

**THE SERTÃO WILL TURN INTO SEA: POSSIBILITIES PROVIDED BY
IRRIGATION PROJECTS IN THE SERGIPE SEMI-ARID**

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ABSTRACT

Water is very vital to all living beings, whether on a small or large scale, all species need and use it. In places where there is a shortage of water, the population, animals and the economy are compromised. Since the territorial formation of Sergipe, the coast was the first place of interest for the colonizers, and the hinterland was occupied much later with the interiorization. The low rainfall made this climatic zone a hostile place, in which the economic base was only focused on cattle production. However, the evolution of the forms of space appropriation, led man to develop forms of irrigation, such as the one that occurs in the Alto Sertão Sergipano. This practice conditioned the idea that “the sertão will turn into sea”, popularized in the song Sobradinho (1999) by Trio Nordestino, because what was utopia becomes reality. Therefore, the present work analyzes the agricultural expansion in the Alto Sertão Sergipano, in face of the existing soil and climate conditions, considering its historical landmarks and socioeconomic potential. To develop this work, an empirical analysis was considered with a quali-quantitative and critical bias of the facts, based on literature worked in subjects such as Geography of Sergipe and Special Topics in Geography Teaching, with a focus on hydrogeography. These constraints helped to visualize the region as a real potential in agricultural production, through irrigation processes by water coming from the São Francisco River or tributaries.

Keywords: Sertão. Water. Irrigation.

**O SERTÃO VAI VIRAR MAR: POSSIBILIDADES PROPICIADAS PELOS
PROJETOS DE IRRIGAÇÃO NO SEMIÁRIDO SERGIPANO**

RESUMO

A água é bem vital a todos os seres vivos, seja em pequeno ou grande escala, todas as espécies necessitam e a utilizam. Em locais em que há escassez de água, a população, os animais e a economia se ver comprometida. Desde a formação territorial de Sergipe, o litoral foi o primeiro local de interesse dos colonizadores, sendo que o sertão ocupado muito tempo depois com a interiorização. Os baixos índices pluviométricos faziam desta zona climática, um local hostil, em que a base econômica era apenas voltada para produção de gado. Entretanto, a evolução das formas de apropriação do espaço, levou o homem a desenvolver formas de irrigação, como a que ocorre no Alto Sertão Sergipano. Essa prática condicionou a ideia de que “o sertão vai virar mar”, popularizada na música Sobradinho (1999) do Trio Nordestino, pois o que era utopia, torna-se realidade. Diante disso, o presente trabalho analisa a expansão agropecuária no Alto Sertão Sergipano, frente as condições edafoclimáticas aí existentes, considerando seus marcos históricos e potencialidades socioeconômicas. Para desenvolver o referido trabalho, considerou-se a análise empírica com viés quali-quantitativo e crítico dos fatos, baseado em literaturas trabalhadas em disciplinas como Geografia de Sergipe e Tópicos Especiais em Ensino de Geografia, com foco em hidrogeografia. Esses condicionantes contribuíram para visualizar a região como uma potencialidade real na produção agropecuária, mediante processos irrigantes por águas advindas do Rio São Francisco ou afluentes.

Palavras-chave: Sertão. Água. Irrigação.

INTRODUCTION

Geography is the science that works with space and the condition that man establishes with it, through work and survival relationships. In view of this, socioeconomic issues interact with the physical conditions of the space, contributing to the construction of a broad science within the geographical multidisciplinary itself. In view of this, natural conditions and human needs become evident, for example, in the development of agricultural practices, in sometimes inhospitable regions.

