

THE CITIZENSHIP TERRITORIES PROGRAM AND THE CHALLENGES FOR THE RURAL EXODUS COMBAT IN NORTH PLATEAU CATARINENSE: A CASE STUDY IN MUNICIPALITIES OF SÃO BENTO DO SUL AND RIO NEGRINHO

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Key words: public policy, Citizenship Territories Program, rural exodus, Brazil

Abstract

In February 2008, the Brazilian Federal Government created the Citizenship Territories Program, whose purpose is to promote and accelerate the elimination of poverty and social inequality in rural areas, including gender, race and ethnicity, through a sustainable territorial development strategy. The choice of the territories entered in the Citizenship Territories Program results from pre-defined criteria, examples of the low Human Development Index (HDI) and low economic dynamism, in which were chosen 60 territories to be benefited with structuring actions in 2008 and more 60 in 2009, totaling 120, divided into five regions of Brazil, where, within these territories, are being applied three axes to support productive activities, citizenship and access to rights and the qualification of the infrastructure. In this sense, this article aims to demonstrate the challenges of combating rural exodus, since the implementation of this Program in the North Plateau of Santa Catarina State, specifically in the municipalities of São Bento do Sul and Rio Negrinho, Citizenship Territories Program members. The case study is based on bibliographic and documentary research; data analysis provided by the Brazilian Institute of Geography and Statistics (IBGE), and; in analysis of thematic maps produced in

environment of Geographic Information Systems (GIS). With the found results expected to ratify that despite the efforts and actions taken by the Citizenship Territories Program, in these members municipalities, public policy has not been able to be effective in combating rural exodus, where it is believed that the appeal to such an act are still insufficient.

Initial considerations

Since the industrial revolution that occurred in Europe in the late nineteenth century, the rural exodus appears as a one of its most important consequences. In Brazil, the phenomenon happened in the mid-twentieth century, starting in the southeast, the main industrial center of the country. The rural exodus is the migration of people from rural areas to urban centers, which occurs in many countries across the globe and involves the search for better working conditions and quality of life. At this process of search for human sustainability, cities become more attractive rural populations, because the various possibilities of employment, education, health, infrastructure and leisure.

Therefore, from the demographic growth of the great centers that urbanism arose. As a multidisciplinary study, studies and urban actions have been trying to answer the questions related to territorial planning problems, the migration processes and unprecedented urban development, which generated multiple exhaustion physical, social and environmental issues in urban areas.

Among the various process problems, it is observed, environmental problems related to unhealthy conditions and solid waste, government in which favored the upper classes of society and sociocultural related to health, education and the process of segregation that among the consequences, do raise the crime rate and poverty in large cities.

In seeking to ameliorate the problems caused by the rural exodus, various events and global discussions happened, mostly focused on achieving sustainable territorial development. Among the international past events for this purpose, it can be highlighted as propellant to the Stockholm Conference in Sweden in 1972 and the recent Rio+20 that occurred in Brazil in 2012.

In Brazil, in order to contribute to a better quality of life of rural populations and, in order to minimize social inequalities in the field, the Federal Government instituted the Citizenship Territories Program, in which one of the challenges is to establish ways to combat rural exodus from structuring actions proposed by state and municipal governments with the participation of communities. This challenge of combating rural depopulation, has been observed, in some groups of municipalities until then termed as territories without greater progress, as we shall see from the data presented in this research.

Citizenship Territories Program

“Citizenship Territories” at the national level

Linked to the Presidency of the Republic, through the Ministry of Civil House, with participation of 22 ministries, state and municipal governments and community representatives on 25

February 2008, the Brazilian Federal Government created the Citizenship Territories Program (PTC), with the purpose of "promoting and accelerating the elimination of poverty and social inequality in rural areas, including gender, race and ethnicity, through sustainable territorial development strategy" (Our translation) (BRAZIL, 2008).

According to the decree that created the program, the main objectives listed:

"I - integration of public policies based on territorial planning; II - expanding mechanisms of social participation in the management of public policies of interest to the development of territories; III - increasing the supply of basic citizenship programs; IV - inclusion and productive integration of poor populations and the most vulnerable social groups, such as rural workers, quilombolas, indigenous and traditional populations; V - appreciation of social, cultural, economic, political, institutional and environmental regions and populations" (Our translation) (BRAZIL, 2008).

