EVALUATION OF THE SOCIO-ECONOMIC CONDITIONS OF THE CAJARI/AP EXTRACTIVE RESERVE

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ABSTRACT

Purpose: This study aims to evaluate the socioeconomic conditions of the families that make up the Comunidade do Marinho, located within the RESEX Cajari-AP, under the focus of sustainable development.

Theoretical framework: To be sustainable, development needs to be economically efficient, socially desirable and ecologically balanced, and must be understood as a long-term strategy that aims to eradicate poverty, reduce inequality and make growth inclusive, and production and consumption more sustainable. The RESEX, territorial areas intended for self-sustainable exploration by native populations and the conservation of renewable natural resources, are characterized as sustainable use units for the communities that reside in them.

Method: A case study was carried out with data collection through interviews and on-site visits.

Results and conclusion: The results reveal that the community of Marinho is dominated by a young male population with a low level of education. The generation of family income is associated with the exploitation of biodiversity and is dependent on the transfer of public resources. The infrastructure is simple with limited public services, with families exposed to socio-environmental risks.

Research implications: The study points out the needs of the Marinho community and the entire RESEX Cajari and suggests actions to achieve sustainable development.

Originality/value: The results obtained in this study are unprecedented and relevant for RESEX Cajari-AP, subsidizing the development of projects and programs capable of enhancing the sustainable development of the community.

Keywords: Extractive Reserve, Sustainable Development, Marinho Community, RESEX Cajari-AP.

AVALIAÇÃO DAS CONDIÇÕES SOCIOECONÔMICAS DA RESERVA EXTRATIVISTA DO RIO CAJARI/AP

RESUMO

Objetivo: Este estudo objetiva avaliar as condições socioeconômicas das famílias que integram a Comunidade do Marinho, situada no interior da RESEX Cajari-AP, sob o enfoque do desenvolvimento sustentável.

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Referencial teórico: Para ser sustentável, o desenvolvimento precisa ser economicamente eficiente, socialmente desejável e ecologicamente equilibrado, devendo ser compreendido como uma estratégia de longo prazo que visa erradicar a pobreza, reduzir a desigualdade e tornar o crescimento inclusivo, e a produção e consumo mais sustentável. As RESEX, áreas territoriais destinadas à exploração autossustentável por populações nativas e à conservação dos recursos naturais renováveis, se caracterizam como unidades de uso sustentável para comunidades que nelas residem.

Método: Foi realizado um estudo de caso com levantamento de dados por meio de entrevista e visita in loco.

Resultados e conclusão: Os resultados revelam que na comunidade do Marinho predomina uma população jovem, do sexo masculino, com reduzido nível de escolaridade. A geração de renda das famílias está associada à exploração da biodiversidade e é dependente do repasse de recursos públicos. Já a infraestrutura é simples com limitação dos serviços públicos, estando as famílias expostas a riscos socioambientais.

Implicações da pesquisa: O estudo aponta as necessidades da comunidade do Marinho e de toda a RESEX Cajari e sugere ações para que o desenvolvimento sustentável seja atingido.

Originalidade/valor: Os resultados obtidos no presente estudo são inéditos e relevantes para a RESEX Cajari-AP, subsidiando a elaboração de projetos e programas capazes potencializar o desenvolvimento sustentável da comunidade.

Palavras-chave: Reserva Extrativista, Desenvolvimento Sustentável, Comunidade do Marinho, RESEX Cajari-AP.

1 INTRODUCTION

In the last decades of the twentieth century, several events brought approaches to the global debate on the need to include the environmental dimension in the international agenda. In this scenario, during the United Nations Conference on Environment and Development (Earth-92), in the city of Rio de Janeiro, the UN emphasized, in addition to several other actions, the need to develop programs aimed at sustainable use of productive resources and the conservation of biological diversity, through Conservation Units (CU) (Brasil, 2000).

Within the CUs, Sustainable Use Extractive Reserves (RESEX) were inserted, which must present a low level of environmental impact in their economic activities and cannot significantly affect the ecosystems involved (Silva & Filocreão, 2016).

The creation of RESEX initially stemmed from social and environmental claims generated by existing conflicts over land ownership and use (Freitas, Farias Filho, Homma & Mathis, 208) that took place in certain regions of the Amazon, whose support for the residents’ demand reached breadth, giving rise to a State environmental policy. In this context, it is found the Extractive Reserve of Rio Cajari (RESEX Cajari), object of this study, located in the south of the State of Amapá.