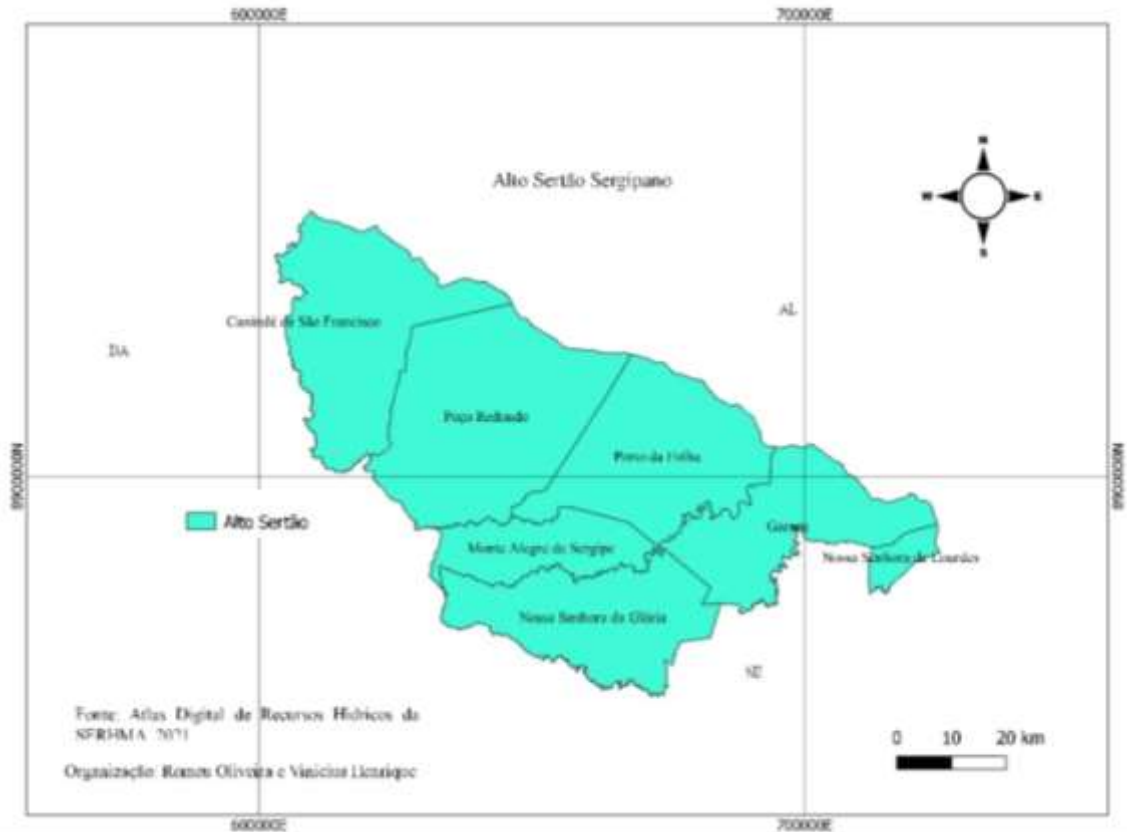
The Semi-arid is defined as an area of high temperature and low rainfall. Trivial characteristics such as those described above, do not make the sertão's area a reflection of poverty or synonymous with backwardness in relation to the agro-industrial regions of Brazil. In fact, they demarcate the existence of several signifiers, within the same space, in which state policies lead in a beneficial way, when well applied, the so-called Sertão oases, from experiences built by irrigation poles. So, therefore, the use of the stanza “the sertão will turn into the sea”, popularized in the song Sobradinho (1999) by Trio Nordestino.

The reading of this reality, from the circumscription of the São Francisco River basin, gives the notion of how a decontextualized reality of national wealth can be reinvented and transform deprived regions into a “sea of production”, based on irrigation projects. Aspect that has been evidenced, including in Sergipe. Therefore, the present work aims to analyze the agricultural expansion in the Alto Sertão Sergipano, facing the edaphoclimatic conditions that exist there, considering its historical landmarks and socioeconomic potential.

The Alto Sertão Sergipano encompasses 7 municipalities, with an area of 4,911.62 km², according to IBGE data estimates (Brazilian Institute of Geography and Statistics). Thus, the Alto Sertão Sergipano is located in the northwest portion of the state, with 7 municipalities. The municipalities are: Monte Alegre de Sergipe, Gararu, Canindé de São

Francisco, Porto da Folha, Nossa Senhora da Glória, Nossa Senhora de Lourdes, Poço Redondo and Porto da Folha (SANTOS, 2010).

Figura 01 – Delimitation of the Alto Sertão area in Sergipe.



