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INTERNATIONAL TRADE OF FRUITS: REFLECTIONS FROM THE SUBMÉDIO SÃO FRANCISCO

COMÉRCIO INTERNACIONAL DE FRUTAS: REFLEXÕES A PARTIR DO SUBMÉDIO SÃO FRANCISCO

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Abstract

The race for economic development has brought an unprecedented transformation in agricultural activities and has been subordinated to an international logic of production and commercialization. This new scenario demanded the reconfiguration of urban and rural spaces, which were now endowed with new enterprises and meanings. Several activities once only found in the urban context, are now also available in rural areas. The transit of people between these spaces also began to have a new meaning. This article aims to contribute to the dialogues around urban dynamics and its relationship with the rural environment in Brazil, with emphasis on the *submédio* region of the São Francisco river valley, especially Petrolina and Petrolândia, Pernambuco municipalities. In the decades of 1980's and 1990's, these municipalities began their investments in irrigated fruit production and currently have their products commercialized in the main retail chains of the world. However, this process has also brought challenges for public management of these areas and also for reducing income inequality among producers.

Keywords: Semi-arid; Irrigated fruticulture; Export; Agroindustry complex

Resumo

A corrida em prol do desenvolvimento econômico promoveu uma transformação sem precedentes nas atividades agrícolas e passaram a ser subordinadas a uma lógica internacional de produção e comercialização. Este novo cenário demandou a reconfiguração dos espaços urbanos e rurais, que passaram a ser dotados de novos empreendimentos e significados. Diversas atividades outrora encontradas somente no urbano, agora também estão disponíveis no rural, o trânsito de pessoas entre esses espaços também passou a ter novo sentido. Este artigo tem o objetivo de contribuir com as discussões em torno das dinâmicas urbanas, sua relação com o ambiente rural no Brasil, com ênfase na região do submédio do vale do rio São Francisco, em especial Petrolina e Petrolândia, municípios pernambucanos, que nas décadas de 80 e 90 iniciaram seus investimentos na fruticultura irrigada e atualmente possuem seus produtos comercializados nas principais redes varejistas do mundo. Contudo, este processo também tem trazido desafios para gestão pública dessas áreas e também para redução desigualdade de renda entre os produtores.

Palavras-chave: Semiárido; Fruticultura irrigada; Exportação; Complexo agroindustrial

Introduction

The search for development that the world experienced in the second half of the twentieth century has promoted a significant transformation in agriculture, resulting in its consolidation of subordination to the market.

This dynamic restructured the agrarian space, provoking an unprecedented transformation, driven by massive production that became the main objective of the rural producer, intensifying its link with the market. As a consequence of this change, the field was endowed with new flows. New equipment and relations, once found in urban environments, invaded the rural space.

The Municipality of Petrolina (PE), after receiving state incentives for the growth of its agriculture, began to invest in the production of grape and mango for export, becoming a regional pole and achieving significant relevance in the national scenario.

The investment in irrigated fruit farming has been spreading in the *submédio* of the São Francisco Valley. This activity transformed the rural environment of several municipalities along the valley. In this article we will discuss the main transformations that occurred in the Municipalities of Petrolina and Petrolândia - Pernambuco. The first is a consolidated agro-industrial complex with an intense countryside-city relationship. The second is the municipality with the second largest coconut production in the state, with exports to several regions of the globe. Different from the previous one, Petrolândia has an incipient economic autonomy and deficient infrastructure. Both share a significant transformation of their rural and urban spaces, mainly caused by a demand for international trade.

In Petrolina grape and mango plantations are the city's main productions. After becoming a place of public intervention benefiting from the energy policy consolidated with the construction of the *Sobradinho* Dam, the municipality began to show a high rate of immigrant population, consorted with the acquisition of new urban equipment and high technology rural enterprise.

The Municipality of Petrolândia passed through a process of resettlement, due to floods resulting after the construction of the Luiz Gonzaga Hydroelectric Power Plant. The city was rebuilt and irrigated perimeters were built to resettle former farmers. Investments in the cultivation of coconuts began in the 1990's giving the municipality its current participation in the international scenario by commercializing with main agro-industries across the country.

