

Traditional communities of the Lower Madeira and sustainability challenge facing the construction of the Jirau Hydropower Plant - Porto Velho / RO - Brazil.

The coexistence of small riverside communities in the Amazon with large developments projects and their impacts, ensuring the preservation of sociobiodiversity, the ways of life and the environment, presents itself as a major contemporary challenge in the perspective of sustainable development.

In Brazil, environmental agencies, large entrepreneurs, non-governmental organizations, representatives of civil society, urban and rural populations, and a multitude of social agents are increasingly wondering if it is possible to build a synergistic interaction between large enterprises projects and their impacts, and sustainable development of small rural communities.

It's in these context that the implementation of Jirau Hydroelectric Power Plant – Jirau HHP, by the company ESRB - Sustainable Company of Brazil, in the Amazon region of Brazil, Porto Velho - Rondônia and its impacts on agro-extractives riverside communities that this article fits. The Jirau HHP, when completed, will be the 4th largest plant in the country in total generation capacity, with a capacity of 3,750 MW, enough to supply over 10 million homes.

As noted, the Jirau HHP will impact in traditional and agro-extractive communities' living along the Madeira River, for those communities was conceived environmental programs increasing activities based on the sustainable exploitation of local natural resources.

The Jirau HHP will impact on traditional and agro-extractive communities residing along the Madeira River, for which one of those were designed and are now being implemented environmental programs in order to encourage the resilience of these communities and enhance activities based on the sustainable exploitation of local natural resources. This article main objective is to discuss and analyze the effectiveness of these actions running, besides proposing reflections on the challenges encountered.

The Support Program for Downstream Communities, member of the JIRAU HPP Environmental Basic Plan on the Madeira River, aims to promote the sustainable local development, with the encouragement of production and processing açaí, chestnut of Amazon and cassava flour - in communities of the low and middle Madeira - São Carlos, Demarcação and Nazaré. The implementation of the Program started in 2013 and has a horizon of three years.

The focus of the program is to promote the strengthening of organizational partners and the implementation of three processing units of agro-extractives products, increasing the value of local production, the strengthening of community associations and cooperatives, as well as adjustments of the production chain, in order to contribute to the improving of the living conditions of the families, the settlement of populations in these rural areas, the sustainable exploitation of natural resources, resulting in the sustainable development of the region.

A Brief of the Amazon Context

The Amazon is known in the whole world for been responsible for the global biological balance, and, of course, by its grandeur, scenic beauty, diversity of flora and fauna, the immensity of water and mineral resources and for being source of many scientific researches.

Besides the biological richness, the Amazon is home to a huge diversity of cultures and traditional populations, indigenous peoples, remaining quilombolas communities, diverse communities of rubber latex gatherer, chestnut gatherer, fishermen, babassu crackers, and a numerous ways of life that maintains a direct relationship with the nature through extractive activity based agroforestry.

The state of Rondônia, inserted in the Legal Amazon, has vast forest area that has been suffering, during recent periods, an intense process of deforestation. Nevertheless, in this vast territory still lives traditional populations with different modes of life, whether in conservation areas of sustainable use or distributed along the riverbanks.