Source: NASCIMENTO, R. O.; SANTOS, V. H. B. (2022)

MATERIAL E METHODOLOGY

To develop this work, an empirical analysis with a qualitative-quantitative and critical bias of the facts was considered, based on literatures worked in subjects such as Geography of Sergipe and Special Topics in Geography Teaching, with a focus on hydrogeography, as well as analysis of theses and dissertations. The published literature conditioned the construction of the following sub-items: 1- Historical Contextualization of the First Economic Activities of the State of Sergipe; 2- Physiographic Aspects of the Sergipe Semi-arid Region; 3- The Sertão Will Turn to the Sea: irrigation projects in Sergipe's Sertão; 4- Social and Environmental Impacts of Irrigation Projects in Alto Sertão Sergipano; finally, Final Considerations and References.

RESULTS AND DISCUSSIONS

HISTORICAL CONTEXTUALIZATION OF THE FIRST ECONOMIC ACTIVITIES IN THE STATE OF SERGIPE

Brazilian lands were divided into hereditary captaincies, which were species of “states” and later donated as sesmarias, which were huge portions of land to grantees. This distribution initially defined the agrarian structure of Brazilian lands with a strong

concentration of land. This aspect became common for the future state of Sergipe, which at first belonged to the Captaincy of Bahia de Todos os Santos (NUNES, 1989).

In view of this situation, it appears that it was from the sesmarias that the process of land concentration in Brazil and Sergipe began, which lasts until the present time. Fontes and Alcantara Filho (2009, p.64), based on the contributions of Furtado (1989) highlight that:

The roots of land problems in Brazil are reflections of the historical construction of property formation. This heritage comes from the dynamics of the colony's functioning and the laws in force in that period, which introduced disparities in the distribution of land and, later, in the marketing concept of land. Thus, to analyze the concentration of land, production and even agricultural productivity today, it is necessary to take into account the historical perspective of the agrarian question in Brazil.

In this context, the first activities developed in Sergipe took place close to the coast, with pau-brasil being the main way to extract wealth from Sergipe's lands. Subsequently, emphasis was given to raising animals, which served the captaincies of Pernambuco and Bahia. This became so evident that Felisberto Freire (1891) reflected that “before being a farmer, Sergipe was a shepherd”, that is, he emphasizes the creation of pack animals, such as mules, horses and oxen, with the management with agriculture came later.

But, as in the rest of the Brazilian territory, Sergipe was not “no man's land”, as there were numerous native peoples here and these represented a great obstacle to the colonial enterprise. These peoples resisted in different ways the enterprise established by the Portuguese occupation, since the white man wanted to exploit them and take away the most precious asset they had, which was their land. From the occupation made by Cristóvão de Barros in 1590, despite the resistance promoted by the natives, the economic activities of the captaincy gradually turned to production in the sugar cane mills and the slave labor of the blacks was being imposed, since the natives were hostile.

In view of this, livestock activities were placed in the background with the expansion of the sugar activity, as space was needed for this enterprise. It is evident, then, that the sugar activities were not suitable for the more interior region, which includes the semi-arid region. This was due to the edaphoclimatic conditions of the place, since sugarcane production was suitable for a certain soil and climate, which is why it developed in the Cotinguiba Valley, for example, as it had these two elements.

After the cultivation of sugarcane, the natives had to migrate to the sertões, where survival was more hostile, because, in addition to leaving their place of origin, they had to deal with the weather. The landowners also entered the sertões and expelled the natives, leaving them with no alternative but to resist once again, as Andrade (2011, p.178) reinforces, based on Souza and Barros (2017, p.120):

[...] several indigenous groups that dominated the sertão caatingas, could not see with favor the penetration of the white man who arrived with cattle, slaves and aggregates and settled in the most fertile streams. He built houses, built corrals and wattle and daub, and released the cattle into the pasture, driving the Indigenous people away to the

mountains or to the caatingas of the interfluves where there was a lack of water for most of the year.

