

REPORT ON THE STATE OF BRAZILIAN CITIES

Selection of Cities -2009

Summary

- n Basic assumptions**
- n Hypothetical trends in Brazil's urbanization process**
- n Reference studies consulted**
- n Steps adopted as result of the National Workshop entitled "Criteria for selecting the cities to be analyzed" (29th June 2009)**
- n Combination of control variables for categorizing and selecting cities**
- n Filtering criteria applied in each category for selecting cities**
- n Characterization of the cities selected according to population size, centrality levels in Brazil's urban network and their location in strategic areas**

Basic assumptions

- Cities are influenced by the **regional context** in which they are located and *vice versa*.
- Brazilian cities can be differentiated not only by their **population size** and **demographic trends** but also by their capacity as **poles of attraction** for entire regions and urban networks. These polarizing capacities are defined on the basis of political, economic and locational variables.

Basic assumptions

- o **Socio-economic inequalities** between different cities reflect the degree of **regional importance** of each city as well as individual cities' links with **national and international economic flows**. These inequalities have a major impact on local **demographic trends**.
- o **High/stagnant population growth levels** of Brazilian cities are closely related to prevailing **economic performance** levels, regardless of size of population.
- o Brazilian cities are distributed **heterogeneously** throughout the country's territory.

Hypothetical trends in Brazil's urbanization process

- Population growth and densification in the urban peripheral areas in the **metropolitan regions of the State capitals** (the biggest urban conglomerations) are the result of unequal access to land as well as a root cause of environmental degradation.
- **Decay and de-population** of the inner-city areas of the larger cities.
- Consolidation of urban areas associated with the expansion of the **agricultural frontiers in the Cerrado (savanna) and Amazon Region** causes environmental degradation. It is also associated with land disputes, tension with Brazil's traditional communities and a shortage of urban amenities.

Hypothetical trends in Brazil's urbanization process

- n Urban, demographic and economic expansion of cities located in mineral and forest extraction zones and in areas where oil is being produced and refined is also responsible for environmental degradation, land conflicts, problems with traditional communities and a shortage of urban amenities.
- n Urban, demographic and economic expansion of cities which serve as poles of attraction for coastal as well as interior regions of the country, especially in the Amazon River Basin and the areas adjacent to the Brasília-Cuiabá-Porto Velho-Rio Branco, Belém-Brasília highways (plus, more recently, the Cuiabá-Santarém road), is also at the root of environmental degradation, land disputes, problems with traditional communities and a shortage of urban amenities.
- n Population loss and urban stagnation of smaller cities.

Reference studies consulted

- Stratification of Brazilian municipalities by size of population (2005), CNM.
- Typology of Brazil 's cities (2005) [MCid/FASE/PPGEO-UFPE].
- Baseline Document to define a National Territorial Ordering Policy (2006) - ABIPTI/Ministry of National Integration/IICA
- City regions of influence (2007), IBGE.
- Study of territorial size for planning purposes. Volume II: National Strategic Overview (2008)– MPOG/CGEE.
- Study of territorial size for planning purposes. Volume III: Reference Regions (2008)– MPOG/CGEE.

Steps recommended by the national workshop on “*Criteria for selecting the cities to be analyzed*” (29th June 2009)

○ The following decisions were taken at the **the national workshop on** “The criteria for selecting the cities to be analyzed” (29th June 2009):

- to disregard the specific variables of the key themes in the categorization and selection of cities to be analyzed. These variables to be addressed in the specific analyses to be undertaken of each key thematic line of approach.
- to adjust and incorporate new control variables for categorizing and selecting the cities to be analysed within the key lines of approach.

Step 1 - to disregard the specific variables of the key themes in the categorization and selection of cities to be analyzed within the key thematic lines of approach

Social inclusion thematic line

Urban development financing thematic line


Control variables for characterization and selection of cities:

Positioning in the Brazilian cities network (centrality levels)

- **Population size and dynamic**
- **Application of national planning strategy to territories**
- **Location in territories near to frontier areas**
- **Variation of Municipal Gross Domestic Product (GDP)**

Local economic development thematic line

Public management thematic line

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- Non-utilization of the specific variables (thematic) in order to avoid bias with regard to categorization and sampling of the cities
 - Utilization of structural variables for categorization and selection of cities
 - Denominators for indicators and charges

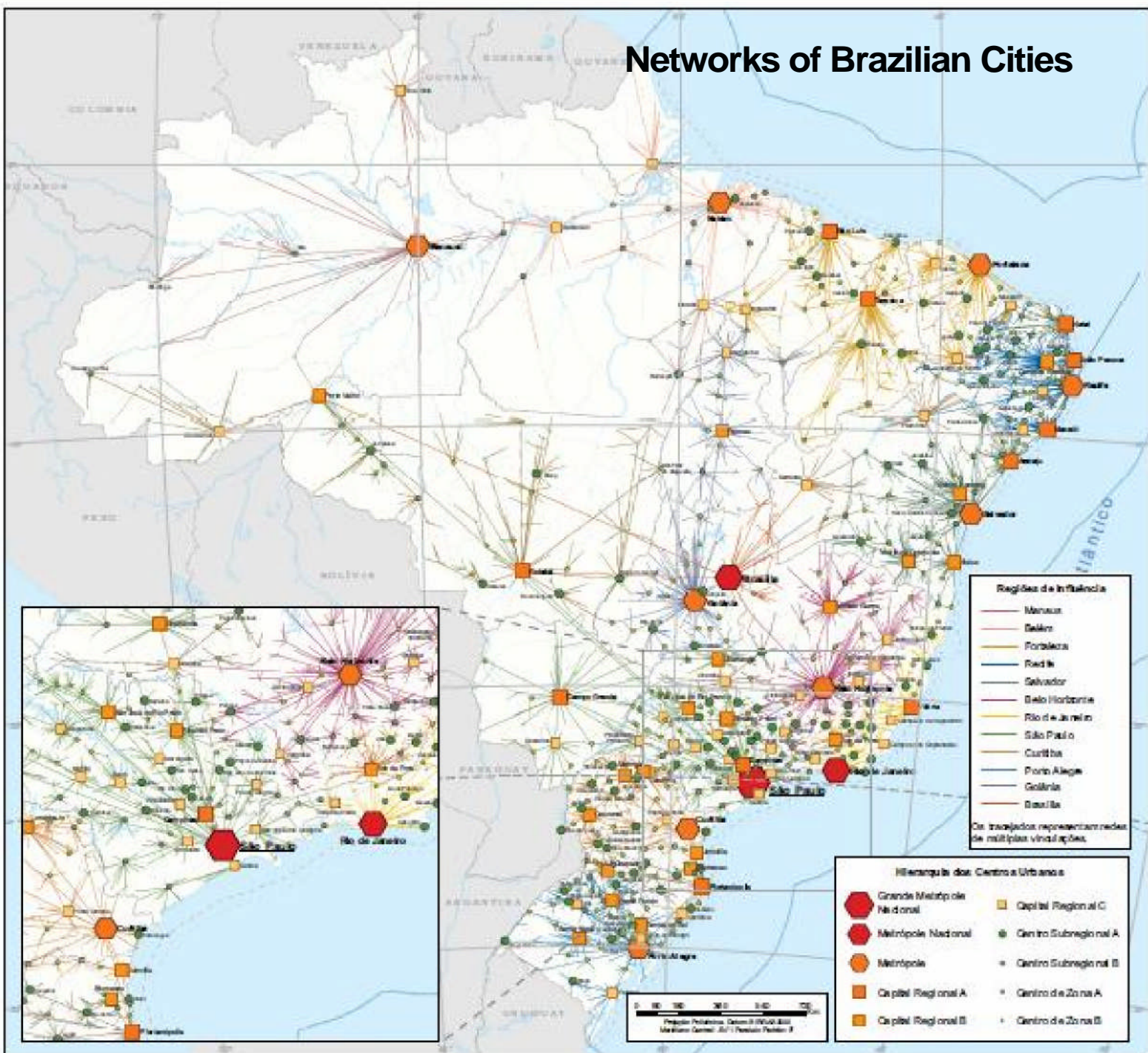
Step 2 - to adjust and incorporate new control variables for categorizing and selecting the cities – **Positioning in the Brazilian cities network - REGIC**