In order to put this public policy in practice, was created several structuring actions, directed to planning and sustainable rural development in support of productive activities, citizenship and access to rights and the classification of the infrastructure, which linked the strategies of state governments and municipal, which were presented to civil society organizations and the collegiate of each territory for the creation of a sustainable territorial development plan and later it passed to be executed (TERRITORY OF CITIZENSHIP, 2015).

The criteria for the choice of the territories inserted in the Citizenship Territories Program were:

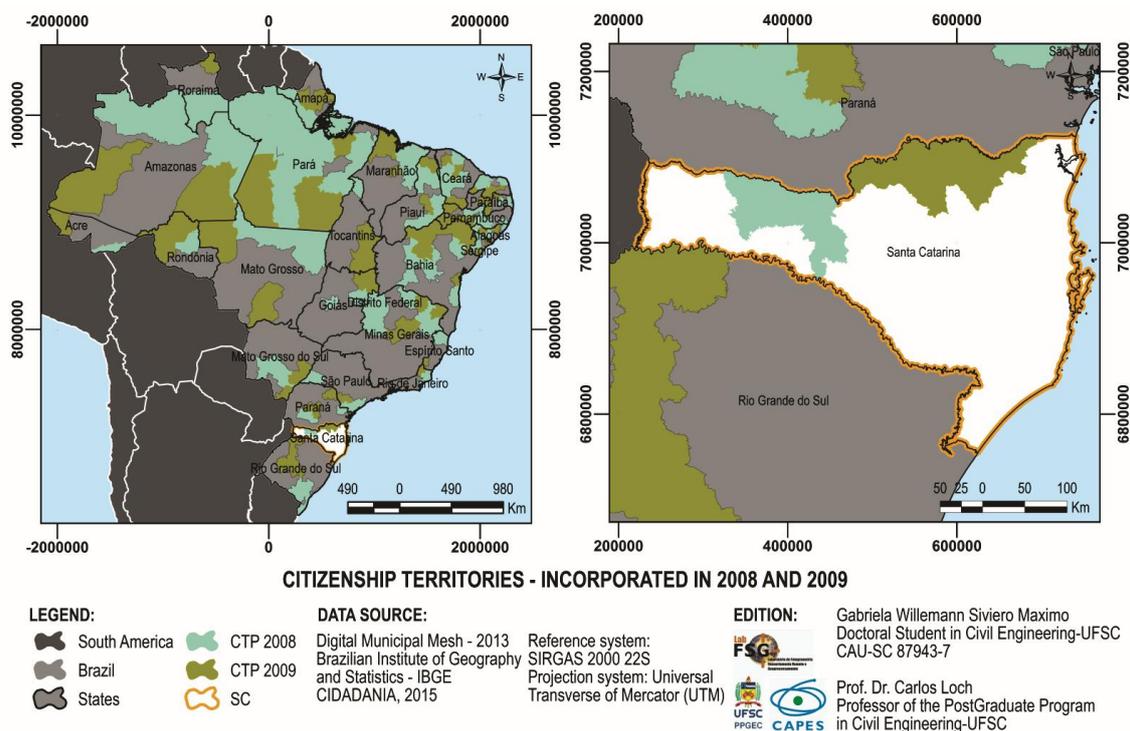
"I - to be incorporated into the Sustainable Development Program for Rural Areas, the Ministry of Agrarian Development; II - the lowest Human Development Index - HDI territorial; III - the highest concentration of beneficiaries of the Family Allowance Program; IV - higher concentration of family farmers and agrarian reform settlers; V - the largest concentration of traditional populations, quilombolas and indigenous; VI - low economic dynamism, according to the typology of constant regional inequalities of the National Policy for Regional Development, the Ministry of National Integration; VII - convergence programs to support the development of different levels of government; VIII - the largest social organization; and IX - the highest concentration of municipalities with the lowest IDEB - Basic Education Development Index. Single paragraph. The criteria described in section IX will be used for the incorporation of Territories from 2009" (Our translation) (BRAZIL, 2009).

In 2008 and 2009 were chosen 120 territories, 60 per year, in which the municipalities needed to have the same geographical, socioeconomic, cultural identity and social cohesion, to be beneficiaries of the Citizenship Territories Program. These territories would need to be divided by all Brazilian regions (North, Northeast, Midwest, Southeast and South), at least one in each state for the year 2008 and 2 for the year 2009. According to the Citizenship Territory (2015) estimated that 1,852 Brazilian municipalities (32.9% of the country) were the beneficiaries of this public policy.