With the promulgation of a decree on the part of the crown (1701), the raising of cattle was instituted at least 10 leagues from the coast, relocating the herders in the interior. This activity represented an obstacle to sugarcane plantations. In this sense, there was expansion to the semi-arid strip, in space on the banks of the São Francisco River, which served to water the animals and subsistence of the riverside populations. Therefore, this river receives other names, which refer to its socioeconomic role, such as: Rio dos Currais and Rio da Integração Nacional. Barros (2017, p.6) points out that:

Manuel Correia de Andrade, in his famous work *A Terra e o Homem no Nordeste*, points out the production of leather and milk for domestic consumption as one of the characteristic traits of the sertanejo population, due to the great distances and the scarcity of other products that not those derived from cattle, swine and goats.

Even with the transformations that occurred through penetration into the interior of the state of Sergipe and towards the banks of the São Francisco River, the development of the economy was not substantial at this time, given the low production of milk and leather. One of the facts that justify this situation stems from the climatic conditions of the place and the appropriation of land and water by the colonels.

PHYSIOGRAPHIC ASPECTS OF SERGIPAN SEMI-ARID

Sergipe is the smallest state of the Federal Unit of Brazil, located in the Northeast portion of the country, and with an area located in the semi-arid region, adding space in the so-called drought polygon area (ARAÚJO, 2011). This region is close to the equatorial line, constituting an area of high pressure with difficulty for the formation of winds and clouds (Figure 01). Another characteristic is its distance from the ocean, which makes precipitation difficult, as according to Reboita et al (2016, p.266).

As one enters Northeast Brazil from the Atlantic Ocean towards the continent, precipitation reduces [...]. In Northeastern Sertão, annual rainfall totals are approximately 400 mm, which is about 75% less than in the coastal region.

Figure 01 – Definition of the drought polygon in Northeast Brazil



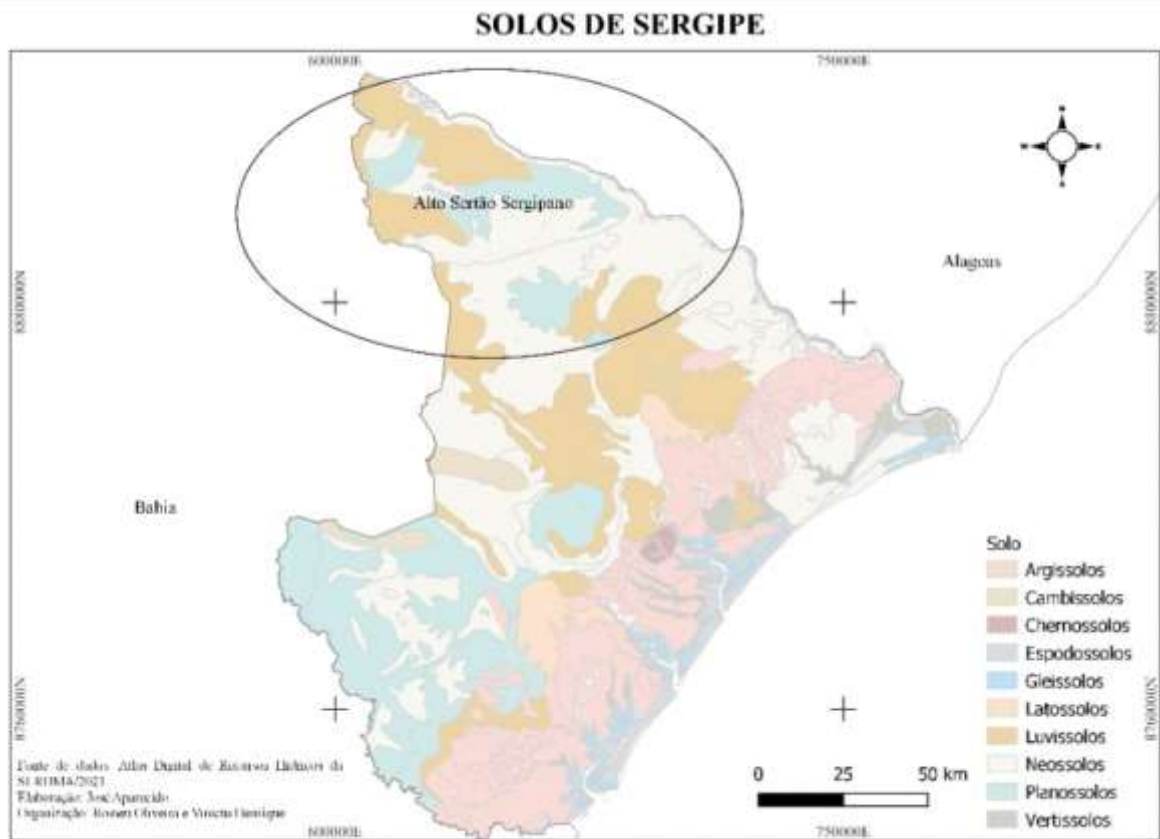
Source: ANDRADE, Manuel Correia de . Sertão ou Sertões. In: SILVA, J.B.; DANTAS, E.W.C. ; ZANELLA, M.E.; MEIRELES, A. J. A. Litoral e Sertão. Fortaleza: Expressão Gráfica, 2006. Apud DANTAS, E. W. C. **O Nordeste desconstruído ou reconstruído?** Confins. 2019. Available in: <<http://journals.openedition.org/confins/21089>>. Access in 21 may 2022.

