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Actions for the development of local productive arrangement of fish farming in the municipality of Sobradinho/BA

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ABSTRACT

Local productive arrangements (LPAs) are important options for the implementation of job-creating public policies and income in a sustainable way. In Brazil, such policies to encourage organizations, although recent, has become consistent and the results of its implementation can already be perceived. This work consisted in analyzing the performance of the Development Company of the São Francisco and Parnaíba (Codevasf) in the local productive arrangement of fish farming in the municipality of Sobradinho/BA. Through documentary research in the database of the 6th Regional Superintendency and interviews with engineers Unit of the Regional Revitalization Management - Territorial Development Unit of the institution, arrangement of characteristics and the benefits for the participants and the local population were raised. As results, it was found that after the company's participation in LPAs was a considerable increase in production, marketing and consumption of fish as well as the creation of new job opportunities in the region.

Keywords: Local Development. Pisciculture. Public policy.

INTRODUCTION

According to Noronha and Turchi cited by Sacomano Neto; Oriani and Paulillo (2012) the term local productive arrangement (LPA), which can be understood with an agglomeration of enterprises in a given territory aiming at its

development was created in Brazil by an inter-ministerial working group in 2004, in order to stimulate specific public policies for this purpose.

According to Rua (2009), a public policy usually involves more than one decision and

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requires several actions strategically selected to implement.

Souza (2006), in turn, says there are several ways of defining public policy, can be a field within the policy study analyzing the government in the light of major public issues. But it can also be a set of government actions that will produce specific effects influencing the lives of citizens.

It is understood that for the success of public policy must be the effective participation of the various actors responsible for executing it, which comprises not only the government and its administrative structure, but all the other players that are able to form coalitions and create means to promote both economic development and social inclusion of much of the population, respecting the environment.

Local clusters are basically made up of small and medium-sized organizations, which have been the subject of public policy actions to improve their working conditions in favor of increased employment and local or regional income, ie a model of economic, social and local development. But it is noteworthy that avoid environmental damage.

A study by the Applied Economic Research Institute (IPEA) on the identification and mapping of LPAs, shows that these arrangements have been increasingly the subject of public policies (SUZIGAN, 2006; LEITE FILHO; ANTONIALLI, 2011).

Yet from the perspective of these authors, by coordinating the actions to be performed by the executors agents such policies aim to improve local conditions for business growth, encouraging investment, technological development, the increase in exports and, above all, increased employment and local or regional income.

Correctly identify the existence of producers clusters is a relevant factor for the application of these policies. However, in Brazil, which has seen in recent years is the lack of an effective coordination of actions and, therefore, overlapping and dispersion of institutional measures, waste of resources and results that fall short of the expected (SUZIGAN 2006).

LPAs, the regional development point of view, are aimed at improving the quality of life of all stakeholders involved in this process, not only consisting in raising income, social improvements, education, but also promoting empowerment, freedom of expression, participation and political choices.

The increase in local economic activity generated spontaneously or through the actions of LPAs also generates additional demands for services and infrastructure, which tends to promote the development of the region as a whole.

National, regional and local policies are fundamental to the joints of LPAs because they provide solutions to the lack of integration and its consequences such as, for example, the inclusion of distant social groups of policies and strengthening of leaders of local empresariados.

In Brazil, the LPAs belong to the territorial policies of the Union as Mesoregions Program Differentiated (Promeso), the Ministry of National Integration (MI) whose objective is to alleviate the social and regional inequalities from the enhancement of tangible and intangible endogenous assets. While a program focusing on supported development management in stimulating potential and economic characteristics, own social and cultural needs of each region, Promeso appeared constantly seeking social organization and orientation of local

populations on the concrete possibilities of development (BRASIL, 2009).

Therefore, the federal government has supported the organization of LPAs, mainly through the Ministry of Agrarian Development, Industry and Foreign Trade and National Integration. In the latter, there are some projects and actions of related organizations such as the Development Company of the São Francisco River Valleys and Parnaíba (Codevasf) and its regional offices focused on consolidation of local development strategies, in order to stimulate the economy and mitigate the social differences.

The 6th Regional Superintendency of Codevasf, based in the city of Juazeiro / BA, officially installed in 1991, whose area of operation in the river watershed São Francisco currently covers 86.284,71 square kilometers, encompassing 27 municipalities and a population of about 1 million inhabitants performs work aimed at promoting the development of local clusters, such as fish farming in Sobradinho/BA; activity developed on Lake hydroelectric plant of the same name, and has a great potential for expansion (CODEVASF, 2015).

