# NON-IRRIGABLE PARCELS OF THE PONTAL PROJECT: NEW SOCIAL CONCEPTS AND THE SHIFT IN PARADIGM SHIFT IN THE IMPLEMENTATION OF PUBLIC IRRIGATION PROJECTS

# UNIDADES PARCELARES NÃO IRRIGÁVEIS DO PROJETO PONTAL: NOVOS CONCEITOS SOCIAIS E A MUDANÇA DE PARADIGMAS NA IMPLANTAÇÃO DE PROJETOS PÚBLICOS DE IRRIGAÇÃO

# PARCELAS NO REGADABLES DEL PROYECTO PONTAL: NUEVOS CONCEPTOS SOCIALES Y CAMBIO DE PARADIGMA EN LA IMPLEMENTACIÓN DE PROYECTOS PÚBLICOS DE REGADÍO

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## ABSTRACT

The Pontal Public Irrigation (PPI) Pontal, located in the municipality of Petrolina, in the state of Pernambuco, Brazil, constitutes a relevant territorial development initiative implemented by the São Francisco and Parnaíba Valleys Development Company (Codevasf). Within the scope of this project, the creation of Non-Irrigable Parcel Units, known as Rainfed Areas, was conceived as a strategy to mitigate the social impacts resulting from the expropriation process required for the implementation of the irrigated area. This article aims to analyze the conception, implementation, achieved results, and contemporary challenges of the Pontal Public Irrigation Project with regard to the Rainfed Areas, in light of the legal instruments that regulate the occupation of public lands, particularly the Occupation Authorization (OA), as well as the legislation related to irrigation policy and family farming. The research is based on documentary analysis, technical reports, field inspections, and interviews conducted with beneficiaries. The results indicate that, although noncompliances were identified in part of the occupied areas, the project presents positive impacts in the social, economic, and environmental dimensions, with no evidence of impairment to its continuity, provided that

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corrective measures are adopted, systematic technical monitoring is ensured, and land tenure management instruments are improved. It is concluded that the maintenance and enhancement of the Pontal Project focused on Rainfed Areas are essential for promoting sustainable development in the semi-arid region of Pernambuco, contributing to productive inclusion, legal security for occupants, and the consolidation of public policies aimed at rural development.

**Keywords:** Dryland Area. Occupation Authorization. Family Farming. Public Policy.

**RESUMO**

O Projeto Público de Irrigação (PPI) Pontal, localizado no município de Petrolina, Pernambuco, configura-se como uma relevante iniciativa de desenvolvimento territorial implementada pela Companhia de Desenvolvimento dos Vales do São Francisco e do Parnaíba (Codevasf). No âmbito desse empreendimento, a criação das Unidades Parcelares não Irrigáveis, conhecidas como Áreas de Sequeiro, constituiu uma estratégia de mitigação dos impactos sociais decorrentes do processo de desapropriação das terras necessárias à implantação da área irrigada. O presente artigo objetiva analisar a concepção, a implementação, os resultados alcançados e os desafios contemporâneos do PPI Pontal no que se refere às Áreas de Sequeiro, à luz dos instrumentos jurídicos que regulamentam a ocupação de terras públicas, com destaque para a Autorização de Ocupação (AO), a legislação relacionada à política de irrigação e à agricultura familiar. A pesquisa fundamenta-se em análise documental, relatórios técnicos, vistorias de campo e entrevistas realizadas com beneficiários. Os resultados evidenciam que, embora tenham sido identificadas inconformidades em parte das áreas ocupadas, o projeto apresenta impactos positivos sob as dimensões social, econômica e ambiental, não se observando comprometimento de sua continuidade, desde que sejam adotadas medidas corretivas, assegurado o acompanhamento técnico sistemático e promovido o aprimoramento dos instrumentos de gestão fundiária. Conclui-se que a manutenção e o aperfeiçoamento do Projeto Pontal voltado para as Áreas de Sequeiro revelam-se fundamental para a promoção do desenvolvimento sustentável no semiárido pernambucano, contribuindo para a inclusão produtiva, a segurança jurídica dos ocupantes e a consolidação de políticas públicas voltadas ao meio rural.