Agro-industrial complexes and their relations with urban space

According to Elias (2006) agriculture is under the aegis of globalization, manifested in the form of production, circulation, distribution or consumption, which proves to be one of the activities most influenced by the technological revolution, in the second half of the 20th century.

The repercussions of this revolution in the Brazilian countryside was so intense that even after almost 500 years of exporting its agricultural products, it was only during the last century that national agriculture reached a pattern of internationalization driven by continuous productive restructuring and globalization (ELIAS, 2006).

This moment is characterized by a substitution of equipment, as much concerning the cultivation of plants as the breeding of animals, since the new equipment was no longer compatible with the old forms of production, distribution and consumption. Therefore, it became a new model of technical, economic and social organization of agricultural development (ELIAS, 2006).

The arrival of this revolution drove the Brazilian countryside into a series of unprecedented transformations. Graziano da Silva (1997) states that the Brazilian rural environment has been urbanized in the last four decades as a consequence of this technological process inserted in the field, resulting in the industrialization of agriculture and the greater presence of urban characteristics in the rural world. As stated below:

> In fact, it is increasingly difficult to delineate what is rural and what is urban. But what might seem to be a relevant issue is not: the difference between rural and urban is becoming less important. It can be said that rural today can only be understood as a "continuum" of the urban from the spatial point of view; and from the point of view of the organization of economic activity, cities can no longer be identified only with industrial activity, nor fields with agriculture and livestock (GRAZIANO DA SILVA, 1997, p. 01).

The advent of the technical-scientific-informational settings in rural areas has endowed this environment with new functionalities, transforming its design at the root, according to the total remodeling of the territory and the organization of a new and more complex urban system. Thus, it was noted the need for deep studies to understand this new phenomenon in rural areas (ELIAS, 2006).

Therefore, several scholars no longer support the idea that the Brazilian rural space should be considered only as agrarian, since the agricultural calendar and the movements of growth and reduction of areas, as well as the productive process are no longer the main responsible for behavior of jobs, population dynamics and economic growth in this environment (GRAZIANO DA SILVA, 1997).

This process began the formation of "agro-industrial complexes" (CAI). This symbolizes a moment in which agriculture became increasingly integrated with other sectors of the economy, losing its identity, as well as its internal balance that was based on itself. In this way, it became more dependent on the sectors that supply inputs, facilitate the circulation of their goods and buy their products (GRAZIANO DA SILVA, 1997).

The rigid conception of CAI refers to the processes that occurred in industrialized countries, where the nature of the social relations and the material bases that make up the Brazilian CAIs are not considered, so it is necessary to establish the conformations that specify the phenomenon in the national territory (MÜLLER, 1989).

The "agro-industrial complexes" - CAIs are a new phase experienced by rural areas, which leaves the "rural complex" and assumes this new style, demonstrating the exchange of the natural economy by agricultural activities integrated to the industries. The CAI scenario is also shaped by the intensification of the division of labor and trade between the various industrial sectors. The specialization of agricultural production, together with the need for professional qualification and the substitution of exports for internal productive consumption as a natural element of resource allocation, are also part of this new environment (GRAZIANO DA SILVA, 1991).

The CAI can be characterized as a set of successive activities related to the production and transformation of agricultural and forestry products. Some elements are highlighted in this process as: product generation, followed by collection, storage and transportation, benefit and transformation, capital goods production and industrial inputs for agricultural activities, and distribution of industrial and agricultural products. Associated with this scenario are developed technical assistance and forms of financing, research and application of technology (Figure 1) (MÜLLER, 1989).