With the construction of this reservoir, a few decades ago, the fish production in the region was reduced, and many families had to be relocated due to the flooding of land. The fish then emerged as one of the alternatives to offset the impacts caused and has been developed since 2004 with the support of 6ªSR/CODEVASF and other institutions (BAHIA PESCA, 2008).

It is noteworthy that fish farming is one of the fastest growing activities in the Brazilian primary sector in recent years and that fish, in addition to being a healthy meat, high nutritional value, can be produced at low cost and from different housing systems (BATISTA, 2013).

According to Ramos et al. (2010) in recent years, there has been a considerable increase in the deployment of fish farming systems in cages in dams in Brazil.

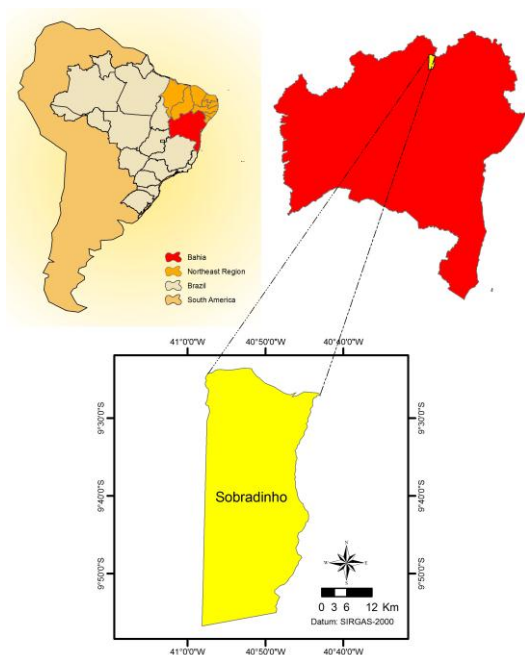
According to Augustine, Gomes and Pelicice (2007) the possible damage and / or impacts of this activity to the aquatic ecosystem have not been fully understood and requires further research. Despite criticism from environmentalists and some experts on this type of activity.

This work, exploratory and descriptive, through a documentary research by a quantitative approach, aimed to analyze the main actions carried out by the 6th Codevasf of the Regional facing the organization and expansion of the local productive arrangement of fish farming in the municipality of Sobradinho / BA, demonstrating the evolution of this process and its main features.

MATERIALS AND METHODS

The municipality of Sobradinho (Figure 1) is located north of Bahia and has a population of 22.000 inhabitants according to the census of 2010 Brazilian Institute of Geography and Statistics (IBGE, 2016).

In this town is the Sobradinho hydroelectric plant and is therefore bathed in the second largest artificial lake in the world and the largest in Brazil with over 4.200km², Lake Sobradinho about 50km upstream of Juazeiro / BA (Figure 2), reservoir that also bathes other neighboring municipalities (AGOSTINHO; GOMES; PELICICE, 2007; BRASIL, 2009; CHESF; EMBRAPA, 2016).

Figure 1 – Location of the municipality of Sobradinho/BA

This study, as to the purposes, is classified as exploratory and also descriptive data were obtained primarily through documentary research and semi-structured interviews with the engineers of the Regional Revitalization Management - Territorial Development Unit – 6th / GRR / UDT – Codevasf. (GIL, 2007; 2008; ZANELLA, 2009; RUDIO, 2011).

A documentary research involves research in internal documents (or external) regarding the organization studied. The advantage of using internal documents, such statute, regulation, reports and manuals is the availability and low cost (ZANELLA, 2009).

Figure 2 – Plant Sobradinho.

Source: Chesf; Embrapa (2016).

The documentary data that make up the present study were obtained through consultation, duly authorized, the management reports and other files of the 6th Regional Management Revitalization Watershed - Regional Development Unit of Codevasf – 6th GRR/UDT – Codevasf, comprising the periods 2006, 2009, 2011 and 2014, for the local productive arrangement of fish farming in the municipality of Sobradinho/BA.

RESULTS AND DISCUSSION

This research found out that for the progress of the projects which embody the support to LPAs, Codevasf has its own budget and also to partner with some ministries, such as the National Integration, Agrarian Development, the Industry and Foreign Trade, and other possible partnerships that are under study.

For the implementation of actions in the territories the Company operates directly through the Regional Superintendents or, as voiced in partnership with public and private institutions, such as state governments, municipalities, non-governmental organizations, research organizations and rural extension organizations producers and foundations.

In 2005, the 6th/SR Codevasf started working on the development of fish farming LPA on Lake Sobradinho, with technical assistance and providing budget for the actions of producers. One of the goals was to prevent profit margins lower than those that the market would absorb and optimize crop. The institution has been monitoring market information, economic-financial and production of LPA (Figure 3).