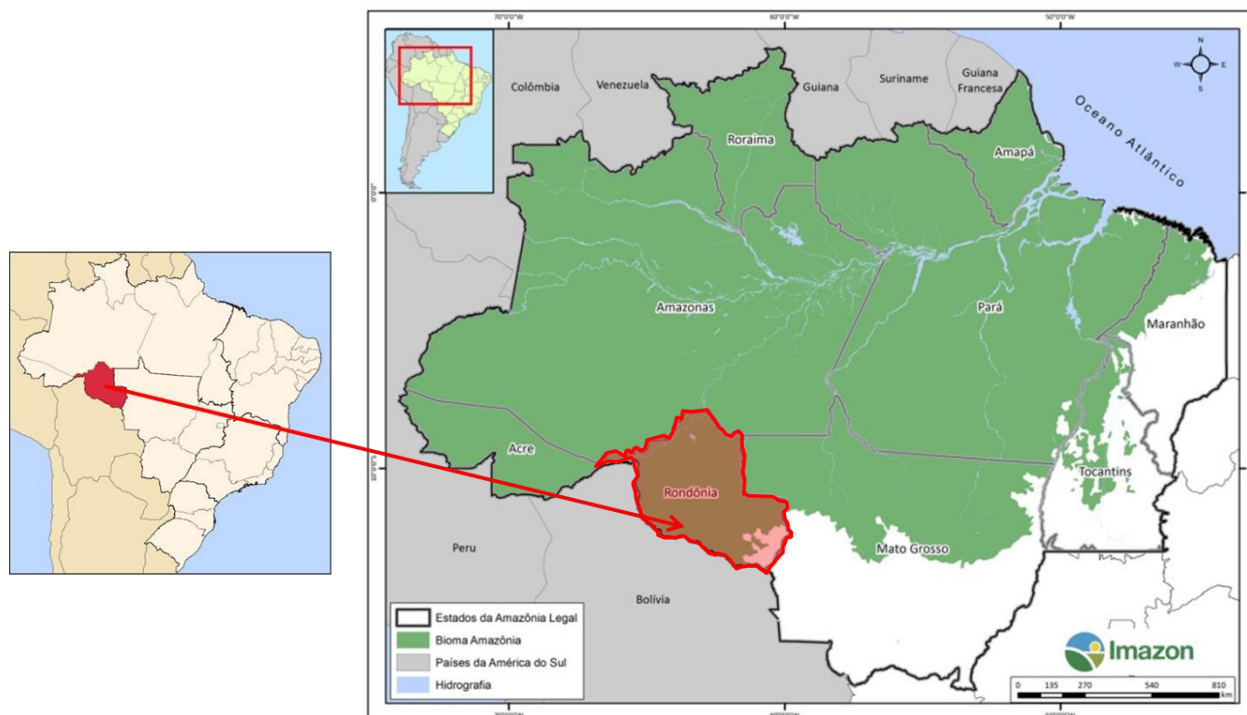
The knowledge that those communities has about the natural resources and the environments around them contributes to the maintenance of an essentially extractive economy. In the same way that shared management plans establishment in the Amazon area represent an important step to promote social fair ways of the land use with the potential to reconcile economic development and environmental conservation. (Anderson, 2011)

The Region of Low and Medium Madeira and the Agro- extractive Communities

The model of occupation in this area of the Amazon was through a linear character, "beradeiro", forced by the extraction of abundant native syringes. (Ab'Sáber, 1989 apud BIRTH SILVA, 2000)¹. In the mid-twentieth century, the process of expansion was enlarged with the arrival of a contingent of the northeastern people fleeing of the severe drought Northeast 1942, it was characterized as the first phase of spontaneous and family migration.

Slowly the families were entering the forest, occupying the lands as soon as the families began to multiply, training groups of localities along the Madeira River.

In this context, the city of Porto Velho, capital of Rondônia State, adopts a political division of assistance to communities located on the Low Madeira that here are represented by the Districts of São Carlos, Nazaré and Demarcação.



■ São Carlos

The District of São Carlos is located 100 km from Porto Velho, on the left bank of the Madeira River, with a local population of approximately 2,800 people. It's one of the oldest communities of the Lower Madeira, with its origin associated to the Jesuit missions in the region during the nineteenth century. The region was mostly made up of Northeastern migrants who came to the region during the First World War to work as "the Rubber Soldiers" in existing groves.

It is located in the vicinity of the Cuniã Extractive Reserve; this community has 24 hours power generator, public telephones, public network with piped water and a relatively well-structured health post. The community can be accessed primarily by boat, with 8 hours of Porto Velho, via row boat.

