

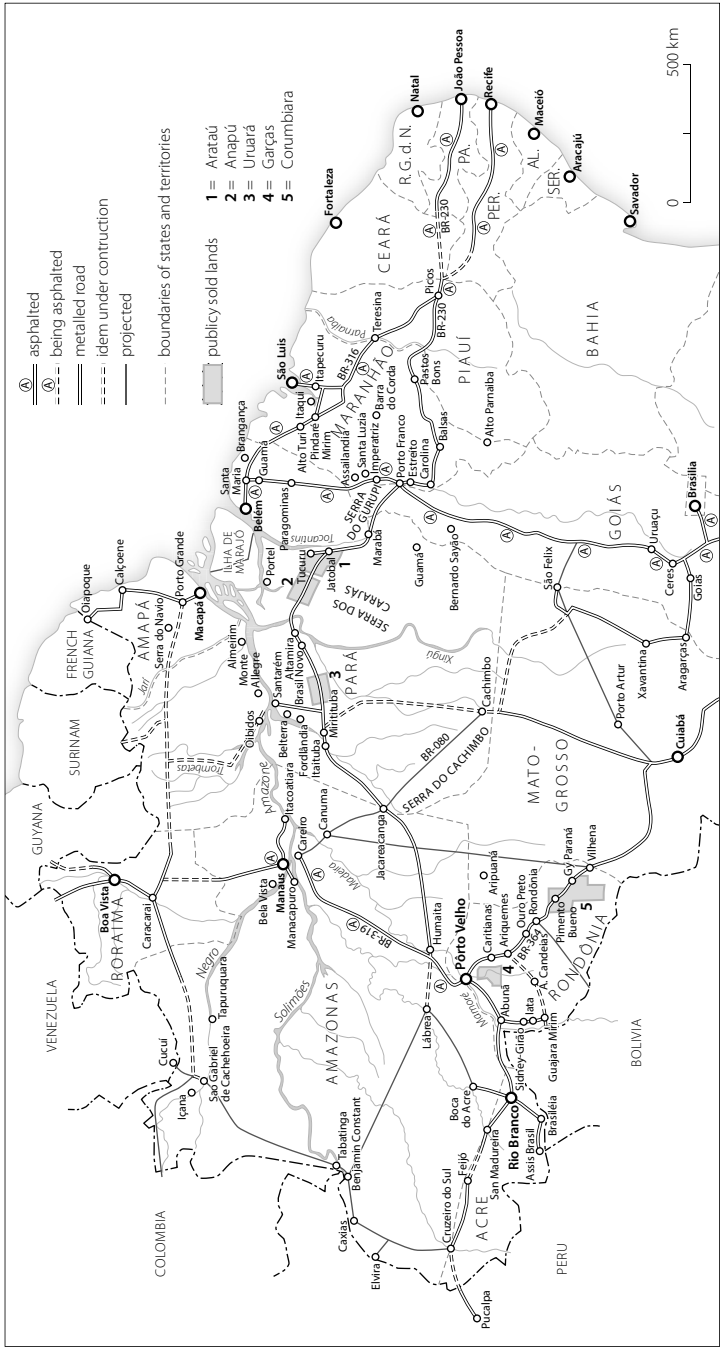
Changes in population size and distribution during the 1970s

The development measures after 1960

Although the Superintendência do Plano de Valorização Econômica da Amazônia (SPVEA) was created in 1953 to develop the Amazon region and 3 % of federal revenues were even set aside for the purpose under a provision of the 1946 constitution, through various circumstances no significant results were achieved. During the 1960s and 1970s, however, there was not only a renewed interest in the Amazon region, but this interest also led to a number of specific government measures, some of which may even be characterised as spectacular. Briefly summarised, the following events from these two decades appear to be the most significant:

- In 1960 a road link was completed between Brasília and Belém (see Fig. 10).
- In 1964 Brazil came under a military regime which had as one of its principal aims the encouragement of rapid economic growth and which also intended to let the Amazon region make a substantial contribution to that growth.
- In 1965 a second very important road link was completed, i. e. that between Cuiabá and Porto Velho, thus enabling Rondônia to be reached overland from the south east.
- In 1966, in pursuit of the government policy described under 2, the Superintendência do Desenvolvimento da Amazônia (SUDAM) was established as a successor to the SPVEA and given the task as a regional organisation of stimulating the progress of the Amazon region and coordinating the measures for the purpose to be taken by the various official bodies together with the activities of private entrepreneurs. One of the most important activities of the SUDAM was the encouragement and supervision of private investments facilitated by the various tax concessions in Amazônia.
- In 1967 a free trade zone was created for Manaus and its environs.
- In 1970 it was decided to build the Transamazônica, the first stretch of which (Estreito–Itaituba) was completed in 1972 and a second section (Itaituba–Humaitá) in 1974. This highway linked the southern part of the Amazon region with the North East of Brazil. Partly in response to the extreme droughts which afflicted the North East in 1970 a programme of social colonisation was launched, within the framework of which the government aimed to provide a new livelihood in the Amazon region for at least 100 000 families within five years. The majority of the colonists were to come from the North East. Although these ambitious aims were

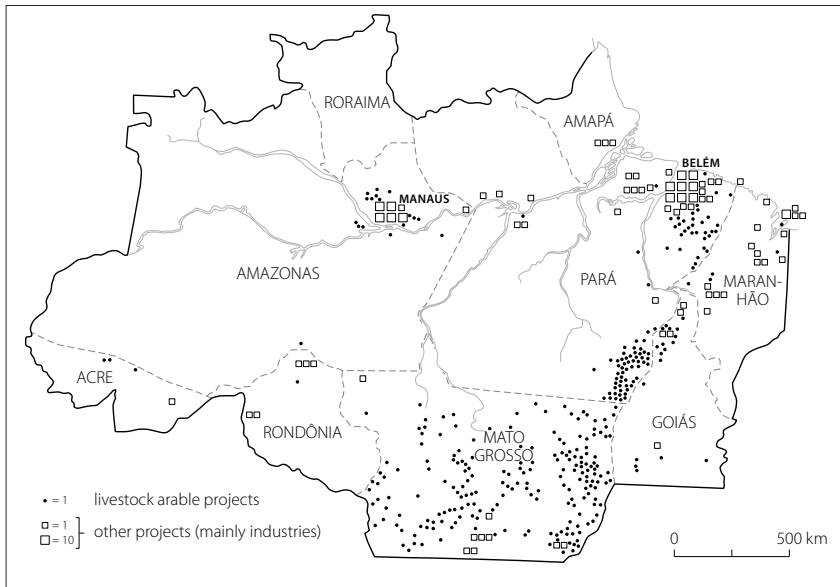
Figure 10. Road and General Reference Map of Amazônia Legal (situation in late 1980)



Source: Author's own elaboration.

not realised for various reasons, the completion of the Transamazônica did make possible a considerable stream of spontaneous colonisation. This incidentally also occurred after the completion of other highways (see Fig. 10).

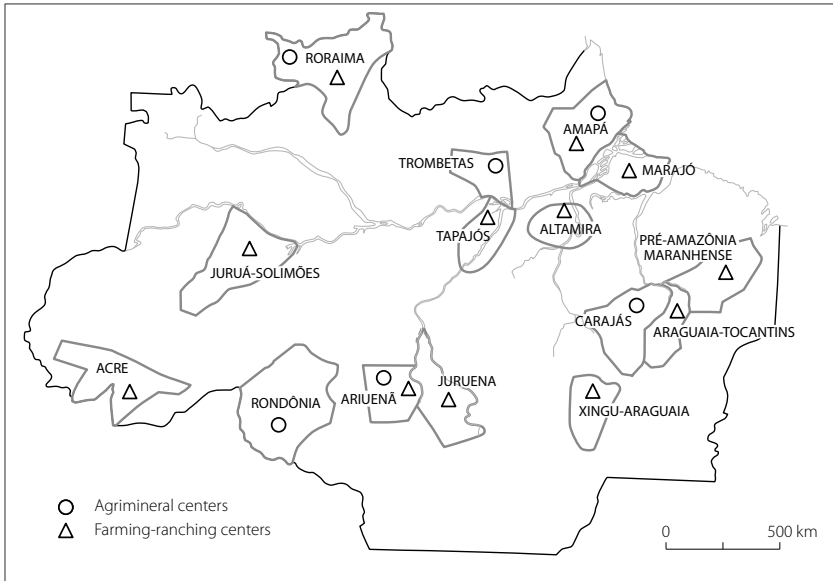
Figure 11. SUDAM-projects in Amazônia Legal



Source: SUDAM/Kleinpenning (1977).

- A number of smaller road links were also completed within the framework of the efforts to achieve further economic development and integration of the Amazon region. These included the roads between Manaus and Boa Vista and Manaus and Porto Velho. Among the larger roads special mention should be made of the link between Cuiabá and Santarém, completed in 1976.
- The policy was modified in the Second Development Plan, covering the period 1975–1979. There had been much criticism of the social colonisation programme for the North East and its rather disappointing results. This led the Brazilian government, which wished to see quick results, to place the emphasis entirely on rapid economic growth and to encourage large-scale cattle farming, arable farming, mining and forestry through the agency of major private entrepreneurs. The government assumed responsibility for the necessary infrastructure, which was concentrated in fifteen polos (Programa de Polos Agropecuários e Agrominerais da Amazônia, Polamazônia). The intention was that private investment should also be concentrated in these *polos*, insofar as it was not concentrated there already (see Fig. 12).
- The Third Development Plan, launched in 1979, aimed essentially at a continuation of the course adopted in 1975.

Figure 12. Programme of agricultural and mineral poles in the Amazon Region (figures indicate the part of the total budget allocated in 1975 to each pole)



Source: Polamazônia.

Aim and framework of the analysis

It will be clear that this policy for the Amazon region could considerably influence future population trends. The aim of the following sections, therefore, is to examine to what extent this was the case during the period 1970–1980. Not all demographic aspects are considered in the analysis, which is limited mainly to changes in the total population of Amazônia and its sub-regions and to changes in population distribution, including those in rural and urban areas. More specifically, this means that attention is paid to the following questions:

- What changes occurred in the population growth of Amazônia and what consequences did these have for the relative position of this region within Brazil?
- Were there signs of noteworthy shifts in the population distribution within Amazônia under the influence of the development policy being pursued or of its related indirect effects, as a result of which there were changes in the relative position of the sub-regions?
- Were there important shifts in the relationship between urban and rural population?

In answering these questions the analysis will concentrate on the period 1970–1980, because this is the decade during which the most important development measures were taken or in which the effects of earlier measures could manifest themselves most

clearly. The most marked demographic changes were therefore to be expected during this period. Where necessary, however, attention is also paid to changes during the years 1960–1970.