For fish farming in cages in Union waters it is necessary to the competent licensing by the government.

Figure 3 – Fish farming in Lake Sobradinho.

Source: Codevasf (2015).

According to the fish breeding manual in cages, work elaborated by technicians Codevasf, the institutions involved in this regularization process are: the Ministry of Fisheries and Aquaculture; the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA); the State Environmental Organizations (OEMAS); the Marine; the National Water Agency (ANA) and the Superintendence of Heritage of the Ministry of Planning Union Budget and Management (CODEVASF, 2013).

The LPA fish in Sobradinho started in 2005 had only 02 members and had an initial investment of R\$ 320.000,00 (three hundred and twenty thousand Reais) plus technical assistance (support professionals and capabilities), more fingerlings (just fish-born), feed and a total of 120 cages.

One year later, it has already registered a production of 60 tons of tilapia Chitralada type, species chosen because of its characteristics, type of management and economic feasibility (cost-effectiveness).

In 2009, there was an increase in the number of members going up to 05, with the rise in the number of cages to 240. The quantity produced, therefore, increased to 147 tons, and the LPA generated gross revenues of R\$ 588.000,00 (five hundred eighty-eight thousand Reais).

This growth resulted in positive social impacts, particularly with regard to safety and food quality community living in this region, where about 5.000 people began to consume animal protein high protein.

Also from this period was the recovery of fish and the stabilization of prices, because the product is no longer scarce in the region.

From this increase in production and marketing, tilápia has become an integral part of the menu of restaurants in the area and also the daily diet of the inhabitants.

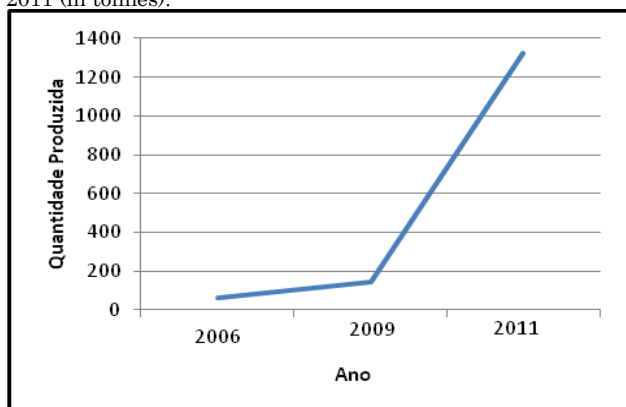
It was found that were generated 15 direct jobs and 45 indirect, and at the end of this period, associates and entrepreneurs got together a total production of 385 tons of tilapia and a gross revenue of R\$ 1.540.000,00 (one million five hundred and forty thousand Reais).

In 2011, LPA has expanded to 09 members and 05 businessmen and the total production with all the associated business and was 1,324 tons of tilapia (Figure 4), resulting in a gross revenue of R \$ 5.958.000,00 (five million nine hundred fifty-eight thousand Reais). And the amount of cages was raised to 1,198 units.

It was found that most of the production is sold to the state of Ceará (about 90%, where there is greater demand for fish) and the remainder is sent to the states of Pernambuco and Piauí, and are sold to the community site and provided to the National Supply Company - CONAB, which conducts fish donations. Figure 4 below shows that the considerable growth in the production of fish 60 tons in 2006 to 1.324 tons in 2011.

It was found that there was much growth as well as associated production and the participation of entrepreneurs was an important factor for the growth and development of LPA.

Figure 4 – Tilápia production in LPA between 2006 and 2011 (in tonnes).



Source: Authors

Currently, the profile of the members is characterized by being people who have elementary school, they are aged 30 to 50 years and almost all are beneficiaries of a social program of the federal government.

Some institutions in partnership with the 6th/SR of Codevasf support this activity as the Bahia Pesca (a company linked to the Department of Agriculture, Irrigation and Agrarian Reform of the State of Bahia – Seagri), the Brazilian Service of Support for Micro and Small Enterprises (Sebrae), the Sobradinho Prefecture, the Brazilian Agricultural Research Corporation (EMBRAPA), the Federal University of São Francisco Valley (UNIVASF) and the territorial Committee for fisheries and aquaculture.

It was seen as the biggest challenge for the LPA growth and expansion of its production: the need for greater access to credit from the financing institutions for funding and increasing the amount of cages; as well as the development of continuous training with regard to the processing and sale of fish.

is vouched that Codevasf has as main activity the development and implementation of irrigation projects utilization of water resources in the basins of the São Francisco and Parnaíba and also

in the valleys of the Itapecuru and Mearim rivers (in the states of Ceará and Maranhão).