These climatic conditions influence the vegetation, which is adapted to the characteristic type of climate, being composed mainly of cacti, small and medium-sized shrubs, palm trees, species of the bromeliad family, being considered hyperxerophilous vegetation. Fernandes and Queiroz (2018, p. 51) highlight that:

This vegetation consists mainly of low trees and profusely branched shrubs, often armed with thorns or spikes, usually with small leaves, interspersed with succulent plants (generally cacti), and a herbaceous layer formed by annual plants (mainly therophytes), terrestrial bromeliads and creeping cacti.

Regarding the geomorphological characteristics, the area is characterized by low altitudes, being called sertanejo pediplano and with the presence of isolated residual reliefs (inselbergs) (SILVA et al, 2019), in addition to these, according to Ross's classification (1992), there are in the sertaneja area of Sergipe the following morphosculptural units: Alluvial Plan, fluvial terraces and structural massifs. These formations condition soils of the type: litholic neossols, regolithic neossols, haplic planossols, haplic luvisols and red-yellow argisols (SANTOS, 2018) (figure 2 - Soils of the Alto Sertão Sergipano). Given this context, the soils of Alto Sertão Sergipano are shallow, rocky and with little organic matter on the surface, but with a high degree of fertility because they have high levels of minerals. However, there is water unavailability, which limits the agricultural capacity of the region, due to the intermittent tributaries of the São Francisco River.

Figura 2: Soils of Alto Sertão Sergipano



Source: aparecido, J. V. (2022)

With the rainfall concentrated in the summer, in the so-called torrential rains, known regionally as thunderstorms, there is only one perennial river that runs not only in the semi-arid region of Sergipe, but in all areas that this polygon encompasses. This river is known as Velho Chico, Rio dos Currais, Rio da Integração Nacional and, mainly, Rio São Francisco.

In this context, the activities developed in the semi-arid region depend heavily on the presence of the São Francisco River. Thus, due to climatic conditions, the cultivation of some crops is not commonplace, not because of the infertility of the soil, but because of the lack of rain in the region. Practices such as agriculture can only exist in this context through the waters of the river, which reach the crops through irrigation. However, not everyone has access to water, as it is commodified. Irigaray (2016, p.33) asserts that:

Until the enactment of the aforementioned Law, water was considered a gift of nature, available to anyone, and the tariffs paid by users (industry, commerce, services and residences) only covered the costs of capturing, treating, distributing and disposing of water. which, strictly speaking, was free. From the enactment of the aforementioned legal diploma, the use of water for any purpose (except for uses considered insignificant) is subject to onerous grant by the Public Power, as provided in its articles 12 and 19.

Despite the specificities of the law regarding payment for the use of water, it brings contradictions, the first of which is the unequal commodification itself. Water should be a universal asset and taken care of by the whole society, but the reality is quite complicated, especially when one observes the misuse without the correct payment, especially in regions where there is scarcity, as in Sergipe's sertão itself. Thus, the appropriation of the waters of Velho Chico takes place unequally and mainly serves the region's colonels.