The spatial framework to which the analysis relates is almost always formed by Amazônia Legal. Unfortunately, very few statistical data are published for this administrative unit. Various figures relating to population growth and distribution had therefore to be calculated with the aid of data relating to meso-regions, micro-regions and municipalities, at least as far as the sub-regions of Goiás and Maranhão are concerned.

Changes in the relative position of the Amazon region within Brazil

The population of the North increased from 2.602 million in 1960 to 3.651 million in 1970 and 6.029 million in 1980. That of Amazônia Legal was 5.160 million in 1960, 7.150 million in 1970, but had risen to 11.192 million in 1980 (Table 8). This means that the North accommodated only 3.7% of the Brazilian population in 1960, but that this percentage had risen to 3.9 in 1970 and to as much as 5% in 1980. The share of Amazônia Legal increased from 7.3% in 1960 to 7.6% in 1970 and 9.2% in 1980.

The population increase of the North was 40.3% during the period 1960–1970 and as much as 65.1% for the years 1970–1980. Amazônia Legal experienced an increase of 38.5% between 1960 and 1970, and of 56.5% between 1970 and 1980. For Brazil as a whole there was a growth of 33.1%, during the 1960s and of 28.2% during the following decade.

It is clear from these figures that the Amazon region was not an area of stagnation, but was even characterised by a rate of growth above the national average. Table 1 shows that this was already the case between 1950 and 1960. From then on, however, the trend intensified, giving rise to a population increase which was even comparable to that experienced during the rubber boom of the years 1890–1920.

It is useful to make a comparison not only with the country as a whole, but also with those regions which had long been known as the most important areas of in-migration within Brazil. This will make it possible to show the relative position of Amazônia as a growth region. In the first place, a comparison is possible with the metropolitan regions of the nine largest cities (i. e. São Paulo, Rio de Janeiro, Belo Horizonte, Recife, Porto Alegre, Salvador, Fortaleza, Curitiba and Belém). The combined population increase of these cities during the period 1960–1970 was 8.5 million, accounting for no less than 36.8% of the total increase of Brazil. During the period 1970–1980 the increase was 10.71 million, or 41.4% of the national growth.

Table 6a and b. Population changes in Amazônia Legal and its sub-regions, 1960–1980

Sub-region	Area in sq km ¹	Popu- lation in 1960	Share in 1960 %	Popu- lation in 1970	Share in 1970 %	Increase 1960–1970		Share in regional growth 1960–1970
						Absolute	As % of 1960	
Amatonas	1 560 327	721 215	14.0	960 934	13.4	239 719	33.2	12-1
Roraima	230 104	29 489	0.6	41 638	0.6	12 149	41.2	0.6
Acre	152 589	60 208	3.1	218 006	3.0	57 798	36.1	2.9
Amapá	139 068	68 889	1.3	116 480	1.6	47 591	69.1	2.4
NW. Am. Leg	2 082 088	979 801	19.0	1 337 058	18.6	357 257	36.5	18.0
W-Maranhão 2	2 574 451	1 879 959	36.4	2 336 894	32.7	456 935	24.3	23.0
Pará	1 228 870	1 950 935	30.0	2 197 072	30.7	646 137	41.7	32.5
N-Goiás 2	285 793	348 278	6.8	549 050	7.7	200 772	57.6	10.1
Mato Grosso	881 001	330 610	6.4	612 887	8.6	282 277	85.4	14.2
Rondônia	243 044	70 783	1.4	116 620	1.6	45 837	64.7	2.3
SE Am. Leg	2 896 159	4 180 565	91.0	5 812 523	81.3	1 631 958	39.0	82.1
Amazônia Legal	4 978 247	5 160 366	100.0	7 149 581	100.0	1 989 215	38.5	100.0
Brazil	8 511 965	70 992 343	—	94 508 583	—	23 516 240	33.1	—

Sub-region	Popu- lation in 1980	Share in 1980 %	Increase 1970–1980		Share in regional growth 1970–1980	Population density per sq km		
			Absol.	%		1960	1970	1980
Amatonas	1 448 135	12.9	488 201	50.8	12.1	0.5	0.6	0.9
Roraima	82 018	0.7	40 380	97.8	1.0	0.1	0.2	0.4
Acre	306 893	2.7	88 887	40.8	2.2	1.1	1.4	2.0
Amapá	180 078	1.6	63 598	54.6	1.6	0.5	0.8	1.3
NW. Am. Leg	2 018 124	17.9	681 066	50.9	16.9	0.5	0.6	1.0
W-Maranhão 2	3 211 418	28.7	874 524	37.4	21.6	7.3	9.1	12.5
Pará	3 507 312	31.3	1 310 240	59.6	32.4	1.3	1.8	2.9
N-Goiás 2	782 306	7.0	233 256	42.5	5.8	1.2	1.9	2.7
Mato Grosso	1 169 812	10.5	556 925	90.9	13.8	9.4	0.7	1.3
Rondônia	503 125	4.5	386 505	331.5	9.6	0.3	0.5	2.1
SE Am. Leg	9 173 973	82.0	3 361 450	56.8	83.2	1-4	2-0	3.2
Amazônia Legal	11 192 097	100.0	4 042 516	56.5	100.0	1.0	1.4	2.3
Brazil	121 159 573	—	26 641 990	28.2	—	8.3	11.1	14.2

Source: Anuario Banco da Amazônia 1971 and Sinopse Preliminar do Censo Demográfico 1970 and 1980.

1. The figures for area were taken from the Anuário BASA 1971. The figures for Maranhão and Goiás relate only to the area lying within the official boundaries of Amazônia Legal. If certain municipalities fell only partly within those limits, only the relevant part of the municipal area was included. Until 1977 the area of Amazônia Legal was somewhat smaller (4.87 million sq km), because only the part of Mato Grosso north of the 16th parallel was included. In 1977 Mato Grosso was split up in two new states: Mato Grosso do Sul and Mato Grosso. At this time the boundaries of Amazônia Legal were modified to include the whole of the new state of Mato Grosso.

2. The population figures relate to whole municipalities even though when only part of the area fell within the limits of Amazônia Legal. Municipalities with more than 25 % of their area outside Amazônia Legal were not included in the population calculations.

From other figures it may be calculated that the population of these metropolitan areas increased by 55.7% between 1960 and 1970 and by 45% during the following decade. The first percentage was still above the growth figure for the North and for Amazônia Legal, but in the following decade the growth of the North and of Amazônia Legal exceeded that of the metropolitan areas. It will be clear, however, that very different absolute numbers were involved, so that it is understandable that, during the 1960s, the North accounted for only 4.5% of the national population growth and for still no more than 8.9% during the 1970s. Amazônia Legal accounted for 8.5% of national growth during the period 1960–1970 and for 15.2% during the decade 1970–1980.

The population growth of the Amazon region may also be compared with the population increase of the South and the South East combined, these regions forming the economic and demographic heartland of Brazil. During the 1960s the population of the seven states of the South and South East increased from 42.995 million to 57.016 million, and to 71.961 million during the 1970s. This corresponds with a growth of 32.6% between 1960 and 1970, and of 26.2% between 1970 and 1980. The growth rate of the North and of Amazônia Legal was higher than these figures in both decades, but once again the difference in absolute numbers should be borne in mind. Thus the South and the South East accounted for 59.7% of national growth during the decade 1960–1970, and of 56.1% between 1970 and 1980.

It may be concluded that the Amazon region was certainly no longer a demographically stagnant region after 1960. Thanks to an acceleration of the rate of growth, the relative position of the region within the national context was even somewhat strengthened, particularly after 1970. Both absolutely and relatively, however, the contribution of the North and of Amazônia Legal to the national population growth was still a modest one. Consequently, when assessed at the national level, the effects of the development measures so far taken appeared to be limited.

Explanation of the relatively feeble attractiveness of Amazônia Legal

Although the countryside of North East Brazil, because of its extreme droughts, unfavourable ownership and occupation relationships and continuing processes of enlargement of scale, could scarcely offer an acceptable existence to many country-dwellers, and although employment in agriculture continued to fall in the other parts of Brazil, the figures we have just given show that Amazônia did not exercise an exceptional attraction on the rest of the country. Despite the existence of large areas of unused land which were gradually being opened up by road construction, the “surplus” agricultural population was not migrating *en masse* to the North. The share of Amazônia in the national population growth was too modest for that, certainly when it is remembered that a large part of the population growth there was accounted for by natural increase.¹²⁵

¹²⁵ Detailed and reliable migration data are scarce; in fact, no migration data at all are available for the period 1970–1980, but it may be assumed that the level of natural increase in Amazônia Legal did not differ significantly from that in Brazil as a whole (1960–1970: 33%; 1970–1980: 28%). This means that, during the period 1970–1980, about half of the population increase in Amazônia Legal could be attributed to migration.

It is beyond the scope of this contribution to examine the motives which led Brazilians to migrate to the Amazon region or give preference to seeking a livelihood elsewhere. These motives have been discussed in the great volume of literature about the Amazon region which appeared mainly during the 1970s. They may otherwise be deduced from the discussion of the development processes which occurred up to 1980 in Amazônia Legal. Summarised briefly, the following circumstances, in particular, appear to have exercised a negative effect on the volume of the migration flows to Amazônia Legal:

- The different, humid tropical environment, which required considerable physical adaptation and brought with it dangers to health, as well as imposing very specific demands on the way in which colonists had to make a livelihood. Not for nothing is the Amazon region often described as a "green hell."
- The great unfamiliarity of many people with the potentialities and limitations of the region was not compensated by adequate and intensive information and guidance on the part of the government, even in the official colonisation projects.
- The small-scale colonisation projects realised by the government (more specifically the Instituto Nacional de Colonização Reforma Agrária, INCRA) had little success up to 1980, either quantitatively or qualitatively.
- Spontaneous colonisation consequently formed the only alternative for many people, but because of their unfavourable location in relation to the economic and demographic core areas of the country and their inaccessibility, large areas did not offer much attraction for spontaneous colonisation either. There was scarcely any market for commercial production, so that colonists in such areas could only build up a precarious, more or less self-sufficient existence, especially since all kinds of basic provisions in the fields of education, health care, agricultural advice etc. were lacking.
- Those parts of Amazônia Legal which are favourably located in relation to the South East had become the field of operation of modern, large-scale, capital-intensive agricultural enterprises, which generally made use of taxation facilities offered by the government. Land speculators were also active in these areas. As far as land use is concerned, the emphasis was wholly on extensive cattle ranching, which scarcely provided permanent employment. Added to this is the fact that the majority of spontaneous occupiers were regarded by the large enterprises and the land speculators as undesirable elements, so that a fierce struggle for land arose in many places, ending in most instances to the disadvantage of the spontaneous colonists. These facts were obviously not unknown to many potential migrants and they removed the desire to make the attempt to build up such a risky existence.