○ Reference: Study on Cities' Regions of influence (IBGE)

ü **5 levels of centrality:**

- Level **1: Metropolis** = concentrated population area comprising a number of municipalities
- Level **2: Regional Capital** = some of these correspond to areas of concentrated population formed by several municipalities
- Level **3: Sub-regional centre**
- Level **4: Centre of zone**
- Level **5: Local centre**

Networks of Brazilian Cities



Step 2 - to adjust and incorporate new control variables for categorizing and selecting the cities – **Population size and dynamic**

ü **Population bands considered:**

D Up to 20,000 inhabitants – Class D

D From 20,001 to 50,000 inhabitants – Class C

D From 50,001 to 350,000 inhabitants – Class B

D Over 350,000 inhabitants – Class A

For each class of municipalities a distinction was made between groups with **positive** and **negative** population variations during the period from 2002 to 2007 based on the projections and population counts undertaken by IBGE.

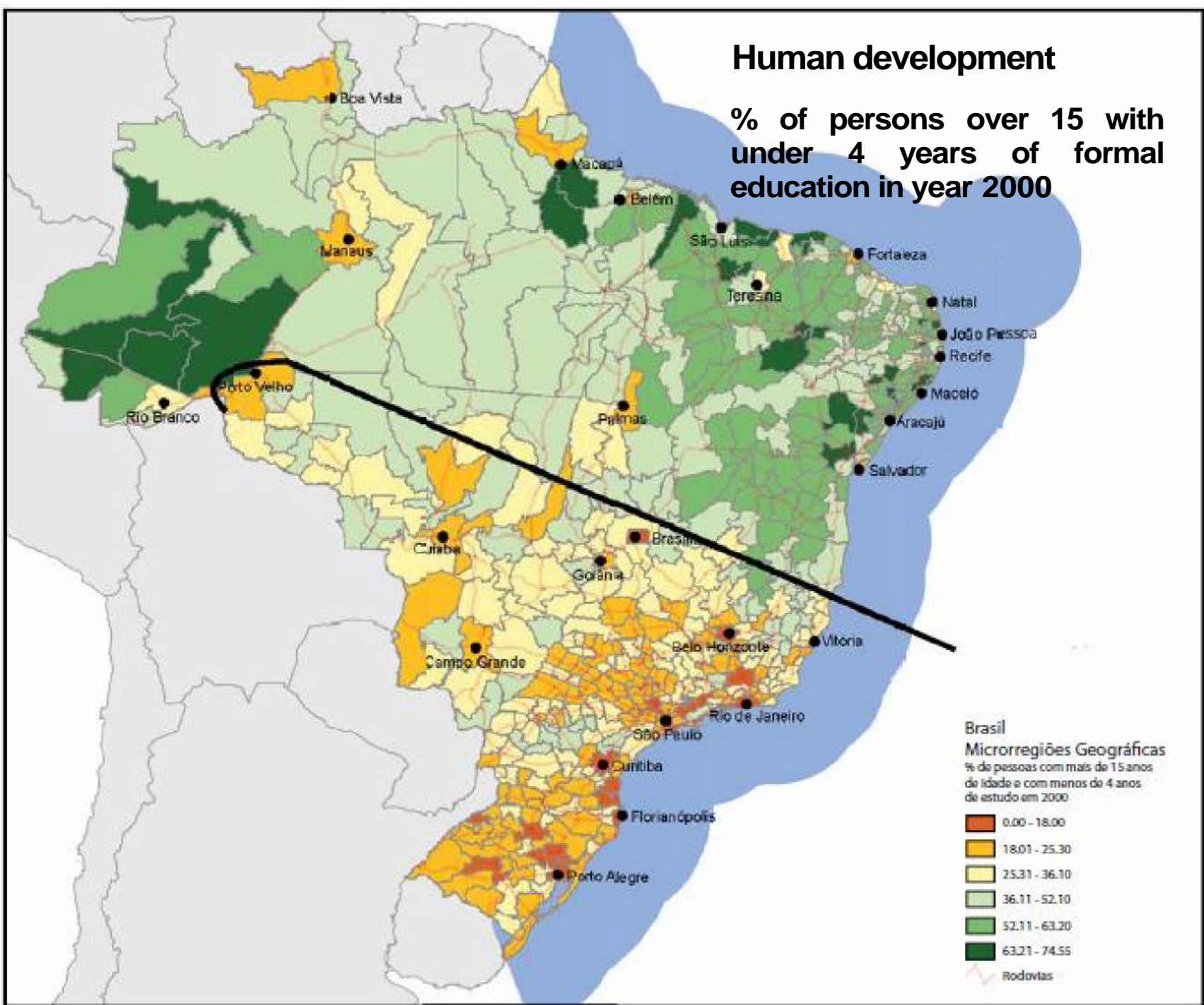
Step 2 - to adjust and incorporate new control variables for categorizing and selecting cities – **Application of national planning strategy to territories**

○ References:

