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Pluriactivity and multifunctionality of family farming in the lake region Janauacá, Careiro-AM

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Resume: The Amazon is a region where family farming manifests itself in the most different ways: riverside, extraction and “quilombolas” (former slaves). Has been elaborated an analysis of the production systems of family units in the region of Lake Janauacá - Amazonas, with the aim of presenting a portrait of local family farming. To achieve the objectives proposed in this study, we proposed an investigation, an exploratory, descriptive and explanatory with a qualitative and quantitative trend. The method of non-probabilistic sampling by quotas (or groups) using the “snowball” type strategy. Data collection was carried out in August 2016. The diversity of local production systems was described qualitatively based on the field observations supported by the statements of the interviewees. It was noted that, among temporary cultures, most of it goes to the production of cassava, it is the raw material for the preparation of the “regional rubber” and the “farinha” (cassava flour) It was noted on a smaller scale for family consumption, fruitful, such as: fruit palm, orange, abia, lemon among other crops. The breeding of animals was also mentioned, mainly: cattle, turkey, ram, horse, duck, pig and chicken. Lacustrine river dynamics is an integral part of the life and culture of the inhabitants of Janauacá. Family agricultural production is diversified, resulting from the knowledge of the farmer in appropriating the different assets existing in the environmental system, as well as the recovery attributed to the variety of foods that make up the local diet.

Keywords: Agroecology, Amazonia, Socioeconomics Sustainability.

Introduction

The Amazon is a region where family farming is manifested in many different ways: riparian, extraction and “quilombolas” (former slaves), and where there is a great diversity of natural resources capable of providing the productive and food base of these farmers (GALVÃO et al., 2005).

The social diversity present in Amazonian family farming requires an increasingly in-depth analysis for its better understanding. The study of production systems makes it possible to understand the dynamics social, economic, environmental, cultural and political family farmers in relation to the complexity and diversity of the environment, market integration and public politics (MATOS and MARIN, 2009). According to Guanzirolí et al. (2001), the diversity of situations in which family

farming is found, it is reflected in the different production systems adopted, which may have different effects, in different regions.

Janauacá Lake is characteristic of a basin, located on the right bank of the Solimões River, between coordinates 60° 07' to 60° 27' West Longitude and 3° 14' to 3° 37' South Latitude. It is situated between two municipalities: Careiro and Manaquiri, both in the State of Amazonas. The Janauacá basin covers an area of approximately 900 km² on the right bank of the Solimões River, with a distance of approximately 110 km from the city of Manaus (AM), between the mouth of the Manacapuru River and the Marchantaria Island basin.

That region is relatively small, presenting a surface area of 67.71 km², belonging to the municipality of Careiro (AM). It is characterized by

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presenting several flat lakes (1 to 6 m deep). It is a mixed complex of dark waters in its lower branches that originate in the plain itself near the forests and clear waters of the basin in the northern portion from the Andes.

With the approach of production systems focusing on the family production units of Lake Janauacá, it was found to demonstrate the diversity of economic strategies of social organization of work and production present in family farming in the research area. Such aspects can serve as parameters for a more detailed understanding of the Amazonian rural environment in relation to family production units.

An analysis of the production systems of family units was produced aiming to present a portrait of local family farming. This study sought to expose the main elements related to production systems, organization and agricultural and commercial dynamics present among farmers in the region, yearning to contribute to the construction of parameters that serve as the basis for the introduction of appropriate technologies in Amazonian rural communities according to their profiles.

With that, we wanted to produce a dynamic reading of the reality of these family units of artisanal production of “farinha” (mandioc flour) and cassava gum, so that elements are revealed and to contribute with information that allow a better understanding of the diversity of family farming in the State of Amazonas.

Methodology

To achieve the objectives proposed in this study, we proposed an exploratory wedge investigation, descriptive with qualitative and quantitative inclination. To obtain primary data on family units and production systems, the collection techniques used were interviews and direct observations in the field of ethnographic and agronomic character. Thus, it was intended to apprehend the social strategies of family farmers, in its relationship with the complexity and diversity of the environment, integration to the market, public politics and environment and socio-economic actors.