**Palavras-chave:** Área de Sequeiro. Autorização de Ocupação. Agricultura Familiar. Política Pública.

**RESUMEN**

El Proyecto Público de Irrigación (PPI) Pontal, ubicado en el municipio de Petrolina, en el estado de Pernambuco, se configura como una relevante iniciativa de desarrollo territorial implementada por la Compañía de Desarrollo de los Valles del São Francisco y del Parnaíba (Codevasf). En el marco de este emprendimiento, la creación de las Unidades Parcelarias No Irrigables, conocidas como Áreas de Secano, constituyó una estrategia de mitigación de los impactos sociales derivados del proceso de expropiación de las tierras necesarias para la implantación del área irrigada. El presente artículo tiene como objetivo analizar la concepción, la implementación, los resultados alcanzados y los desafíos contemporáneos del PPI Pontal en lo que se refiere a las Áreas de Secano, a la luz de los instrumentos jurídicos que regulan la ocupación de tierras públicas, con énfasis en la Autorización de Ocupación (AO), así como de la legislación relacionada con la política de irrigación y la agricultura familiar. La investigación se fundamenta en el análisis documental, informes técnicos, inspecciones de campo y entrevistas realizadas con los beneficiarios. Los

resultados evidencian que, aunque se identificaron inconformidades en parte de las áreas ocupadas, el proyecto presenta impactos positivos en las dimensiones social, económica y ambiental, sin que se observe un compromiso de su continuidad, siempre que se adopten medidas correctivas, se garantice el acompañamiento técnico sistemático y se promueva el perfeccionamiento de los instrumentos de gestión de la tenencia de la tierra. Se concluye que el mantenimiento y el perfeccionamiento del Proyecto Pontal orientado a las Áreas de Secano resultan fundamentales para la promoción del desarrollo sostenible en el semiárido pernambucano, contribuyendo a la inclusión productiva, la seguridad jurídica de los ocupantes y la consolidación de políticas públicas orientadas al medio rural.

**Palabras clave:** Área de Secano. Permiso de Ocupación. Agricultura Familiar. Políticas Públicas.

## 1 INTRODUCTION

Public irrigation projects play a strategic role in the regional development of the Brazilian semi-arid region (Castro et al., 2013), especially in the São Francisco Valley, where irrigation has enabled economic dynamism, the generation of employment and income, and the settlement of populations in rural areas. In this context, the performance of the Development Company of the São Francisco and Parnaíba Valleys (Codevasf) has been central in the formulation and implementation of public policies aimed at the rational use of water resources and the social inclusion of family farmers (Rigotto et al., 2016).

The Pontal Public Irrigation Project (PPI) was conceived with the objective of expanding the irrigated agricultural frontier in the municipality of Petrolina/PE. However, the implementation of the project implied the expropriation of extensive areas historically occupied by rural families, requiring the adoption of measures that would mitigate the social impacts of this process. As a response, the Non-Irrigable Parcel Units were created within the scope of the PPI of Pontal, which due to their characteristics regarding the form of productive organization, popularity as being called Rainfed Areas. Which are characterized by being areas aimed at the resettlement of these families, but beyond that, for the rural workers who worked in the expropriated region, who were selected to occupy areas that could not be irrigated, but functionally integrated into the larger enterprise. An important detail is that both the families and the rural workers benefited from these areas were indicated by the residents of the region and were assessed by Codevasf technicians in order to be able to be part of the Pontal PPI in a legitimate and socially inclusive way.

The Pontal Rainfed Area is an innovative experience within Codevasf, as it seeks to integrate rainfed agricultural activities into the productive dynamics of the irrigated area, based on principles of sustainability, agroecology, and strengthening family farming (Beserra, 2020). However, throughout its trajectory, the project has faced institutional, legal and operational challenges, especially related to the precariousness of the instrument for formalizing access to land, identified as Occupation Authorization (AO).