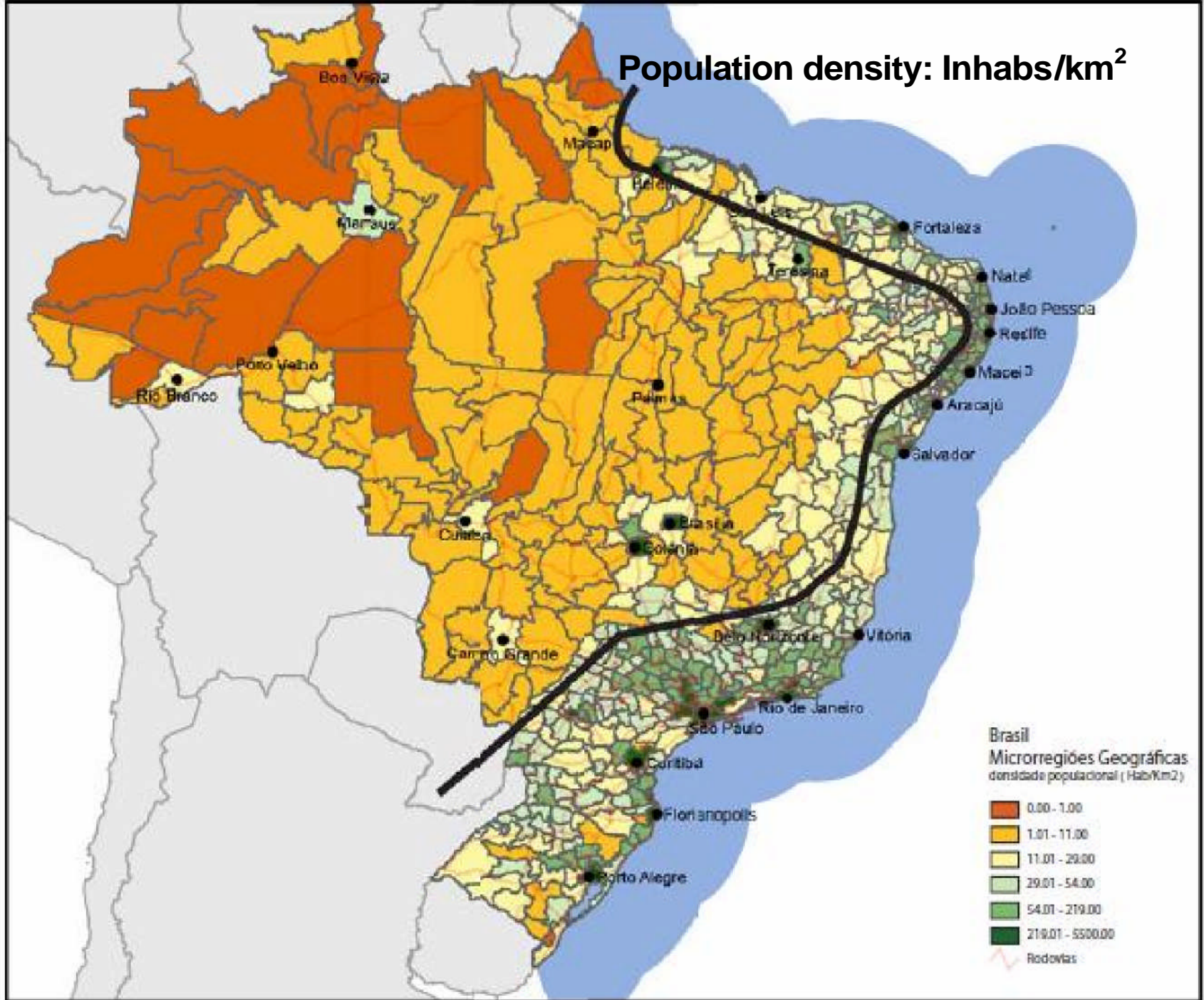
- Study on territorial size for planning purposes – Volume II: National Strategic Outlook (MPOG/CGEE);
- Baseline document to define a National Territorial Ordering Policy (2006) - Ministry of National Integration

Human development

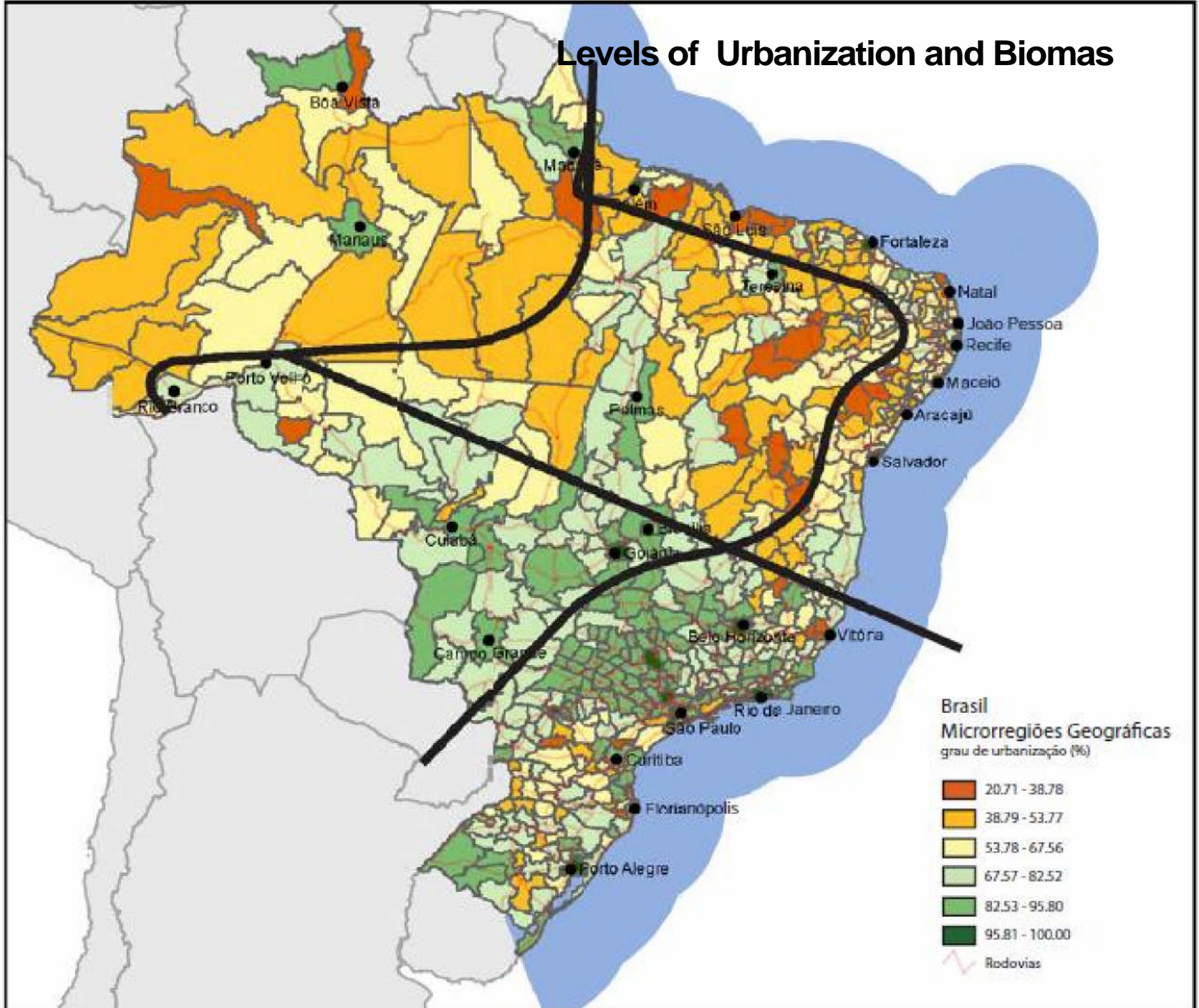
% of persons over 15 with under 4 years of formal education in year 2000