"Territories of Citizenship" at the state level

In the state of Santa Catarina, were listed two territories for the practice of public policies of the Citizenship Territories Program (Figure 1). The Middle West Contestado, composed of 29 municipalities, first implemented in 2008 and the second, the North Plateau of Santa Catarina, whose municipalities of São Bento do Sul and Rio Negrinho corpus of this research make up this territory, which was inserted in 2009 and it consists of 14 municipalities (Figure 2) (TERRITORY OF CITIZENSHIP, 2015)

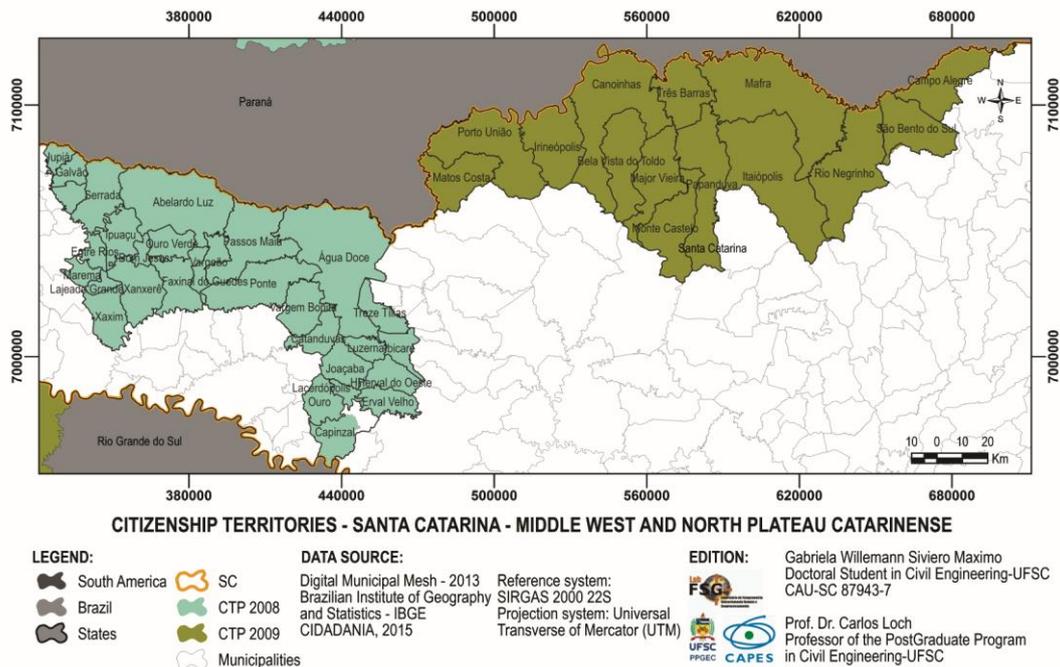
Figure 1. Map of Citizenship Territories in Brazil and Santa Catarina



Source: Authors

The land area of the municipalities that make up the Citizenship Territories Program Middle West Contestado is 8288.10Km² consisting of: Abelardo Luz, Água Doce, Bom Jesus, Capinzal, Catanduvas, Coronel Martins, Entre Rios, Erval Velho, Faxinal dos Guedes, Galvão, Herval d'Oeste, Ibicaré, Ipuaçú, Joaçaba, Jupiá, Lacerdópolis, Lajeado Grande, Luzerna, Marema, Ouro, Ouro Verde, Passos Maia, Ponte Serrada, São Domingos, Treze Tílias, Vargeão, Vargem Bonita, Xanxerê and Xaxim (Figure 2). The total population is 271,996 inhabitants, of which 72,666 (26.72%) live in rural areas, with 13,155 farmers, 2,105 settler families and four (4) indigenous lands and, in particular, the Human Development Index (HDI) Average 0.81. (TERRITORY OF CITIZENSHIP, 2015)

Figure 2 - Map of Two Citizenship Territories in Santa Catarina State



Source: Authors

Already the land area of the municipalities that make up the program Territories of Citizenship North Plateau is 10,466.70 Km², consisting of: Campo Alegre, Canoinhas, Irineópolis, Itaiópolis, Mafra, Major Vieira, Matos Costa, Monte Castelo, Papanduva, Três Barras, Bela Vista do Toldo, Porto União, Rio Negrinho e São Bento do Sul (Figure 2). The total population of this territory is of 357,082 inhabitants, of which 84,430 (23.64%) live in rural areas, with 12,909 family farmers, 460 families settled and two (2) indigenous lands and, in particular, the Human Development Index (HDI) average of 0.79 (TERRITORY OF CITIZENSHIP, 2015).