The reality limited to the owners of power in the countryside stems from the State's own action in defining public policies that subsidize regional economic activities. A fact attested to the existence of more than 30 thousand irrigated hectares, about “[...] 700 kilometers of pipes, more than 156 kilometers of channels and about 2,600 producers, generating more than 100 thousand direct jobs” (WOLFGANG, 2011) . This report refers to the fruit agribusiness along the São Francisco valley, especially in Juazeiro (BA) – Petrolina (PE). However, these activities are not common to just this pole. In the 1990s, due to the construction of the Xingó Plant, in the state of Sergipe, many irrigation and fruit growing projects were born along the lower São Francisco.

In this regard, CBHSF (2015) reiterates the logic of water withdrawal values from the São Francisco, demonstrating how important these waters are for human supply and for agricultural activities, even in the face of problems, such as soil salinization and even, pollution of its waters by domestic conditions and chemical inputs. The conditions of use of the waters of the São Francisco River Basin are demarcated in the Water Resources Plan of the São Francisco River Basin (CBHSF, 2015, p. 24):

The average flow was 2,850m³/s, corresponding to an average flow of 7,025m³/inhabitant/year for a population of 13 x 106 inhabitants (ANA, 2005 APUD MMA, 2006). The withdrawal, consumption and return flow values for the hydrographic region were respectively: 166m³/s, 105 m³/s and 691m³/S (ANA, 2005 apud MMA, 2006). Irrigation was the activity responsible for the highest flows of withdrawals (ANA, 2005 apud MMA, 2006).

Aspects that attest to the great dependence that the northeastern sertão has in relation to the waters of the São Francisco River, in the sense of maintaining life and forms of work and income. Thus, it is not by chance that this river is considered of national integration, it gives life to one of the most delicate regions of Brazil due to the drought, but also contributes decisively to the energy potential, productive fluidity and economic generators. A condition also common to the lower São Francisco course in Sergipe.

THE SERTÃO WILL TURN INTO SEA: IRRIGANT PROJECTS IN THE SERGIPE'S SERTÃO

During the period of colonization in Sergipe, the sertão was not seen with good eyes by the conquerors. This is verified due to the development of the first activities, which turned to the coast. Vainfas (2019, p.234) brings a reflection by Frei Vicente de Salvador, in which he corroborates this idea when discussing that:

I don't care about the breadth of the land of Brazil for the sertão, because until now no one has walked it because of the negligence of the Portuguese, who, being great conquerors of land, do not take advantage of them, but are content to walk scratching along the sea like crabs.

As sugarcane becomes the flagship of the economy, the displacement to the sertões becomes necessary, since large-scale livestock activity was made impossible by the occupation of large portions of land, that is, by the sugarcane plantation. In this regard, one of the factors that corroborate the difficulty of the northeastern sertões to obtain historical economic relevance is the issue of water scarcity, which made the agricultural issue unfeasible.

In view of this, the production of leather, milk and the supply of beef was substantial for the region's economy for a long time. Municipalities such as Nossa Senhora da Glória, Monte Alegre, Poço Redondo and Canindé de São Francisco are known for being part of the milk basin of the Alto Sertão Sergipano, as their GDPs (Gross Domestic Product) are strongly conditioned by this activity. Esteves (2012, p.77-78) exemplifies that:

The state of Sergipe, in the period from 1990 to 2010, had a 197% increase in milk production and today accounts for 7.4% of the northeastern milk production, with the Sergipe micro-region of the Sertão of São Francisco responsible for approximately 60% of the production. state. Mainly in the territory of Alto Sertão Sergipano with the municipalities of Nossa Senhora da Glória, Porto da Folha, Poço Redondo and Canindé de São Francisco, responsible for more than 50% of milk production in the state.

The phrase “the sertão will turn into sea”, popularized in the song Sobradinho (1999) by Trio Nordestino, emphasizes how utopian the idea was to change the reality of this region with regard to economic development, especially in agriculture, since water makes up an indispensable subsidy for economic activities of all kinds. Thus, the gradual change in the northeastern semi-arid landscape is reflected, considering that where it was natural to observe cactus and "baked ground", from the development of

irrigation projects, such as the California Project, the development of agriculture was made possible and consequently promoted new economic possibilities for the region.

