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The Production of Beans with Rice in the Timeline: Considerations for Brazil and Large Regions, Based on IBGE Data

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Abstract

Employment, meeting demands, among other factors, have acted as attractive issues for population growth. Even with the growth of the economy in urban areas and the accelerated consumption of goods of different modalities, the need for food does not become less important, which denotes the relevance of valuing agriculture. Thus, the objective of this work is to make considerations related to the production of items of relevant participation in daily life for food, which are: rice, beans and for northerners, cassava flour. Secondary data from the IBGE, from 1980 to 2015, are used. The results indicate that producing food is not a difficulty in the country, given that in all regions, there is the productivity of the basic foods researched here. The conclusion is that specific problems must be analyzed in order to enable greater results in this area.

Keywords: Rice, beans, production

1. INTRODUCTION

What can be relevant with regard to food production? One of the points that can be considered concerns food security. Food production is a vital necessity for societies. Food is a simultaneously biological / natural phenomenon - insofar as the reproduction of life, survival, in a biological and natural sense depends on it, according to Ribeiro Junior, (2008). Food security must be one of the main certainties that countries can guarantee to citizens. There are several consequences of a good diet. Well-nourished people enjoy more health, are able to carry out their day-to-day activities with more energy and, among other things, are able to dedicate themselves to studies and present good earnings.

The economy is formed by the primary, secondary and tertiary sectors. In the latter there is the participation of commerce and services, in the second, industry and in the primary, agriculture, livestock and extraction account for their formation. Given the relative weight of the primary sector in the economy, the relationship between rural and urban space is interconnected, since cities, regardless of their size, depend directly on the production of the rural environment for their maintenance. Brazil is a predominantly urban country. In 1970, of the 52 million inhabitants, 55.9% already lived in cities. In 2010, of the more than 160 million, 84.3% occupied these areas, (IBGE, 2010). Factor of undeniable contribution to this fact, was the migration that occurred, since in cities there is the personification of the dynamism of the economy.

Employment, meeting demands, among other factors, have acted as attractive issues for population growth. Even with the growth of the economy in urban areas and the accelerated consumption of goods of different modalities, the need for food does not become less important, which denotes the relevance of valuing agriculture. Thomas Malthus (1766)[1], is the celebrated theorist who initiates the discussion of the importance of food in people's lives. His focus highlighted that given the population growth that characterized the

[1] O Livro da Economia (2013)

demographics of the time, food production would be insufficient to cope with the size of population demand.

Malthus said that the human sex drive caused the people to grow faster and faster. Food production would not go hand in hand, because of the law of diminishing returns: the more people working in a certain area, the less extra production will be. The result is an imbalance between the number of people and the supply of food. However, there is a countervailing force. Malthus thought that malnutrition and illnesses caused by a more limited food supply would lead to increasing mortality and prevent the imbalance from being out of control. Less food for the world would also imply less support for children, and the birth rate would drop. This would reduce pressure on the land, restoring living standards[2].

Still in the 18th century, François Quesnay[3] stated that wealth is not in gold and silver, but in production - what the farmer and the manufacturer do. He said that agriculture is so valuable because it works with nature - that it multiplies the effort and resources of the farmer - to produce a net surplus. Economists like Theodore Schultz said that agricultural development is the foundation of progress in poor countries. World food production is sufficient for an adequate food supply for the entire population. However, approximately three billion people suffer from some type of food deficiency: malnutrition or hunger, according to Gergoletti, (2008).

The main issue of inequality in food access for this significant portion of the world population is based on two factors: a) precarious or insufficient distribution / marketing of food, since the productive spaces and the technical-scientific development are differentiated in the different regions of the planet ; b) low family income and purchasing power. In the contemporary world, food products are commodities, therefore, the food supply follows the same market rules as other commodities, such as oil, steel, anhydrous alcohol, among others. This is a fact that has been revealed in Brazil, for example.

In this way, the present work makes a comparison of the evolution of the production of essential items in the Brazilian diet, such as rice, beans and flour. The first two are strongly present at the

[2] Idem
[3] Idem

table in their daily lives and, sometimes, they become part of lunch and dinner. The third element, flour, constitutes a much more concentrated food in certain locations in the country, such as in the North and Northeast macro-regions. In a timeline, it makes a quantitative reading of the use of the land (hectares) used for the production of these items and of how much (tons) was produced in these spaces, in Brazil, in the North Region, in Amazonas and in Pará.

In order to respond to the proposed objective, aggregated data from the Brazilian Institute of Geography and Statistics (IBGE) were used, which is the body that covers national coverage of a variety of information and that enables research. The structure of the work is distributed as follows: in addition to this introduction, section 2 presents the methodological procedures. The next section deals with the discussion of the results. Finally, there are the final considerations.