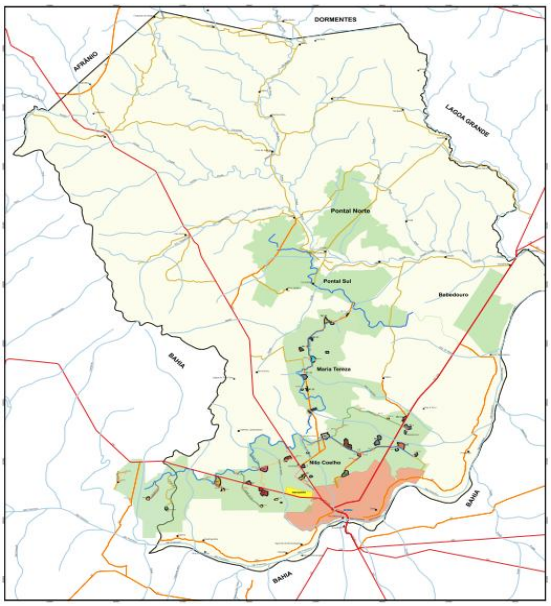
In view of this scenario, this article aims to critically analyze the experience of the Pontal Project, a rainfed area, addressing its conception, land organization, results achieved, current situation and future perspectives, in the light of current legislation and the principles that guide public policies for irrigation and rural development (Rigotto et al., 2016).

## 2 METHODOLOGY

The present study is characterized as a research with a qualitative-quantitative approach, of an exploratory, descriptive and analytical nature, according to the methodological assumptions of Lakatos (2021), Minayo (2017) and Marconi and Lakatos (2003). The research was developed in order to highlight the participation and cooperation between Codevasf technicians, family farmers and rural workers involved in the process of implementation of the rainfed areas of the Pontal PPI, whose southern portion, located at the geographic coordinates 8º55'39.66"S and 40º38'13.39"W in the upper part and 9º07'33, 20"S and 40º25'47.45"W in the lower part, located in the rural area of the municipality of Petrolina, State of Pernambuco (Figure 1).

**Figure 1**

*Location of the PPI of Pontal, Petrolina/PE*




Source: CODEVASF (2023)

Data collection occurred in a structured and continuous way, using semi-structured interviews, participatory observation, document analysis, audio and video records, as well as bibliographic research, in line with the methodological steps proposed by Marconi and Lakatos (2003). Following the precepts of NBR 6022 (ABNT, 2018) and the teachings of Lobato et al. (2024) The documentary research included public documents and empirical data produced by Codevasf technicians, from field inspections, questionnaires, interviews, technical reports, legal opinions, technical notes and internal resolutions. Documents contained in Administrative Proceeding No. 59530.000565/2011-11, accessed by the beneficiaries based on Law No. 12,527/2011 - Access to Information Law (BRASIL, 2011), were also analyzed.

As for the method, the study adopts an inductive-deductive approach, with a predominance of the inductive method, according to Sampieri, Collado and Lúcio (2013). From the analysis of the specificities of the procedures adopted by Codevasf in relation to the Non-Irrigable Parcel Units of the Pontal PPI, it was sought to construct general inferences that intend to serve as a reference for future public projects.

Regarding the objectives, the research has an exploratory, descriptive and analytical character, by addressing a phenomenon still little discussed in the scientific literature: the allocation of productive areas to families and rural workers displaced as a result of expropriation processes promoted by the State. The investigation focused on the description and analysis of the impacts arising from the adoption of a differentiated project, considering its social, economic, institutional and environmental repercussions, as well as its effects on the sustainable socioeconomic and environmental development of the region, through a balanced environment, food security and economic freedom (Rigotto et al., 2016).

The field information was collected by a commission appointed by the 3rd Regional Superintendence of Codevasf, through scheduled technical visits to the rainfed areas, with photographic records, direct observation of the activities carried out and interviews with beneficiaries or occupants, who later became part of the Administrative Proceeding No. 59530.000565/2011-11 (Codevasf, 2011). The legal framework is mainly based on Law No. 12,787/2013 - Irrigation Law (BRASIL, 2013), Law No. 11,326/2006 - Family Farming Law (BRASIL, 2006), the Norm for the Occupation of Public Irrigation Projects - NOR-501 (Codevasf, 2011), and opinions from Codevasf's Legal Attorney's Office.

## 2.1 CONTEXTUALIZATION AND CONCEPTION OF THE PONTAL PROJECT – DRYLAND AREA

The Pontal Sequeiro Program, which resulted in the conception of the Non-Irrigable Parcel Units, usually known as Rainfed Area, was created in 2009 with the purpose of reducing the negative social impacts resulting from the expropriations carried out for the implementation of the Pontal Irrigated Project, a phase prior to the implementation of the Pontal PPI, as well as to promote the rational use of areas that were not suitable for irrigation.

