PROGRAM OF INDIGENOUS RIGHTS, INDIGENOUS POLICY, AND INFORMATION TO SOCIETY
TECHNICAL SUMMARY OF THE MONITORING OF THE JURUENA BASIN HYDROPOWER PLANTS
SEPTEMBER 2021

Adriana Werneck Regina and Cristian Felipe Rodrigues

Introduction

This is the technical summary of the independent monitoring of hydropower plants in the Juruena Basin's hydrographic region, carried out by Operação Amazônia Nativa (OPAN), updated until September 30, 2021.

This study is based on information from Brazil's Electric Energy Agency (ANEEL), the State Impact Licensing Office (CLEIA) of the Mato Grosso State Department of the Environment (SEMA-MT), the Integrated Environmental Monitoring and Licensing System (SIMLAM), Mato Grosso's Official Gazette (Iomat), and other secondary sources. It should be noted that the documents evidencing the information collected during the monitoring are archived, ensuring the reliability of the investigation carried out by OPAN.

Monitoring the advances of hydropower plants is intended to be a tool for indigenous peoples and communities interested in asserting their rights to free prior and informed consultation under internationally established agreements and conventions, turning infrastructure projects into socio-diversity projects that benefit the public. The logic of a profitable project that converts the energy matrix into a prosperous marketing business, aimed at serving a few corporate groups, and which results in sacrificing goods that are collective assets such as water, is brought under question.

1. The Juruena Basin and its microbasins

The methodology adopted was the subdivision of the Juruena Basin into six microbasins.

1. Arinos Microbasin, comprising the Arinos, Alegre, Claro, (Rio) dos Patos, Mestre Falcão, and Apiacazinho Rivers, the Buritizal, Água Verde, Lagoa Rasa and Santo Antônio streams, and the Diamante Creek; **2. Do Sangue Microbasin** covering the Membeca, Ponte de Pedra, and Do Sangue Rivers, and the Bela Vista and Itapiranga Creeks; **3. Dos Peixes Microbasin** encompassing the Dos Peixes River and the Capivara, Campo, Veado, and Negro Creeks; **4. Juruena Microbasin** covering the Juruena, Juína, Formiga, and Massuti Rivers, and the Perdizes and Sete de Setembro Creeks; **5. Papagaio Microbasin** includes the Papagaio, Buriti, Sacre, Sapezal, and Saué-Uiná Rivers, and the

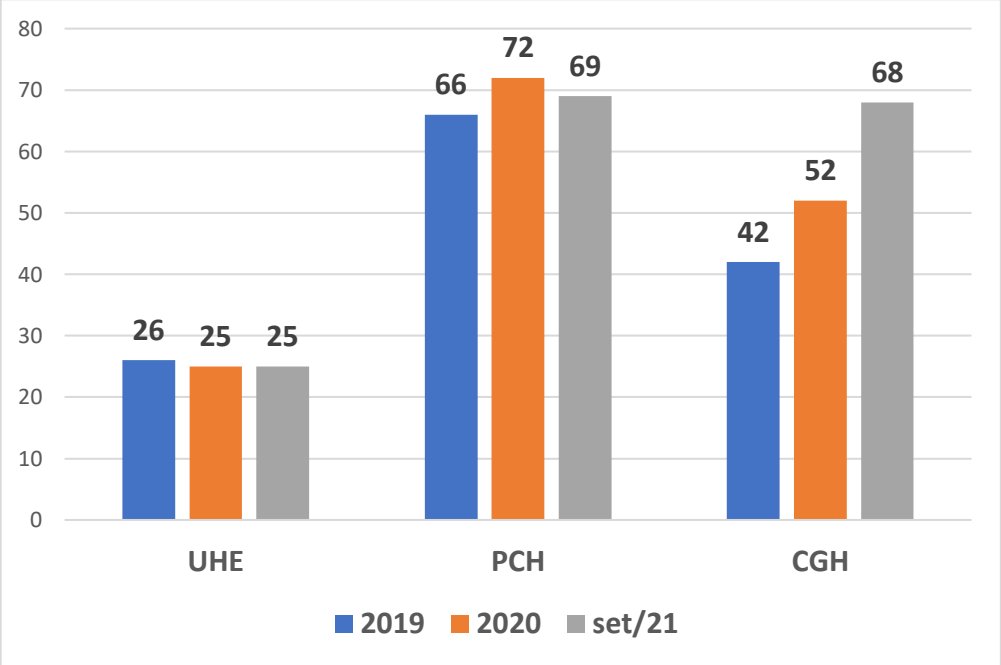
Água Quente and Santa Cruz Streams and; **6. São João da Barra Microbasin** with the river bearing the same name.