Before the creation of this legal figure, the traditional communities settled in this region were systematically exploited. This exploitation began in 1890 by Colonel José Júlio with the practice of trimming during the rubber period and, later, by the restrictions on trade in extractive products imposed by the implementation of the Jari Project in the 1970s, an agro-industrial project of large proportions directed by international capital with incentives from the Federal Government under the pretext of modernizing the Amazon (Homma, 2014).
As a result, the creation of RESEX Cajari contributed to the resolution of a latent problem and meant the release of a traditional people from the chains placed by the then landholders of the region's lands. However, this freedom was conditioned to limits on the use of land and natural resources, through legislation, in particular the decree creating the reserve and, later, by Law No. 9,985 of July 18, 2000, which established the Unit of National System of Nature Conservation (SNUCN) (Brasil, 2000). Thus, it began to question whether the new standards of well-being brought about by the transformations of space, social relations and economic activities carried out there are sufficient to guarantee the sustainable development of these communities and to comply with the principles that underlie them. Based on that, the guiding question of this work was: do the activities carried out by members of the Marinho community, members of RESEX Cajari, allow the achievement of good socioeconomic conditions for its residents?

Consequently, the objective of this study was to assess the socioeconomic conditions of the families that are part of the Marinho Community, located within the RESEX Cajari-AP, under the focus of sustainable development. This work is justified by the lack of studies that assess whether the creation of the RESEX achieved its initial objectives, or whether it simply solved old problems, creating new difficulties that influence the quality of life of the families settled there. Empirically, the study contributes to obtaining indicators on the current socioeconomic conditions of the Marinho Community and can be used as an instrument of claims with public bodies, with a view to proposing projects and policies for the sustainable development of the region. From a theoretical point of view, the work shows limitations for achieving sustainable development precisely in reserves created with the aim of being self-sustainable and contributing to the conservation of natural resources.

1.1 RESEX sustainable development

Sustainable development is not a totally new concept, as prehistoric peoples demonstrated a concern with environmental limits and adopted long-term survival strategies (Barrow, 1995). However, it gained notoriety with the publication of the Brundtland Report in 1987, which defends the search for a development capable of meeting “the needs of the present without compromising the ability of future generations to also meet theirs” (Cmmad, 1991, p. 46). As simple as it may seem, the concept tries to meet the multidimensional essence (Sartori, Latrônico & Campos, 2014).

Hence, it must be understood as a long-term strategy that aims to improve the well-being of society as a whole, in order to encompass environmental, social and economic aspects (Feil & Schreiber, 2019). In this perspective, it cannot be considered a destination, but a dynamic process of adaptation, learning and action (Unsglps, 2012).

Corroborating this, Romeiro (2012, p. 65) states that, “to be sustainable, development must be economically sustained (or efficient), socially desirable (or inclusive) and ecologically prudent (or balanced)”, not being synonymous with protection exclusively environmental (Unsglps, 2012). Additionally, it is observed the emergence of numerous challenges for its reach due to limitations associated with social issues, technological advances and the ecosystem's ability to accommodate human carbon footprints, so that each country should develop actions and policies considering their reality (Olawumi & Chan, 2018).

In this context, with the aim of contributing to the sustainable use of resources and the protection of communities, in Brazil there are the RESEX, which are characterized as territorial areas destined for self-sustainable exploitation by native populations and the conservation of renewable natural resources (except for timber) (Brazil, 2000).

The subsistence of these traditional populations is based on extractivism, and in a complementary way, on subsistence agriculture and the raising of small animals (Murieta &
Rueda, 1995), whose production is destined both for self-consumption and for a market outside the community as income supplementation mechanism.

According to Picanço (2010), Agroextractive production is interconnected through the development of various forms of adaptability to the region's ecosystem, in a survival strategy based on complements of many activities. Thus, it is noticeable that the RESEX preserve a similar standard of living and survival, as they exploit extractivism as their main source of income. However, they demand other means to complement their income, and are not always capable of improving the well-being of the entire community involved.

2 METHOD

The research is classified as qualitative, exploratory, and used as technical procedures, the case study, with data collection through interviews and on-site visits.

2.1 Study Area

RESEX Cajari (Figure 1) is a conservation unit for sustainable use created by Decree nº 99.145/1990 (Brasil, 1990). It has an area of 532,397.20 ha and is located in the south of the state of Amapá and southwest of the capital Macapá, covering areas of the municipalities of Laranjal do Jari, Vitória do Jari and Mazagão (Quintas, 2010).
This reserve is divided into three macro-regions used to define the field of activity of community representations: Lower Cajari, Medium Cajari and Upper Cajari. Upper Cajari is a terra firme region with a predominance of dense forest and a strip of savannah/cerrado, cut by the federal highway BR-156 (Macapá – Laranjal do Jari section), a fundamental route for the flow of local production, guaranteeing access to the consumer market of Macapá and Laranjal do Jari and transportation to nearby cities (Picanço, 2010; Quintas, 2010). In this macro-region live eight traditional communities, among which is the Marinho Community, selected as the object of this study.