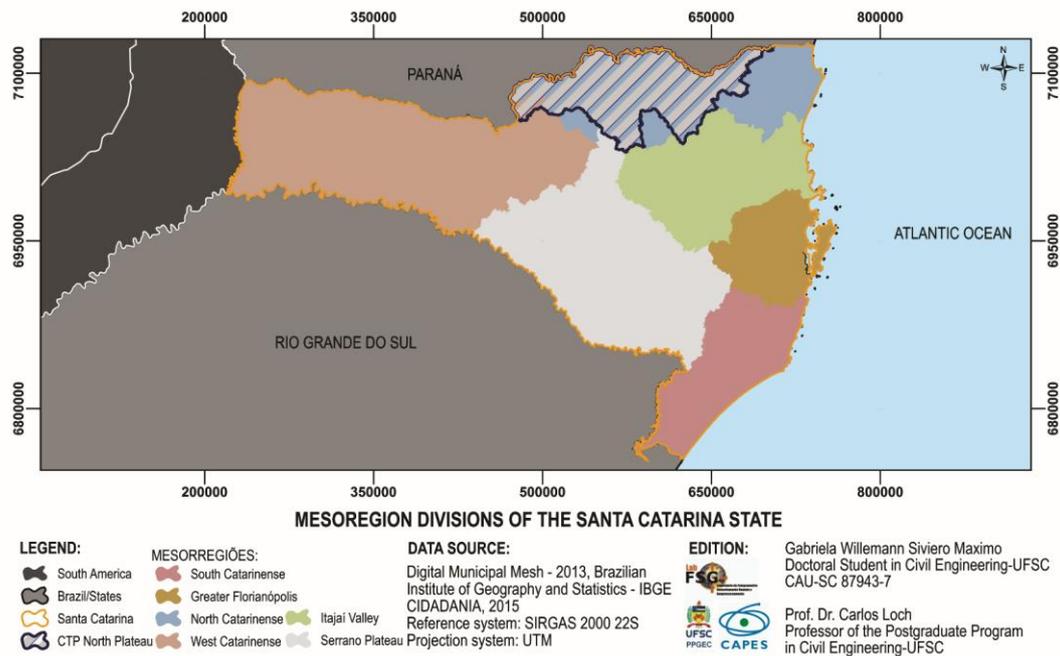
General aspects

Physical Characterization, Economic and Demographic

a) Santa Catarina

Santa Catarina is the twentieth State of Brazil in area with 95.733,978km² (square kilometers) equivalent to 1.12% of the entire national territory is divided into mesoregions 6 (Figure 3), it has a total of 295 municipalities, with around 450km (kilometers) of coastline in the Atlantic Ocean. The state, whose capital bears the name of Florianópolis, has 6,248,436 inhabitants, according to census data from 2010, and 1,000,523 the population living in rural areas and 5,247,913 in urban areas (BRAZILIAN INSTITUTE OF GEOGRAPHY AND STATISTICS, 2016a).

Figure 3. Map of Three Mesoregions in Santa Catarina State



Source: Authors

According to the Government of the State of Santa Catarina (2016a) colonization of the state was given predominantly by European immigrants where:

"(...) the Portuguese colonized the coast in the eighteenth century; Germans colonized the Itajai Valley, part of the South and the North of Santa Catarina in the mid-nineteenth century; and the Italians the southern state at the end of the same century; already the West was colonized by gauchos of Italian and German origin in the first half of the twentieth century" (Our translation).

With a humid subtropical climate, pleasant and well-defined and distinct seasons between their regions between the plateau, the mountains and the coast, the state has pluvial indexes that spin at 1500 mm / year and rains well distributed throughout the year. Santa Catarina has a relief of different altitudes ranging from coast to peaks of 1827 meters of altitude, with portions of the Atlantic Forest, Forest of Araucaria, Savannah, Sandbank and Mangrove (UFSC, 2014).