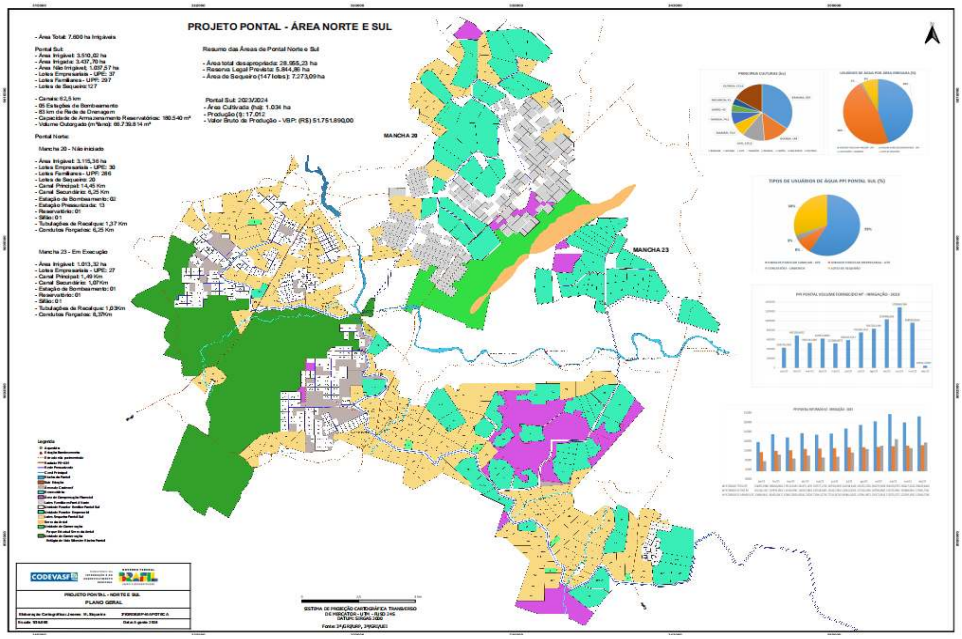
According to data from Codevasf, the Pontal PPI is an enterprise aimed at the use of patches of soils suitable for irrigated agriculture, located in the municipality of Petrolina, in the extreme southwest of the State of Pernambuco. With the São Francisco River as its water source, the project covers two large contiguous areas, called, respectively, North and South, physically separated by the Pontal stream, a tributary of the São Francisco River on the left bank.

Data presented by the company indicate that the Pontal PPI occupies a total area of 33,526 hectares, of which 6,571 are intended for the legal reserve area. As a result of the pedology studies carried out by Codevasf, only 7,717 hectares were considered irrigable, due to drainability and salinity. To enable the implementation of the PPI, the project was divided into two stages, namely: Pontal Sul and Pontal Norte.

The southern part of the Pontal PPI comprises an area of 18,952.14 hectares, which is divided into irrigable area, rainfed area, area for collective weeding, legal reserve area and the area with common use infrastructure. The irrigable area occupies an extension of approximately 3,510 hectares and is composed of 297 family lots (UPF), with an average unit area of 6 hectares, and 37 business lots (UPE), with areas ranging from 21 to 74 hectares/lot (Figure 2).

**Figure 2**

*PPI areas of Pontal, Petrolina/PE*




Source: CODEVASF (2024)

Of the total area of the Pontal PPI not intended for irrigation, 7,000 ha were allocated to the rainfed project. This area was divided into 140 lots with an average area of 50 ha (6,935 ha) and another 06 units of green lungs (72 ha) for distribution to beneficiary producers. Currently, the project has 139 families of producers, selected according to previously established criteria. Of the 139 families, 89 (64.02%) also received individual plots of 0.5 to 1.0 ha in the green lungs. Of the 06 green lungs, there are already 05 (83.33%) operating normally. The main criteria for selecting the beneficiaries were the following: a) Being a resident in the Pontal area and having been affected by the expropriation process (owner or

resident); b) Have remained residing in the Pontal area dedicating themselves to rural activities as a producer or as a rural employee; c) To have confirmed their interest in participating in the rainfed program in the registration made by Projetec in 2010; d) Not be the owner of land with an area equal to or greater than 60 hectares. Not be a public official or employee; e) Not to be the holder of a lot in a public or private irrigated perimeter and, f) Not to have any other relevant source of income, based on the analysis of Codevasf's Occupation Standard.