Based on the monitoring results, a warning sign was identified for the Do Sangue, Arinos, and Juruena Microbasins, the central focus of this technical summary. Regarding the other micro-regions, this report is restricted to characterizing some specific cases evaluated as significant points of attention.

2. Overview of the hydropower plants in the Juruena Basin

In September 2021, **162 hydropower projects** were identified in the Juruena Basin. Compared with previous monitoring, 22 new mini hydropower plants (MHPPs) were discovered from 2019 to September 2021. The amount is stable concerning large hydropower plants (HPP) and small hydropower plants (SHPPs), as shown in Figure 1.

Figure 1 – MHPPs, SHPPs, and HPPs in the Juruena Basin from 2019 to September 2021



Source: OPAN, SEPTEMBER 2021 (TN: UHE = HPP; PCH = SHPP; CGH = MHPP)

MHPP Incentive Policy

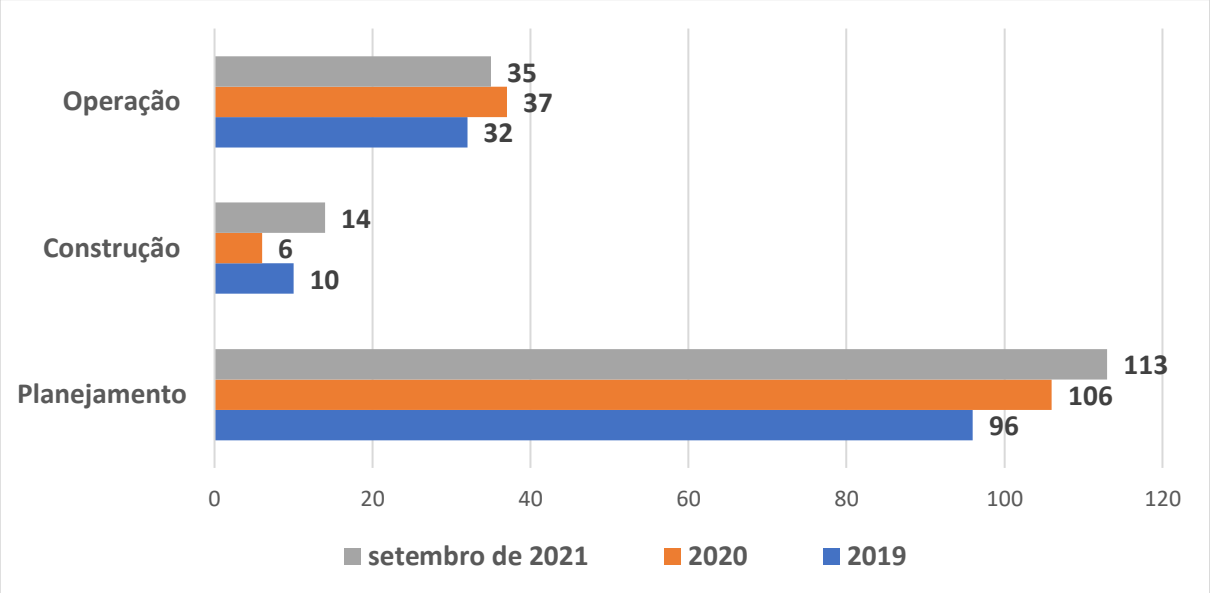
Under Regulations No. 673 of August 4, 2015, and No. 875 of March 10, 2020, of Brazil's Ministry of Mines and Energy/National Electric Energy Agency (ANEEL), MHPPs are exempt from requesting ANEEL for the Registration of Intent Clearance (DRI), Registration of Suitability Clearance (DRS), Water Availability Reserve Declaration (DRDH), and the authorization orders. These exemptions reduce the time between the design and implementation of a project.