The effect of the above was to cause many country people who were struggling to survive to prefer to go elsewhere to find a living, particularly to the big cities, which were consequently growing at an explosive rate.

The consequence for the vast territory of Amazônia Legal was that the population was still modest, both absolutely and relatively. As appears from Table 8, there was a population in 1980 of 11,192 million, 9.2% of the total Brazilian population. The population densities there were still on the low side and remained well below the national average. The North had an average population density of 1.03 persons per sq km in 1970

and 1.70 in 1980. For Amazônia Legal the densities for 1970 and 1980 were 1.43 and 2.23, respectively. The density for Brazil as a whole was 11.10 in 1970 and 14.23 in 1980.

Population increase per state or territory

The changes in population size have so far been looked at for the North and Amazônia Legal as a whole without separate consideration of the growth figures for the individual territories or states or parts of them. In this section, therefore, we shall make a closer examination of the population changes at the level of the states and territories, paying particular attention to the period 1970–1980, when the population growth was considerably greater than during the preceding decade.

The principal data for this period are summarised in Table 6, which also includes figures for the years 1960–1970, making possible comparisons between the two decades.

The table shows that the population increase of Amazônia Legal during the period 1970–1980 was by no means evenly distributed over the region. Some areas grew considerably more strongly than others, but nowhere was there a decrease.

The population growth of Amazonas, Acre, northern Goiás and the western part of Maranhão between 1970 and 1980 was below the average for the whole of Amazônia Legal. Amapá grew at about the same rate as the regional average, while the growth figures for the other areas were considerably above the regional average of 56.5%. The most spectacular growth occurred in Rondônia, where the population quadrupled in only ten years.

As a result of the uneven growth there were some shifts in the relative positions of the sub-regions. The share of Amazonas, Acre, northern Goiás and western Maranhão in the total population of Amazônia Legal declined somewhat, while that of Amapá remained the same. The other sub-regions generally strengthened their position. The most remarkable changes were those for Rondônia and Mato Grosso.

Northern Goiás occupies a rather special position in that its share of the total population of Amazônia Legal increased during the 1960s and only decreased after 1970. As far as the three other areas which experienced a weakening of their position between 1970 and 1980 are concerned, this was a development that had already set in during the preceding decade.

Equally, if not more striking, are the figures from Table 8 relating to absolute population increase. 83.2% of this increase is shown to have occurred in the south-eastern segment, i. e. Rondônia, Mato Grosso, northern Goiás, Pará and western Maranhão, which sub-regions together account for 58.2% of the surface area of Amazônia Legal. By contrast, the north-western segment, which covers 41.8% of the surface area and comprises Acre, Amazonas, Roraima and Amapá, experienced only 16.9% of the absolute increase. The figures in Table 8 show that these striking differences also existed during the period 1960–1970.

The fact that the population growth occurred predominantly in the southern and eastern part of the Amazon region is closely related to the circumstance that these sub-regions had a larger population, so that the natural increase could be much greater than in the states making up the thinly populated north-western segment of Amazônia Legal.

A further factor, however, is the location relative to the economic and demographic heartland of Brazil, i. e. the South and South East. The distance to these core areas is much less for the southern and eastern sub-regions of Amazônia than it is for the northern and western sub-regions, especially since the southern and eastern sub-regions had recently been linked with the “centre” of Brazil by a number of important highways. Consequently, during the 1970s, migration from the South East to the Amazon region had been directed more to the southern and eastern sub-regions.

The highways just referred to had been completed successively since 1960. To be specific, the ones mainly concerned are the link between Belém and Brasília, completed in 1960, which opened up the north of Goiás and the south of Pará, and the link between Cuiabá and Porto Velho, completed in 1965, which provided not only Rondônia but also western Mato Grosso, with a relatively good connection with the South East. In Mato Grosso, moreover, in addition to a section of the road BR-080, a number of small access roads were constructed leading to the north, while the Cuiabá-Santarém link was opened to traffic in 1976. The effect of this latter road, however, should not be overestimated, since the period of four years between when it opened and the census was relatively short and the spontaneous settlement of colonists, land speculators and others along this link appears to be somewhat more controlled than along other roads, because the army – which constructed the road – continued to exercise a certain measure of supervision.

Apart from being stimulated by its favourable location and the building of roads, the greater population increase on the southern and eastern margin of Amazônia Legal was also encouraged by the fact that large investments had been made here or would be made shortly after. Investors from the South East and South of Brazil believed that the southern and eastern areas of Amazônia Legal afforded the most favourable prospects for development because of their relative closeness to the economic “centre” of the country. The hundreds of large-scale cattle ranching projects, which had been or were being realised in the Amazon region, with or without tax concessions, were therefore concentrated predominantly in Mato Grosso, northern Goiás and southern Pará (see Fig. 11). It is also significant in this connection that the southern and eastern margin of Amazônia Legal was much more favourable physically for cattle farming than the more northerly areas, where the tropical forest was denser.

Not only was temporary work created by the cattle farming projects – within the framework of the clearances – after which the temporary workers often remained “hanging about” in the area, but the cattle farming projects, because of their extensive character and the large areas of land they consequently required, led to the construction of numerous secondary and tertiary roads. These were sometimes no more than *picadas* (pinpricks), but they improved accessibility and so encouraged spontaneous colonisation. In the northern sub-regions of the Amazon region all this was much less in evidence, with the exception to some extent of northern Roraima.

The relationship between population growth and communications emerges somewhat more clearly when we consider the point of time at which various roads were completed and when the rapid population growth began. It then appears that the population growth of Rondônia was still relatively “normal” by Brazilian standards during the 1960s (Table 8). The very spectacular increase dates mainly from the end of the 1960s and the 1970s (see Figs. 14–17). The effect of the Cuiabá–Porto Velho road link, completed in 1965, and of the propaganda carried on since then for the develop-

ment and integration of Rondônia and of the INCRA colonisation projects undertaken within that context, is clearly demonstrable here. There was also an acceleration in the population growth of western Mato Grosso at that time. Northern Goiás experienced quite a strong population growth during the 1960s immediately after the completion of the Belém–Brasília link. During the 1970s the increase remained considerable, but was nevertheless at a reduced rate, because the areas along this road were then partly occupied and other sub-regions within the Amazon region had meanwhile been given better accessibility (see Figs. 14–17).

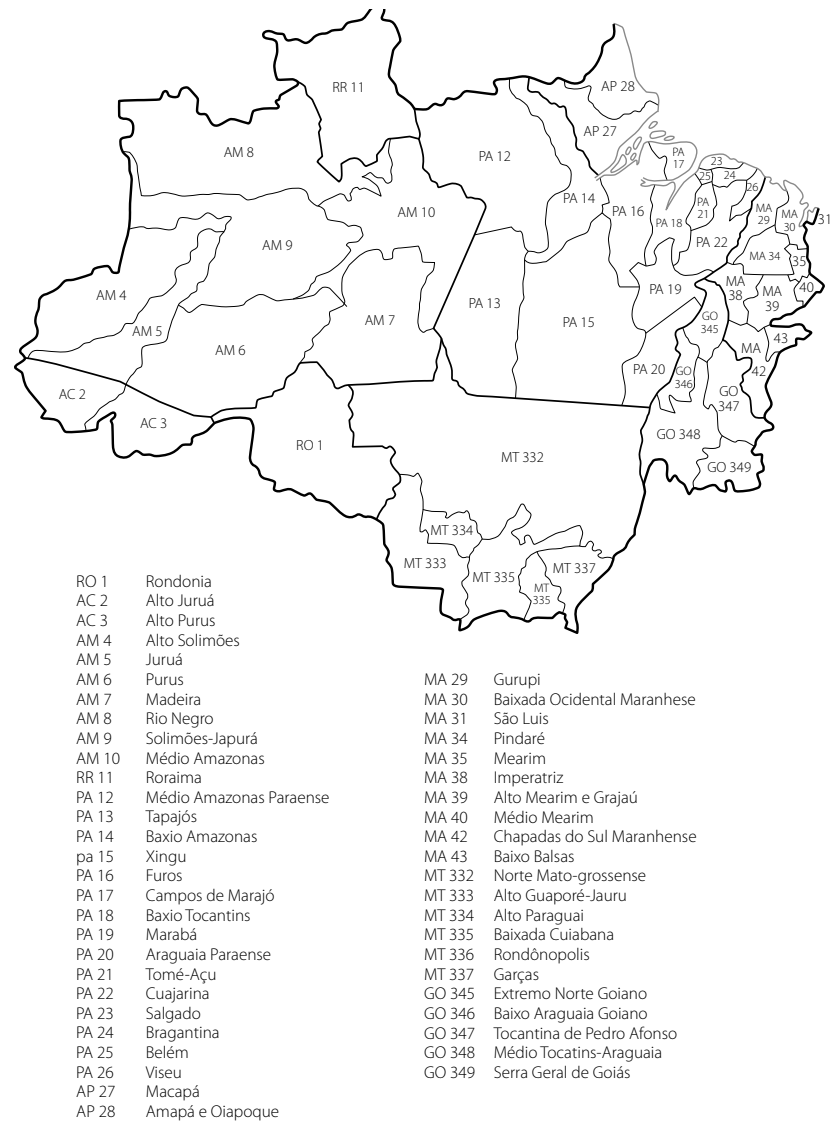
The Transamazônica, completed during the 1970s, also resulted in a marked increase in the rate of population growth in the areas through which it passes, although in comparison with the north-south links between Belém and Brasília, and Cuiabá and Porto Velho, the influence of the Transamazônica was more modest, because a very small proportion of the population of the North lived in the municipalities which it opened up. This is not only because the highway was completed later, but also because it runs in an east-west direction. In so doing it links the “demographic vacuum” with the North East, which although characterised by serious impoverishment and unfavourable subsistence prospects, so that it might provide many potential colonists, was much less able to do so because of its economic weakness to function as a market and as a provider of capital for development projects. The greater part of the investments in Amazônia Legal originated therefore in the South East and not the North East. Moreover, because of its east-west course, the Transamazônica did not provide a favourable connection with the South and South East of Brazil and, particularly for the western areas along this highway, the distances were very great. A final point is that the official colonisation projects carried out along the Transamazônica had not been very successful. We shall return to the effects of the Transamazônica when we come to examine the population changes within the individual sub-regions. The road was mentioned here only to illustrate the importance of factors such as accessibility and distance from the economic and demographic heartland.