The broader definition of CAI is based on the organization of productive structures linking industry to agriculture, whether for the purpose of processing products originated from agricultural

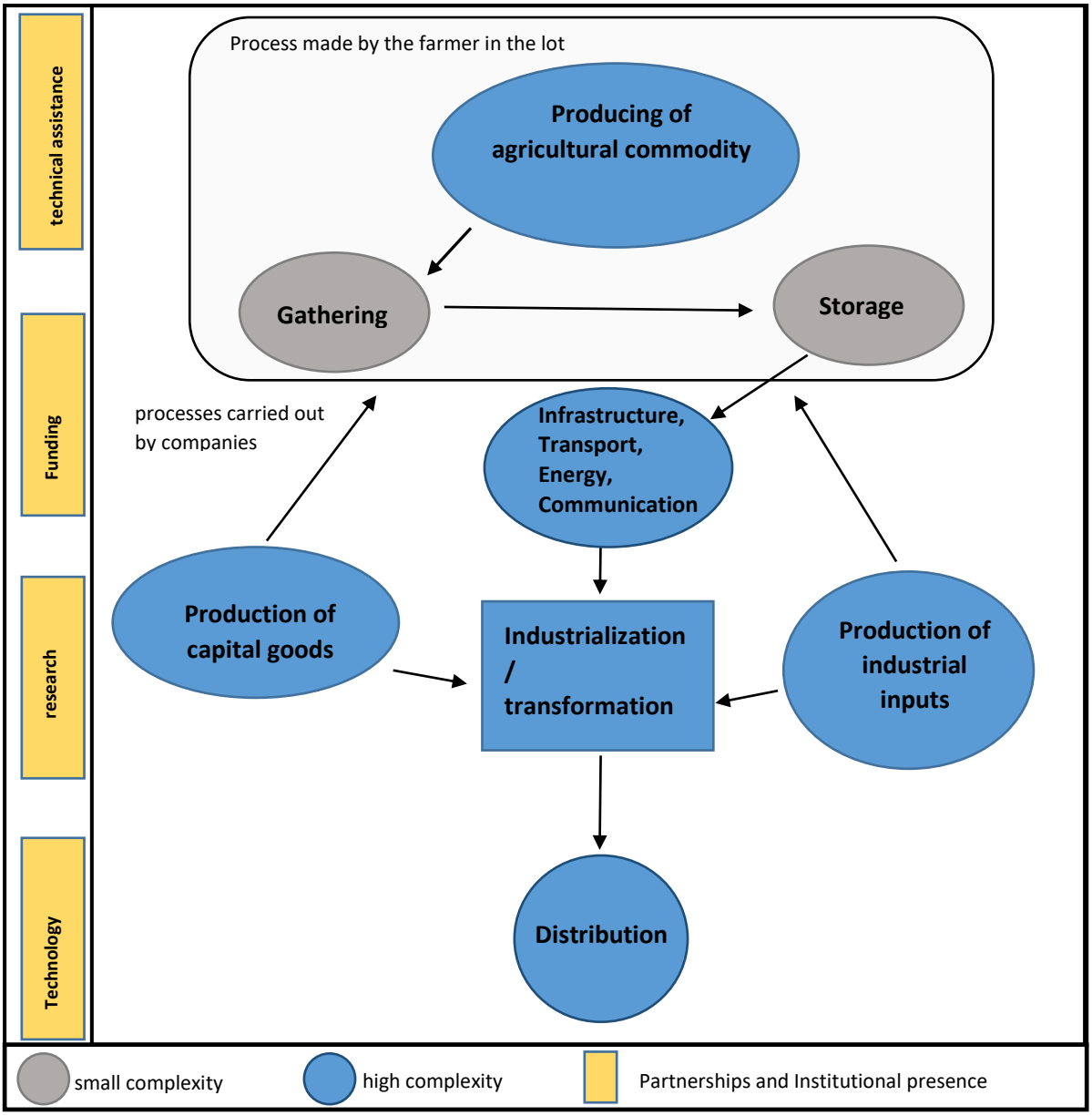
activities to meet a specific social or market demand, as well as providing raw materials for consumption in industry (MÜLLER, 1989).

In general, CAI is understood to be a socioeconomic process where agricultural production is in high demand, and in its surroundings equipment is installed to improve the stages of cultivation and harvest, and for the processing and transformation of the final product. Within this scope are conceived spaces where industrial goods are produced, and financial, technical and commercial services aimed at the advancement of the productive process, in order to match the needs of the market.