2.2 Data Collection

The field research was done in February 2020 when visits were made in the Marinho Community. Data collection was based on the application of questionnaires, in the form of an oral conversation with families in the community, by signing the Free and Informed Consent Form (TCLE). In the oral conversation, the interviewee pondered and the researcher wrote down his or her answers. In this scenario, of the total number of resident families, 22 families (78.6%) agreed to participate in the interviews, in which it was decided to dialogue with one of the family representatives who answered the questions with the support of the other members who were there. During the visits, on-site observation was also carried out.

The questions applied to residents and the community leader addressed the profile of respondents and their families, number of members in each family, residents' education, family income and its sources, public services offered, available housing and community infrastructure.

As for the characterization of the residences, an attempt was made to identify the types and the way they were built and the aspects related to housing and basic sanitation. In addition, from the environmental, economic and social dimensions, it was observed whether the per capita income presented by each family is within the limits of poverty and extreme poverty, according to values adopted by the World Bank and accepted by the IBGE (2020).

3 RESULTS AND DISCUSSION

3.1 Social-Economic Profile of Families from Marinho Community

Families residing in the Community of Marinho have different compositions in terms of number of members. Of the interviewed families, one was composed of 12 members; one by nine; two by seven members; one with six; one with five; seven with four members; three had three members; four had two; and in two residences, there was only one member.

Additionally, it was observed that in families with five members or more, as a rule, there were one or more elderly people because many children who formed a family continued to live in their parents' homes. In the houses with families of four, young couples with two children (under 12 years old) predominate, while in the houses with up to three residents, there were elderly people living alone or with one of the children who remained single.

The largest number of people are male and, when all members of the interviewed families are grouped into age groups (Table 1), it is observed that the largest number of residents belong to the first age group, aged up to 17 years old. Second is the group with people over 60 years old, holders of special rural agriculture retirement.
Table 1: Number of residents interviewed in the Marinho Community according to their age group and gender, in 2020

<table>
<thead>
<tr>
<th>AGE GROUP</th>
<th>MALE</th>
<th>FEMALE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-17 years old</td>
<td>19</td>
<td>14</td>
<td>33</td>
</tr>
<tr>
<td>18-29 years old</td>
<td>10</td>
<td>12</td>
<td>22</td>
</tr>
<tr>
<td>30-59 years old</td>
<td>9</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>&gt;60 years old</td>
<td>11</td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>49</td>
<td>44</td>
<td>93</td>
</tr>
</tbody>
</table>

Source: Authors, 2021.

The 30-59 years old group made up the smallest group in number of members, representing individuals with a constituted family and with well-defined sociocultural roots in the community.

Regarding education, it was found that the 18-29 years old population has a level of education ranging from complete elementary school (36.4%) to high school (63.6%). The 30-59 years old residents had a low level of education (53.3%), completed elementary school and none had completed high school. And, with regard to the elderly, most declared themselves to be illiterate or with incomplete primary education, although two elderly people (8.7%) claimed to have completed secondary education (Table 2). This reality is also observed in other RESEX (Silva, 2010; Costa, 2014).

Table 2: Education profile of residents of Community of Marinho - RESEX Cajari per age group, in 2020.

<table>
<thead>
<tr>
<th>Age group</th>
<th>Profile</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-29 years old</td>
<td>Fundamental School graduated</td>
<td>36.4 %</td>
</tr>
<tr>
<td></td>
<td>High School graduated</td>
<td>63.6 %</td>
</tr>
<tr>
<td>30-59 years old</td>
<td>Fundamental School graduated</td>
<td>53.3 %</td>
</tr>
<tr>
<td></td>
<td>Incomplete Fundamental schools</td>
<td>33.3 %</td>
</tr>
<tr>
<td></td>
<td>Incomplete High School</td>
<td>13.3 %</td>
</tr>
<tr>
<td>&gt;60 years old</td>
<td>Illiterate</td>
<td>60.9 %</td>
</tr>
<tr>
<td></td>
<td>Incomplete Fundamental School</td>
<td>30.4 %</td>
</tr>
<tr>
<td></td>
<td>High School graduated</td>
<td>8.7 %</td>
</tr>
</tbody>
</table>

Source: Authors, 2021.