Western Maranhão occupies a somewhat special position. A quite large-scale spontaneous colonisation by simple peasants had already been occurring here for a considerable time. A high proportion of the rural population who could no longer find a possibility of making a living in the North East had migrated to this sub-region. The explanation for this is to be found both in the proximity to the densely populated regions of the North East and the existence of large areas of state land. Another significant factor is that western Maranhão possesses a rather favourable natural environment by comparison with the drought polygon of the North East, while not yet presenting the more extreme characteristics of the humid tropical climate experienced in the more westerly parts of the Amazon region. Until shortly before 1980, large-scale agricultural projects were absent or were so modest in number and extent as not to hinder the chances of the majority of the colonists of making a living. One might speak of an “open” frontier. Only in the late 1970s had this situation changed and, according to newspaper reports from around 1980, there had been an escalation of conflicts over land ownership.

Because western Maranhão already had a considerable population thanks to this spontaneous colonisation during the 1960s, a large part of the absolute natural population increase of Amazônia Legal occurred in this sub-region. Nevertheless, there was a smaller relative and absolute increase during the period 1970–1980 than in the

more southerly marginal areas, so that the relative position of Maranhão was somewhat weakened.

Figure 13. Micro-regions of Amazônia Legal¹²⁶



126 Source for the following figures: Instituto brasileiro de geografia e estatística (IBGE).

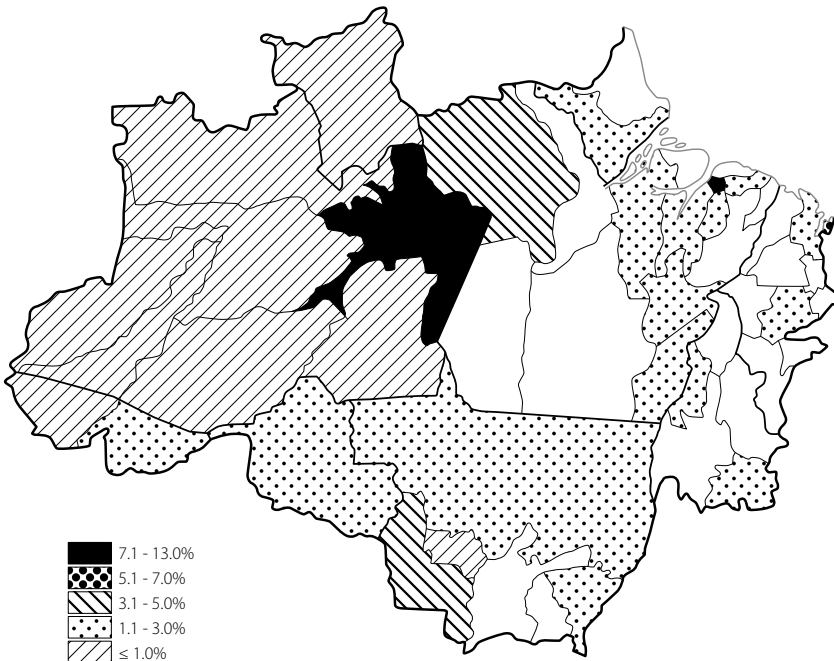
Population changes at the meso- and micro-regional levels

In the preceding section the effect of location, road building, investment and other development activities was emphasised. The relationship between these variables and the population increase will emerge rather more clearly, however, if we now concentrate on the question of where within the sub-regions of Amazônia Legal the population increase mainly occurred. For this purpose, it is necessary to make an analysis at the level of the meso and micro-regions. Such an analysis will also present an opportunity to identify more precisely the centres of gravity of settlement.

We shall first consider the population of the north western segment.

How incomplete the occupation of northern Amazônia still was appears, for example, from the state of Amazonas, the greater part of which falls within the statistical meso-region of Hileia Amazonense. The latter covers the whole of the state apart from the north-east corner, accounting for no less than 87.1% of the surface area, but accommodating in 1970 only 38.7% and, in 1980, only 33.3% of the population of the state (see Fig. 19).¹²⁷ The total population of this meso-region (nearly six times as large as Great Britain) was only 482 924 in 1980, giving an average population density of 0.35 persons per sq km.

Figure 14. Share of each micro-region in the total population growth in Amazônia Legal, 1960–1970



127 This meso-region comprises all the micro-regions of the state of Amazonas with the exception of no. 10 (Médio Amazonas).

Figure 15. Share of each micro-region in the total population growth in Amazônia Legal, 1970–1980

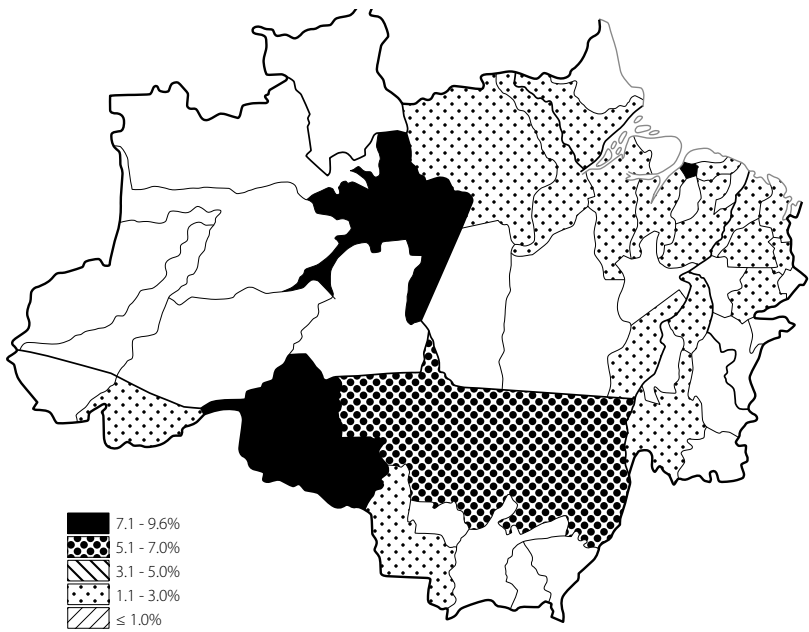
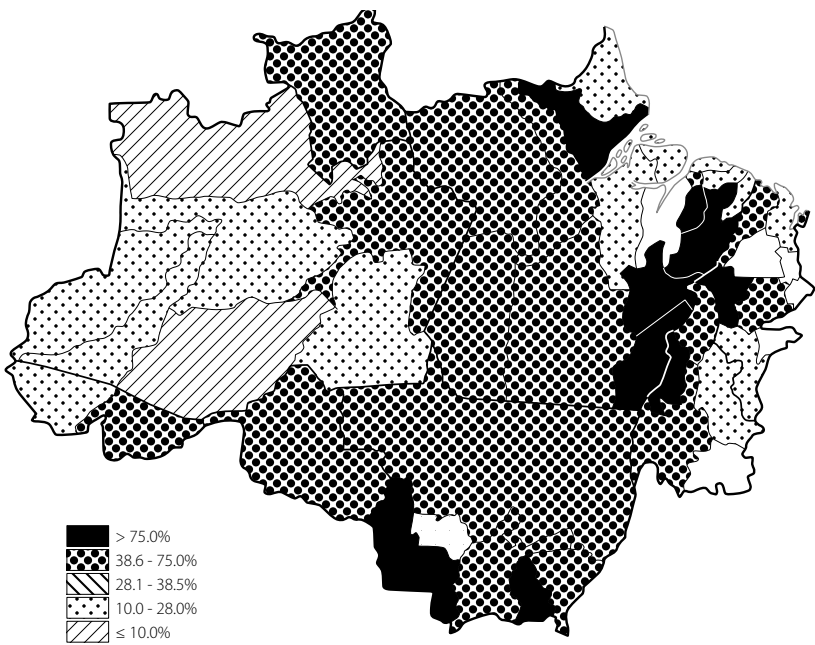


Figure 16. Population growth in each of the micro-regions of Amazônia Legal, 1960–1970 (as % of 1960) (Brazil 33.1 %; Amazônia Legal 39.5 %; none of the micro-regions was characterised by a growth rate within the class of 33.1–38.5 %)

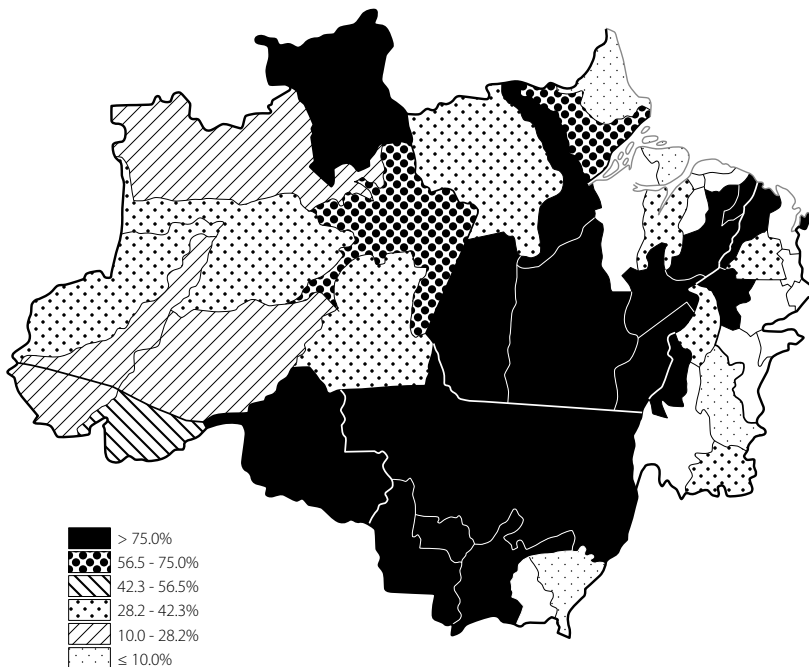


In the meso-region of Manaus, on the other hand, which covers the remaining 12.9% of the area of the state, 61.3% of the population of the state lived there in 1970; in 1980 the proportion had risen to as much as 66.7%.¹²⁸

The Manaus meso-region consists of fourteen municipalities, together covering an area nearly as large as Great Britain, but of which the municipality of Manaus is by far the largest. In 1970 this municipality had 314 197 inhabitants, or 32.7% of the total population of the state. By 1980 the population had increased to 642 492, bringing it to 44.3% of the state population.