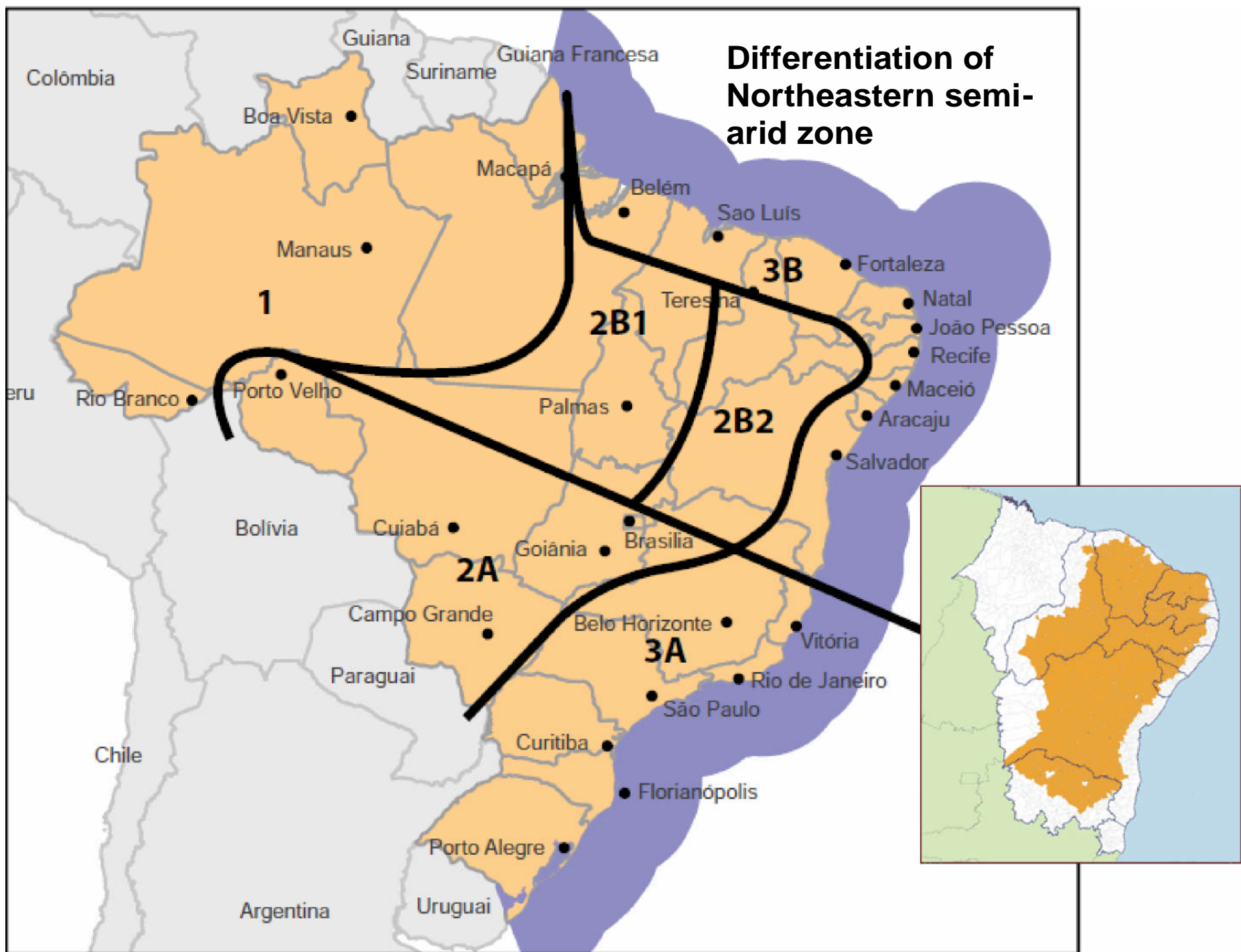
Population density: Inhabs/km²



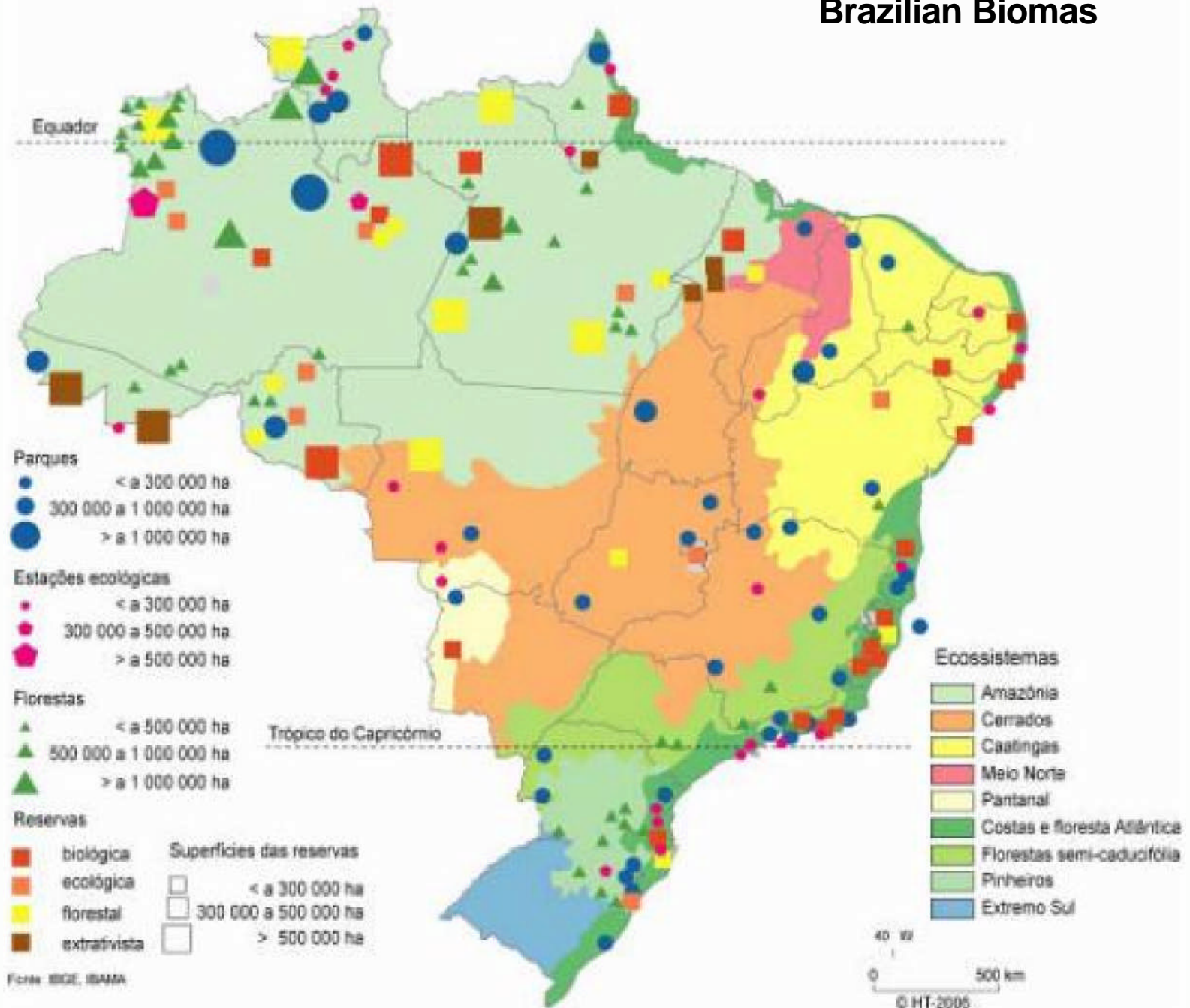
Levels of Urbanization and Biomas



Differentiation of Northeastern semi-arid zone



Brazilian Biomas



Step 2 - to adjust and incorporate new control variables for categorizing and selecting the cities – Application of national planning strategy to territories

- 6 strategic territories for national planning:
 - Territory 1- - Amazonas
 - Territory 2A - Cerrado 1
 - Territory 2B1- Cerrado 2
 - Territory 2B2 - Semi-arid zone
 - Territory 3A - South/Southeast
 - Territory 3B – North-Northeastern coastal strip

Strategic territories adjusted according to municipal boundaries and frontier area (150k)



Step 2 - to adjust and incorporate new control variables for categorizing and selecting the cities – **Application of national planning strategy to territories**

- **9 strategic territories for national and frontier planning**
 - **Territory 1– Amazonas**
 - **Territory 1 – Amazonas Frontier**
 - **Territory 2A – Cerrado 1**
 - **Territory 2Af – Cerrado Frontier 1**
 - **Territory 2B1 – Cerrado 2**
 - **Territory 2B2 – Semi-Arid zone**
 - **Territory 3A – South/Southeast**
 - **Territory 3Af – South Frontier**
 - **Territory 3B – North-Northeastern coastal strip**

Step 2 - to adjust and incorporate new control variables for categorizing and selecting the cities – Variation of municipal GDP

References:

- National accounts, Gross Domestic Product of municipalities (IBGE).
- Positive and negative variation of Municipal GDP 2002-2006 (IBGE).
- GDP represents the sum total market value-added of all final goods and services of all production units in the respective areas over a given period of time, including all taxes and subsidies not included in the valuation of output. It is also roughly equal to the sum of final uses of goods and services measured in purchasers' prices. GDP can also be interpreted as the sum of primary incomes distributed by resident producer units.