The survey also showed that only children and adolescents at school age (between 6 and 17 years old) are regularly enrolled. In Comunidade do Marinho, there is only one primary school, while secondary education is offered in another community 7.5 km away. The need to travel may be one of the factors that justifies the existence of young people who have not yet completed high school, although the Municipality offers regular school transport, as reported by the community leader.

Their guardians highlighted the importance of a higher level of education as a condition for a good future. However, some registered speeches indicated that the regularity of the studies is justified by the need to remain registered in social programs, such as Family Allowance, which help to supplement the family income.

Regarding the time of residence in the community, it is noticed that the majority of families have lived for more than 30 years (68%), which means since the beginning of the creation of the reserve. Such families are direct descendants of the residents who lived through the trim period, remaining in the region for anthropological reasons of attachment to the land of origin (Picanço, 2010), as observed in the speech of the elderly resident here named A1:

Living in the big city with access to healthcare, study opportunities, places to go out for fun, places to shop, access to the telephone network and 24-hour energy is seen as better living conditions. Because here, in the community, the supply of electricity, for example, only occurs through the community generator and at the right time. My
children moved to the city, there I have a daughter who graduated, she is a teacher! An opportunity that she wouldn't have had here, everyone fought for me to move, but I couldn't live in the big city, I prefer the tranquility of the forests, this is where I've lived my whole life.

On the other hand, families with less than 30 years of residence in the community (32%) generally also constitute the traditional population of the Marinho community itself, but with the inclusion of family members from other communities or other states of the country.

However, this reality may change in the medium and long term, as the younger population (up to 29 years old and who make up the largest group in terms of age group) is more interested in migrating to urban centers. Many are influenced by the desire for better living conditions which, in the perception of many interviewees, are related to study and job opportunities, guaranteeing a greater source of income and access to goods and services not offered in the community and its surroundings. Thus, the traditional community may face difficulties with its continuity or have its cultural roots modified due to the exodus of the younger population, compromising its maintenance. The speech of the interviewee here called A2 summarizes the thinking of a good part of this age group:

When I turn 18, I'm going to move out of here, I'll go to Macapá. There are jobs in the city, there are colleges, there are other things that are not available here. I like it here, but here is not a place to live, there is no 24-hour power, in the city there is. We want to do something, there isn't, many people have already moved to the city and are well there, they graduated in college. Here we only have Brazil nuts gathering as work and my father's pension.

In addition, it is observed that among individuals who do not descend from traditional communities there is an intimate relationship with nature, as they are individuals who have always lived far from urban centers and who have the desire to continue living in this way. Before settling in the community, they were in conditions of social vulnerability, in a scenario analogous to slavery, as one resident (A3) says.

The big city is not “for” me, there are no jobs, there is violence, there is no place to live, no one helps anyone. Here, even though we have little, we don't get hungry, because we hunt, fish and plant our food. Where I come from, state of Maranhão, before living here, I didn't have where or what to plant. We worked 10 hours a day to have a meal.

The analysis of the economic profile of the residents of the Community showed that the economically active individuals work in the extraction of Brazil nuts, in subsistence agriculture and in the production and sale of cassava flour. Small animal raising is adopted only for own consumption.

The tasks performed in each family are divided by age and gender. In general, women are responsible for taking care of the family and household activities, including cooking, unlike Assis, Tavares-Martins, Beltrão and Sarmento (2020) at RESEX Mar-de-Soure, where women also assist in the sale of products and the production of handicrafts. The husband has the role of developing agriculture and extractivism, in addition to activities related to building and renovating homes. And the children dedicate themselves especially to their studies, although they also contribute to carrying out small domestic activities, apparently not constituting child labor.

It was also informed that both agriculture and extractivism have a predominance of male labor, since, according to them, these are manual jobs that require physical effort to move the
collected products and to prepare the land for planting, mainly cassava. However, it was observed that, in smaller proportions, women participate in these activities when the family income is very low.

The main species cultivated in the Community are potatoes and cassava, whose processing is carried out in a community flour mill, which has an electric grater, GAMELAS troughs, press, among other items. The sale of the part of the flour production helps supplement income from extractivism, generating approximately R$ 960.00 per annual harvest for each worker involved in the production process. The production of flour results in by-products, such as tapioca gum and tucupi, but with an insignificant economic return.

The extraction of Brazil nuts occurs during an annual harvest, which lasts an average of four months and generates an annual income of around R$ 3,000.00 per worker involved (equivalent to R$ 250.00 per month). It is important to observe that the chestnut collection initially takes place by collecting the chestnuts in the groves, which then need to be opened manually to remove the seeds from the chestnut, in a mechanical and rudimentary process, making the work expended exhaustive when compared to the financial gains. Freitas et al. (2018) also identified in their work that the income earned from extractivism (nuts, açaí, rubber and vegetable oils) is reduced and may not be maintained, concluding that “the Resex are unsustainable because they were created with an emphasis on conservation and not to develop its residents in a sustainable way” (Freitas et al., 2018, p.68).