There was therefore a marked concentration and even a tendency towards further concentration. This development was closely related to the attraction exercised by Manaus as the largest urban centre of western Amazônia on large numbers of migrants, particularly since the establishment of the free trade zone and the other tax facilities had turned it into a concentration point of industry and – more importantly – of all kinds of trading activities. Moreover, various agricultural development projects had been realised in the near vicinity of the city. An influence which undoubtedly cannot be overlooked in this connection is the fact that a number of roads were completed during the 1970s, i. e. the links between Manaus and Boa Vista, and between Manaus and Porto Velho. They encouraged the migration from the country to the city to such an extent that the population growth of the state of Amazonas, excluding Manaus, during the 1970s lay well below the average rate of growth of the whole of Amazônia Legal (24.8% as against 55.5%).

Figure 17. Population growth in each of the micro-regions of Amazônia Legal, 1970–1980 (as % of 1970) (Brazil 28.2%; Amazônia Legal 56.5%)



128 This meso-region coincides with the micro-region of Médio Amazonas.

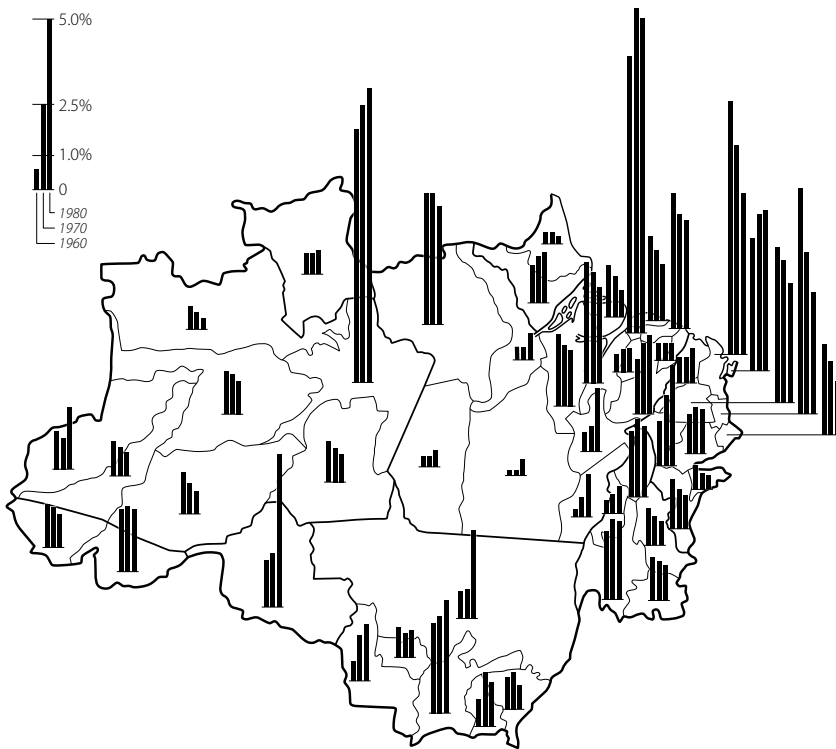
The only development pole of the Polamazônia programme within this state was that of Juruá-Solimões, corresponding with a large part of the micro-region of Solimões-Japurá, which had a population in 1970 of 82 663 and still only 111 728 in 1980. The increase was therefore 35 %, which was not very high by Amazon standards. It should be remembered, however, that this development pole, like others, was not designated until 1975, so that the effect of this status on population growth could be only limited, especially since only 7 % of the total available budget for the programme was allocated to this pole (see Fig. 12).

Roraima is one of the least favourably located areas within Brazil. The northern part of the territory is formed by semi-humid hill country with poor soils, which are largely covered by natural pastures. Cattle farming had already been practised here for some time before 1980, the products of which, until 1975, were almost entirely exported to Venezuela and Guyana, because communications with these countries already existed, while they were still very inadequate with Manaus situated 500 km farther south. Since the mid-1970s, however, with opening of the road from Manaus to Boa Vista, communications had been improved. A further favourable factor was that the northern part of Roraima was designated a development pole in 1975. These changes will have contributed to a relatively high population increase during the 1970s: the population of the territory more or less doubled. In view of the unfavourable location within Brazil, however, and the extensive nature of the cattle ranching, the population in absolute terms was still very small (see Fig. 19). During the 1970s there was not any radical change in the population distribution. 89 % of the population in 1970 lived in the northern part, formed by the municipality of Boa Vista (with an area of 96 501 sq km), while only, about 11 % lived in the municipality of Caracarai, which occupies the southern half of Roraima and covers an area of 133 603 sq km.¹²⁹ In 1980 the percentages were 84.9 and 15.1, respectively. There were signs therefore that a slight shift was beginning, which must be related to the increasing use potential of the southern zone, thanks to the better accessibility afforded by the road between Manaus and Boa Vista.

A very uneven occupation also characterised the territory of Amapá, which was largely used for the exploitation of forest products (rubber, timber etc.) and extensive cattle farming, which was practised mainly on the savannahs. In the vicinity of the capital, Macapá, however, mainly along the railway to the port of Porto Santana, there was more cultivation of simple food crops to supply the urban market. The principal activity of Amapá, however, which was directly or indirectly responsible for the relatively high population growth, was the mining of manganese, which began in the 1950s and reached such a magnitude that, in 1978, about 58 %, of Brazilian production was concentrated in Amapá. The fact that one of the 15 *polos* designated in the Second Development Plan was located in Amapá is closely related to this mining potential. The small town of Macapá owed its importance partly to the presence there of the administration of the mining enterprise. In addition, it was the capital of the territory and possessed as such the largest part of the services structure.

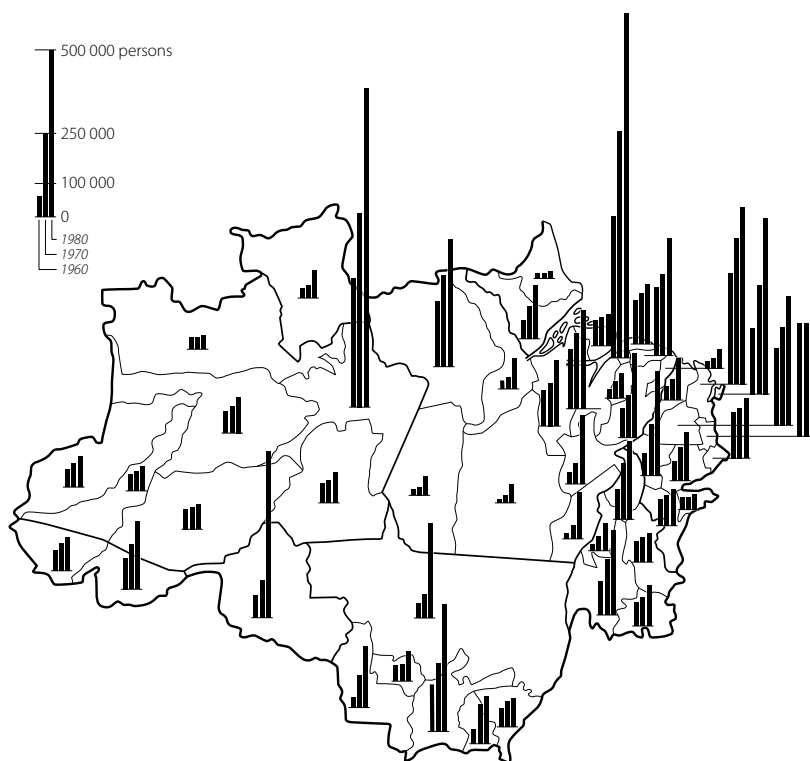
129 Roraima had not been subdivided into various micro-regions. There was only one micro-region which coincided with the territory and consisted of two municipalities.

Figure 18. Share of each of the micro-regions of *Amazônia Legal* in the total population, 1960, 1970, 1980



The dynamic effect of the mining activity was mainly responsible for the rather high population growth during the period 1970–1980, although the growth of 54.6% was not very spectacular by Amazonian standards. In absolute terms, however, the population was still very modest (Table 8). In 1970 no less than 84.4% of the population was concentrated in the micro-region of Macapá and, in 1980, 89.8%. The municipality of Macapá in turn, which occupies only 20% of the total area of the territory, was the main zone of concentration within the micro-region, accounting for 75.3% of the population in 1970 and 78.8% in 1980. A somewhat greater dispersal of population might be expected in later years as a consequence of the completion in the early 1970s of a road link from Macapá northwards towards the frontier with French Guiana (see Fig. 19).

We consider lastly the population distribution in Acre. During the period 1970–1980 the population increase in this state was 40.8%, which was not exceptionally high when viewed in the regional context. Although there was a road link with Porto Velho, very many migrants from the South East did not make use of it to settle in Acre. They preferred to seek a livelihood in the less distant Rondônia. Acre was therefore less popular, especially since the designation of part of Acre as a development pole (with 6.9% of the total budget) had until then had relatively little effect.

Figure 19. Population size in each of the micro-regions of Amazônia Legal, 1960, 1970, 1980

In this state, where the chief economic activities were the gathering of forest products and the practice of shifting cultivation, 61.4% of the population in 1970 lived in the micro-region of Alto Purus, which covers 52.1% of the area of the state and occupies its eastern half. 65.1% of the population lived in this micro-region in 1980, which is indicative of a slight strengthening of its position. Within Alto Purus itself the greatest concentration was to be found in the municipality of Rio Branco, where 32.7% of the total state population lived in 1970 and 39% in 1980, although the municipality occupies only 9.4% of the area of the state.

In conclusion, we may state the following. As was shown earlier, the population of the north-western sub-regions was still very small in 1970, at least with the exception of Amazonas to a certain extent. The population increase during the 1970s was not small in relative terms, but was yet not especially high by Amazonian standards, at least with the exception of Roraima. Consequently, these areas still had a very modest population in 1980, certainly in relation to their area. In 1970 the population was very unevenly distributed. The micro-regions of Alto Purus, Macapá and Médio Amazonas and the municipality of Boa Vista, which emerged as the main concentration areas, occupied only 21.6% of the total area of the four states or territories. Nevertheless, in 1970, they held 64.2% of the total population. In 1980, 69.2% of the population lived there, from which it may be concluded that no important changes had occurred in the population distribution and that the occupation of north-west Amazônia was still very fragmentary. There was even a tendency for the degree of concentration to increase (see Figs. 18 and 19).