Data collections occurred during the month of August 2016. Data collection was obtained through structured interviews applied to farmers in family production units, also to direct information. The script contained open and closed issues, with the purpose of describing the characteristics of the activity or processes addressed in the investigation. This technique allowed the best characterization of

infrastructure, production, organization, marketing, access to government programs and projects, among others.

33 family farmers were interviewed on the mainland.

The non-probabilistic quota sampling method was used (or groups) through the “snowball” type strategy. reference chains are used for recruitment.

Different from traditional sampling techniques, Traditional sampling, looking the independence between the elements of the sample, this type of technique makes fair use of relationships between people.

In the snowball method, an individual is recruited and then, indicates other people in your relationship to also participate in the sample. For that, an initial number of people, who, preferably, knows many components of the target population, is selected. That group receives the designation of “seeds”, for being the first individuals recruited. The subsequent step is to ask those people for information about of other members of the population of interest, to then recruit them (GOODMAN, 1961).

The sample size is related to the characteristics of the object of study and, above all, with the complexity and diversity of the local reality. To this end, we seek to guarantee a very careful and specific choice of family production units and the production systems that represent the diversity of the reality studied, preserving the representation of the types of production units or production systems that are not representative from the point of view statesman.

The diversity of local productive systems associated with cassava cultivation was described qualitatively based on field observations supported by statements of the interviewees and photographic records.

The research project was presented to the Ethics Committee - CEP, of the National Amazon Research Institute - INPA, in accordance with the instructions of Resolution CNS 466/96, after being analyzed and approved, the investigation began. The project has been approved with the following verification code: CAAE 54277516.7.0000.0006.

According to the instructions of this committee, The research proposal was explained to the community leaders to obtain authorization for the development of the investigation by signing the Term of free and enlightened consent. After acceptance of community leadership, the same procedure was adopted for each interviewed, when requesting the signing of the Free and Informed Consent Term.



TCLE After the acceptance of the leadership of the community, the same procedure was adopted for each subject of investigation (interviewed), when requesting the signature of the Free and Informed Consent Term. TCLE

Results and Discussion

In the region, cassava cultivation is mainly exploited by small decapitalized producers, with difficult access to credit and technical assistance, using traditional cultivation techniques.

According to farmer stories:

“With the money I make investments in my property to help in the sustenance of the family, I’m already able to produce diversified fruits, vegetables, small animals, for example creole hen. with what is left over, I buy things for the house; fridge, kitchen and TV.”

*“Some people already have a cement house, with a television, a satellite dish, blender, iron, computer and internet. all achieved with the money of the “farinha” *.*

Everything came from cassava. We leave the chaotic life situation, no perspective and plantation for consumption. Today we produce with new perspectives with profit and improvement of the quality of life”.

The multi-activity is a way of protection against predatory forms of income extraction, perpetrated by different agents of capital (economic system). But, the greater the variety of crops, livestock and other activities, the lower the vulnerability and the greater the probability that farmers appropriate internally generated revenue. Combined to this, a possible way of maximum income appropriation is defined by eliminating intermediaries in the commercialization of production (PAULINO, 2006).

For Pereira et al. (2015), multifunctionality and the multi-activity of family farming in Amazonas doesn't necessarily come from combining agricultural activities with non-typically agricultural activities, but rather the simultaneous handling of natural various (terrestrial) and aquatic resources ecosystems(basins). and productive activities that combine agriculture and livestock with the exploration of forest resources, in particular the exploration of so-called non-timber forest products

(NWFP), fishing and hunting. In other words, it is about analyzing and interpreting the importance of family farming for its multifunctionality and that is expressed by the interconnection of different Roles and functions of agriculture.

The Family farmers in Janaucá, due to their diversity in the production process, they have a strong balance (sustainability) when capital interferes with its production, in this way, are able to adapt to new forms or loopholes that the market leaves to continue producing rebuilding and strengthening itself in the market. The social reproduction of these farmers depends on their relationship with different and heterogeneous forms of structuring social, cultural and economic capitalism, in a given space and context historical given. Therefore, to ensure economic viability, they began to develop production systems that combine fruit cultivation, horticulture and animal husbandry (zootechnics).