As shown in figure 1, there are three important elements in the configuration of a CAI: those of small complexity, which are inherent to the activities of the farmer; those of great complexity, these are not limited to the field of agricultural knowledge, unfolding in specializations in diverse areas, such as logistics, engineering, nutrition; and finally, the elements that work through partnerships between governmental and private entities, with the performance of professionals with a high level of technical qualification.

The constitution of its space is also defined by the presence of a nucleus, where its activities act interdependently, highlighting some sectors that are more relevant to the process as a whole. In this way, it is understood, for example, that agriculture, as the main activity, may be subordinated to industrial or commercial sectors, such as retail chains. The structuring of the nucleus is understood through the intervention of socioeconomic interests, which are responsible for its permanent reproduction (MÜLLER, 1989).

Figure 1. Basic scheme of an Agro-industrial complex



Source: Guilherme Araújo

In the "agro-industrial complexes" the dynamics of agriculture is determined by the pattern of industrial accumulation (ELIAS, 2006). This is the scenario of modern agriculture in Brazil, which is also the reflection of a global movement (GRAZIANO DA SILVA, 1999). In this context there is a production that prioritizes the commercialization of commodities and raw materials for

agro-industrials. This demands a new economic and social organization of agriculture, which will lead to symbiosis of sectors of the economy due to the flow of industrial and financial capital (ELIAS, 2006).

This process has repercussions on the technical structure of economic activities, causing significant impacts on labor relations, together with the transformation of the set of rules and standards that control relationships. In this sense, it can be seen that the social and territorial division of labor has been reoriented, causing profound changes in the demographic structure, in the diffusion and organization of jobs, by generally benefiting the acceleration of the urbanization process (ELIAS, 2006).

The emergence of the "agro-industrial complexes" is capable of provoking re-elaborations of the territory to meet the demands of the new firms, which increasingly seek to specialize their production. In this sense, new fixes emerge or, in other words, artificial equipment that overlap with nature, making social and work relations increasingly complex (ELIAS, 2006). In this context, contracts are broken, rights are lost, legislation is changed, other technical systems are attracted, forming a corporate urbanization, under the leadership of large industrial organizations and newly installed business groups.

The foundation of the emergence of "agro-industrial complexes" is to strengthen the historical process of development and rooting of capital in the countryside, through the creation of an internal market and guarantee of commercialization in other markets. In this context, different forms of operations emerge resulting in the transformation of feedstock. As a result, different industrial branches arise with particular characteristics, establishing commercial relations between them and also (merchandise exchanges), developing a process of specialization of services and products (GRAZIANO DA SILVA, 1997).

According to MOTTER Apud Kageyama et al., (2001) the "agro-industrial complex" is formed by economic aggregates and articulated mainly around specific technical-productive structures, or around productive chains.

The Municipality of Petrolândia is striding forward to transform itself into an agro-industrial complex around the coconut production chain. In the last three years four agro-industries have settled in the region to produce coconut water for both the national and international markets.

The scenario of Petrolina

After the investments in irrigated agriculture between 1960 and 1970, the incentives for the production of fruits, mainly grape and sleeve were strengthened during 1980s. In 1985 Petrolina made its first export to Europe, and in later years other markets such as the United States and Japan were reached.

The success of exports motivated the expansion of rural and urban infrastructure of the municipality with the installation of new urban equipment to support the dynamics of agriculture. The Construction of a Convention Centre to hold agro-business fairs and to house institutions and municipal agencies, the Construction of the Senador Nilo Coelho Airport capable of receiving international cargo flights, and the installation of packing houses on farms are some examples of the transformations that occurred in the municipality, with the objective of optimizing the local agricultural structure, in favor of the consolidation of consumer markets.

The development of the agricultural sector, with the use of technologies such as irrigation, inputs, management methods, etc., has improved production quality. The construction of the airport provided greater agility in transportation, causing production to reach the expected conditions in the consumer market. The new structure in the municipal scenario in the 1980s contributed to the VSF producers investing in grape and mango due to their high valorization in the foreign market, which was higher than other products in the region, such as melon, guava and *acerola*.