2. METHODOLOGY

In order to respond to the proposed objective, in this research, at first, a review of the literature related to the field studied was performed, as this action seeks relationships between concepts, characteristics and ideas. It is characterized by the early action of research from scientific articles published in journals, dissertations and doctoral theses, (ALMEIDA, 2011; SEVERINO, 2007). The data are extracted from the IBGE Automatic Recovery System - SIDRA, and cover a period of 35 years (from 1980 to 2017).

3. DISCUSSION OF RESULTS

Rice is a food that is part of a significant population volume on the planet. It can be produced both in an irrigated manner and in the highlands. Rich in carbohydrates, this cereal has several types: white rice, parbolized rice, black rice, red rice, cateto rice and arboreal rice. The bean, according to Petrillli (2007), (Phaseolus vulgaris L.) is grown in almost all of the Brazilian territory, in different periods and cultivation systems, being considered one of the most important

constituents of the population's diet. It has amino acids, carbohydrates, vitamins, minerals, fibers and, mainly, rich in protein. The bean has a high level of variability for color, size and shape of the seed. Brazil is divided into regions that have different preferences in terms of grain type, color and size. The type of beans most consumed by people in the country is that of small seeds. As examples, we have black beans, which are most consumed in Rio Grande do Sul, Santa Catarina, south and east of Paraná, Rio de Janeiro, southeast of Minas Gerais and south of Espírito Santo. Carioca beans are accepted in practically the whole country (PETRILLI, 2007 apud VIEIRA; BOREM; RAMALHO, 1999).

Northern cuisine is strongly influenced by indigenous culture. Cassava flour does not constitute the main product obtained from the root: tapioca, starch, beijus, pirões and porridge are obtained from the product, as well as several other consumption options such as gum and tucupi, used in tacacá . From it you can also extract the starch, which is widely used in Brazilian industry. The nutritional assessment of the root shows that it has a strong composition of calcium, iron and phosphorus, in addition to the B vitamins. In addition to the culinary representativeness, there is the economic importance of cassava in the North and Northeast regions of Brazil. In reality, consumption of the product represents one of the main sources of income for the populations of rural areas in different locations in the regions (FERREIRA et al 2014).

3.1 Hectares used in production

In order to respond to the objective proposed in this work, this section demonstrates the use of hectares in Brazil and the North region, as well as the production obtained through the production process. As seen in figure 1, the use of hectares on land in Brazil has been systematically reduced from 1990 to 2015. In the country the greatest use (figure 1), points to greater use in the 1990s. As of 2005, the reduction is significant . For rice, there is less use in terms of hectares and systematically for cassava.

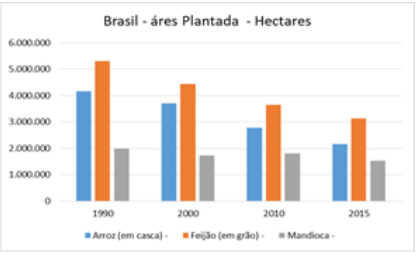

Figure 1: Brazil - Hectares
Source: IBGE

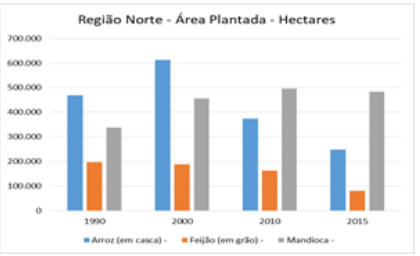

Figure 2: North Region - Hectares
Source: IBGE

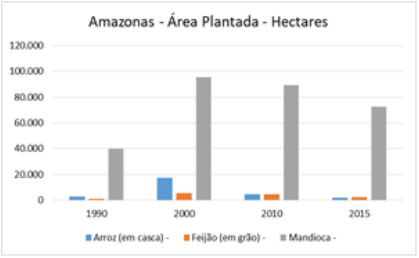

Figure 3: Amazon – Hectares
Source: IBGE

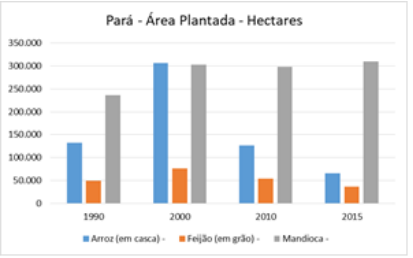

Figure 4: Pará - Hectares
Source: IBGE

In the North Region, the largest concentration of hectares is due to the cultivation of rice, which has also been reduced since 2010 (figure 2). In the state of Roraima, due to problems between producers and indigenous people, given extensions of land that were returned in seconds. This fact is possibly a result of this circumstance.