Thus, the Rainfed Area is part of the historical context of the implementation of public irrigation projects in the São Francisco Valley, whose form of execution, in past experiences, has produced significant impacts on the local population, especially in scenarios marked by processes of economic and social destructuring.

Thus, the project's conception considered, as a reference, previous episodes of expropriation and population displacement, such as the irrigation projects resulting from the construction of the Itaparica Dam and the demonstrations of the affected families, as well as the implementation of the Bebedouro PPI, marked by expropriation processes and the loss of credibility in federal development policies.

The proposal consisted of the reorganization of land tenure in these areas and the provision of basic infrastructure, such as water supply, electricity, side roads and irrigated collective weedings, called "green lungs" for the production of fodder to feed herds of goats, sheep and cattle.

It is noteworthy that the allocation of approximately 7,000 hectares for the settlement of 139 families, historically resident or linked to the expropriated areas, constituted a strategic initiative to mitigate social impacts, by avoiding the compulsory displacement of these populations and preserving their territorial, social and cultural ties. This approach was developed in line with recommendations from international organizations, notably the World Bank, through the International Finance Corporation (IFC), regarding the adoption of social safeguards in large-scale enterprises (World Bank, 2005).

The conception of the Rainfed Area is part of the historical context of the implementation of public irrigation projects in the São Francisco Valley, whose execution, in previous experiences, generated significant social impacts, especially in territories marked by processes of economic and social destructuring. Emblematic episodes, such as the population displacements resulting from the construction of the Sobradinho and Itaparica Dams, as well as the conflicts associated with the implementation of the Bebedouro PPI, directly influenced the institutional design of the Pontal Sequeiro Program, guiding it towards a logic of greater social and territorial responsibility.

In this sense, the proposal was based on the land reorganization of non-irrigable areas, associated with the provision of basic infrastructure, including water supply systems, electricity, side roads and irrigated collective weedings. The project, by occupying about 7 thousand hectares, enabled the resettlement of families directly affected by the expropriation process, constituting an alternative to the traditional logic of exogenous displacement and resettlement, historically observed in irrigation projects in the Brazilian semi-arid region.

The AO's were formalized in December 2012, with an initial validity period of five years, configuring themselves as a legal instrument of a precarious nature, but considered the most appropriate in view of the specificities of the resettlement and the institutional limitations at the time. However, 13 years after their formalization, the renewal or revision of these instruments has only recently become the subject of analysis, a situation that has increased the situation of legal uncertainty experienced by farmers occupying the Non-Irrigable Parcel Units, with potential social, productive and territorial repercussions.

## 3 RESULTS AND DISCUSSIONS

Codevasf's institutional experience in the implementation of PPI's has historically been oriented towards the priority use of soil patches considered suitable for irrigation. Regarding the form adopted by Codevasf to constitute the PPI's, Castro et al. (2013), describe that:

> Public Irrigation Perimeters (PPI's) are areas that the government expropriates, compensating the owners, and in which it develops sizing and feasibility studies to set up irrigation channels. In practically all projects, the area is divided into lots in which water is made available, through irrigation channels, an electricity point and the opportunity for drainage through access to roads. A farmer who receives a plot of land has the basic conditions of rural production, being responsible for the development of agricultural activities within his plot, such as setting up an irrigation system" (CASTRO et al., 2013, p. 269).

As can be seen, the technical and administrative decisions adopted by the public company are concentrated, when preparing the projects for the implementation of the PPI's, on the anthropological basis of maximizing irrigated agricultural production, through the dimensioning of hydraulic and irrigation systems aimed exclusively at this purpose. Such orientation can be observed in the Public Irrigation Projects of Bebedouro, Senador Nilo Coelho and Maria Tereza in Petrolina/PE, as well as in the projects of Mandacaru and, later, Maniçoba, Curaçá, Tourão and Salitre in Juazeiro/BA.

According to the regulations in force at the time of the implementation of these projects, the rainfed areas inserted in the irrigated perimeters were considered spaces of restricted

use, and initiatives aimed at their productive use were prohibited. Even when located in areas adjacent to irrigable units, any expressions of interest were systematically rejected.