Grape and mango have adapted very well to the only tropical Semiarid in the world. Mango can also have two harvests per year, which is not indicated for greater plant and environmental preservation. Even so, mango can have its crop in any season. This condition allows producers of the region to dominate the European market from September to December, since it is the time of the year in which competition is low.

From the first exports in the 1980s, the growth of grape and mango production was vertiginous throughout the VSF producing region. The municipalities on the Bahia and Pernambuco region began to invest in these crops, which were well accepted in the international market, boosting the economies of these municipalities, mainly Petrolina and Juazeiro, which together form an agro-export hub (table 1).

Investments in the region have led to increase commercialization with the international market. The region started to export 99% of table grapes and 87% of mangos produced (SEBRAE, 2009). As it can be seen in table 1, the production of grapes and mangoes in 1995 was already higher than in the 1980s, which confirms the good acceptance of the product on the market as a consequence of high investments in irrigation.

In subsequent years, the participation of the Petrolina micro-region in the international market of mango and grape has continued to grow, consolidating the main consumer markets and conquering new commercial spaces in Asian countries and other economic groups within the European market itself.

Table 1: Production of Tomato, Watermelon, Beans, Grapes and Mango in Petrolina in the Year of 1985 and 2006

Products	1985		2006	
	Quantity	Planted Area (HA)	Quantity	Planted Area (HA)
Tomato	47 733 [2]	1 944	3.840[2]	120
Watermelon	2 318 [1]	462	4.000[2]	200
Beans (2ª safra)	69 [2]	59	____	____
Grape	341 [2]	48	111.000[2]	4.800
Mango	507 [1]	7	150.000[2]	8.160

Source: IBGE. Agricultural Census, 1985 and 2006.
[1] one thousand fruits, [2] tons.

The growth of the agro-export sector contributes to increase the attraction of the municipality by immigrants to fill the vacancies in the new agricultural enterprises, industries and services. According to the CONDEPE / FIDEM agencies between 1990 and 2000, there was a 3.4 a.a population growth (PERNAMBUCO, 2005). According to Cavalcante (1997) at that stage, 80% of its population was composed of immigrants. The regional center attracts, each year, about 15 thousand people.

Europe is the main importer of VFS farms. The Kölla, Capespan, Tesco, Markspence, Hage, Dayka & Hackett, Dole, Labrunier and Pura Fruta groups are the main trades that operate in the region, buying fruits and reselling them in European and American supermarkets. Some producers consider the Tesco group, which has its own supermarket chain, as the best payer; however, it is also the most demanding.

In 2000 the exports of the VSF already occupied a prominent role in the Brazilian scenario. According to *Folha do São Francisco* (2010) in 2008, exports of mango and grapes accounted for 37% of the percentage of fruit destined abroad, and in 2009 it was 33%, which corresponded to 188 million dollars. According to CODEVASF (BRASIL, s.d), the VFS region is responsible for 99% of table grape exports and 80% mangoes from all over Brazil.

According to data in table 3, in 2006, Petrolina direct mango exports corresponded to approximately 10% of the national total, and in all Pernambuco State, the largest concentration of planted and production area is located in the municipality, which holds more than 10% of the national planted area. In the table 4 is presented that Petrolina is the biggest grape producer in the State with an important rate of export from the region.

Table 2: Production of Mango and Grape in Pernambuco, in the Meso-region of São Francisco Pernambucano and in Petrolina, in the Year 1995

ESPACES	MANGO		GRAPE	
	Quantity (T)	Planted Area (HA)	Quantity (T)	Planted Area (HA)
Pernambuco	115.813	3.547	56.672	2.615
São Francisco Pernambucano' s Mesoregion	40.755	1.185	55.730	2.458
Petrolina's Microregion	36.236	988	55.650	2.450
Petrolina	33.876	941	33.600	1.400

Source: IBGE. Agricultural Census, 1995-96.

Table grape's numbers (table 2) are more favorable for the municipality. The value of this export corresponds to more than 50% of the international marketing of the entire country; while the planted area and quantity produced do not reach 8% of the national total. These data indicate that the municipal marketing of table grapes abroad takes place on a large scale and is not restricted to the domestic market, like other producing regions.