Therefore, in the case of these smaller projects, the project sponsors' initiatives regarding the planning stage become eclipsed since they do not need to disclose their basic projects publicly nor get them approved by ANEEL. The only way to monitor an MHPP's phase progress and know that a project of this type exists is when the project sponsor requests the competent body for a Preliminary License (LP), Installation License (LI), Operating License (LO), or the authorization order.

It is the understanding of the authors of this report that these regulations act as an incentive to implement MHPPs, whose consequences can be seen in the Juruena Basin, supporting the warning signs highlighted in the Do Sangue and Arinos Microbasins.

Another issue pointed out is the increase in planned hydropower plants, reflecting this continued discovery of new plants.

Figure 2 – Hydropower plants' evolution stage in the Juruena Basin from 2019 to September 2021



Source: OPAN, SEPTEMBER 2021 (Operação = Operating; Construção = Under construction; Planejamento = Under development; setembro de 2021 = September 2021)

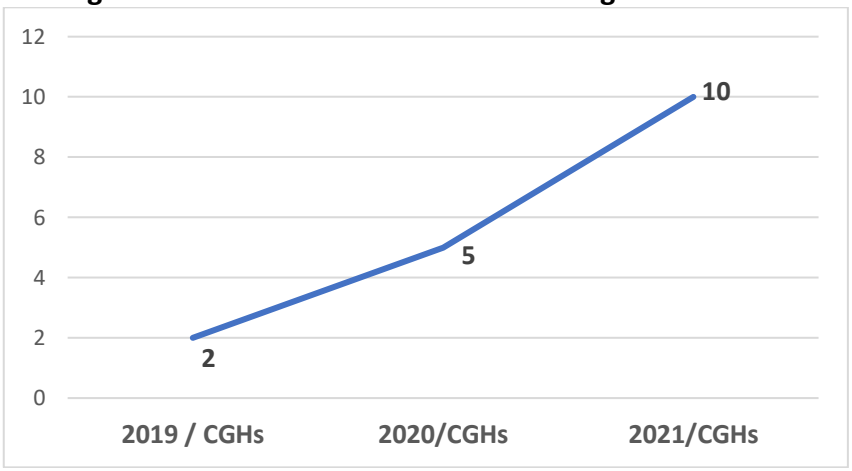
2.1 Do Sangue Microbasin

Several Indigenous Lands (ILs) are located across the Do Sangue Microbasin, such as Ponte de Pedra, Estação Parecis, Utiariti, Uirapuru (of the Paresi people); Irantxe, Manoki (of the Manoki people); Menkü (of the Myky people); and Erikpatsa and Japuíra (of the Rikbaktsa people). There are three planned hydropower plants approved by ANEEL that comprise the projects in this micro-region.

Order No. 1042, of December 24, 2001, approves the assessments carried out in the Do Sangue, Ponte de Pedra, and Cravari Rivers, covering the Paiaguá, Parecis, Roncador, Kabiara, and Cinta Larga HPPs. It also covers the Diauarum, Bacuri, Matrinchã, Ponte de Pedra, Andorinha e Garça, Cedar, Mahogany, Bocaiúva, and Faveiro SHPPs. Order No. 635, of October 10, 2002 approves the assessments in the Do Sangue River, between the backwater of the Baruíto SHPP and the springs, which include the Jararaca and Inxú SHPPs. Lastly, Order No. 3,504 of October 19, 2015 approves the stretches inventoried on the Membeca River, authorizing the Membeca I, Membeca II, Membeca IV, Membeca V, Membeca VI, Membeca VIII, and Membeca IX SHPPs.