Faced with this reality, one possibility for women to participate in economic activities would be the making of handicrafts and biojewelry, but such an alternative requires appropriate training and the use of technologies capable of assisting in production management, from the collection of raw materials, their choice and craftsmanship itself, being relevant the exploration of green marketing for the valorization of the products, with valuation of aspects beyond economic, but also of environmental responsibility (Assis et al., 2020).

In addition to these activities, although not with an economic purpose, the hunting of wild animals configures more than a cultural pattern of the investigated community. Hunting and fishing are necessary so that the residents are not limited to proteins of animal origin, resulting, therefore, in reasons for survival and nutrition of the residents, influenced by the insufficient profitability of the explored activities. This implies that the community’s own cultural patterns are directly influenced by economic factors, since subsistence alternatives are molded within the possibilities offered by environmental resources, regardless of whether they are ecologically objectionable. For Freitas et al. (2018), extractive activities may disappear, since they have not been able to sustain the needs of their inhabitants, so that the forest tends to remain standing under certain conditions.

Over the experimental period, it was possible to observe that in the residences with higher per capita income, the presence of pensions granted to one or more elderly people is observed, considered as a fixed income security. It was also found that no family has a reserve of money in savings or other similar means of savings for eventualities, which are exclusively dependent on the State in cases of accidents or fatalities.

3.2 Available Infrastructure and Public Services in Marinho Community

The infrastructure of Comunidade do Marinho is simple. Of the twenty-two residences visited, two are masonry, nineteen are wooden and one is mixed (wood and masonry). All have roofs made of asbestos fiber tiles (Brasilit), while the floors of these residences are either burnt with cement (45.5%) or wood (54.5%). In these respects, it was observed that some of the homes visited were deteriorated. In addition, most of the residences are composed of a small number of rooms, where 15 residences have a toilet outside the residence, while the others (32%) have a bathroom inside, all with a rudimentary pit.
This scenario corroborates what was observed by Quintas (2010), who summarizes that, in general, the residents live in small villages, where wooden houses prevail. In addition, extractivists who stay in houses far from the villages can be found, but who during the chestnut harvest period, they are included in the community.

The rudimentary pit is the one that most represents a risk to human life, as it is a deep excavation, without any coating where human waste and other fluids produced in the residence are destined. Due to the absence of coatings, it also poses a risk to the environment, as it can contribute to the contamination of groundwater, pollution of rivers, lakes and soil (Souza, 2015). The possibility of contamination is aggravated when it is verified that the water for consumption is collected from Amazon-type wells or directly from the stream that runs through the community, since there is no piped water. In addition, there are no pavements on the streets and no collection of solid waste, which leads the population to burn them, a practice considered illegal.

If the collection and treatment of sewage is analyzed, the situation is even more serious. Data published by the IBGE (2020) revealed that almost 90% of the population residing in the Amazon region do not have sewage collection and treatment, which is dumped directly into rivers or in rudimentary cesspools. These data correlate with the incidence of waterborne diseases which, according to Datasus in 2018, were responsible for over 40,000 hospitalizations (Silva, Oliveira & Mendes, 2020).

Thus, it can be seen the alarming risks to which populations without access to treated water, sewage collection and selective garbage collection are subjected. Corroborating this, Assis et al. (2020) also found in a work carried out at RESEX-Mar de Soure that public agencies need to better monitor communities, fulfilling their responsibility to protect people and natural environments. The situation is further aggravated by the lack of a Basic Health Unit in the Community, so the residents have to travel around six kilometers to the nearest unit and also by the absence of regular public transport.

Works carried out by Picanço (2005), Jesus and Guedes (2016), Quintas (2010) and Picanço (2010) also indicated the lack of a telephone point, and only in the largest community in the region (Água Branca do Cajari) have public services facilities such as a high school, Mixed Health Unit, water distribution system, telephone service, rural extension service office, some grocery stores and churches, which was confirmed in the in loco visit.

Furthermore, the electricity supply in Community of Marinho is obtained from a community generator that operates daily from 6:00 p.m. to 10:30 p.m. Such a generator serves an elementary school, a community center and the village’s residences. This scenario may be one of the factors responsible for the reduced number of household appliances that residents own (Table 3). As shown from the interviews, only the stove and the refrigerator are present in all residences. However, as electricity is restricted to a few hours, traditional food preservation techniques are still used. Television sets, fan and washing machine are privileges of fewer families. In addition, only two residences, both with retired residents, have central air, corroborating the hypothesis that families with extra income, unrelated to extractivism and agriculture, have a higher economic standard.