Moreover, its core activities consist of investment in new technologies, culture alternatives, commitment to the environment, training farmers and realization of socio-economic and environmental studies, among others.

The Codevasf of actions seek to generate employment and income, reduce rural exodus and the economic and social effects from the drought. Before its Strategic Plan and its guidelines the Company through its Regional Superintendents values the characteristics of each region and promotes actions to strengthen the locality. In this sense, the 6th/SR encourages and supports the Local Productive Arrangements to provide development and growth, as well as improving the quality of life for the city.

With the performance of the 6th Regional Superintendency from 2005, the Productive Arrangement Fish farming site in the municipality of Sobradinho/BA was strengthened with technical support, resources and partner support. There was an increase among participants (associations, entrepreneurs) which provided increased production and revenue. The Company's performance was critical to the improvements shown in LPA.

Important to emphasize that the arrangement is characterized as developing, as happens to interest a new business and have viewing credit operators and support more local actors. Besides having leaders, these are not independent it possible for the LPA make important decisions, still maturing and its market failure is relatively limited and its products are not exported.

Still, it was found that there was more dynamic in the region since the income, employment and service sector activities, such as,

restaurant (now available the dish with the types of fish on their menu) increased considerably. Improvement of the local population's quality of life also occurred since the community entered the fish feeding species of tilapia in your diet.

Continuing with the support of the 6th/SR of Codevasf, the trend is that the LPA gain more prominence and visibility between the authorities and partners, given that the information showed that between 2006 and 2011, growth and improvements to the activity proved to be well high.

However, some aspects need to be mentioned from the submission of information to the planning of actions.

greater monitoring of information in smaller time intervals is necessary, for example, annually and prepare a more detailed socio-economic profile of the participants to the community's weaknesses are checked and therefore prepare formatted actions and targeted based the result of the profile.

In this case, actions to, for example, improve the level of education of members which would favor the better absorption of the training carried out between them. List the strengths and weaknesses of the LPA can provide further investment, improvements and adjustments in both production and the management of the activity and also the question of promoting environmental education.

The funds allocated by the government for this purpose can be to sometimes scarce, but a government strategic planning (with stock short, medium and long term) and formulated with the participants, would optimize plans and actions to carry out activities in LPA. With a more structured planning, facilitates would the adoption of new partners for the further

development of the crop as well as more targeted public policies, as it would be shown what really LPA can, where and how need to invest in a sustainable way.

CONCLUSIONS

It was found that the projects and the Company's shares of the Valley of the São Francisco and Parnaíba carried out through its Regional Superintendents streamline municipalities in their areas. As is the case of the 6th Regional Superintendency supporting activities directed to LPAs, among which fish farming in Sobradinho/BA.

The LPA is an alternative which is to improve the condition of the region, taking advantage of their potential, since the lumped companies strengthen, organize and gain visibility both to improve their production and increase their revenue and gain more credits.

An example of Codevasf of actions in support of LPAs is to improve proportionate to fish LPA in the municipality of Sobradinho/BA that has progressed in its economic and social aspects.

The performance of the 6th Superintendency of Codevasf that LPA is clear that the actions of the Company are relevant to the organization and structuring of productive activities in Northeast Brazil.

The economic aspects such as the generation of jobs and income, the increase of participants, production and revenue in the arrangement; and social aspects such as improving people's quality of life, with the improvement of diet are factors that have been enriched with the LPA growth.

It was found that the development and the acquired improvements, partnerships and investments are aspects that should not be parked for the expansion and improvement of LPA.

It was evident that technical support is a key factor for the development of this process and this should continue bringing innovation to the cultivation and for the coordination of business. These aspects make the arrangement to acquire maturity and progress, conquering new consumer markets and even export. Public policies formulated and intended for this action are beneficial and constructive fact for the progress of APLs.

It was felt that the development of a region depends on government policies, but also support and partnership of other actors. In addition to the effective participation of the local community that needs to empower themselves to build and claim social, economic and environmental improvements.

Vouched that the Codevasf within their actions and the work of his superintendents have committed in the regions of their area, to provide welfare to the population and to reduce regional inequalities arising from drought and the characteristics of each locality.

It was shown that the expansion of productive activities such as fish farming, technical assistance for its development, since it carried out in a sustainable manner, is presented as an alternative to mitigate the environmental impacts caused to the people of neighboring towns to large enterprises as the power plant of Sobradinho/BA.

Finally, this study reached its primary purpose to analyze the performance of Codevasf in pisciculture LPA in Sobradinho/BA and hopes to serve as references and inspiration for further research, mainly focused on the area of environmental management and management of sustainable local development.

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