Growing okra, guava, sunflower, lettuce and among other products, was something unimaginable in the Sergipe's sertão region. However, with the California Project these activities could be developed, welcoming families without land and also business groups that launched the enterprise of transforming the sertão into a productive area. Thus, Ribeiro (2017, p.153) exemplifies that:

The municipalities of Poço Redondo and Canindé de São Francisco develop crops through irrigated perimeters Jacaré-Curituba and California, which makes them cultivated with permanent cycles, and their production is diversified, such as okra, cassava, corn, beans, sunflower, guava, passion fruit, watermelon, pumpkin, lettuce, among others.

The Jacaré-Curituba settlement is the result of social pressure, which began in 1996, for the conquest of land rights. For the movement to reach what it is today, with an average of 680 settled families, with 700 productive lots, many struggles/resistance were necessary, based on the support of all the settled members to face the power of the colonels in the region.

The struggle for land is necessary, however the farmer needs subsidies to be able to produce, with water being the most necessary asset, in addition to bank credits, inputs and machinery. As the northeastern hinterland is dry, with meager rainfall averages and poorly distributed throughout the year, this ends up concentrating importance on the São Francisco River to supply the semi-arid region.

In Alto Sertão Sergipano, the conditions of use of the waters of the São Francisco are very evident, for example, in the Jacaré-Curituba settlement, which has irrigation for families to produce food, much of which reaches the consumers' table. These foods have an affordable cost-benefit for the population of the surrounding municipalities, given that if they did not have these productions, the price would increase due to lack of supply, since large producers export their agricultural production.

In turn, the irrigated perimeter of the California Project began work in 1985, concluding in 1987, covering an area of 3980 ha, with the irrigable agricultural area being 1360 ha and the rainfed area of 1830 ha; the remainder, that is, 790 ha, are areas of reserves and roads. The number of people served is 1,665 individuals, divided into 373 lots, of which 293 are family farms, 19 business people and 61 rainfed (COHIDRO, 2022).

The project is a way for the small farmer to produce in the semi-arid region, being something new, since the sertanejo never dreamed of seeing their lands being wet, except in the summer rains, which is the most characteristic in the region. The lots are irrigated through 7 pumping stations, which are the result of an agreement between COHIDRO and the Government of the state of Sergipe, which provide technical assistance, in addition to maintenance and operations to ensure the system's operation.

Thanks to these projects, the municipalities of the Alto Sertão Sergipano are prominent in the economy of Northeast Brazil, with the production of milk, corn and vegetables, such as okra, which condition a growing agricultural trade in this location. With regard

to the municipality of Canindé, the irrigation areas generate jobs in various sectors with the inhabitants of this place, as well as in other locations, including other states.

In view of this, one can see the dynamism that the Alto Sertão Sergipano has acquired over time, because, in a hostile climate environment, where the prospect of survival from agriculture was unfeasible, irrigation projects, from waters of the São Francisco, made irrigation a reality in the region. The phrase “the sertão will turn into sea” takes on meaning, as productions such as grapes, pears, okra, watermelon, acerola, guava, among others, are a reality for a place where there was usually only the typical vegetation of the caatinga and “beaten soil”.

SOCIO-ENVIRONMENTAL IMPACTS OF IRRIGATION PROJECTS IN THE ALTO SERTÃO SERGIPANO

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Water scarcity is characteristic of semi-arid regions. This reality is experienced in the Alto Sertão Sergipano, especially before the construction of irrigation projects, even with the presence of the São Francisco River, given that it was only accessible to riverside dwellers and colonels in the region. Without water, most of the sertanejo population could not produce, thus not having a guarantee of income. Aspect modified with the reality of irrigation projects.

