
Inspetores de transportes	13,60
Agentes postais e telégrafos	15,26
Postalistas	19,32
Telegrafistas e radiotelegrafistas	17,91
Vendedores de selos	15,24
Técnicos de esporte	24,72
Investigadores de polícia	21,17
Datiloscopistas	19,06
Inspetores e fiscais	17,18
9. <u>Professores primarios e afins</u>	
Professores primários	13,81
Professores sem especialização	21,87
Inspetores de alunos	13,11
10. <u>Ocupações de escritório</u>	
Almoxarifes	12,79
Datilógrafos	12,83
Auxiliares de escritório	13,93
11. <u>Mestres e contramestres</u>	
Mestres de obras	16,44
Mestres, contramestres e técnicos industriais	16,98

Categorias Ocupacionais	Índice Social
12. <u>Ocupações da indústria mecânica e metalúrgica</u>	
Modeladores e formistas de metais	9,95
Fundidores de metais	8,64
Laminadores e trefiladores	8,96
Afiadores e amoladores	10,10
Estampadores mecânicos	8,65
Fresadores e furadores	11,58
Torneiros mecânicos	10,82
Mecânicos de motor a explosão	9,44
Mecânicos sem especificação	11,15
Galvanizadores e niqueladores	9,09
Soldadores	9,10
Caldeireiros	9,85
Ferreiros e serralheiros	8,11
Lanterneiros de veículos	9,67
Rebitadores de metais	10,30
Funileiros de metais	9,71
Ferradores	7,54
13. <u>Outras ocupações qualificadas ou semi-qualificadas do setor industrial</u>	
Tipógrafos	11,25
Impressores	10,62
Outras ocupações da indústria gráfica	10,30

Categorias Ocupacionais	Índice Social
Ourives e relojoeiros	10,58
Lapidadores	8,88
Marmoristas	8,43
Polidores e esmerilhadores	8,55
Pintores a pistola	8,97
Operários de reparo naval	9,74
Artífices sem especificação	10,63
Outras ocupações da indústria transformação	9,56
Tapeceiros	9,17
Estampadores de têxteis	8,05
Eletricistas	11,43
Radiotécnicos	12,99
Vidreiros e ampoleiros	7,94
Encadernadores e cartonadores	7,84
<u>14. Ocupações do transporte e comunicações</u>	
Mestre de embarcação	10,27
Foguistas de embarcação	11,94
Marinheiros civis	9,45
Taifeiros	10,45
Guindasteiros	11,35
Estivadores	8,77
Maquinistas	11,84
Foguistas de trem	10,46
Guarda-freios	10,14

Categorias Ocupacionais	Índice Social
Manobreiros e sinaleiros	10,20
Motoristas	10,83
Telefonistas	10,03
Carteiros	10,90
Guarda-fios	11,59
Trabalhadores na conservação das ferrovias	7,78
15. <u>Trabalhadores na indústria de construção</u>	
Armadores de concreto	7,83
Pedreiros	6,94
Pintores e caiadores	7,78
Estucadores	8,37
Ladrilheiros e taqueiros	8,94
Encanadores	8,87
Vidraceiros	8,27
Calceteiros e asfaltadores	6,48
Calafates	8,38
Operadores de maquina de construção civil	8,65
16. <u>Trabalhadores na indústria de madeira e móveis</u>	
Marceneiros	8,44
Carpinteiros	7,39
Tanoeiros	8,56
Estofadores e capoteiros	8,65
Lustradores de madeira	7,41