The occupation pattern in the part of Pará lying north of the River Amazon also fitted into the picture outlined above. The six municipalities it comprised, making up 22 % of the area of the state, accommodated only 5.7% of the state population. The municipalities in question are Faro, Oriximiná, Obidos, Alenquer, Monte Alegre and Almeirim, which extend northwards from the Amazon to the frontier with Guyana and Surinam. The population within these municipalities was very much concentrated in the vicinity of the main river; their “hinterland” was practically uninhabited. Northern Pará could therefore equally be included with the “empty” north-west sector of Amazônia, despite the presence of the large-scale Jari project established there by the North American firm of Ludwig in order to provide employment. The centre of gravity of occupation in Pará still lay in the areas situated immediately on or south of the main river.

This observation brings us to a discussion of the growth and distribution pattern of the population in the southern and eastern sub-regions of Amazônia Legal.

Beginning in the western corner, Rondônia first deserves our attention. The particularly spectacular population growth which characterised this area since it was opened up in 1965 occurred mainly in the zones which are most favourably located in relation to the roads linking Cuiabá and Porto Velho, and Porto Velho and Abunã/Rio Branco. The six municipalities making up the north-eastern part of Rondônia (i. e. Porto Velho, Ariquemes, Ji-Paraná, Cacoal, Pimenta Bueno, and Vilhena) accordingly accounted for almost the whole population increase of the territory.¹³⁰ Not only was nearly the whole of the spontaneous colonisation concentrated here, but the various, relatively modest, official colonisation projects were also located here. The development pole designated under the Polamazônia programme also included the relatively more accessible parts of the territory, covering as it did the north-western part of Rondônia.

The municipality of Guajará Mirim, which forms the south-western part of Rondônia and occupies 26.3 % of the total area of the territory, is the only municipality not directly served by the roads mentioned above. This municipality accordingly grew little during the period 1970–1980: the population rose from 24 879 to 35 897, which was small in comparison with the population explosion of the territory as a whole.¹³¹ As a result, Guajará Mirim contained only 7.1 % of the population of the territory in 1980. In 1970, however, when the other municipalities were less the scene of large-scale spontaneous colonisation and when various official projects still had to be carried out, the share of Guajará Mirim was as high as 21.4 %.

Striking differences are also to be observed in the new state of Mato Grosso. The micro-region of Norte Mato Grossense, which – as its name shows – covers the northern part of the new Mato Grosso and, as such, occupies no less than 70 % of the total area of the state, accommodated in 1970 only 10.6% of the population. Communications were improved in the late 1970s, however, with the building of simple access roads and the completion of part of the BR-080 road and of the road from Cuiabá to Santarém. It is therefore not surprising that this micro-region experienced a remarkable increase during the 1970s, such that its share in the total population of the state rose to as much as 24.4 %. In absolute terms there was a growth from 64 878 to 285 168, i. e. more than a quadrupling. This growth was closely related to the further expansion

130 Reference is made here to municipalities because Rondônia had not been subdivided into micro-regions.

131 The limited growth was also related to a small extent to boundary changes.

of cattle farming (and sometimes also of arable farming and mining) and to the creation of two development poles (see Figs. 16–19).

In 1970 nearly 90% of the total population was concentrated in the southern micro-regions of Alto Guaporé, Alto Paraguarí, Baixada Cuiabána, Rondonópolis and Garças, which made possible a large absolute growth, amounting during the period 1970–1980 to 60.5% of the total population increase of the state. Nevertheless, this demographic predominance began to weaken during the 1970s as a result of the spectacular increase just referred to in the more northerly zone.

The micro-regions situated in the south-west prove to have experienced the strongest absolute and relative growth; the increase in the south-eastern micro-regions, by contrast, was less. This means that the western part, which is served by the road from Cuiabá to Porto Velho, belonged, as far as its growth pattern is concerned, with the area with a strong population increase defined in Rondônia (see Figs. 16 and 17).

The rather narrow and elongated shape of northern Goiás and the fact that this area is completely bisected by the Belém–Brasília highway lead one to suppose that no noteworthy differentiation is to be expected in the population increase within this region. Nevertheless, significant differences are observable when the figures for the micro-regions are compared. The micro-regions of Extremo Norte Goiano, Baixo Araguaia Goiano and Médio Tocantins Araguaia, and the municipality of Araguaçu, which are situated in the west, in the more immediate vicinity of the Belém–Brasília highway, prove to have accounted for 84.3% of the population growth during the decade 1970–80, and for as much as 84.8% during the preceding decade, even though they cover only 59.2% of the surface area of northern Goiás. The two micro-regions of Tocantins de Pedro Afonso and Serra Geral de Goiás, which are situated east of the Tocantins, and are, moreover, not directly bisected by the Belém–Brasília highway, although they are connected to it by a number of secondary roads accounted, on the other hand, for only 15.2% of the population growth of northern Goiás between 1960 and 1970 (15.7% in 1970–1980), although they cover 40% of this sub-region. In 1960 the eastern micro-regions still held 35.6% of the population of northern Goiás, but the proportion had fallen to 24.4% in 1980. Because of the drawing power of the western areas, the population growth of the eastern micro-regions even remained below the national average, from which it may be concluded that migration must have had a significant influence on the uneven growth of the preceding two decades (Figs. 16 and 17).

In 1980, Pará – the state with the largest population of Amazônia Legal – still showed a strong concentration in the north-eastern corner, where the occupation process had been mainly concentrated over the past few centuries. The nine micro-regions located here, which include the city of Belém, accommodated 79.6% of the population of the state in 1970 and still held 73.2% in 1980.¹³² 62.4% of the population growth during the decade 1970–1980 took place in this north-eastern corner, meaning that there were not as yet striking shifts in the distribution pattern. At most there were incipient signs of this, because the area's demographic dominance had decreased somewhat. This incipient loss of position also affected the micro-region of Belém, which held 31% of the state's population in 1970 and 29.6% in 1980 (Figs. 16–19).

132 The micro-regions in question are Furos (016), Campos de Marajó (017), Baixo Tocantins (018), Tomé-Açu (021), Guajarina (022), Salgado (023), Bragantina (024), Belém (025) and Viseu (026). They cover 18% of the area of Pará.

Several micro-regions in eastern Pará could attribute their growth partly to the fact that they were situated along or in the vicinity of the road from Belém to Brasília. This applied particularly to the micro-regions of Araguaia Paraense (020) and Guajarina (022), which had a combined population in 1970 of 188 102 and 403 785 in 1980, amounting to an increase of 114.6 %. While the share of the two micro-regions in the total state population was 6.1 % in 1960, by 1980 it had risen to 11.5 %. To what extent accelerations in growth tempo were related only to the road building, however, and to the consequent enhanced possibilities for agricultural exploitation, or were also the consequence of the greater influence of the city of Belém, or of other factors, cannot be determined without further research.

It is somewhat easier to measure the direct consequences of the construction of the Transamazônica. Although the eastern area opened up by this highway also falls generally within the sphere of influence of the Belém–Brasília highway, the more westerly section does not and, in any event, there is no large city (such as Belém) in the vicinity of the Transamazônica that could significantly influence the process of population growth. The effect of the Cuiabá–Santarém link on the population increase can also be discovered relatively easily.

The ten Pará municipalities which, in 1980, were cut through by both of the above highways still contained only 11.1 % of the state population in 1970, but this proportion had risen to 13.9 % in 1980 as a result of the fact that the population increased from 243 412 to 488 598 during the period concerned and thereby more than doubled.¹³³ The population growth in these municipalities during the period 1970–1980 represented 18.7 % of the growth in the whole of the state of Pará (14.2 % if the municipality of Santarém is excluded). The most striking increase occurred in the municipalities of Marabá, Itupiranga, Jacunda, Altamira, and Itaituba, where the population tripled, or more than tripled, mainly as a result of spontaneous and planned colonisation activities. If these, in themselves impressive, population changes are compared, however, with the effects of the Belém–Brasília link in northern Goiás and southern Pará, one is bound to conclude that the influence of the Transamazônica and the Cuiabá–Santarém link should certainly not be over-estimated. The absolute population growth along both roads in 1970–1980 was only about half that which occurred within the zone of influence of the Belém–Brasília link. The background to this has already been discussed in another connection. Reference has also been made elsewhere to the fact that the part of Pará north of the Amazon still had only a small population.

We may in fact conclude in respect of Pará that, although there had been a somewhat wider dispersion of the population as a result of road construction and related activities in the years preceding 1980, there had not yet been any fundamental changes in the distribution pattern. The designation of a number of *polos* had also had only a small effect at the state level up to then. The long-occupied north-eastern corner was consequently still dominant demographically.

Lastly, reference should be made to western Maranhão. The northern part of this state had long had a denser population than the more southerly interior. This situation did not change fundamentally during the 1970s. The micro-regions of Gurupi (029), Baixada Occidental Maranhense (030), São Luís (031), Pindaré (034) and Mearim (035),

133 The municipalities in question are São João do Araguaia, Marabá, Itupiranga, Jacunda, Portel, São José Porfírio, Altamira, Itaituba, Aveiro and Santarém.

plus nine municipalities which together comprise the northern part of western Maranhão, had in 1960 76 %, in 1970 74.1 %, and in 1980 72 %, of the total population resident in the part of the state defined as forming part of the Amazônia Legal. The percentages do show, however, that its position was beginning to weaken. The area which gained from it was the central zone, served by the BR-230 road and comprising the micro-regions of Imperatriz (038), Alto Mearim e Grajaú (039) and Médio Mearim (040) and a few additional municipalities. While only 15.7 % of the population of western Maranhão lived in this central zone in 1960, by 1980 the proportion had risen to 21.9 %. This shift was related not so much to the designation of the area as a development pole, as to the extensive spontaneous colonisation which occurred in this area. The least populated area was the extreme south, the relative position of which was even weakened demographically (Figs. 18 and 19).

In view of the distribution pattern it is not surprising that population growth occurred mainly in the northern part of West Maranhão. It is the area in which São Luis is situated and it had relatively the best communications. The main road from Fortaleza to Teresina and Belém passes through this northern part of the state.

If the distribution pattern of the population within West Maranhão is considered in a wider context, it appears that the more densely populated north links up with the north-eastern part of the bordering state of Pará, where – as has been stated – the largest part of the population of Pará is resident.