Share of municipalities in the Brazilian GDP (2006)

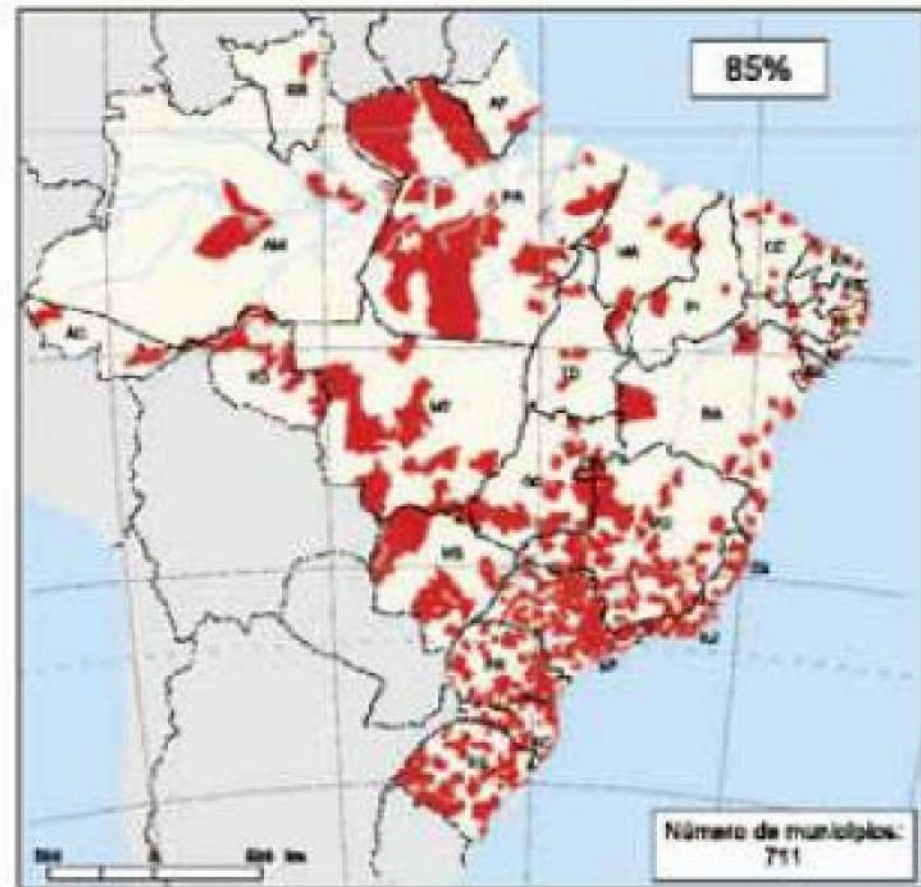
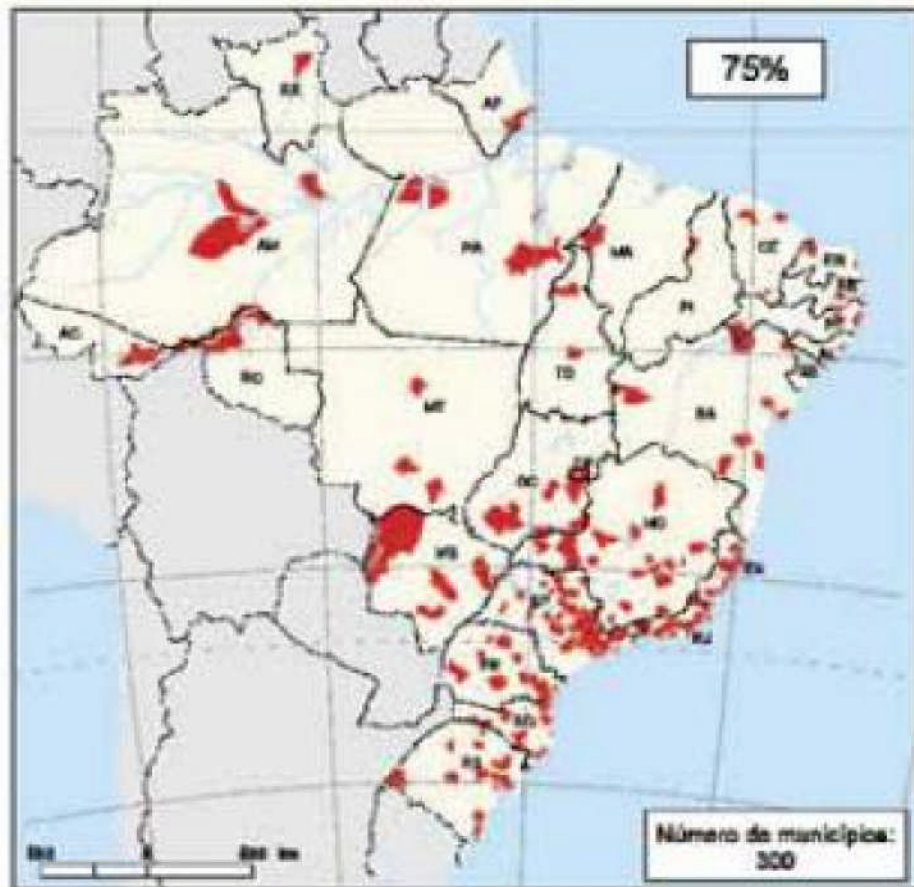