The monitoring activities covered in this report uncovered 10 MHPPs not identified in these inventories: Jacupiranga, Quatro Cantos, Salto Baruíto, Ponte Serrada, Cana Verde, and Novo Tempo on the Do Sangue River; Ilha Rosa, on the Norato River; Seis Lagoas on the Membeca River; Itapiranga on the Ulisses River; and Morrinhos on the Bela Vista Creek.

Figure 3 – MHPP Evolution in the Do Sangue Sub-basin



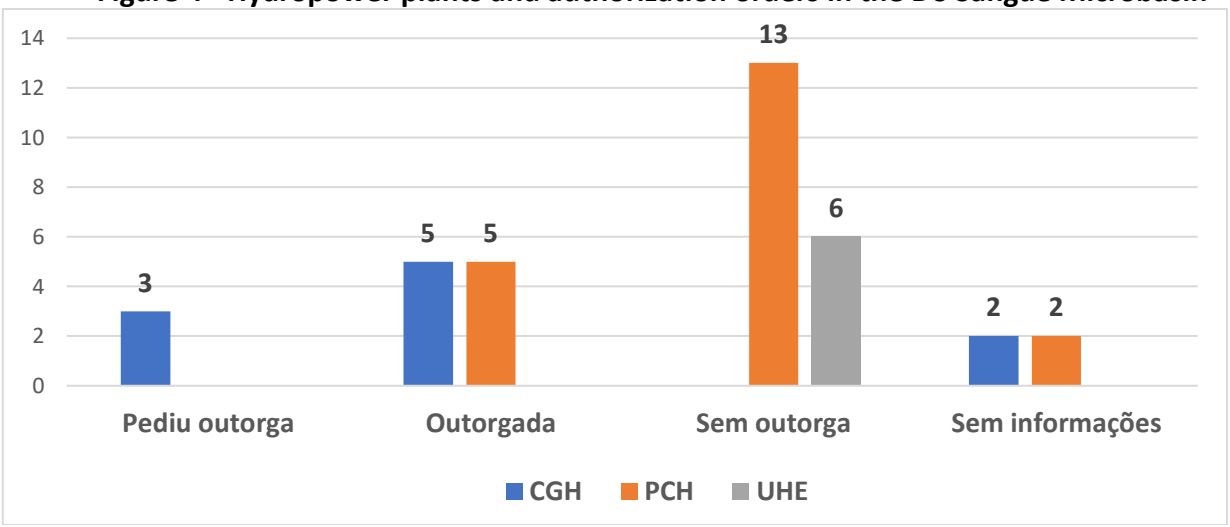
Source: OPAN, August and September 2021 (TN: CGHs = MHPP)

The five new MHPPs discovered in the first half of 2021 were: Ilha Rosa, Salto Baruíto, Jacupiranga, Quatro Cantos, and Novo Tempo.

Totaling **36 projects identified in the Do Sangue Microbasin**, 20 SHPPs (55%); 10 MHPPs (28%), and 6 HPPs (17%). Although the number of MHPPs is not predominant, it is critical to warn of their continuous and growing emergence. This reality is linked to the fact that regardless of the authorization order exemption to the MHPPs, project sponsors have made such request and that the competent bodies have quickly attended to it.

The Quatro Cantos, Ilha Rosa, and Jacupiranga MHPPs applied for the authorization order in March 2021 and had positive feedback a few months later: Quatro Cantos in June 2021; Ilha Rosa and Jacupiranga, in July 2021. These examples signal that these requests are being analyzed faster, resulting in an equal acceleration of the waters being appropriated. The authors also noted that several authorization orders were granted in the first half of the current year: Cana Verde received its authorization order in February 2021 and Morrinhos in June 2021. There are also other requests, like those of the Ponte Serrada MHPP, which were filed in December 2020; Novo Tempo in April 2021; and Salto Baruíto in May 2021.