The state's economy is diversified and has a strong agriculture of national importance where the main products are rice, corn and soybeans. In other sectors the Florianópolis metropolitan area stands out for its technology, tourism, services and construction; the north by the technological center, furniture and mechanical engineering; in West concentrate the food production and mobile activities; the Serrano Plateau paper industries and wood; in South garment segments, plastics, coal and ceramic and; in Itajai Valley there is a predominance textile and clothing industry, shipbuilding and technology (GOVERNMENT OF THE STATE OF SANTA CATARINA, 2016b).

b) The region of the Citizenship Territories Program, the North Plateau of Santa Catarina

The exploitation of wood was always significant for the region, the Citizenship Territory, the North Plateau of Santa Catarina, which is inserted in Mesoregion North of the State of Santa Catarina, in which the economic feature prominent is the branch of wood, especially by industries furniture sector and the paper industry. Within this panorama, currently the region is also composed of forests with native trees - Mixed Ombrophilous Forest - Araucaria Forest - and pine reforestation areas.

Among the divisions of Catarinenses Mesoregions, the Northern region, 1970-2010 remained on the list of municipalities that together always preserved below the national average, regional and state in the question of the number of inhabitants living in rural areas as it can be seen in Table 1, behind the metropolitan region of Florianópolis.

**Table 1. Demographic data the urban population and rural
Brazil – Region – Federation Unit - Mesoregions**

Resident population by sex, age groups and situations - Sample - General Population Characteristics						
Variable = Resident Population (People)						
Sex = Total						
Age groups = Total						
Brazil, Region, Federation Unit, Mesoregions	Household Situation	Year				
		1970	1980	1991	2000	2010
Brazil	Urban	52.097.260	80.437.327	110.990.990	137.925.238	160.934.649
	Rural	41.037.586	38.573.725	35.834.485	31.947.618	29.821.150
Souh	Urban	7.305.650	11.876.780	16.403.032	20.318.991	23.261.985
	Rural	9.190.672	7.155.210	5.726.345	4.791.358	4.124.906
Santa Catarina	Urban	1.247.158	2.154.250	3.208.537	4.217.763	5.247.903
	Rural	1.654.502	1.474.042	1.333.457	1.140.100	1.000.533
West Catarinense	Urban	-	-	532.959	702.849	860.563
	Rural	-	-	518.124	414.114	340.149
North Catarinense	Urban	-	-	680.254	875.481	1.063.909
	Rural	-	-	157.957	151.125	148.934
Serrano Plateau	Urban	-	-	267.304	312.470	332.431
	Rural	-	-	107.817	88.714	74.310
Itajaí Valley	Urban	-	-	718.164	993.376	1.322.041
	Rural	-	-	225.456	193.808	186.939
Greater Florianópolis	Urban	-	-	521.069	725.358	915.804
	Rural	-	-	98.196	77.897	78.291
South Catarinense	Urban	-	-	488.787	608.230	753.156
	Rural	-	-	225.907	214.441	171.909
Note:						
1 - For the year 1991, the universe data. For other years, Sample data						
2 - By the year 1991 the age groups go up to 80 years or more; from 2000, going up to 100 years or more.						

Source: IBGE – Statistic data

The fact of the Mesoregion North State not be characterized with rural prevalence may be related to the inclusion of coastal municipalities in grouping as Araquari, Balneario Barra do Sul, Itapoá, Joinville (largest and most populous county in the state), São Francisco do Sul. In Table 1, you can see that in mesoregion North of Santa Catarina, the number of inhabitants in rural

areas is 12.28% and, when considering only the group of municipalities in the territory of the Northern Plateau Citizenship and Santa Catarina that are inserted this mesoregion (Table 2) this figure rises to 36.98%.

**Table 2. Demographic data the urban population and rural
Brazil – Region – Federation Unit - CTP Plateou North Catarinense**

Resident population by sex, age groups and situations - Sample - General Population Characteristics						
Variable = Resident Population (People)						
Sex = Total						
Age groups = Total						
Brazil, Region, Federation Unit, Mesoregion North	Household Situation	Year				
		1970	1980	1991	2000	2010
Brazil	Urban	55,94	67,59	75,59	81,19	84,37
	Rural	44,06	32,41	24,41	18,81	15,63
Souh	Urban	44,29	62,4	74,12	80,92	84,94
	Rural	55,71	37,6	25,88	19,08	15,06
Santa Catarina	Urban	42,98	59,37	70,64	78,72	83,99
	Rural	57,02	40,63	29,36	21,28	16,01
North Catarinense (Only municipalities in CTP - North Plateau)	Urban	34,41	46,89	58,05	59,39	63,02
	Rural	65,59	53,11	41,95	40,61	36,98

Note:

1 - For the year 1991, the universe data. For other years, Sample data

2 - By the year 1991 the age groups go up to 80 years or more; from 2000, going up to 100 years or more.