Table 3: Information of the household appliances per residences in the Community of Marinho - RESEX Cajari, in 2020

<table>
<thead>
<tr>
<th>Household appliance specification</th>
<th>Houses with access to household appliances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stove</td>
<td>22</td>
</tr>
<tr>
<td>Refrigerator</td>
<td>22</td>
</tr>
<tr>
<td>Television</td>
<td>19</td>
</tr>
<tr>
<td>Fan</td>
<td>20</td>
</tr>
<tr>
<td>Mini washing machine</td>
<td>12</td>
</tr>
<tr>
<td>Central air conditioner</td>
<td>2</td>
</tr>
</tbody>
</table>
This highlights the economic inequality between them and shows that, despite the electricity supply for some hours of the day, the low per capita income is the main reason for the existence of families with fewer appliances and, therefore, less comfort. In addition to the above, the social security benefit is responsible for most of the per capita income, justifying better financial stability and access to credit lines for the purchase of household appliances. Such asymmetries become more relevant when one verifies that the presence of other technological devices is also restricted to some households, that is, 15 households have at least one smartphone device and the rest do not. These devices are used to facilitate communication and use of applications by families through the internet, available via radio.

With regard to the means of personal transport, the main one used is the motorcycle, although it is restricted to 36.36% of the interviewed families, who have extra income granted by the social security benefits. The other residents depend exclusively on intercity buses to travel to nearby cities, having to walk about 1.5 km to the bus stop. This situation corroborates the hypothesis that a secondary source of income, not associated with extractivism, is responsible for improving the quality of life of residents, showing that the resources obtained from extractivism and agriculture, in the standards required by RESEX, do not guarantee the desirable economic standard. These results also corroborate Ferreira and Guedes (2017), who highlight that the Amazon region, in general, presents both complex challenges, such as those associated with transportation and social development, and trivial problems, related to access to electricity and the internet. As for leisure activities, it should be noted that the community of Marinho does not have any public square, soccer field or sports court. The only festival mentioned by the community representative is the Círio de Nazaré, which takes place once a year, in October. Young people, on the other hand, reported that the only source of leisure within the community comes from accessing the internet, especially social networks. Such information may indicate that the aspirations for a life different from that experienced in the Community can lead to the rural exodus because a new perception of the world is now provided by the access to the internet and its vast content.

In addition, there was no transfer of technologies from public agencies (municipal, state and federal) to community residents, neither was observed a performance of projects led by Public Universities or similar institutions, such as Embrapa and the Federal Institute of Education, Science and Technology in Amapá, in order to enhance the rational use of available natural resources and biodiversity. A similar result was highlighted by Ferreira and Guedes (2017), who identified, in a mapping study of an extractive chain in the Amazon, that the region’s economic gains were affected by the lack of strategic actions implemented by governments and companies.

On the other hand, the ICMBio’s participation in the development and organization of community activities se resume to a careful inspection, which intimidates the expansion of agriculture in the region, even though it harmonizes with the preservationist purpose of the Extractive Unit, according to the perception of many interviewees.

There is no industry in the community for the nut Processing, so the final product is sold in its fresh form and there is no public policy to promote the organization of agroindustry in the region, nor specific lines of credit for this purpose. In addition, there was not any State promotion actions for any activity other than extractivism, especially with regard to the disposal of any products grown in the region. In this sense, Batista and Simonian (2013), in a study at the Mãe Grande de Curuçá RESEX, had already highlighted that the actions developed by the State are insufficient to meet the interests of these populations, frustrating endogenous and sustainable community development.
Furthermore, there were no incentives to increase the possibilities of sustainable exploitation of biodiversity, either in terms of the number of species or in more ways of exploiting the products extracted from the forest. Additionally, trade is also hampered, given the lack of asphalt paving on the BR 156 road that gives access to the Marinho Community. Even though there is an association within the community, it is focused on organizing the sale of nuts to the consumer market, and its political strength to demand structural improvements is inexpressive.

In short, in the in loco observation carried out in this work, it was found that, since the first survey done out in the reserve by Benjamin (2004), no change in the housing standard has been verified, prevailing the limitation of public services and the ineffective presence of the State. Consequently, the development observed in the Marinho Community should be considered.