■ Nazaré

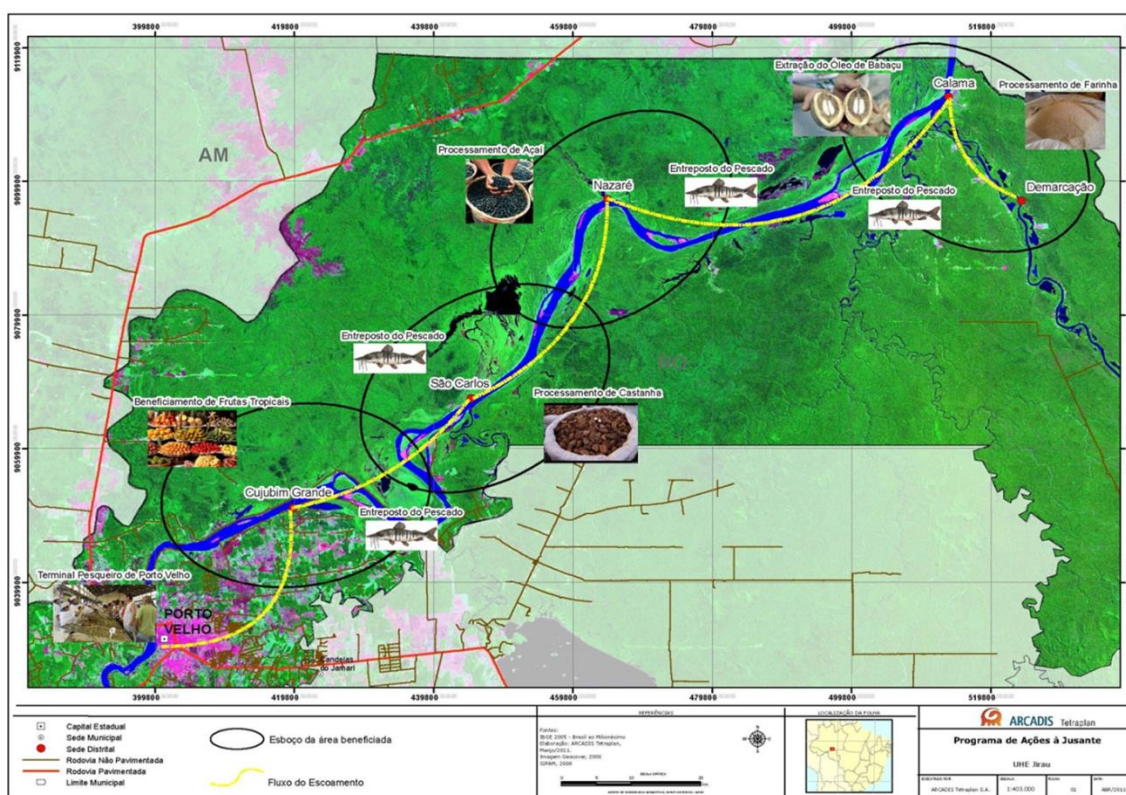
The community of Nazaré has about 626 inhabitants, descendants of rubber tappers and indigenous peoples who occupied the region, and currently covers communities Curicas, Boa Hora, Pombal, Bonfim, Santa Catarina, Laranjal, Conceição da Galera, Papagaios, Ilha de Iracema, São José, Tira fogo, Prainha, Nazaré e Boa Vitoria.

The economy of Nazaré is based on fishing, extraction of açaí and Amazon chestnut, agriculture (cassava, watermelon, banana), production of flour, all of those for sale and consumption, and game (only self-consumption) and especially, and various other fruits of the forest, that are the target of the actions program designed for the Downstream Communities.

■ Demarcação

The community of Demarcação is located near the mouth of the Machado River, over than 200 km away from Porto Velho by water and has about 60 families organized by the Association of Producers and Residents of Demarcação - ASPROVID and Association of Agro-extractive independence – AGROIRMA.

The productive activity, has shown a great potential for the production of flour, over 74% of residents are planting cassava, and they have declared an average productivity of 19.9 tons/Ha. More than half of the producers of flour owns and produces flour at the family “farinheiras”. Most often those "houses of flour" are installed near to the plantation to facilitate the transportation of raw materials, or in the urban center, when they seeks to appropriate the electrical power for the operation of motors used in production.



Difficulties and challenges

If there are some distinctions in the history of formation, type of production and organizational capacity of these communities, on the other hand, there is an absolute convergence to the difficulties facing traditionally to ensure the survival and livelihoods of their populations.

First, it's important to highlight the lack of regularization of those territories, with contradictions about the ownership of the subject areas of agricultural or extractive practices, not only where will be located the processing industries of acai, Amazon chestnut and cassava, but also and especially where farming or where the forest is located, with areas of desired extraction.