25% of national GDP in 5 municipalities



50% of national GDP in 50 municipalities

Participação dos Municípios no PIB Brasileiro



75% of national GDP in 300 municipalities

85% of national GDP in 751 municipalities

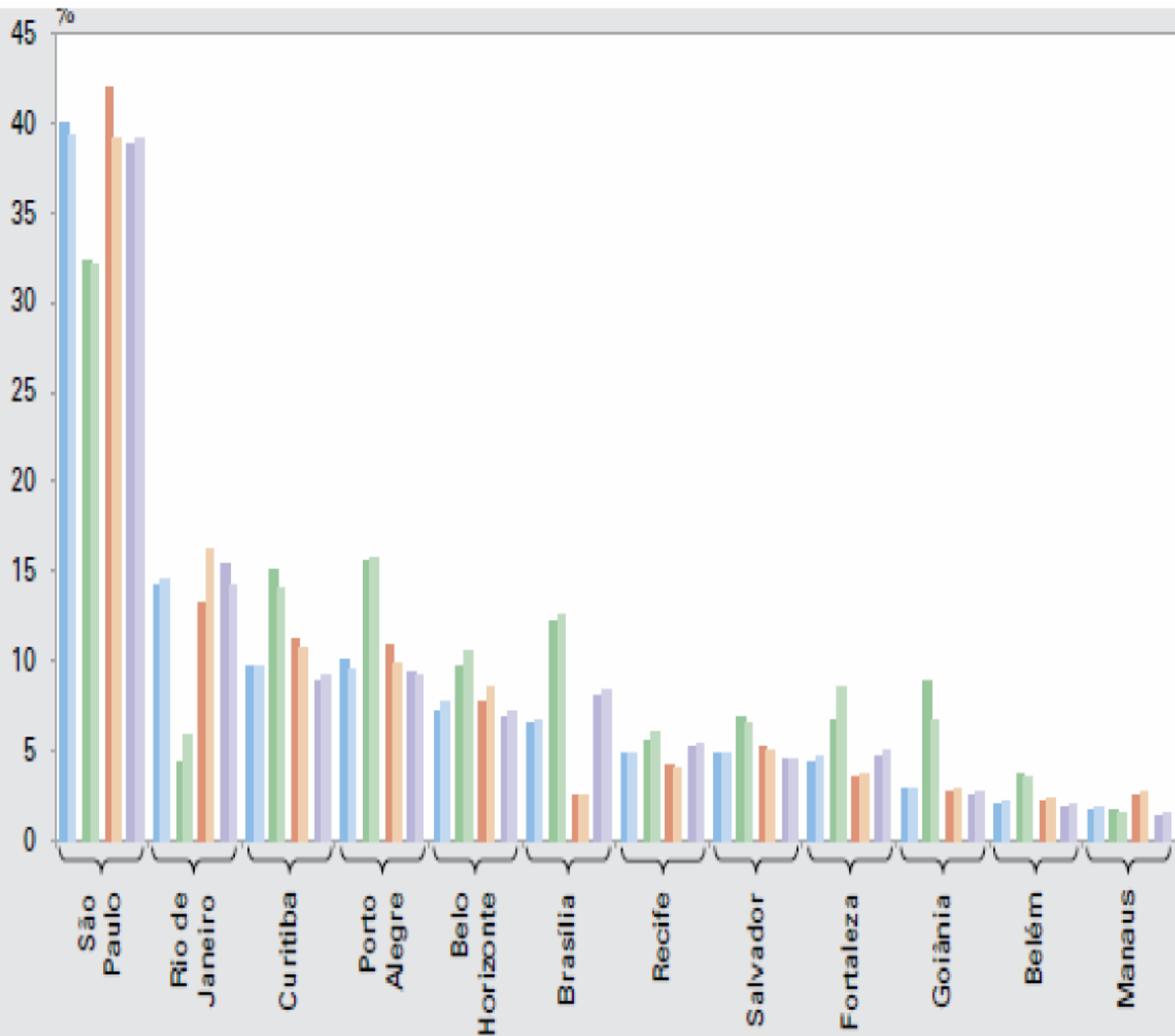
95% do PIB nacional em 2202 municípios

²⁸ 99% do PIB nacional em 4205 municípios

Participação dos Municípios no PIB Brasileiro



% share by the Urban Networks in the GDP, value added by agricultural, industry and services sectors (2002/2006)