This logic was anchored in a technocratic conception of territorial planning, strongly influenced by the paradigm of agricultural modernization, which favored productive efficiency and the control of production factors, to the detriment of the preexisting social and economic dynamics in the territory (Cavalcanti et al., 2014; Cazella; Bonnal; Maluf, 2009).

The central premise that supported this restriction was based on the hypothesis that the eventual future irrigation of rainfed areas could compromise water availability, originally sized for a previously defined irrigable area. However, this understanding began to be progressively revised based on technological advances in irrigation systems, which enabled greater efficiency in the use of water and a significant reduction in the volumes needed for agricultural production. This process of technical review opened space for the reinterpretation of the productive potential of rainfed areas, in line with more integrated approaches to rural development.

With regard to the acquisition of land intended for the implementation of the projects, it is observed that, in several cases, there was an interruption of historically consolidated local production systems, notably those associated with the extensive raising of goats and sheep. These activities played a central role in the economy and social reproduction of rural families in the semi-arid region. Such a rupture highlights the limits of public policies conceived in a vertical way, with low incorporation of local knowledge and traditional strategies of coexistence with the semi-arid region, as pointed out by Caporal et al. (2009), Caporal and Costabeber (2004).

In the light of the approach of capacities and inclusive and sustainable development, proposed by Amartya Sen (2010), such processes can be interpreted as restrictive to the expansion of the substantive freedoms of the social subjects involved, to the extent that they reduced the possibilities of choice and continuity of historically constructed ways of life. In this sense, development cannot be understood only as an increase in production or income, but as the expansion of individual and collective capacities to decide on the use of territory and available resources.

Specifically in the Pontal PPI, the paradigm shift resulted in the decision to allocate approximately 7,000 hectares, not incorporated into the Irrigable Parcel Units, to the initial constitution of 140 Rainfed Parcel Units, a fact that represents a relevant inflection in the traditional logic of irrigation projects. By prioritizing the settlement of families from the area covered by the expropriation decree, respecting previously defined criteria, this initiative signals an approximation with conceptions of territorial development that recognize the

productive and social diversity of rural areas (Cazella; Bonnal; Maluf, 2009; Zimmermann, 2014). Such a strategy dialogues, albeit in an incipient way, with perspectives defended by Cavalcanti (2011), when considering the territory not only as a physical support for production, but as a space for life, social relations and the construction of identities.

## 3.1 EXTENSION ACTIONS

The results demonstrate that Pontal Sequeiro should be understood as an eminently extensionist action, structured from systematic processes of training and technical monitoring of approximately 350 families affected by the expropriation process and residents in the vicinity of the Pontal Project. The strategies adopted were guided by an exploitation model based on agroecological bases, with an emphasis on diversified production systems, aiming at reducing the climate and economic risks associated with crops and livestock, as well as promoting incremental changes in technological adoption patterns, prioritizing process technologies to the detriment of product technologies.

Among the main actions conducted by the technical assistance team were the technological and managerial training of farmers, the evaluation and improvement of the forms of social and professional organization of producers, in addition to the realization of participatory diagnoses of the production units, which subsidized the formulation, monitoring and evaluation of improvement plans.

Other relevant initiatives involved the implementation of collective production and processing units, the development of integration models with anchor companies and other strategic partners, the implementation of alternative production and income generation programs with a gender approach, as well as the consolidation of a contextualized education program aimed at young people, in conjunction with local schools.

The training and qualification services for farmers in Pontal Sequeiro began in 2009. However, with the interruption of the Technical Assistance and Rural Extension (ATER) contract in 2015, due to budget restrictions from the Federal Government, the proposed model could not be fully completed or validated. This discontinuity occurred in a context marked by multiple structural weaknesses, such as delays in formalizing access to land and credit, delays in the implementation of basic infrastructure (electricity and water points), as well as obstacles related to environmental licensing.

It should be noted that the ATER service had an annual cost of approximately R$ 1.7 million and that the most consistent results could only be measured from the end of 2012, when farmers began to have land ownership documents.