In conclusion, the following may be stated with reference to the sub-areas of the south-eastern segment. Because these sub-areas contained a larger population and migration was largely directed towards them, it was here that the population increase mainly occurred. The relatively large population increase, however, does not mean that growth was more or less uniform over the whole of the southern and eastern zone. It actually occurred in a limited number of sub-regions, often the areas which had already been settled for a long time and/or had the best communications. There in fact existed here a very marked fringe of denser population and high growth. This fringe included the municipalities of north-east Rondônia, the micro-regions of southern Mato Grosso, those of North Goiás west of the Tocantins, the adjoining micro-regions of north-eastern Pará and, lastly, the northern micro-regions of western Maranhão (Fig. 19). The zone situated on the “inward” side of this series of important growth regions had a very small population in 1960 and 1970, with the exception to some extent of the long-established population axis in the immediate vicinity of the Amazon. Essentially, there was no radical change in this position despite the fact that certain sub-regions, such as the area lying within the sphere of influence of the Transamazônica, saw quite a marked relative population increase. What it essentially amounts to is that the population increase in southern and eastern Amazônia Legal may be primarily regarded as the result of a process that was occurring in Brazil over a long period, i. e. the advance of the frontier of denser occupation from the South East and the North East. In other words, it was primarily a question of the increasing integration of new areas in southern and eastern Amazônia Legal into the South East, the economic and demographic heartland of Brazil on the one hand, and into the North East, which may be regarded as a demographic core region, on the other. This process was accelerated mainly by the construction of a number of north-south links – the most important east-west link, the Transamazônica, made a much smaller contribution.

Aspects of the urbanisation process

It would be beyond the scope of the present text to consider in detail the process of urbanisation. Instead we must limit ourselves to a few main features of the 1970s, during which period Amazônia Legal experienced its greatest demographic growth. In 1970, 56% of the Brazilian population was regarded as urban, but in Amazônia Legal no more than about 36% of the population lived in urban settlements. This lower degree of urbanisation was closely related to the fact that, in the Amazon region, the emphasis was very much on agricultural activities. Considered in itself, however, the degree of urbanisation was not especially low, which is also understandable, since trading and transport activities (related to the gathering economy) were not unimportant there, mining had developed in a number of places, management and administrative functions had to be carried out, the agricultural population required urban services and the cities of Belém and Manaus, in particular, had grown because of a certain measure of industrialisation, based partly on the processing and working up of local raw materials and partly on the manufacture of various consumer goods. For Manaus there was the further factor that the city had experienced an explosive growth of its commercial activities as a free trade centre. Last, but not least, was the fact that many urban centres provided a temporary or more permanent home for workers who were trying to earn a livelihood in forest clearance or other activities related to the process of further opening up and colonisation of territory.

Figure 20. Population density in Amazônia Legal, 1960, by micro-region

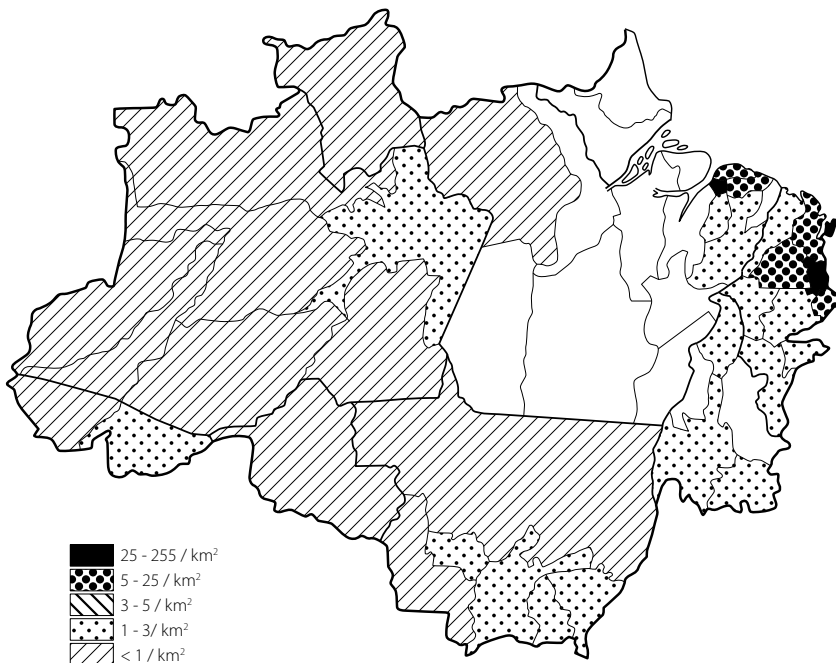


Figure 21. Population density in Amazônia Legal, 1970, by micro-region

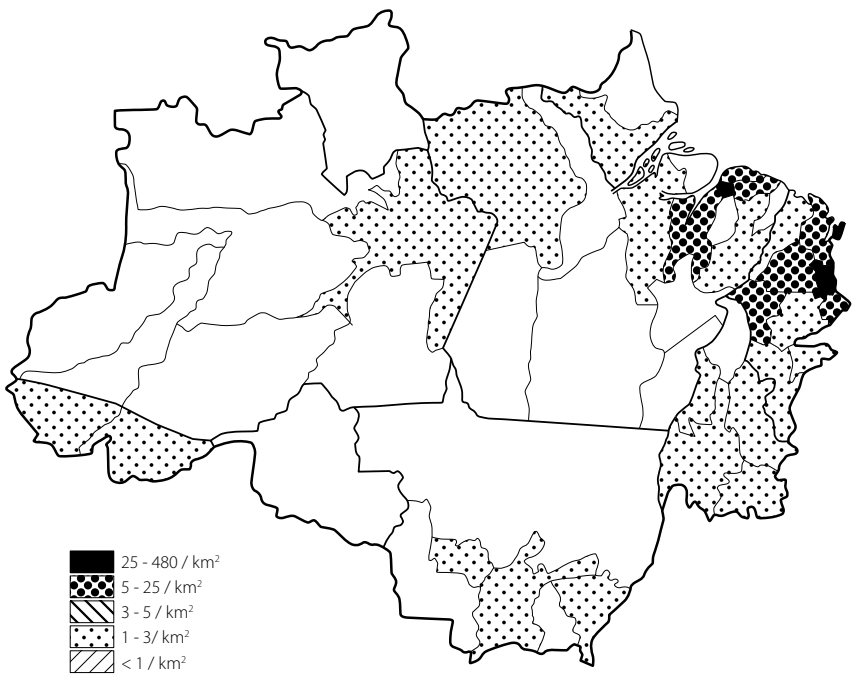
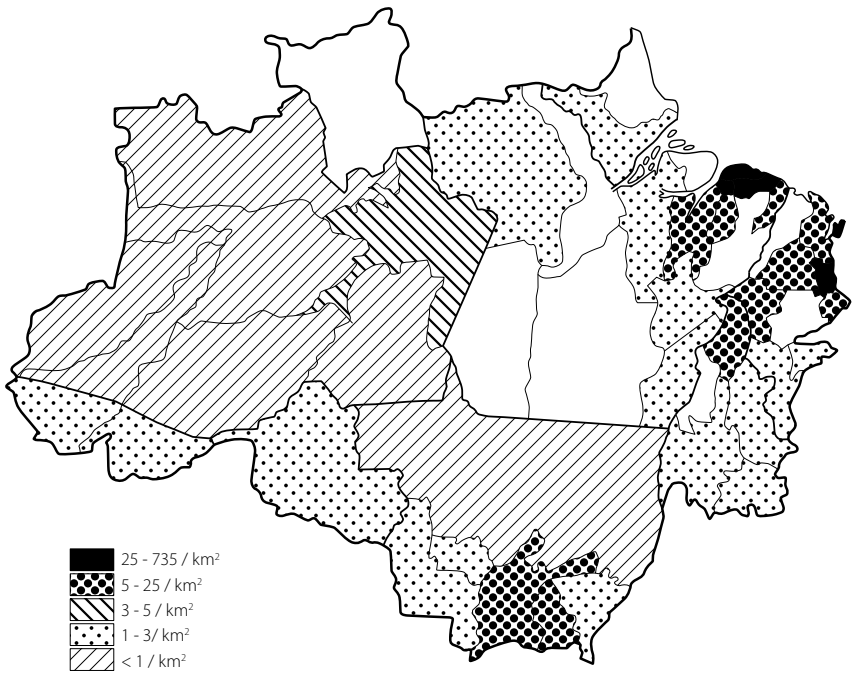


Figure 22. Population density in Amazônia Legal, 1980, by micro-region



By 1980 the degree of urbanisation for Brazil had risen to 67.7%; in Amazônia Legal it had reached 45.8%. In 1980, therefore, the degree of urbanisation still lay below the national average, which is not surprising in view of the still strongly agricultural character of this region. The as yet relatively modest level of urbanisation appears not only from the proportion of town dwellers, but also from the fact that, of the 198 towns with more than 50 000 inhabitants identified in Brazil in 1980, only eleven were situated within the limits of Amazônia Legal. Four towns (i. e. Castanhal, Rondonópolis, Rio Branco and Macapá) had between 50 000 and 100 000 inhabitants, the remaining seven had more than that. They included Santarém, Porto Velho, Imperatriz, Cuiabá, São Luis, Manaus and Belém. The latter two were by far the largest settlements.

Examination of the level of urbanisation by sub-regions shows that there were not unimportant differences both in 1970 and 1980. The degree of urbanisation was relatively high in the states of Amazonas and Pará, which contain within their boundaries the two largest cities of Amazônia and numerous smaller towns along the main river. This also applied to the relatively small territories of Roraima and Amapá, where – as we have seen – the small population was highly concentrated in or near the metropolitan core with little dispersion beyond that. The latter was incidentally still true of Rondônia in around 1970. The degree of urbanisation was relatively low, on the other hand, in areas like Maranhão, Goiás and Acre, where there was a more dispersed rural occupation, partly by the larger agricultural enterprises, partly by simple small colonists.

Table 7. *Size and growth of the urban population of Amazônia Leal, 1970–1980, by sub-region*

Sub-region	Urban population 1970		Urban population 1980		Increase 1970–1980	
	Absolute	% of total population	Absolute	% of total population	Absolute	%
Amazonas	409 278	42.6	869 020	60.0	459 742	112.3
Roraima	17 929	43.1	49 622	60.5	31 693	177.1
Acre	60 557	37.8	135 754	44.2	75 197	124.2
Amapá	63 785	54.8	106 424	59.1	42 639	66.8
NW. Am. Leg.	551 549	41.3	1 160 820	58.5	609 271	110.5
W-Maranhão	577 288	24.7	997 577	32.8	420 269	72.8
Pará	1 037 340	47.2	1 702 403	48.5	665 063	64.1
N-Goiás	137 262	25.0	312 956	40.0	175 694	128.0
Mato Grosso	239 524	39.1	673 069	57.5	433 645	181.0
Rondônia	60 541	51.9	239 436	47.6	178 895	295.7
SE. Am. Leg.	2 051 955	35.3	3 925 421	43.1	1 873 466	91.3
Amaz. Legal	2 603 504	36.4	5 086 242	45.8	2 482 737	95.4
Brasil	52 904 744	56.0	82 013 375	67.7	29 108 631	55.0

Source: Sinopse Preliminar do Censo Demográfico, 1970, 1980.