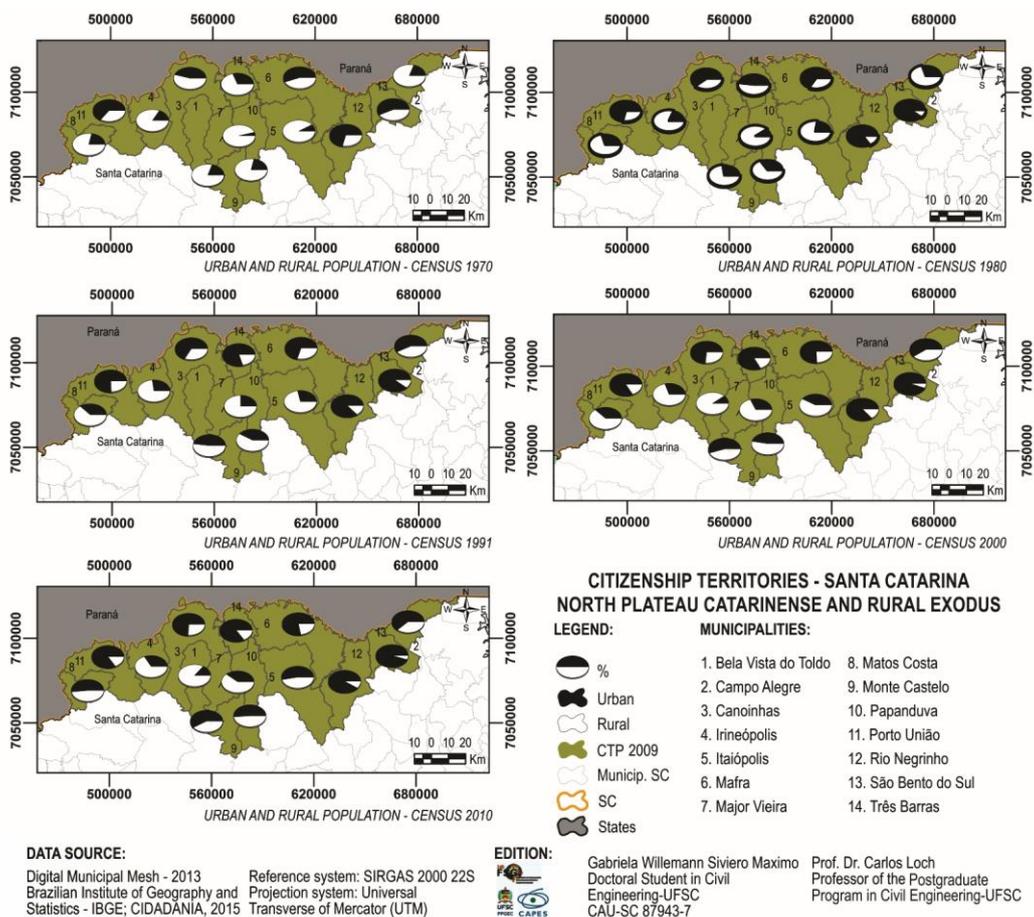
3 - The municipality of Matos Costa was not considered in this table because, despite being inserted in the Citizenship Territories Program - North Plateau Catarinense, is not a member of Mesoregion North of Santa Catarina

Source: IBGE – Statistic data

Despite this demographic characteristic for the region, the Citizenship Territory, the North Plateau of Santa Catarina, there are some municipalities whose vocation does not help in determining the man in the field, such as the municipalities of São Bento do Sul, Rio Negrinho (neighboring municipalities in the eastern portion the Territory) and Porto União (municipality located in the western portion the Territory) that since 1970 have always had the majority of the population residing in its urban areas, always staying below the average national, regional and state. Leaving aside the three cities mentioned above, only the municipality of Três Barras, from the year 1991, reversed his balance and started to be part of this statistic, remaining below average.

These four municipalities have an economy highlighted by the manufacturing products in which the feedstock revolves around the wood chain. São Bento do Sul and Rio Negrinho in the furniture area, Port Union in producing wooden frames and Três Barras by the paper industry. In the proportion of residents in urban and rural areas of the Citizenship Territories Program - North Plateau of Santa Catarina, presented in Figure 4 visualizes the evolution of each municipality since the year 1970 and the numbers have been increasing in recent decades.