Even so, some relevant results could be observed, as can be highlighted, that producers organized into interest groups started to produce and sell goats and sheep with a better zootechnical standard, reducing the slaughter age to about eight months, compared to the 18 to 24 months traditionally observed. As well as the production of coalho cheese from goat's milk, carried out in a collective cheese factory installed in an adapted building, but equipped with hygiene standards compatible with obtaining a license from the state health inspection agency.

Special mention should be made of the interest group focused on umbu extractivism, which began to sell the fruit both in natura and in the form of products processed in a small adapted agroindustry, including sweets, jellies, pulps and mousses. Composed mostly of women, this group obtained, in 2014, a per capita income of approximately R$ 2,000.00 in less than 80 days of work, an amount higher than that received in one year of participation in the Bolsa Família Program. Agro-industrial and extractive activities contributed to increase the participation of these sources in the general composition of the income of the productive units.

With a view to expanding the economic results of these initiatives, the level of social organization of producers was strengthened, culminating in the creation of the Cooperative for Agricultural and Extractive Development of Pontal (Coopontal), composed of 40 cooperative members. The cooperative started to operate both in the commercialization of Pontal products in public and private institutional markets (minimarkets, fairs, bakeries and events) and in the provision of agricultural mechanization services.

The creation of Coopontal represented a relevant organizational advance, expanding access to institutional and private markets. Studies indicate that the average monthly income of producers practically doubled between 2012 and 2014, even in the face of severe weather restrictions.

Even more promising prospects were associated with the implementation of plans for the improvement of agro-industrial units, previously agreed with public support programs, such as Prorural-PE, the APL of the Ministry of Integration and Senai/Sebrae, contemplating civil works and the acquisition of complementary equipment for the cheese factory and for a new umbu processing unit.

These actions contributed to a gradual increase in the income of producers. The average gross margin per producer evolved from a level equivalent to 0.88 minimum wages per month in 2012 to 1.80 minimum wages per month in 2014. Beef goat farming remained the main income-generating activity in the area around Pontal, with an estimated value of R$

2.9 million, corresponding to approximately 73% of the total agricultural and extractive revenue in 2014.

Thus, the performance of Pontal Sequeiro can be considered highly satisfactory, especially when considering the limitations inherent to a technical assistance program aimed at family farmers in the initial phase of exploration of their plots, located in areas of soils of low agricultural suitability, with access still restricted to Pronaf credit and simultaneously facing the longest drought recorded in the Brazilian semi-arid region in the last 40 years. The future prospects were positive, also based on advances of a non-financial nature that had been progressively observed.

The importance of ATER can be verified with the production data presented in the period between 2009 and 2015, when there was systematic technical monitoring, the Pontal Project – Rainfed Area presented significant results. Highlights include the strengthening of goat farming, the implementation of collective agro-industries, such as goat's milk dairy, and the development of umbu extractivism, with female protagonism and significant income generation.

## 3.2 CURRENT SITUATION AND IDENTIFIED NON-CONFORMITIES

It should be noted that with the end of the term of the AO's in 2017, and the subsequent approval of the draft for renewal through Resolution No. 889/2019 of the Executive Board of Codevasf, it became necessary to carry out a new survey to investigate irregularities. Of the 139 units parceled, it was found that 80 were in compliance with the AO, while 56 had irregularities or a situation pending verification.

The main infractions identified included irregular disposal of lots, implementation of fruit trees in rainfed areas, irregular water withdrawals and non-direct exploitation of the area by the beneficiary. For such cases, the Commission recommended the adoption of administrative measures provided for in Law No. 12,787/2013, always preceded by notification and opportunity for regularization, prioritizing the adoption of solutions that allow sustainable development (Sen, 2010) and living with the problems generated by drought, providing means to promote the development not only of agribusiness, but also of small farmers. mitigating inequality and "the domination of the land structure of national and multinational companies" (Rigotto et al., 2016).

## 3.3 REFLECTIONS ON THE CURRENT SITUATION OF THE PPI

Despite the irregularities found, these do not compromise the continuity of the Pontal Project, a Rainfed Area. On the contrary, they highlight the need to strengthen institutional

governance, resume technical assistance and update the legal instruments of occupation. Experience shows that the absence of continuous monitoring contributed to the emergence of distortions, without, however, invalidating the original objectives of the project.