Figure 4 - Hydropower plants and authorization orders in the Do Sangue Microbasin



Source: OPAN, SEPTEMBER 2021 (TN: Pediu outorga = requested authorization orders; Outorgada = Authorization granted; Sem outorga = without authorization orders; Sem informações = No information available; CGH = MHPP; PCH = SHPP; UHE = HPP)

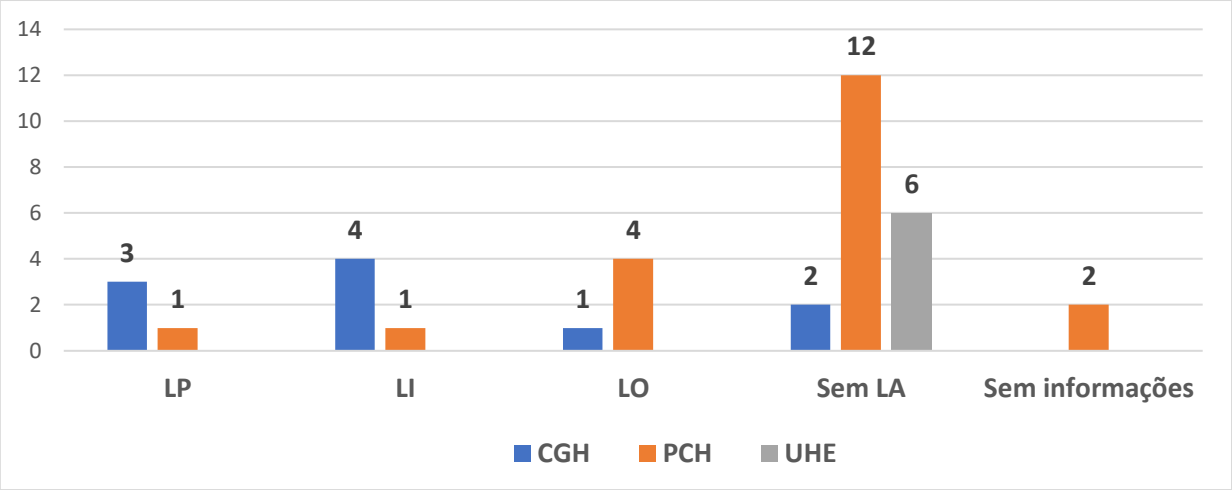
An authorization order means the right to exclusive use of a specific section of a watercourse for at least 30 years. The flexibility of the MHPP rules promotes accelerated privatization of the use of water resources, which jeopardizes the other ways that indigenous peoples connect to the waters in the region. Six MHPPs are concentrated in the Do Sangue River alone. That is, six sections of this river are subject to energy exploitation as a means to use the water resource.

<u>This is a warning sign for the regulatory flexibility linked to MHPPs, which goes hand-in-hand with the flexibility of granting authorization orders, generally, for sections of creeks and streams. The tendency to increase the number of MHPP projects means the accelerated privatization of our waters at the same time.</u>

The warning sign takes into account the MHPPs' geographic positioning because some of them are close to the source, as seen in the map attached to this technical summary.

As shown in Figure 5, most of these small hydropower plants have licensing requests in progress, indicating that they are coming to fruition.