In Amazonas, the productivity of rice and beans is quite incipient, compared to that of cassava. For the state of Pará there is already a differentiation in rice production. There is a greater use of land (hectares), especially in the period 2000 to 2005.

3.2 Production in Tons

Food production is an essential condition to provide a basis for survival for the population of a given country. According to FAO (2010), it is the right of every human being to have an adequate and healthy diet, from the point of view of health, respect for food culture, economic, social, environmental sustainability, availability and permanent access to food. quality food, without compromising other needs inherent to a dignified life. In this way, through the following

data, observations related to the production obtained at the same time are are made.

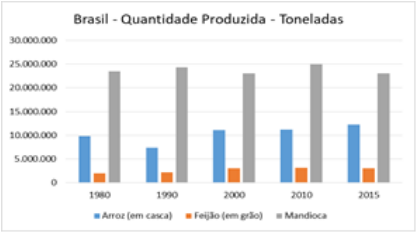

Figure 5: Brazil - Production in tonnes
Source: IBGE

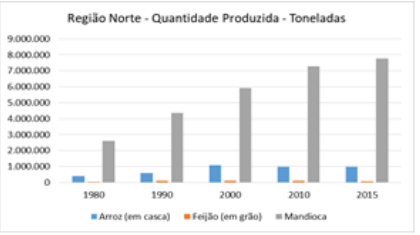

Figure 6: North Region - Prod. in tonnes
Source: IBGE

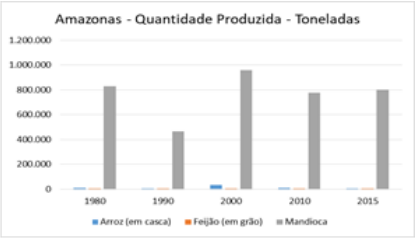

Figura 7: Amazon – Production in tonnes
Source: IBGE

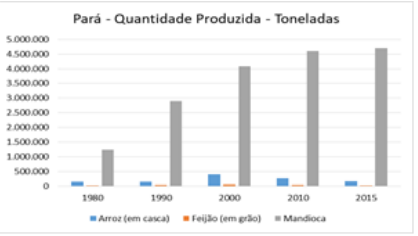

Figura 8: Pará – Production in tonnes
Source: IBGE

It can be seen that Brazil produces a significant volume of cassava. In general terms, according to the data, much higher than the production of rice and beans, (figures 5 and 6). Amazonas does not have a specialty in producing rice and beans. This is what is shown in figure 7. The state of Pará, in turn, is a state that, although in a low volume, has given productivity in these items, in addition to cassava (figure 8).

3.3 Observations of the theme in the Major Regions of the Country

As a significant volume of productivity is perceived in cassava, this study was carried out by Major Regions to identify where this productivity is concentrated. Thus, figures 9, 10, 11 and 12 make this demonstration. It is observed that the North Region, has the lowest utilization of hectares in the period observed in all three products. But not only that: in all macro-regions, the use of hectares is

systematically lower in each new period, with the exception of the Midwest, which has rises from 2000 to 2015.

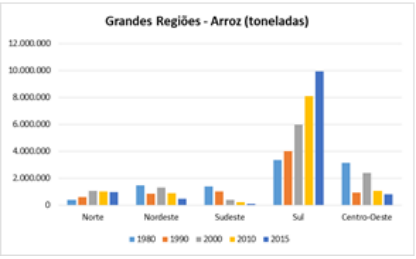

Figure 9: G. Regions – Production in tonnes; Source: IBGE

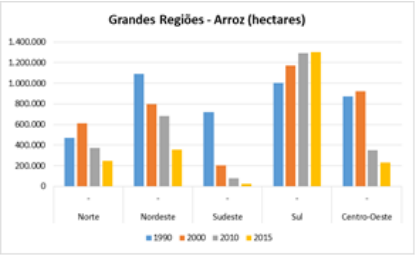

Figure 10: G. Regions – Production in hectares; Source: IBGE

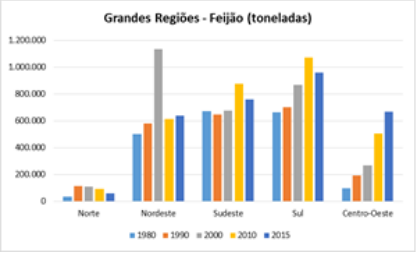

Figure 11: G. Regions – Production in tonnes; Source: IBGE

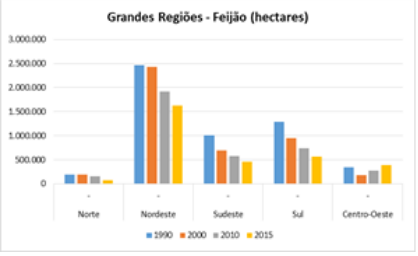

Figure 12: G. Regions – Production in hectares; Source: IBGE

With regard to the Midwest Region, Haddad (2015), explains that from 1930 onwards an intense industrialization process started in Brazil, through the Getúlio Vargas Government. Thus, the Brazilian State was the great organizer of industrial accumulation, instituting policies of a national character and promoting the integration of the internal market, becoming the main responsible for opening and expanding the frontiers of accumulation. The dynamizing effects of this new economic model had significant impacts on the Brazilian economic history and, in particular, on the Midwest region, as the demand for food was stimulated by the expansion of the domestic market and the intensification of industrialization.