However, as everything that modifies the physical nature of space contributes to the generation of environmental impacts, agricultural production in the semi-arid region of Sergipe generates impacts on the soil, water table and surface waters. In the first, with intense irrigation, the salts that are concentrated below the ground are submerged by excess water and, when evaporating, remain on the surface, making the plantations unfeasible. On the other hand, with the intensive use of chemical inputs in agriculture, groundwater tends to be contaminated by these. The surface waters are drained with contaminants to the tributaries, which will flow into the main river, which in this region is the São Francisco River, which ends up compromising the water balance in this region. Brito et al (2010, p.165) exemplify that:

In semi-arid regions, irrigated agriculture is intensively exploited and often with indiscriminate use of fertilizers and pesticides that can cause serious impacts to different environmental components. In the soil, several impacts can occur such as compaction, salinization, imbalance in nutrient contents, loss of organic matter and decrease in microbiological activity, unbalanced fertilization, contamination by heavy metals and pesticide residues, uncontrolled irrigation and drainage deficiency. The interaction of these factors will result in the loss of agricultural productivity in the medium and long term. In water, both surface and underground, there are serious negative impacts, mainly related to the irrational use of fertilizers and pesticides. That can compromise their quality and, consequently, human health.

Vegetation is also impacted by the advance of agricultural activities. In the region in question, the typical vegetation is the caatinga, which is cleared to make room for pastures and plantations by small and large producers. The latter generate greater damage to

ecosystems, due to a greater capacity for environmental destruction, generating environmental imbalances that can lead to desertification processes (RIBEIRO, 2017).

In addition to these problems, another one that has been growing through the use of water and soil in this region is the livestock practice, which has historically been conditioned in the region, and in recent years has spread in the face of agricultural-industrial projects installed in the region, especially in the municipality of Nossa Senhora da Glória, with the processing of milk. This aspect gave rise to animal husbandry and the extension of transgenic corn agriculture as a food source for most animals, by silage production.

Both productions are extremely harmful to the environment. The first generates damage to biodiversity, causes soil degradation and water pollution, through the release of methane, by the digestive process of animals and the emission of nitrous oxide (N₂O) through feces, which contributes to the intensification of the greenhouse effect (Romani, 2019). In addition to these, the trampling of the soil itself causes damage by favoring ravines and gullies, without disregarding the indirect damages, such as water contamination, through the infiltration of these animal waste. The second condition damages due to the use of chemical inputs, which contaminate the soil, at the same time, which are also extracted from the soil, without disregarding, of course, the disrespect for the organic issue and the ideal life span of the species in favor of a technological package, which spread with the so-called Green Revolution.

In view of this, the portrait of the northeastern sertão, and even of Sergipe, today, is nothing compared to that of decades prior to 1980, when actions were initiated in favor of capturing water from the São Francisco River for the development of agricultural activities. Such actions conditioned socio-spatial changes that were very coherently sung with the synonym of “The Sertão will turn into sea”, even with such damages generated.

FINAL CONSIDERATIONS

The edaphoclimatic conditions, for a long time, were challenges to agricultural practices in areas of the Northeastern Sertão. However, in recent decades, mankind has evolved in the sense of appropriation of space and created mechanisms to extract the maximum of its potential. A fact that is demarcated by the development of irrigated perimeters along the São Francisco River, as in the municipalities of Poço Redondo and Canindé do São Francisco, changing the socioeconomic reality of Sergipe's hinterland.

However, experiences with irrigated perimeters, even though they are beautiful to human eyes, with corporate fruit production, for example, also generate negative consequences for the environment, in terms of deforestation of the caatinga, soil wear and consequent salinization, the rampant use chemical inputs that pollute the waters of river courses and groundwater. Even so, the reality experienced with irrigation projects in the Alto Sertão Sergipano provides a reality never imagined, since fruits that were not suitable for the region (such as grapes, pears and vegetables) are cultivated by agrarian reform settlements and by business agriculture. With this, the phrase “the sertão will turn into sea” is no longer utopian and begins to gain meaning in the face of the limitations that existed there, since irrigation projects are realities and support the local economy.

For all these reasons, the contradiction between the delay promoted by the scarcity of water and the promotion of irrigation areas, via state-business action, which transmute economic practices and establish maintenance conditions for the reproduction of life. That was not unthinkable before.

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