The fact of exporting in great quantity has leveraged its position in the national ranking and conferred to the region the recognition as a Geographic[1] indicator – of origin - providing to the region a proper identity, besides differentiating its grapes and mangoes from those of other producing regions, because of its quality.

The production's shipment takes place through the main ports of the Northeast as well as through the airport of Petrolina, being the largest commercial warehouse in the region.

Distribution by air is carried out directly to Japan allowing greater diffusion of the fruits of the valley in other markets. The production of the San Francisco Valley is found in the most diversified commercial enterprises in destination countries, from small establishments in small towns to large supermarkets.

Table 3: Quantity Produced, Planted Area and Mango Exports in Brazil, Pernambuco, Meso-region of São Francisco Pernambucano and Petrolina, in the year 2006.

SPACES	MANGO		
	Quantity Produced (T)	Plante Area (Ha)	Exportation US$ F.O.B
Brasil	1.154.649	79.009	118.703.985
Pernambuco	196.507	11.869	34.652.563
Mesoregion of São Francisco Pernambucano	188.780	10.918	–
Petrolina	150.000	8.160	17.447.021

Source: IBGE, 2010; SECEX, 2010; IBRAF, 2010.

There are a wide dissemination of products of the *São Francisco* valley in the European continent: it is common to find seedless grape in the supermarket. Figure 2 shows the facade of a fruit market in Konin, Poland, city with a population of less than 100,000 inhabitants, which sold products from the valley, in this case, mango.

The good acceptance of VSF fruits on the European market is mainly due to the quality of the product, which has been in line with consumer expectations. In the VSF region seedless

[1] The Sebrae in partnership with the National Institute of Industrial Property (INPI) have created Geographical Indication (GI) stamps indicating the origin or denomination of origin, that is, the geographical name of a certain locality that became famous for the production of a given product or services (SEBRAE, 2009). In Brazil there are only 6 regions with GI. The GI of the *Submédio São Francisco* was awarded in a seal of the Northeast and it is recognized as unique in Brazil in the production of mango and grapes (SEBRAE, 2010).

varieties such as Thompson, Crimson, Sugraone; and ones with seeds, Red Globe, Italy, Piratininga, Brazil, Benitaka and Rubi are produced. All varieties are commercialized in the domestic market and seedless varieties in the foreign market.

Table 4: Parallel between Quantity Produced, Planted Area and Table Grapes Exports in Brazil, Pernambuco, Meso-region of São Francisco Pernambucano and Petrolina, in the Year 2006

SPACES	GRAPE		
	Quantity Produced (T)	Planted Area (HA)	Exportation US$ F.O.B
Brasil	1.421.431	81.286	171.456.124
Pernambuco	165.075	6.973	104.247.413
Meso-region of São Francisco Pernambucano	160.298	6.458	_
Petrolina	111.000	4.800	99.630.254

Source: IBGE, 2010; SECEX, 2010; IBRAF, 2010.

According to experts from Sebrae and Embrapa, the VFS grapes and mangoes reach the standard set by the most demanding international groups on the market. The grape of the Thompson variety, for example, has a brix of 16º, 17mm caliber and an acidity dosed in 20: 1, corresponding a high quality, observed in every detail, which includes perfection from the appearance to the taste. "It's a fruit for the English to taste," as the Valley growers say.

Figure 2. Konin small market in Poland. It commercializes mangoes from the São Francisco Valley.

Photo: Guilherme Araújo, February 2008.

Petrolândia's scenario

In the last decade, Brazil has entered the group of the world's largest coconut producers, currently occupying the fourth place, behind Indonesia, the Philippines and India, and followed by Sri Lanka (table 5). The top five producers account for approximately 80% of the world's coconut production, with only Indonesia contributing almost 1/3 of this share. Brazil accounts for a contribution of about 4.7% (table 5) (FAO, 2015).