It has been noted that among the provisional crops most are destined for cassava production, since it is the raw material to make “regional rubber” and flour. It was observed in smaller measure for family consumption fruits such as:

Palm trees, ingá, orange, abiu, lemon among other crops.

Animal husbandry (animal husbandry) was also cited, mainly: cattle, turkey, lamb, horse, duck, pig and chicken. As well as the sites, this reproduction material is vital for the supply of food (meat and eggs), as well as any eventual income from occasional sale. The economic support of these activities is crucial for the production units family (UPF), whose production system is based on cassava culture, to the extent that it functions as a source of income, work and food security for the family.

Among family farmers on the mainland: 45.5% declared to hunt, being the same for family consumption purposes, especially when agricultural production tends to decrease due to flooding, in no case declared the Hunt for marketing. There are several species that surround the forests and igapós, among the animals cited, the main ones were: armadillo, paca, agouti, tapir and capybara. They claimed to hunt on average once a week.

Hunt meat (animal extractivism) is the most important food in the supply of protein after fish. The hunt is primarily intended to meet food needs. Generally, the capture is done with a firearm (shotgun) and traps. These animals are trapped during the flood and the ebb of the river. It is a

sporadic activity, carried out by men, and intended for family consumption. The surplus meat of these animals shares with other members and members of the community.

According to compiled data: 94% of farmers declared to fish. They develop this practice for self-consumption purposes: None sells fish. With respect to the fish caught, the farmers mentioned: sea bass, “curimatã” and little white fish, respectively. They claimed to fish on average twice a week.

The equipment used are: the knitting machine, the hooked hand line and the fishing net. Some studies indicate that weave and mesh equipment are currently the most used in white water rivers (BARTHEM, 1999). For Silva and Begossi (2004), the use of the mesh maker corresponds to technology with higher capture rates and lower species selectivity.

The amount of fish caught in aquatic landscapes is variable and is due to the seasonal and daily consumption needs of the family unit. According Silva and Begossi (op. Cit.), rural communities present equitable catches between several species, showing lower selectivity, contrary to the fishing destined to the commercialization.

The choice of fishing sites is based on the personal experience of each individual and their logistical capacity to explore different sites.

These locations are sought both in flood and in the ebb.

In a study conducted in the Itacoatiara region, it was found that the technique of fishing used varies from season to season according to the temporarily more abundant species (PEREIRA, 1999). For the same author, the study of the Itacoatiara communities revealed that the families engaged in the commercialization of extractive extra fishing had cattle herds 3.5 times smaller than the other families. Fishing specialization, another eminently male activity, could enter conflict with animal husbandry, since both activities require intensification of adult male work during the same time.

A comparison between the families of the same community indicated that there are differences in the practices of the subsistence fishermen’s households (unskilled) compared to commercial (specialized) fishermen’s families.

Commercial fishermen invest 39% more of their productive time to fishing compared to all those subsistence fishers.

According to Pereira (op. Cit.), families that include commercial fishing and the sale of agricultural products in their strategy economic

could produce an annual surplus of agricultural products of up to R \$ 6,500.00, without limitations. The intensification of livestock seems to limit agricultural activities more than the intensification of fishing activities. It was observed that families could increase their stocks or assets in up to 60 head of cattle (~ \$ 13,000) and still produce unrestricted surplus annual plant products of up to \$ 2,400. In general, the combination of animal husbandry in Small scale and agriculture seems to be the best strategy for economic intensification.

According to Pereira (op. Cit.), In the areas of family farming, livestock intensification leads to competition for arable land and the labor force available to the family. Households that specialize in livestock must permanently convert most of their land into grazing and work harder for animals management. Such a strategy can be continuously monopolize the available workforce, particularly The work of adult male workers. In the case of the combination of agriculture and commercial fishing, competition between production factors is restricted to competition for the assignment of the workforce, since the production of the Fishing occurs in a different space than agriculture.