3.3 Is the Marinho Community Development Sustainable?

The sustainable development of a region must harmonize its ability to the continuous development followed by the maintenance of an ecologically balanced environment for present and future generations, rationing the use of natural resources (CMMAD, 1991). In this context, the Comunidade do Marinho, as well as the other RESEX, considering their fundamental principles, can contribute to achieving the sustainable development of regions, as previously discussed.

The new discussion, however, is beyond the hierarchical relationship between wild conservation and the rights of traditional populations, now already settled in their claimed regions, with a new situation from the implementation of the initial proposal for the creation of extractive reserves. If, at first, priority was given to the interest of conserving biodiversity based on the creation of conservation units, with the respective empowerment of a portion of the traditional population, by the State, the fulfillment of interests aligned with the principles of sustainability advocated by environmentalism needs to debate the inequities created by the absence of expectations of sustainable development in a concrete way (Vivacqua, 2018).

Thus, the reality of Comunidade do Marinho casts doubt on the achievement of these objectives, especially if we consider the need for a balance between the economic, social and environmental dimensions, that is, satisfying human needs, guaranteeing social equity and respecting the limits environmental issues (Romeiro, 2012; Holden, Linnerud & Banister, 2017). With regard to environmental aspects, all RESEX, as they were classified as conservation units by SNUC, must develop their actions considering “plans for the management and use of natural resources, economic and ecological zoning, participatory management methodologies, control of individual and family actions, sanctions and penalties, advisory and deliberative councils and much more”, being subject to the supervision of several state bodies (Chico Mendes Institute for Biodiversity Conservation – ICMBio, state and municipal environment secretariats and others) (Silva & Simonian, 2015, p. 170).

The prediction, according to SNUC, was that each unit should have a plan drawn up within five years from the date of creation of the reserve (Brasil, 2000); however, in the case of RESEX Cajari/AP, this is not the reality. According to Freitas (2013), the preparation of the Participatory Management Plan for the Rio Cajari Extractive Reserve began in March 2009, was interrupted in October of the same year, through the cancellation of the consultancy contract. And, in the in loco visit, it was observed that there have been no advances since then.

The visits also showed that the families are exposed to several environmental risks as they do not have access to treated water, selective collection of garbage and sewage, among others. The perception that is formed is that, in addition to being invisible, the populations are
also undesirable for the government, which, tied to its technical and obsolete environmental concepts, sees no other way out of the current pattern (Arruda, 1999).

Economic sustainability, in turn, represents the maintenance of economic standards. The social approach, on the other hand, refers to the reduction of inequalities, access to fair income, goods, services and employment, corresponding to the greatest possible social homogenization (Bartelmus, 2003). In this sense, it becomes urgent to reduce social inequalities, which are the responsibility of the entire country (and even the world) that benefits from the relevant services provided by RESEX. Despite this, they do not have the usual development and wealth generation mechanisms seen in other more developed states.

For the IBGE (2020), the way to check whether an individual is in a situation of vulnerability is their daily or monthly income, in line with the limits adopted by the World Bank (2018), which defines the extreme poverty of an individual by a limitation of up to US$ 1.90 per day, if we consider Brazil a low-income country. The conversion of these values into Brazilian currency resulted in approximately R$ 151.00 reais to define an extremely poor individual for the year 2019, without considering the serious devaluation of the Brazilian currency against the US dollar that occurred in recent years and the loss of power purchase of the Brazilian currency with the advance of inflation. Individuals living in poverty, on the other hand, are those who earn a daily income of up to US$ 3.20 a day or R$ 253.00 a month, also without considering the monetary conversion to the present (IBGE, 2020).

Thus, even though the RESEX represents one of the main tools for nature conservation, poverty and extreme poverty can be seen in most families in the Community (Table 4). It can be seen that four families have a per capita income of less than R$ 151.00 per month, meeting the criterion of extreme poverty. Three other families are in a situation of poverty, earning less than R$ 253.00 per capita, showing the seriousness of the situation within the Community.

<table>
<thead>
<tr>
<th>Per capita income per family</th>
<th>Performed economical Activities</th>
<th>Major income sources of the family</th>
<th>Total of families</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to R$ 151.00</td>
<td>Farming Activities, small animal raising, extractivism and Family Allowance</td>
<td>Extractivism</td>
<td>4</td>
</tr>
<tr>
<td>R$ 151.00- R$ 253.00</td>
<td>Farming Activities, small animal raising, extractivism, pension and Family Allowance</td>
<td>Extractivism and Pension</td>
<td>3</td>
</tr>
<tr>
<td>&gt; R$ 253.00</td>
<td>Farming Activities, small animal raising, extractivism, pension and Family Allowance</td>
<td>Extractivism and Pension</td>
<td>15</td>
</tr>
</tbody>
</table>

Source: The authors, 2021.