Table 5: Harvested area and coconut production of the world's top five producers in 2014

Countries	Harvested Area (million hectare)	Production (million hectare)
Indonesia	3.087.770	19.102.130
Philippines	3.502.011	14.696.280
Índia	2.140.000	11.078.873
Brazil	250.554	2.919.110
Sri Lanka	394.836	2.181.000
Total	9.375.171	49.977.393
World	12.038.381	61.440.691

Source: FAO, 2016.

Brazilian coconut water is recognized as a refined and sweet-tasting product widely available in the European market. Brazilian products have been gaining space in the global market. Coconut water is mainly marketed through Vitacoco[2] and Dr. Antônio Martins[3]. Martins are especially sold in the German and Austrian markets, following vegan products.

The Municipality of Petrolândia plays a leading role in the Itaparica Micro-region, being also the second largest coconut producer in the State of Pernambuco, followed by Petrolina (table 6), which produces 2.53% of the national total (MARTINS; JESUS JUNIOR, 2011).

Table 6. Planted area and amount of coconut produced per year in Pernambuco, Petrolina and Petrolândia

	Planted Area (HA)	Anual Quantity (fruits)
Pernambuco	14.237	129.822
Petrolina	1.800	72.000.000
Petrolândia	1.100	44.000.000

Source: SINDCOCO, 2017.

The Municipality of Petrolândia does not have enough services and supplies to attract industries to support coconut production, which makes it difficult for new enterprises to establish themselves in the locality. However, due to the great availability of water, tax facilities and a high supply of coconut, some agro-industries have been installed, such as Paraipaba Agro-industrial and Dicoco, as well as other small bottlers. Agro-industries produce coconut water in tetra pak packages and small enterprises in plastic bottles. Yet, most of the production is destined for other agro-industries located in Petrolina (PE), Serra Talhada (PE), Conde (BA) and Maceió (AL). Current companies need to buy maintenance materials in other municipalities such as Caruaru

[2] United States Multinational active in the food segment, with emphasis on the commercialization of coconut water and derivatives, such as: coconut milk, coconut water flavored with fruit flavors and coconut oil. The company is among the largest in the world.

[3] Austrian company, of Brazilian owner, trader of coconut water and derivatives produced without preservatives or chemical additive. The company specializes in reaching vegan consumers or an intolerant public with chemicals. Currently Dr. Antônio Martins stopped buying the Brazilian coconut, due to high prices.