The uniqueness of AO's in the context of a PPI imposes compliance with the specific legal regime of the Irrigation Law, Law No. 12,787, of January 11, 2013, which provides for the National Irrigation Policy (BRASIL, 2013), especially with regard to eviction procedures, which should prioritize regularization and not the simple resumption of the area.

With this, it reinforces that the Pontal Project promotes the productive and social inclusion of family farmers in a context marked by climatic and historical limitations of access to land. In this sense, the eviction procedures associated with the project should prioritize land and productive regularization, and not the simple resumption of areas, recognizing the social function exercised by the families that produce and reside in them. The adoption of regularization mechanisms, combined with technical assistance and productive organization, contributes to the socioeconomic stability of rural communities, strengthens activities adapted to the semi-arid region, such as small ruminant cattle raising, forage production, the extraction of native species and the reduction of land conflicts. In this way, the emphasis on regularization, instead of merely coercive eviction, consolidates the project as an instrument of sustainable development, social inclusion and dignified permanence of the farmer in the territory.

## 4 FINAL CONSIDERATIONS

The analysis of the Rainfed Areas of the Pontal PPI shows that this experience was an innovative, socially relevant and territorially situated public policy, by articulating mitigation of social impacts resulting from the expropriation process, promotion of local economic development (Beserra, 2020) and adoption of environmentally sustainable practices in the semi-arid region of Pernambuco.

As discussed in the introduction, here we sought to understand to what extent the Rainfed Areas could be configured as an alternative and complementary strategy to the conventional models of public irrigation projects, historically centered on irrigated agriculture and little sensitive to the social and environmental specificities of the territories.

The results presented throughout the text confirm the hypothesis initially formulated that the combination of technical assistance and rural extension (ATER), social organization and adoption of agroecological principles constitutes a strategic vector of sustainable territorial development. The methodological approach adopted, of a qualitative-quantitative and analytical nature, supported by institutional data, technical records and accumulated

extension experience, allowed to show that the advances observed in the Rainfed Areas were not restricted to the increase in income, but involved broader processes of strengthening the productive, organizational and decision-making capacities of farming families.

The strengthening of goat farming, dairy goat farming, umbu extractivism, artisanal agro-industrialization and fruit farming with low water demand demonstrated the viability of diversified and resilient production systems, aligned with the edaphoclimatic conditions of the semi-arid region. These results dialogue directly with the theoretical framework presented in the introduction, by reinforcing the understanding of rural development as a multidimensional process, which involves social inclusion, expansion of capacities, productive autonomy and environmental sustainability.

In addition, the findings of the study corroborate the centrality of ATER as a structuring public policy, especially when guided by participatory methodologies and an agroecological perspective. The creation and consolidation of collective forms of organization, such as Coopontal, as well as the protagonism assumed by women and young people in productive and agro-industrial activities, show that the impacts of Pontal Sequeiro have extrapolated the economic dimension, reaching social, institutional and symbolic spheres of territorial development.

However, as also highlighted at the beginning of the article, the interruption of the ATER contract and the institutional weaknesses associated with land regularization, access to credit, basic infrastructure and environmental licensing compromised the full consolidation and validation of the model. This scenario reinforces the need for public policies endowed with continuity, inter-institutional coordination and long-term commitments, at the risk of weakening initiatives with high transformative potential.

Even in the face of these limitations and a context marked by the most severe drought recorded in the Brazilian semi-arid region in recent decades, the socioeconomic indicators achieved allow us to classify the performance of Pontal Sequeiro as highly satisfactory. The increase in the average income of families, the improvement in the quality of products, the insertion in institutional and private markets and the strengthening of the local productive base confirm the empirical consistency of the arguments presented in the abstract and developed throughout the text.

Thus, it is concluded that the continuity and improvement of the Rainfed Areas of the PPI of Pontal are not only viable, but strategic, as long as they are accompanied by the correction of institutional weaknesses, the improvement of legal instruments, the explanation of Codevasf's responsibilities in the AO's, the systematic resumption of ATER and the strengthening of institutional dialogue with the beneficiaries. The analyzed experience

reaffirms that public irrigation projects that can and should incorporate non-irrigated, agroecological and socially inclusive production models, offering concrete subsidies for the formulation of public policies for territorial development in the Brazilian semi-arid region.

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