Table 8. Population changes in the metropolitan municipalities of *Amazônia Legal*, 1960–1980

Metropolitan Municipality ¹	Population in		
	1960	1970	1980 ²
Belém (Pará)	402 170	642 514	949 545
Manaus (Amazonas)	175 343	314 197	642 192
Rio Branco (Acre)	47 882	84 845	119 815
Porto Velho (Rondônia)	51 049	88 856	138 289
Macapá (Amapá)	46 905	87 755	140 624
Boa Vista (Roraima)	26 168	37 062	69 627
São Luís (Maranhão)	159 628	270 651	460 320
Cuiabá (Mato Grosso)	57 860	103 427	219 477
All municipalities	967 005	1 629 307	2 740 189

Source: Sinopse Preliminar do Censo Demográfico 1980. 1. The metropolitan municipality of the state of Goiás is situated outside *Amazônia Legal*. 2. The figure for 1980 is influenced by boundary changes.

A further striking fact is that the urban population almost doubled during the period 1970–1980. This means that the high population growth which characterised *Amazônia Legal* during this period was not purely an increase of the rural population, but was accompanied by a considerable urbanisation. In fact, the rate of urbanisation in *Amazônia Legal* during that time lay well above the national growth rate. Examination of the urban increase at the state and territory level reveals that, in some instances, there was an urban growth which was two to three times as great as the growth at the national level. The most spectacular changes occurred in Rondônia, the territory which – as we have seen – was characterised by a very explosive population increase.

The urban growth occurred partly in the larger centres of *Amazônia Legal*. The population of Manaus doubled during the 1970s, thanks to the free trade activities, increasing industrialisation, various agricultural development projects in the near environs and a greater service function for western *Amazônia* (related to greater accessibility). The population of the Belém metropolitan region rose from 656 351 in 1970 to 1 000 349 in 1980, a development to which, *inter alia*, a number of industrialisation projects supported by the SUDAM will have contributed. The other metropolitan municipalities also experienced a marked population increase (Table 10). While the population of the eight metropolitan municipalities still accounted for only 18.7% of the total population of *Amazônia Legal* in 1960, by 1970 the proportion was already 22.8% and, in 1980, 24.7%.¹³⁴ The position of the metropolitan municipalities was therefore strengthened rather than weakened. What is striking, however, is not only the growth of the larger urban centres; numerous smaller places also “profited” from the high population increase of *Amazônia Legal*. This is understandable because the advancing colonisation process created a foundation for more and larger service centres (country towns). Moreover, many migrants settled precisely in these smaller towns either temporarily or more permanently – as a base from which to carry out forest clearance and reclamation, or from which to consider the possibilities of establishing their own holdings. These were partly people who had never had farms of their own, but partly

134 Part of the population of the metropolitan municipalities was classified as rural.

also peasants who had been driven out of the areas of spontaneous colonisation by large landowners, land thieves and speculators. It was particularly in the southern and eastern fringe that the urban settlements grew in number and extent, since that was where the population increase within Amazônia Legal mainly occurred.

Conclusions

The most important conclusions regarding the population growth and population dispersion in Amazônia Legal in the 1960s and 1970s are summarised briefly below.

- In around 1960 the North was still a scarcely colonised region in which the extremely small population was still very unevenly distributed. This was also true of Amazônia Legal, which covers 58.5 % of the surface area of Brazil, but held only 7.3 % of the population.
- From 1960 the Brazilian government introduced a number of measures to bring about the further integration and development of the Amazon region. Since then the population growth of Amazônia Legal lay above the national average, to such an extent that the share of Amazônia Legal in the total Brazilian population had risen to 9.2 % in 1980. The growth was especially marked after 1970. One could certainly no longer refer to the region as one of stagnation.
- Amazônia Legal nevertheless still accounted for only a modest proportion of the national population growth (1960–1970: 8.5 %; 1970–1980: 15.2 %). The increase in the Brazilian population did not occur predominantly in the Amazon region, but in the economic and demographic heartland of the South East and, to a lesser extent, in the North East. Through a series of physical and socio-economic circumstances the Amazon region, despite the implementation of the Government policies, still had a relatively limited attraction for the Brazilian population. Approximately a half of the population growth of Amazônia Legal during the period 1970–1980 was still accounted for by natural increase.
- The population growth occurred in all the states and territories of Amazônia Legal, but during the period 1970–1980, in which the greatest increase occurred, it remained below the regional average in Amazonas, Acre, western Maranhão and North Goiás, so that the share of these areas in the total population of Amazônia Legal fell somewhat. The position of the other sub-regions was strengthened, except for Amapá, where the population share remained the same.
- During the period 1970–1980 no less than 83.2 % of the total population growth of Amazônia Legal occurred in the south-eastern segment, formed by Rondônia, Mato Grosso, North Goiás, Pará and West Maranhão, which together cover 58.2 % of the area of Amazônia Legal. These areas already had a considerably larger population, so that the natural increase could be much greater there. Moreover, migration was directed mainly towards these sub-regions. The explanation for this is to be found mainly in the circumstance that these southern and eastern sub-regions are more favourably located in relation to the economic and demographic heartland (South East Brazil), to which they are linked by a number of major roads, and in the fact that the agricultural development projects were concentrated mainly in these southern and eastern states and territories, partly as a reflection of this

more favourable location and the relatively good communications. The north-western segment, comprising Acre, Amazonas, Roraima and Amapá, consequently accounted for only 16.9 % of the growth.

- Examination of the population distribution and growth at the micro-regional level shows a very uneven pattern in the north-western segment of Amazônia Legal. 64.2 % of the population in 1970 lived in three micro-regions (Alto Purus, Macapá and Médio Amazonas) and one municipality (Boa Vista), which together cover 21.6 % of the states and territories concerned. This concentration even showed a tendency to increase, because the population growth occurred mainly in those same areas, with the result that they contained 69.2 % of the population in 1980. Consequently, the occupation of north-west Amazônia Legal still presented very much a pattern of enclaves in 1980.
- In the south-eastern segment, too, the distribution and growth were uneven. The increase proved to have occurred mainly in the sub-regions which had already been settled for a long time and/or were the most accessible and favourably located. The areas specifically concerned are the municipalities of north-east Rondônia, the micro-regions of southern Mato Grosso, those of North Goiás west of the Tocantins, the adjoining ones of north-east Pará and, lastly, the northern micro-regions of western Maranhão. The area situated on the inner side of this chain of important growth regions had a very small population in 1960 and 1970, with the exception to some extent of the long-existing population axis in the immediate neighbourhood of the River Amazon. There was no radical change in this situation in 1980, despite the fact that certain zones, such as the sphere of influence of the Transamazônica, had experienced a relatively marked population increase.
- What the facts summarised in the last paragraph essentially mean is that the population increase of southern and eastern Amazônia Legal in the period 1960–1980 may be primarily regarded as the result of a process which had already been happening in Brazil over a long period, i. e. the advance from the South East and North East of the frontier of denser occupation. In other words, it was primarily a matter of the increasing integration of new areas of southern and eastern Amazônia Legal into the South East, the economic and demographic heartland of the country, on the one hand, and into the North East, which may be regarded as a demographic core area, on the other.
- The population changes described above were accompanied by what was, by Brazilian standards, a fairly marked urban growth.
- The process of population growth proved to have been accelerated by the construction of a number of north-south links; the most important east-west link (the Transamazônica) made a much smaller contribution. The agricultural and cattle farming projects supported by the SUDAM also proved to have had an influence. These were concentrated mainly in the south-eastern fringe, which was characterised by a rapid and considerable population growth. The establishment of a free trade zone in and around Manaus and various industrial development projects in Belém and Manaus primarily influenced the population growth of these two cities themselves. The influence of the programme of planned colonisation carried out by the government and concentrated along a section of the Transamazônica was relatively small. A similar programme was carried out in Rondônia, but here the possibilities for spontaneous colonisation appear to have played a greater part

in the explosive population growth. The development poles designated within the framework of the Second Development Plan undoubtedly had an influence on the population growth but, because of their recent creation, they could have been of only limited significance, while the lack of adequate information makes it difficult to measure their effects. Moreover; it must be realised that there was generally an interaction at work in the sense that the government capitalised on economic developments already in progress in the area concerned when deciding to designate one or more poles. It is exceptional for the development process to have been set in train by the designations (as in the case of Carajás).

- In the light of the foregoing conclusions, the efforts to let Amazônia Legal have a greater share of the population growth in the years after 1980 would have the most success if the development measures were directed towards the areas which were most favourably located relative to the South East and North East and had good communications with them. In other words, the government would have done well mainly to guide and support the process of the advancing frontier of more intensive occupation. Fewer results could be expected from the measures to develop the still extremely thinly populated regions west and north of the frontier. At best, such measures would create enclaves of development. Viewed in this light, a less hasty opening up of the extreme north of Amazônia Legal by means of the Perimetral Norte would have been only sensible.

Statistical sources employed

- Banco da Amazônia. 1970. *Amazônia: Estatísticas Básicas*. Belém: BASA.
- Instituto Brasileiro de Geografia e Estatística. 1971. *Sinopse Estatística do Brasil*. Rio de Janeiro: IBGE.
- Instituto Brasileiro de Geografia e Estatística. 1971. *VIII Recenseamento Geral do Brasil. Sinopse Preliminar do Censo Demográfico 1970*. Rio de Janeiro: IBGE.
- Instituto Brasileiro de Geografia e Estatística. 1981. *IX Recenseamento Geral do Brasil. Sinopse Preliminar do Censo Demográfico 1980*. Rio de Janeiro: IBGE.

References¹³⁵

- Kleinpenning, Jan M.G. 1973. *Brazilië*. Roermond: Romen.
- Kleinpenning, Jan M.G. 1977. "An Evaluation of the Brazilian Policy for the Integration of the Amazon Region (1964–1974)." *Tijdschrift voor Economische en Sociale Geografie* LXVIII, no. 5: 297–311.
- Kleinpenning, Jan M.G. 1978. "A Further Evaluation of the Policy for the Integration of the Amazon Region (1974–1976)." *Tijdschrift voor Economische en Sociale Geografie* LXIX, no. 1–2: 78–86.
- Saunders, John. 1974. "The Population of the Brazilian Amazon Today." In *Man in the Amazon*, edited by Charles Wagley, 160–180. Gainesville: University Presses of Florida.

¹³⁵ Since the present text has been based mainly on an analysis of statistical material, we shall limit ourselves here to mentioning a few publications of a summary kind.