Figure 4. Map of Citizenship Territories North Plateau and rural exodus



Source: Authors

According to the Brazilian Institute of Geography and Statistics, for the group of municipalities that make up the territory of citizenship, the North Plateau of Santa Catarina, in the Census 1970 only Mafra, Porto União, Rio Negrinho and São Bento had the largest number of urban population. Over the decades this statistic has changed to such an extent that in the Census of 2010, only three municipalities remained classified as typically rural populations: Bela Vista do Toldo, Irineópolis and Major Vieira.

Aspects that characterize and strengthen the rural exodus in the municipalities of São Bento do Sul and Rio Negrinho

According to the Brazilian Institute of Geography and Statistics (2016a), the municipality of São Bento do Sul is the most populous territory with 74,801 inhabitants and the 2nd Human Development Index - highest, with the value of 0.782, having a land area of 501,634km²; Rio Negrinho already has 39,846 inhabitants, a Human Development Index of 0.738 and a land area of 907,311km² (ranked as the 4th largest city in area the Territory).

The municipalities of the Territory of Citizenship - North Plateau of Santa Catarina, São Bento do Sul and Rio Negrinho are those with the largest number of people living in cities, in which 95.23% and 91.22% are in urban areas respectively (BRAZILIAN INSTITUTE OF GEOGRAPHY AND STATISTICS, 2016a). This factor can be related to many industries in these municipalities, in particular, to furniture, to classify the region as the largest number, followed by the West of Santa Catarina.

"Santa Catarina stands out at the national level in the production of furniture with a predominance of wood. The municipalities of São Bento do Sul, Palhoça and Rio Negrinho, focuses the largest volume companies, while in the West is the second largest center of state furniture manufacturer. The catarinense furniture industry has a share of 7.5% of the national industry, taking into account the value of industrial transformation. The state is the country's second largest furniture exporter (2014) "(Federation of Industries of the State of Santa Catarina, 2015, p. 16).

The municipalities that make up the territory of Citizenship - North Plateau of Santa Catarina four figured as part of the ranking "*number of exporting companies by municipalities of Santa Catarina in 2013 and 2014*" in Santa Catarina state, where, São Bento do Sul (has the highest Gross Domestic Product - GDP) appeared in 7th place with 51 companies, Rio Negrinho in 21st place with 19 companies, Mafra in 24th place with 15 companies and Canoinhas in 30th place with 13 companies (FEDERATION OF INDUSTRIES OF THE STATE OF SANTA CATARINA, 2015).

**Table 3. Demographic data the urban population and rural
Brazil – Region – Federation Unit - CTP Plateou North Catarinense – municipalities Rio Negrinho and São Bento do Sul**

Resident population by sex, age groups and situations - Sample - General Population Characteristics						
Variable = Resident Population (People)						
Sex = Total						
Age groups = Total						
Brazil, Region, Federation Unit, Mesoregion North, SBS, RN	Household Situation	Year				
		1970	1980	1991	2000	2010
Brazil	Urban	55,94	67,59	75,59	81,19	84,37
	Rural	44,06	32,41	24,41	18,81	15,63
Souh	Urban	44,29	62,4	74,12	80,92	84,94
	Rural	55,71	37,6	25,88	19,08	15,06
Santa Catarina	Urban	42,98	59,37	70,64	78,72	83,99
	Rural	57,02	40,63	29,36	21,28	16,01
North Catarinense (Only municipalities in CTP - North Plateau)	Urban	34,41	46,89	58,05	59,39	63,02
	Rural	65,59	53,11	41,95	40,61	36,98
Rio Negrinho	Urban	70,84	84,69	87,06	86,59	91,22
	Rural	29,16	15,31	12,94	13,41	8,78
São Bento do Sul	Urban	56,76	89,74	89,62	94,48	95,23
	Rural	43,24	10,26	10,38	5,52	4,77
Note:						
1 - For the year 1991, the universe data. For other years, Sample data						
2 - By the year 1991 the age groups go up to 80 years or more; from 2000, going up to 100 years or more.						
3 - The municipality of Matos Costa was not considered in this table because, despite being inserted in the Citizenship Territories Program - North Plateau Catarinense, is not a member of Mesoregion North of Santa Catarina						

Source: IBGE – Statistic data

In order to illustrate the transformations that have occurred in the numbers of people in rural and urban populations within the two municipalities corpus of this study, Table 3 presents the time series of statistical data on the demographics of São Bento do Sul and Rio Negrinho and the numbers at national, state, mesorregional and also in his Territory Citizenship. In this table is clear rural exodus information that occurred over time in these two municipalities, especially since the 1980s when, São Bento do Sul jumped from a rural population of 43.24% (1970) to 10.26% (1980) and currently (2010) figure with only 4.77% and Rio Negrinho jumped from 29.16% (1970) to 15.31% (1980) and in 2010 has a rural population of only 8.78%.