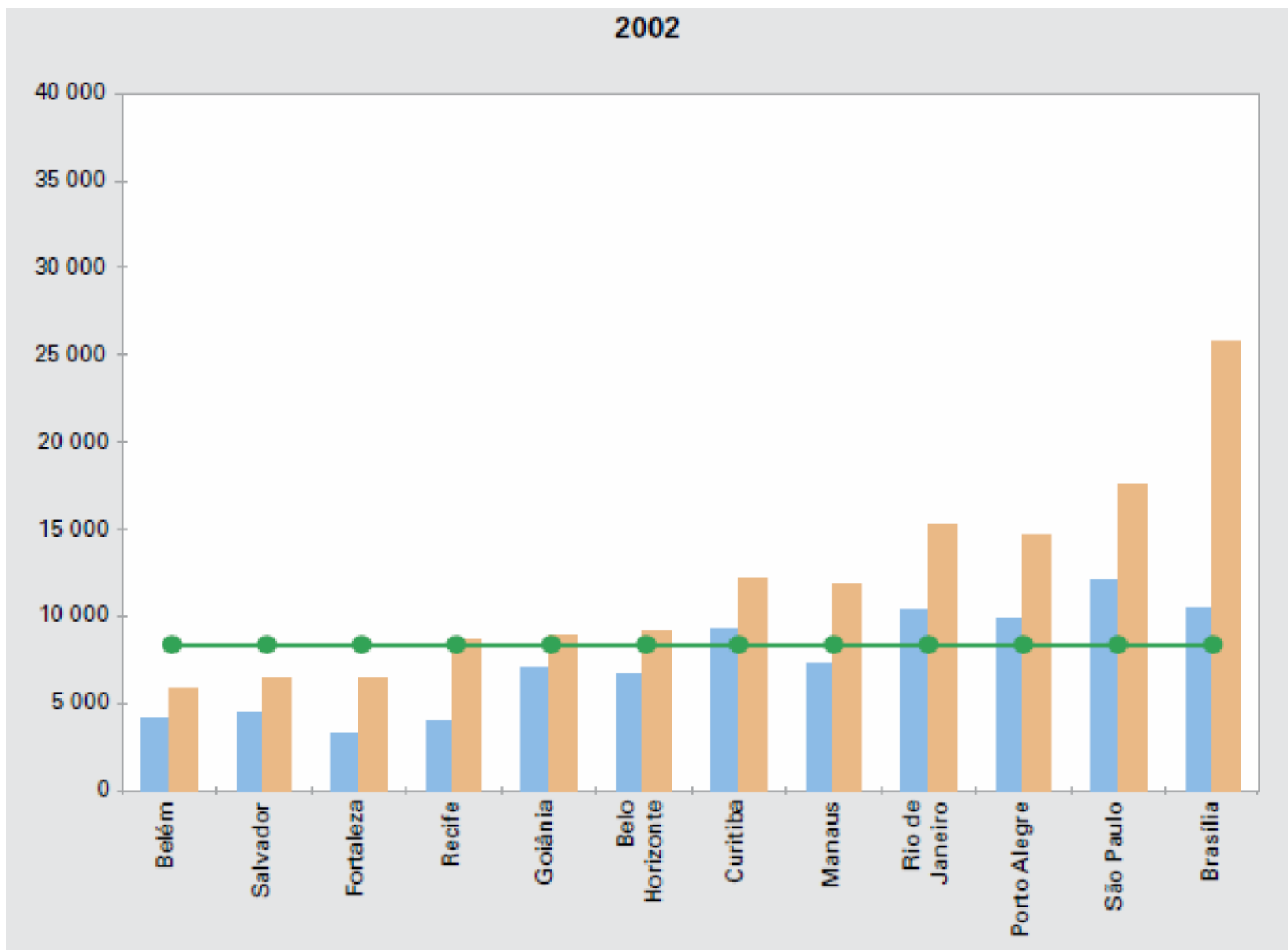


1. 2000 - 2005

2. 2005 - 2010

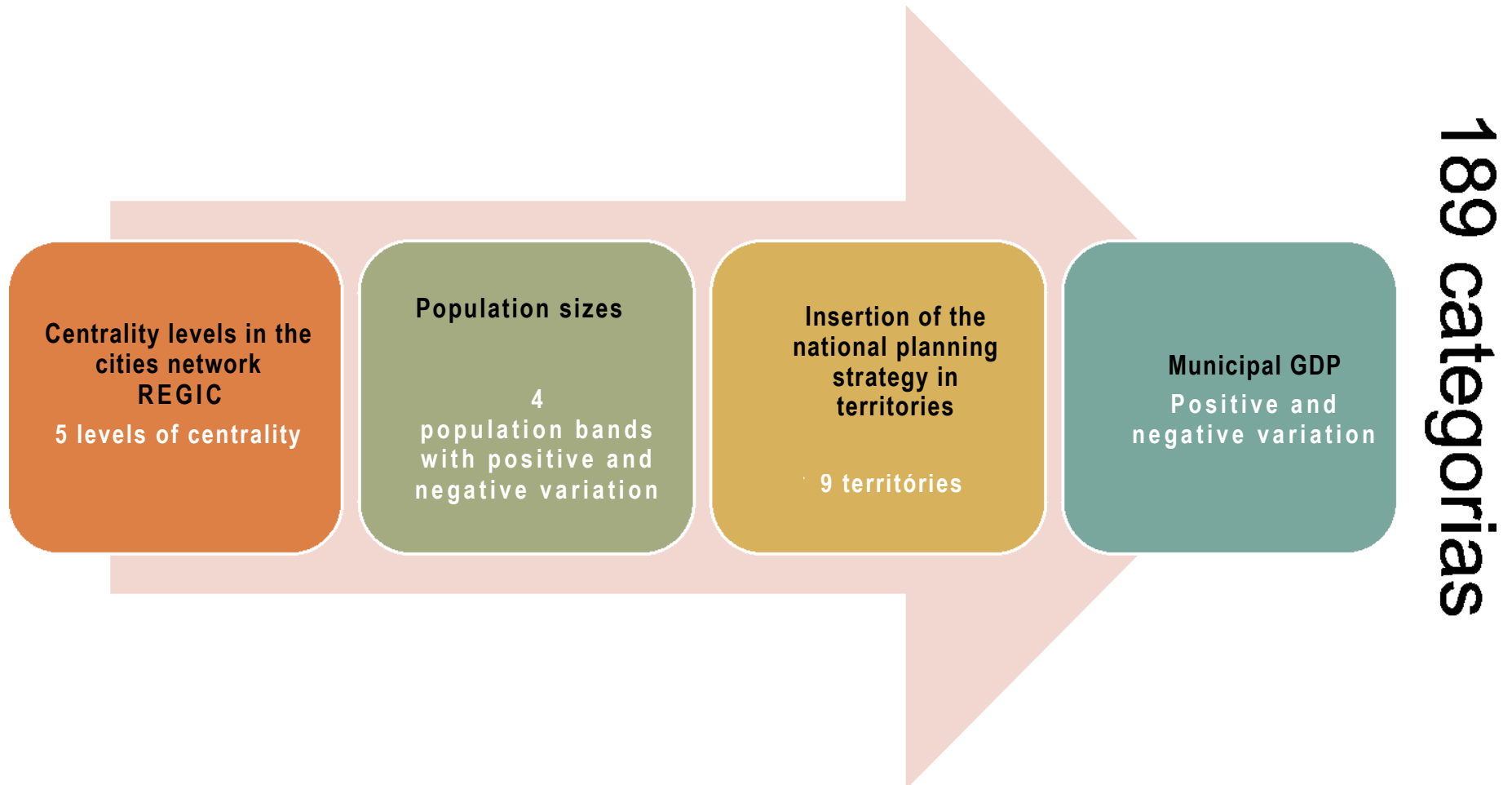
3. 2010 - 2015

Per Capita GDP in the municipalities forming the Urban Networks in Brazil (2002/2006)



Per Capita GDP in the municipalities forming the Urban Networks in Brazil (2002/2006)

Combination of control variables for categorizing/selecting cities



The categories are formed by a different number of municipalities - a minimum of 1 and a maximum of 788

Filtering criteria applied in each category for selecting the cities

- The 189 group categories of the cities ensures that the different urban situations in Brazil are correctly represented
- The 189 group categories of the cities are represented in the Cities Sample.
- 11 successive filters were applied over each of these categories for selecting the cities. A specific filtering criterion was applied to each category to reflect its importance in **the hierarchy of the cities and the size of population.**
- For those categories which contained the largest number of cities the municipal GDP and distribution by states was used as a complementary filtering criterion.

Filtering criteria applied in each category for selecting cities

Filtering criteria	Number of cities selected
1st Filter: Selection of all the cities in the categories with one single example	41
2nd Filter: Selection of all the cities at Centrality 1 level (metropolis) with over 50,000 inhabitants	120
3rd Filter: Selection of all the cities at Centrality 1 level (metropolis) with populations of 20,000-50,000 inhabitants	34
4th Filter: Selection of a city at Centrality 1 level (metropolis) with up to 20,000 inhabitants in each Population Concentration Area (PCA) – in cases where the PCAs possess more than one city, the city with the highest municipal GDP is selected	6

Filtering criteria applied in each category for selecting cities

Filtering criteria	Number of cities selected
5th Filter: Selection of all the cities at Centrality 2 level with over 350,000 inhabitants (regional capital).	28
6th Filter: Selection of all the cities at Centrality 2 level (regional capital) with populations of 50,000- 35,000 which are outside the Population Concentration Area (PCAs). In cases where the PCAs possess more than one city, the city with the above features and which possesses the highest municipal GDP of the PCA is selected.	55
7th Filter: The selection for each Population Concentration Area of a city with the highest municipal GDP at Centrality 2 level (regional capital), and with a population of between 20,000 and 50,000 (all the cities in this category belong to PCAs).	16

Filtering criteria applied in each category for selecting cities

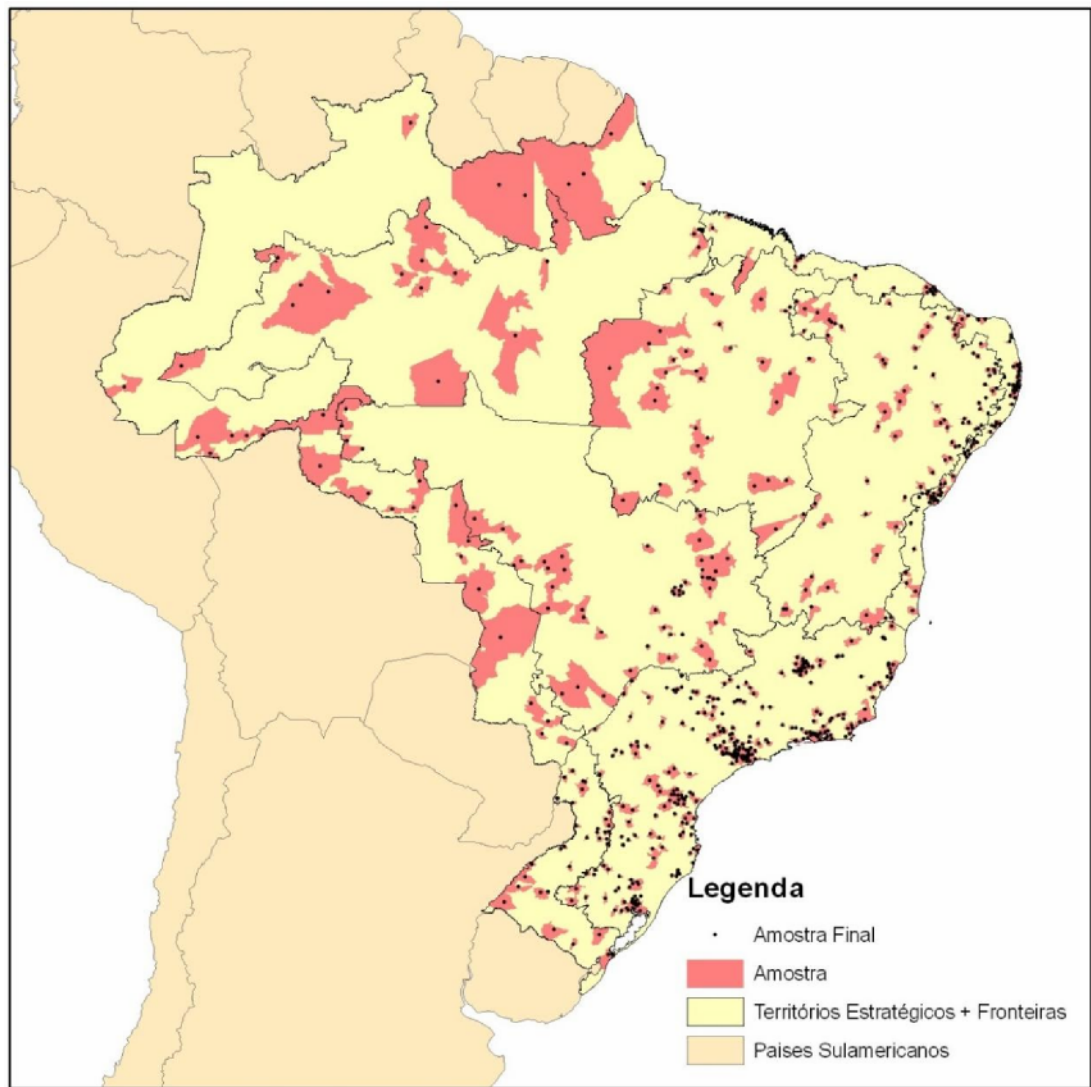
Filtering criteria	Number of cities selected
8th Filter: The selection for each Population Concentration Area of a city with the highest municipal GDP at Centrality 2 level (regional capital), and with a population of under 20,000 (all the cities in this category belong to PCAs)	10
9th Filter: Selection of 20% of the cities at Centrality 3 level (subregional centre) with the highest municipal GDPs of their respective states and with populations of 20,000 -350,000 (all the cities in this category fall into this population band)	30