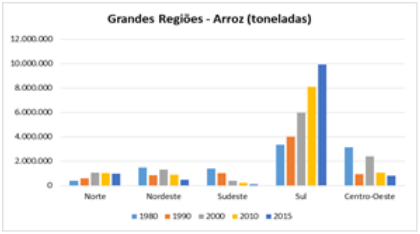

Figure 13: G. Regions – Production in tonnes; Source: IBGE

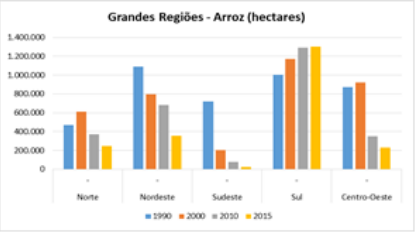

Figure 14: G. Regions – Hectares Source: IBGE

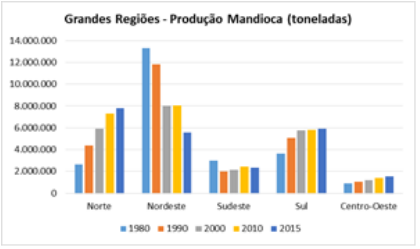

Figura 15: G. Regions – Production in tonnes; Source: IBGE

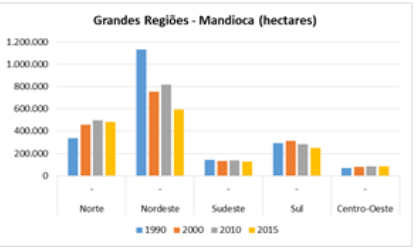

Figura 16: G. Regions – Hectares Source: IBGE

In terms of bean production, there is production in all five macro-regions, but the tonnes obtained from the others is higher on a large scale in relation to the North Region. Regarding rice, there is productivity in the country, since the data prove this fact (figures 13 and 14). The highest productivity is achieved in the Southern Region in the leadership, followed by the other macro-regions.

For flour, shown here through the production of cassava, Brazilian productivity is shown in all five macro-regions. The leadership in productivity is due to the Northeast region. It uses the largest extensions in hectares and, consequently, in production by tons. In the North Region, the highest productivity is located in the state of Pará, as shown in figure 8. However, throughout the Brazilian territory there are potentialities (to a lesser or greater extent) for the production of this root.

4. FINAL CONSIDERATIONS

The scarcity of resources is the main input of the economy. Thus, verifying the performance of agricultural culture becomes relevant,

since given the nature of scarcity, perceiving improvements or not, makes it possible to identify the existing difficulties, as well as to indicate improvements for them, both through public policies, as well as available resources. The objective of this work was to make considerations related to the production of the agricultural culture of rice, beans and manioc flour in data from Brazil and the states of Amazonas and Pará. These observations consider a period from 1980 to 2015, a coverage in 35-year historical series.

Thus, the results are presented below: data for hectares are available from IBGE from 1990 onwards. Thus, the use of these lands in the production of rice in national terms, is much less than for the cultivation of beans and even less for the production of cassava. Related to the states of Amazonas and Pará, the second uses greater land extensions in the period in question in the production of the three products, with a large distance in relation to the first.

For the productivity resulting from the periods observed, the data show that Brazil has significant production in tonnes in the cultivation of cassava. Slight variations in terms of this product in Amazonas, with growth in the state of Pará. The quantities produced of rice and beans are greater in Pará and very small in Amazonas. Observations of the theme in the country's macro-regions show that the North region has the lowest utilization of hectares in the period. Regarding the production of beans, the activity is present in the five macro-regions, maintaining the lowest productivity in the northern region. Similarly, rice cultivation follows the trend.

Cassava production is present in all macro-regions, with greater use of hectares for the Northeast and North. The highest tons follow the trends in hectares, with growth in the northern region, and in this, the highest productivity is occasionally located in the state of Pará.

For future research, research can be carried out to evaluate the time expansion, and the technological evolution focused on the productivity of the observed variables, since there is data available. Thus, making an identification of the productive capacities of given locations and pointing out growth projections can represent a relevant issue both for research and for the regional economic development of the country.

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