It shows the need for adjustment of production within the properties and compliance of these areas (property or possessions) against the laws of use and occupation of the land in three levels of government, with emphasis on the forest code.

Another limiting factor and common to all those communities is the immense difficulty in marketing their products, because of the logistical difficulties to ship those products, subject to the "middlemen" - traders that mediate the relationship producer – consumer, practicing minimum price at the cost of production. Mostly riparian communities suffer of lack of infrastructure for production or of boats for displacements, they are not qualified to practice trading and marketing, seeking to ensure social and economically fair prices for their products.

It's also that many of the inputs required for production, such as stable power, sanitation, access to mobile telephony, water, are deficient and / or non-existent, and the access to them go beyond the governance of communities as also of the entrepreneur, these are demands made to the public power, the sphere of public policy.

This implies that other variables need to be addressed by the communities, that means, that the representations of government are aware and committed to these populations, so that they have guaranteed access to their basic rights, which historically has not been the reality of riverine populations of the legal Amazon. The entrepreneur bears the onus of being charged and required to support investments in infrastructure, social and technological equipment, surplus to their prerogatives of a private entity. Somehow, in the structural deficiencies environments the expectation becomes that entrepreneurs assume the role of the state.

In summary, the major challenge has been the ability to articulate these vertices - entrepreneur, communities and public power to overcome the difficulties reported. There will not be sustainability in the social, environmental and economic dimension if these actors are absent from their responsibilities.

The prospects for sustainability

The Program Support Communities Downstream of Jirau HPP on the Madeira River, commits to implement a local development project, that it's supported by a strong network of stakeholders, including government and civil society institutions, to promote possibility of small business be administered by traditional and agro-extractive communities.

These actions have been demanding local leaders, cooperatives of farmers, governments and entrepreneurs to develop integrative ways of overcoming difficulties and promote the progress of the development of social technologies that enable sustainable business in those territories. And this movement must occur within a process of participatory and qualified training in which the endogenous needs and way of riparian life are considered within the socio-ecological perspective, an appreciation of their own forms of social, economic, cultural, ancestral organization.

We must periodically verify if in fact are job opportunities are being create and income for farmers, fishermen and resident population in the riverine communities being generated, if is

being possible to contribute with the settlement of the population in rural areas, especially the young ones, reducing migration to the cities, especially Porto Velho; if they are creating conditions for the use and exploitation with the preservation and conservation of these resources; if has been encouraging the production and creation of better conditions for the marketing, adding value to local products; and if have been increased the power of competitiveness of local producers and reaching new markets.

The belief is that sustainable practices presuppose identify the possibilities convergent opinions for development of collaborative, contributory and non-distributive propositions.

In the case of this program, hiring leaders of the local cooperatives to build capacity since the beginning of the project in all its phases, from planning to monitoring and evaluation is ensuring that future actions initiated have continued, even after the developer is no longer over the territory.

Another initiative are the agreements which have been signed between government institutions, enterprise and cooperatives to regularize the situation of land plots where will be installed the agro-industries. Furthermore, the participatory construction with communities of business plans and marketing is an important tool for partnership among stakeholders.

The practice has shown that in environments where historical deficiencies coexist with opportunities for social and economic growth, social actors can't act as competitors or "enemies" the mobilizing final question should be: - What you can develop, in associated form, seeking win-win? If we can answer this question in a responsible manner, the result will be ... sustainability.

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 - Bachelor of Economics, Catholic University – São Paulo, 1981-1985.
- Executive Profile with diverse experience in developing and implementing social and environmental projects with managerial, technical and analytical skills and working in all phases of environmental permitting processes and public hearings;
 - Specialist workshops for moderation and consensus building, empowerment and alignment of concepts, using techniques that emphasize group processes capable of causing significant changes in the everyday culture of corporate structures and institutions;
 - Leadership skills and extensive experience in joint working groups and activities involving the participatory community involvement , leadership and social actors, including conflict situations;
 - Currently managing the implementation of environmental programs related to large infrastructure projects (roads, railways, etc.), energy (power plants) and mining in several states of Brazil in ARCADIS logos.