For the same author, family farmers must optimize the use of spatial diversity in the landscapes of floodplains and mainland as part of their livelihood strategies.

The intensification of work during the terrestrial or aquatic flood phase is aimed at optimizing the acquisition of resources (or production) at a time of abundance. Such objectives involve systematic planning and organization of all procurement activities to: (1) allow simultaneous exploitation of various productive environments aquatic and terrestrial and (2) adjust these activities to the calendar and the physical limitations of the landscape imposed by the hydrological regime.

Among farmers on dry land: around 15% practice the extraction of plants for consumption purposes family. Specifically the most cited species were: “açai” and “andiroba”. They claimed to develop this practice on average twice a week. The products are used in human and animal feeding, complementing the family diet and supplying mainly vitamins and minerals, being of fundamental importance during the season of floods. It also contributes to the complementation/supplementation of family income through the sale of fruits.



In a recent study conducted with extractive families in three conservation units for sustainable use in the Amazon, it was observed that the average annual income of then NFP marketing (non-timber forest products) ranged from R\$ 16,000.00/family to R \$ 2,000.00/family. In a recent study conducted with families living from extraction in three use conservation units sustainable in the Amazon, it was observed that the average annual income of the PFNN marketing (non-timber forest products) ranged from R\$ 16.000,00 / family to R\$ 2.000,00 / family.

It can be concluded that agriculture and fisheries contribute most of the family's income. This shows that extraction activities assume a role of complementary activity and, therefore, they should not compete strongly with these other activities for the allocation of labor (VINHOTE and PEREIRA, 2015).

For Pereira et al. (2015), the multifunctionality of family farming in Amazonas becomes a challenge for public policies and their local development programs, for several reasons. The main one refers to the impact that technological innovations can have on the allocation of labor and family labor time.

Technological innovations may represent a greater demand for the allocation of labor and, therefore, may require a high degree of specialization (verticalization) of the production unit. In other words, innovations that depend on a greater investment of family labor time will be little sustainable if they were not accompanied by compensatory strategies for the reduction in the repertoire of family economic strategies.

Another significant feature of family farmers in the state of Amazonas is their collective ownership of common resources. Therefore, land, anthropogenic forests and waters are not governed strictly under the logic of private property. That way, the interventionist proposals that are intended to be carried out cannot, rather, they should not act negligently or neglect this important cultural feature of Amazonian family farmers let alone advocate violations of the norms and rules that constitute these collective property regimes.

Final Considerations

Lacustrine river dynamics is an integral part of the life and culture of the residents of Janauacá, so their livelihoods and economic strategies reflect the direct influence of the river regime, thus leading to adaptive responses aimed at supplanting the

challenges presented by seasonal environmental transformations.

Family agricultural production is diversified, as a result of the farmer's knowledge of appropriating the different assets of the environmental system, as well also of the appreciation attributed to the great variety of foods that make up the local diet.

However, the low rates However, low technological indexes characterized cassava and derivative production systems. Working with cassava flour and gum involves a large part of the resident families, which reveals the great importance of cassava culture as an economic activity in the region. It has been in evidence, tradition and precariousness at work. This, in most cases, involves several generations, but it happens in a rustic way, under stressful conditions and days, involving, even less frequently, child labor.

The organization of family work as a reproduction strategy can adopt different configurations, and that, also to the limiting factors linked to natural resources and available labor, also are subject to the availability of financial resources, attachments and traditional values.

The division of family labor is a direct reflection of the composition of the family, because regardless of age or gender, everyone works. While some are executing activities in the production units, others are carrying out the domestic activities belonging to the activities necessary for the maintenance of the family.

In the social relations of work that predominate in the investigated area, there are many people who are fully engaged in agricultural activities, as well as some that work on the outskirts of the property, thereby combining agricultural and non-agricultural occupations.

Farmers have little access to technical assistance and information, which would make it possible to increase the productivity of cassava crops and the manufacture of derivatives. Regarding participation in social work organizations (unions and associations), there has been a low participation of farmers, which has limited the scope of obtaining better working conditions and technical support.

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