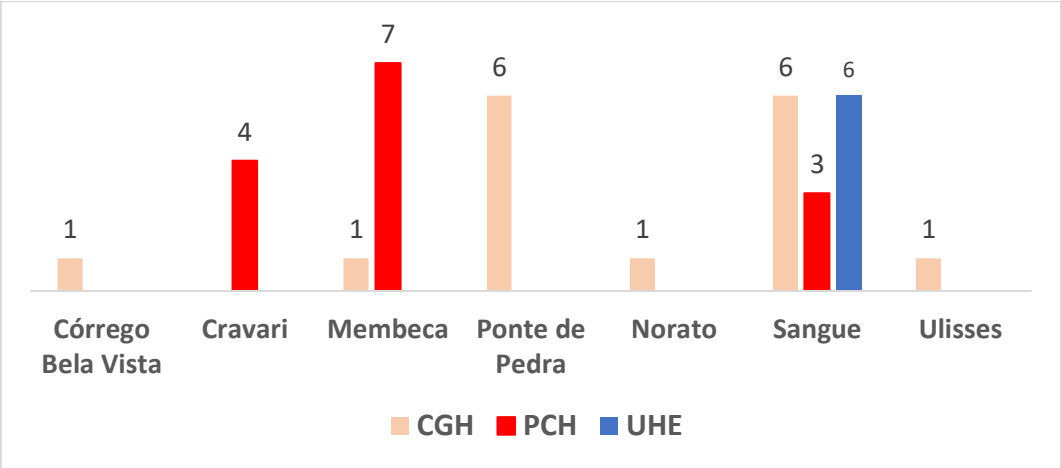
Figure 5 - Licenses issued to hydropower plants in the Do Sangue River Microbasin until September 2021



Source: OPAN, SEPTEMBER 2021 (NT: LP = Preliminary License; LI = Installation License; LO = Operating License; LA = Without authorization; Sem informações = no information available; CGH = MHPP; PCH = SHPP; UHE = HPP)

The impacts caused by MHPPs must be understood in the midst of a hydroelectric complex that also involves other SHPPs and HPPs.

Figure 6 - Projects per watercourse in the Do Sangue River Microbasin



Source: OPAN, SEPTEMBER 2021 (TN: CGH = MHPP; PCH = SHPP; UHE = HPP)

The Paiaguá HPP, on the Do Sangue River, received the DRS in November 2020, in addition to the fact that five SHPPs already have the DRDH: the Membeca V, VI, VIII, and IX SHPPs on the Membeca River, and the Bacuri SHPP, on the Ponte de Pedra River.

In the case of the Do Sangue Microbasin, three dimensions of risk have been identified: the trend itself of 10 MHPPs; the connection of this 10-project complex with that of the SHPPs and HPPs located in the same microbasin; and the location of the projects of the four MHPPs in the Do Sangue River, which, in addition to being in a region close to the river mouth, are installed sequentially in the same general area. In other words, they risk a sequential water flow right at the stage when the river is forming.