Analyzing the data in the table, it is also possible to observe that families that do not have retirement as one of their sources of income, live in a condition of extreme poverty, even though the Family Allowance social program represents a fixed income present in all these families.

Based on observation in loco, it can be seen that the notion of poverty is also observed beyond the economic context. The absence of more effective public services, such as education, health, sports, culture, leisure, etc., further aggravate the situation, demonstrating the existence of poverty in a multidimensional sense, whose concept is approached by Kageyama and Hoffmann (2006).

Therefore, the community of Marinho is considered poor, because, as informed by the residents, the sources of income are basically used for food, transport and clothing, with no money left over for other essential activities, such as sport, leisure, housing, etc., or financial savings or of any nature. This situation may even contribute to the migration of the younger population and jeopardize the continuity of the traditional community itself.
However, what draws attention is the speech of the community leader when asked about the existence of a state of poverty in the community:

There is no one in poverty conditions in the community as almost everyone receives retirement or government benefits. Brazil nuts also supplement the income of many families, which generates a good living condition for residents during the harvest period, earning from R$ 2,000.00 to 4,000.00 per chestnut tree.

The perception demonstrated in this work does not take into account the risk observed by dependence on pensions as the beneficiary of the benefit is the elderly member of the family, and it is not transferred in the event of his/her death. This situation reveals that in addition to the lack of a State organization to strengthen the local economy, there is a certain conformism and inconsistency in the speech of the community leader with the economic reality referred to by most of the interviewees and about their perceptions and desires for improvements in generation and income distribution.

Thus, in summary, although the RESEX originally sought to promote the paradigm of sustainable development, in the Comunidade do Marinho located in the RESEX Cajari/AP, environmental, economic and social development is still insufficient to achieve better living conditions in the long term does not take into account the risk observed by dependence on pensions, since the beneficiary of the benefit is the elderly member of the family, and it is not transferred in the event of his/her death. This situation reveals that in addition to the lack of a State organization to strengthen the local economy, there is a certain conformism and inconsistency in the speech of the community leader with the economic reality referred to by most of the interviewees and about their perceptions and desires for improvements in generation and income distribution.

As a consequence, although the RESEX originally sought to promote the paradigm of sustainable development, in the Comunidade do Marinho located in the RESEX Cajari/AP, environmental, economic and social development is still insufficient to achieve better living conditions in the long term.

4 FINAL CONSIDERATIONS

This work aimed to find out whether the activities carried out by members of the Marinho community allowed the achievement of good socioeconomic conditions for its residents. Therefore, the objective of this work was to evaluate the socioeconomic conditions of the families that integrate the Comunidade do Marinho, located in the RESEX Cajari-AP, under the focus of sustainable development. In response, it was found that the socioeconomic standard in the Community is influenced by social security benefits and income transfer policies for a portion of the residents, indicating that, by themselves, the economic activities practiced from the exploitation of biodiversity are not enough to meet the recommendations established by national and international standards of minimum income necessary to remove the condition of poverty and extreme poverty. In addition, the reduced participation of the State in the provision of public services makes the conditions verified unhealthy. This suggests that the creation of RESEX and the way in which the potential of native species has been explored do not guarantee a good quality of life for the families installed there, not meeting the objectives of its creation.

However, the lack of official data provided by public agencies regarding the communities located in the RESEX Cajari/AP one of the difficulties encountered in the development of the research, culminates in the impossibility of assessing the evolution of the
socioeconomic standard of the community over the years. This also makes it difficult to identify their weaknesses.

Such circumstances make it difficult to define whether the socioeconomic pattern presented is limited to the assessed community or represents a pattern shared by the other communities inserted in the region. This question can be answered with further works that include a greater number of communities, helping to assess the main obstacles that lead to the probable unsustainability of the model adopted by RESEX Cajari/AP and making it possible to propose solutions to solve the problems. However, it is necessary to overcome difficulties in accessing the reserve and its respective communities, which includes contact with the unit's managers.

The research guides new works that can contribute to improving the living conditions of the community. And yet, it recommends that mutual efforts by the State, in particular ICMBio, and teaching, research and extension institutions in the State of Amapá, seek to develop projects and programs capable of transferring technologies to residents throughout the RESEX Cajari/AP. However, these must be in line with the Management Plan, which must be provided urgently, in order to enhance the sustainable use of biodiversity that is still little explored. The local income generation model should also be rethought, which aims to exploit other species with new economic activities, which requires studies that define viable options for solving the asymmetries found.

REFERENCES