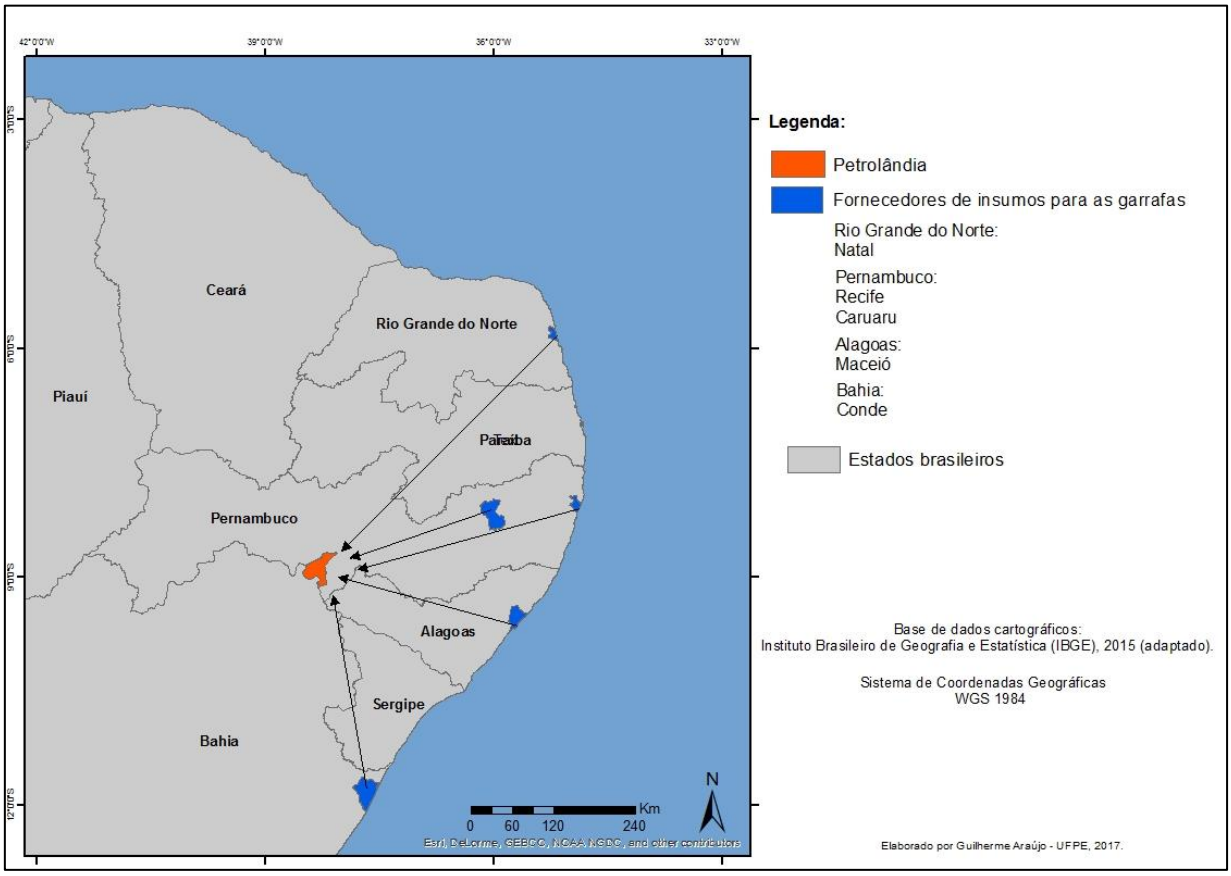
(PE), Floresta (PE), Recife (PE), Serra Talhada (PE), Paulo Afonso (BA), Fortaleza (CE) or São Paulo (SP), and in some cases the materials come from the headquarters itself.

In the case of small companies that bottle coconut water in plastic bottles, the materials are not yet available in the municipality itself. These equipment come from cities in the states of Rio Grande do Norte, Pernambuco, Bahia and Alagoas (Map 1), making difficult to spread new bottlers in their place and stimulating the potential emergence of new jobs.

Even facing difficulties in access to goods and services, the municipality has potential for economic growth, due to the large production of coconuts provided by small producers. The municipality registers a number of immigrants from several cities of the Northeast, attracted to work in irrigated agriculture.

The investment in coconut production resulted in the beginning of a significant transformation of the local rural space, acquired characteristics found in urban environments. New ventures were installed in the resettlements such as: gas station, textile industry, agroindustry for coconut processing, food technology research center, bottling plants and specialty shops in the agrochemical trade. There is a population increasing in both urban and rural areas mostly engaging in agricultural activities or related functions. Some of these workers perform an internal migration, during the day they work in agriculture and at night they sleep in the city. The opposite occurs in the case of personnel working in commerce among others. The densification of new homes has already reached the edges of rural areas causing a conflict between the urban and rural nucleus.

Map 1. Location of suppliers for plastic bottles.



Source: IBGE, 2010.

Final Considerations

The investment in irrigated fruit farming has spread in the *submédio* of the São Francisco river valley. This activity has been provoking transformations in the rural environment of several municipalities located in this region. Petrolina and Petrolândia were examples of two municipalities observed in this work. Both have been presenting a constant intensification of city-field relations. The two spaces integrate and transform themselves at the same time, being endowed by a reconfiguration concerning the aspects of infrastructure and design.

Labor relations in rural areas were no different than the ones that occur in urban areas. Even with the new demand, the exploitation of workers remained. Production to the market is steadily increasing, accelerating the movement of capital and the emergence of new ventures in

rural areas. Its relationship with global hegemonic agents is increasing, making space and labor relations inseparable from dependence on the international market.

On the other hand, small producers continue to lack access to bank credit, poor irrigation infrastructure, limited access to water, due to lack of maintenance of equipment and salinized land. This scenario is more intense in Petrolândia, which consolidates (without prospects of change) in the international division of labor as a low-cost supplier of high quality raw material.

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