Categoriais Ocupacionais	Índice Social
Colchoeiros	6,18
17. <u>Outras ocupações qualificadas e semi-qualificadas não-industriais</u>	
Parteiras	9,90
Enfermeiros não-diplomados	11,01
Barbeiros e cabeleireiros	9,00
Guardas civis e inspetores de trânsito	10,42
Carcereiros e guardas de presídio	12,08
Ascensoristas	8,79
Capatazes	10,75
Guardas sanitários	9,76
Operadores de cinema	8,77
Operadores de máquinas	9,12
18. <u>Trabalhadores na indústria têxtil, do couro e do vestuário</u>	
Cortadores e penteadores	6,41
Maçaroqueiros	5,83
Fiandeiros	5,83
Urdidores e remetedores	6,78
Cordoeiros	4,40
Tecelões	6,65
Alvejadores e tintureiros	7,73
Acabadores de pano	6,49
Alfaiates e costureiros	7,19

Categoriais Ocupacionais	Índice Social
Chapeleiros (excluindo de palha)	6,19
Sapateiros	6,69
Bolseiros e cinteiros	6,11
Correeiros e seleiros	6,18
Curtidores	6,37
19. <u>Trabalhadores na indústria de alimentação</u>	
Linguiceiros e salsicheiros	7,28
Charqueadores	6,13
Magarefes	5,98
Manteigueiros e queijeiros	6,10
Doceiros e confeitheiros	7,32
Macarroneiros e pasteiros	6,57
Padeiros	6,36
Farinheiros e moleiros	5,24
Ocupações das usinas e engenhos	5,80
Ocupações das destilarias	6,75
Ocupações de moagem e torrefação de café	6,55
Ocupações da indústria de pescado	5,16
Açougueiros	6,50
20. <u>Trabalhadores não qualificados na indústria ou artesanato</u>	
Rendeiros	2,49
Redeiros	2,88

Categoriais Ocupacionais	Índice Social
Bordadeiros e cerzideiros	4,41
Chapeleiros de palha	1,81
Oleiros	4,50
Foqueteiros	4,61
Cesteiros e esteireiros	3,17
Vassoureiros	4,90
Charuteiros e cigarreiros	4,77
Aprendizes	3,31
Ceramistas e louceiros	5,68
Pintores cerâmicos	5,96
Vulcanizadores e recauchutadores	7,60
Lubrificadores	7,61
Foquistas (excluindo de embarcação e trem)	7,65
Embaladores e expedidores	6,38
21. <u>Trabalhadores braçais diversos</u>	
Serradores	5,82
Carroceiros e tropeiros	4,61
Barqueiros e canoeiros	6,10
Trabalhadores na conservação das rodovias	5,83
Lixeiros	5,56
Trabalhadores braçais sem especificação	5,30

<u>Categorias Ocupacionais</u>	<u>Índice Social</u>
22. <u>Serviço doméstico</u>	
Empregados domésticos	3,33
Lavadeiras e engomadeiras	3,68
23. <u>Outros serviços</u>	
Cozinheiros	6,32
Garçons	7,31
Manicures e pedicures	7,47
Porteiros, vigias e serventes	7,13
Trocadores	6,42
Engraxates	3,76
24. <u>Vendedores ambulantes</u>	
Total	7,39
25. <u>Outras ocupações no comércio</u>	
Balconistas e entregadores	7,39
Vendedores de jornais e revistas	8,84
26. <u>Serventes de pedreiro</u>	4,82
27. <u>Trabalhadores no setor primário</u>	
Aradores	3,92
Tratoristas	6,11
Chacareiros	5,04
Jardineiros	5,55

Categoriais Ocupacionais	Índice Social
Trabalhadores na enxada	3,49
Trabalhadores de pecuária	5,45
Caçadores	4,84
Pescadores	4,20
Madeireiros e lenhadores	4,40
Carvoeiros	4,28
Seringueiros	4,21
Ervateiros	4,61
Apanhadores e descascadores	2,50
Mineiros	6,48
Canteiros e marroeiros	5,38
Garimpeiros	4,90
28. <u>Outros</u>	
Atletas profissionais	12,22
Forças armadas	13,60
Corpo de bombeiro	7,38
Outras ocupações ou ocupações mal definidas	10,64
Sem declaração de ocupação	-
Procurando trabalho pela primeira vez	-

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