Final Considerations

The realization of a demographic study proves that combat challenges rural exodus still exist within the municipalities of Citizenship Territories, which are becoming a worrying fact, since there was no decrease in the last census. Combat it, this will not be an easy task.

Although the program presents the four municipalities, the Territories of Citizenship Program - North Plateau of Santa Catarina grouped, considering geographical, cultural and similar economic characteristics, it is observed that within the territory are distinct economies, which does not favor the application of same strategies for all except a complementary action to another. The need of predominantly rural municipalities will be different from the predominantly urban.

The municipalities of São Bento do Sul and Rio Negrinho, for example, have different characteristics from the others, which are believed to be included in this group for reasons of location. The two furniture makers, municipalities in northern Santa Catarina are at the start of the plateau, along with Campo Alegre (municipality whose population ratio between urban and rural has changed considerably in recent decades). The three together - Campo Alegre, São Bento do Sul and Rio Negrinho - have an important link with the coast, with mountainous region of Santa Catarina and one of the largest consumers poles of relevance of Brazil, the city of Curitiba, State of Parana.

Data from the Brazilian Institute of Geography and Statistics show that despite the actions taken within the program, the rural exodus is present in all member municipalities, which shows that the actions are not enough, because even before this program started, other They have already been implemented, such as the Rural Territories Program.

The analysis demonstrates that despite investments in actions aimed at regional reality, there is a low reflection in combating rural depopulation at the municipal level and show that more effective action is necessary in the municipalities that make up the territory. Perhaps the secret to some, is to create opportunities more job options and study in the field, instead of promoting the closure of schools in rural areas, as occurred in recent years; for others, greater infrastructure road system that connects the field to the city. In sum, a good strategy for the case of the Citizenship Territories Program can be individually think some strategies for the collective good of all municipalities.

References

- BRAZIL.** *Decreto de 25 de fevereiro de 2008. Decreto de 25 de Fevereiro de 2008: Institui o Programa Territórios da Cidadania e dá outras providências.* Brasília, DF, Available in: <http://www.planalto.gov.br/ccivil_03/_Ato2007-2010/2008/Dnn/Dnn11503.htm>. Acess: 29 feb. 2016.
- BRAZIL.** *Decreto de 23 de março de 2009. Decreto de 23 de março de 2009: Dá nova redação aos arts. 1o, 3o e 6o do Decreto de 25 de fevereiro de 2008, que institui o Programa Territórios da Cidadania, e dá outras providências.* Brasília, DF, Available in: <www.planalto.gov.br/ccivil_03/_Ato2007-2010/2009/Dnn/Dnn11991.htm#art1>. Acess: 23 feb. 2016.
- FEDERATION OF SANTA CATARINA STATE INDUSTRIES - FIESC.** *Santa Catarina em Dados / Unidade de Política Econômica e Industrial.* - Florianópolis: FIESC, 2015.
- SANTA CATARINA STATE GOVERNMENT.** *Conheça SC.* Available in: <<http://www.sc.gov.br/conheca-sc>>. Acess: 29 feb. 2016a.
- SANTA CATARINA STATE GOVERNMENT.** *Economia.* Available in: <<http://www.sc.gov.br/index.php/economia>>. Acess: 29 feb. 2016b.
- BRAZILIAN INSTITUTE OF GEOGRAPHY AND STATISTICS - IBGE.** *Censo 2010.* Available in: <<http://www.ibge.gov.br/home/estatistica/populacao/censo2010/>>. Acess: 29 feb. 2016a.
- BRAZILIAN INSTITUTE OF GEOGRAPHY AND STATISTICS - IBGE.** *Dados Estatísticos.* Available in: <<http://www.sidra.ibge.gov.br/>>. Acess: 29 feb. 2016b.
- CITIZENSHIP TERRITORY.** *Portal da Cidadania.* Available in: <<http://www.territoriosdacidadania.gov.br/dotlrn/clubs/territoriosrurais/one-community>>. Acess: 10 out. 2015.
- UFSC, FEDERAL UNIVERSITY OF SANTA CATARINA.** Centro Universitário de Estudos e Pesquisas sobre Desastres. *Atlas brasileiro de desastres naturais: 1991 a 2012.* 2ed. rev. ampl. Florianópolis: CEPED, 2013.