Filtering criteria applied in each category for selecting cities

Filtering criteria	Number of cities selected
10th Filter: Selection of 10% of cities at Centrality 4 level (Centre of Zone), with the highest GDPs of their respective states with populations of up to 20,000 inhabitants, of between 20,000 and 50,000 inhabitants and of between 50,000 and 350,000 inhabitants	55
11th Filter: Selection of 5% of the cities at Centrality 5 level (local centre), with the highest GDPs of their respective states and with populations of up to 20,000 inhabitants	238

Cities selected:

- 633 cities**
- In 11% of Brazil's municipalities**
- With 56% of the Brazilian population (2007)**
- With 74% of Brazil's GDP (2006)**



Characterization of the cities selected according to population size

Cities selected - Brazil

Population band	Municipalities	Population	GDP
Over 350,000	61	64,144,341	1.154.239.615,82
350 - 50,000	210	31,641,802	472.1 62.772,53
50 – 20,000	126	4,343,634	73.985.052,94
Under 20,000	236	3,51 6,646	57.454.804,91
Total	633	103,646,423	1.757.842.246,21

% Municipalities	% Population	% GDP
9.64%	61,89%	65.66%
33.18%	30,53%	26.86%
19.91%	4,19%	4.21%
37.28%	3,39%	3.27%
100.00%	100.00%	100.00%

Population band	Municipalities	Population	GDP
Over 350,000	61	64,144,341	1.154.239.615.82
350 - 50,000	505	56,339,642	722.094.340.97
50 – 20,000	994	29,986,945	247.262.066.34
Under 20,000	4,003	33,513,562	246.178.486.09
Total	5,563	183,984,490	2.369.774.509.21

% Municipalities	% Population	% GDP
1.10%	34.86%	48.71%
9.08%	30.62%	30.47%
17.87%	16.30%	10.43%
71.96%	18.22%	10.39%
100.00%	100.00%	100.00%

Characterization of the cities selected according to centrality levels

Cities selected- Brazil

REGIC	Municipalities	Population	GDP
1. Metropolis	164	61,862,304	1.107.315.602,77
2. Regional Capital	120	28,947,761	428.835.944,59
3. Subregional Centre	38	4,875,047	77.795.326,04
4. Centre of Zone	66	3,007,427	57.41 3.868,51
5. Local Centre	245	4,953,884	86.481.504,29
TOTAL	633	103,646,423	1.757.842.246,21

% Municipalities	% Population	% GDP
25.91%	59.69%	62.99%
18.96%	27.93%	24.40%
6.00%	4.0%	4.43%
10.43%	2.90%	3.27%
38.70%	4.78%	4.92%
100.00%	100.00%	100.00%

Brazil

REGIC	Municipalities	Population	GDP
1. Metropolis	178	62,055,107	1.109.493.944,19
2. Regional Capital	189	34,924,788	501 .028.763,65
3. Subregional Centre	164	15,411,816	176.868.057,01
4. Centre of Zone	561	19,833,301	204.804.942,83
5. Local Centre	4,471	51,759,478	377.578.801,54
TOTAL	5,563	183,984,490	2.369.774.509,21

% Municipalities	% Population	% GDP
3.20%	33.73%	46.82%
3.40%	18.98%	21.14%
2.95%	8.38%	7.46%
10.08%	10.78%	8.64%
80.37%	28.13%	15.93%
100.00%	100.00%	100.00%

Characterization of the cities selected according to insertion in strategic territories

Cities selected

Strategic territory	Municipalities	Population	GDP
1- Amazonas	20	4.692.892	56.542.012,61
1f- Amazonas Frontier	13	1.231.814	11.250.486,13
2A- Cerrado 1	52	8.672.710	168.415.501,07
2Af - Cerrado Frontier 1	15	1.082.112	12.760.534,18
2B1-Cerrado 2	34	1.809.238	19.396.672,28
2B2-Semi-Arid Zone	81	5.81 6.684	38.384.013,56
3A - South-Southeast	294	61 .499.635	1.252.145.673,32
3Af -South Frontier	33	1.727.101	26.478.583,89
3B :North-Northeast coastal strip	91	17.114.237	172.468.769,17
TOTAL	633	103.646.423	1.757.842.246,21

% Municipalities	% Population	% GDP
3.16%	4.53%	3.22%
2.05%	1.19%	0.64%
8.21%	8.37%	9.58%
2.37%	1.04%	0.73%
5.37%	1.75%	1.10%
12.80%	5.61%	2.18%
46.45%	59.34%	71.23%
5.21%	1.67%	1.51%
14.38%	16.51%	9.81%
100.00%	100.00%	100.00%

Characterization of the cities selected according to insertion in strategic territories

Brazil

Strategic territory	Municipalities	Population	GDP	% Municipalities	% Population	% GDP
1- Amazonas	100	6,979,634	63.452.743,44	1.80%	3.79%	2.68%
1f- Amazonas Frontier	77	2,263,827	16.564.306,35	1.38%	1.23%	0.70%
2A- Cerrado 1	482	14,480,145	229.912.920,78	8.66%	7.87%	9.70%
2Af - Cerrado Frontier 1	97	2,289,533	22.668.574,83	1.74%	1,4%	0.6%
2B1-Cerrado 2	417	7,023,968	42.1 73.401,86	7.50%	3.82%	1.78%
2B2-Semi-Arid Zone	1,150	23,423,326	94.911.434,05	20.67%	12.73%	4.01%
3A - South-Southeast	2,218	93,808,983	1.616.863.946,26	39.87%	50.99%	68.23%
3Af - South Frontier	400	5,947,565	68.91 0.394,56	7.19%	3.23%	2.91%
3B - North-Northeast coast	622	27,767,509	214.316.787,07	11.18%	15.09%	9.04%
TOTAL	5,563	183,984,490	2.369.774.509,21	100.00%	100.00%	100.00%