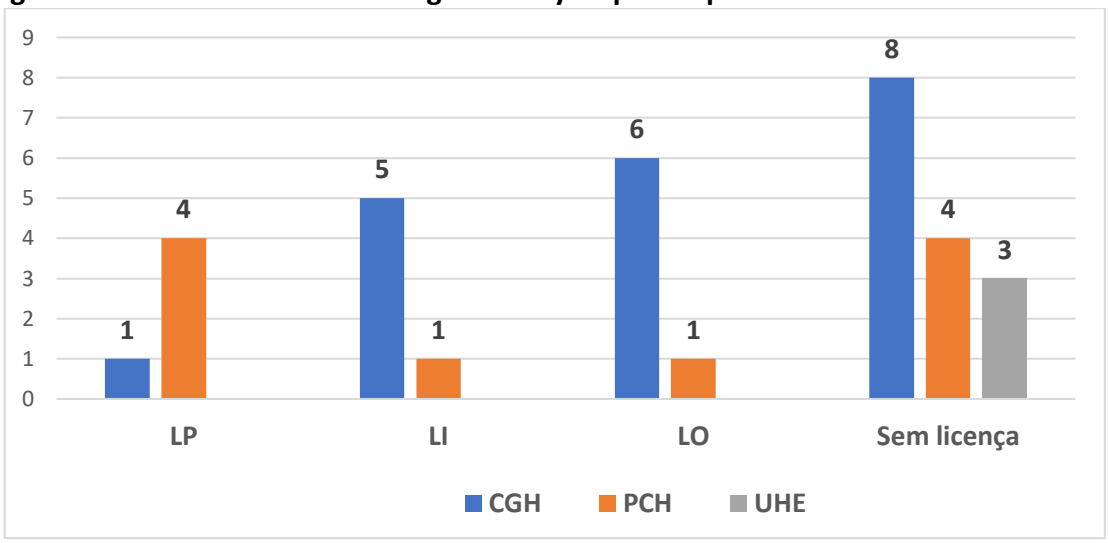
2.2 Arinos Microbasin

33 projects were identified in the Arinos Microbasin: 20 MHPPs (61%); 10 SHPPs (30%), and three HPPs (9%). A high rate of MHPPs in this region, even higher than SHPPs and HPPs, was also identified.

Of all the MHPPs, eight do not have an environmental license, nor is it known whether they have a Technical and Economic Feasibility Assessment (EVTE) or a project design under development. The number of MHPPs with environmental licensing is significant, of which, six are already in operation, and five are about to be implemented because they have already obtained their installation licenses.

Figure 7 shows the environmental licensing status for MHPPs, SHPPs, and HPPs.

Figure 7 – Environmental licensing of the hydropower plants in the Arinos Microbasin

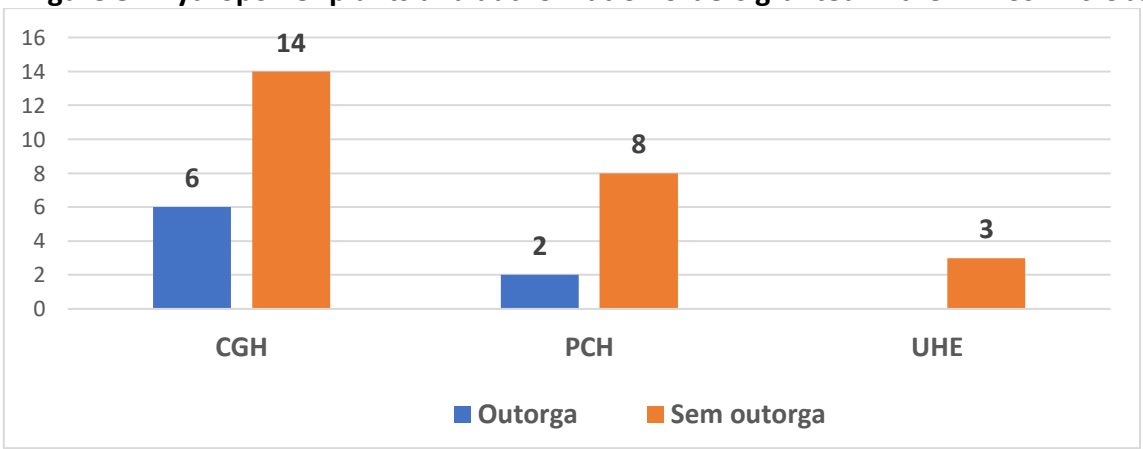


Source: OPAN, SEPTEMBER 2021 (TN: Source: OPAN, SEPTEMBER 2021 (NT: LP = Preliminary License; LI = Installation License; LO = Operating License; LA = Without authorization; Sem informações = no information available; CGH = MHPP; PCH = SHPP; UHE = HPP)

Among the 33 plants identified, most are in the planning stage (20). There are a total of six hydropower plants under construction, most of which are MHPPs, and one in operation, totaling seven. Of the latter, six are MHPPs, and one is the Rio Claro SHPP. It is evident that implementing MHPP projects is favored.

SHPPs are predominant among the plants with preliminary licenses, and the authors believe that the implementation of these projects is underway: the Distância, Patos, Saracura, and Sumidouro SHPPs. Figure 8 depicts the status of granting authorization orders to hydropower plants in the Arinos Microbasin.

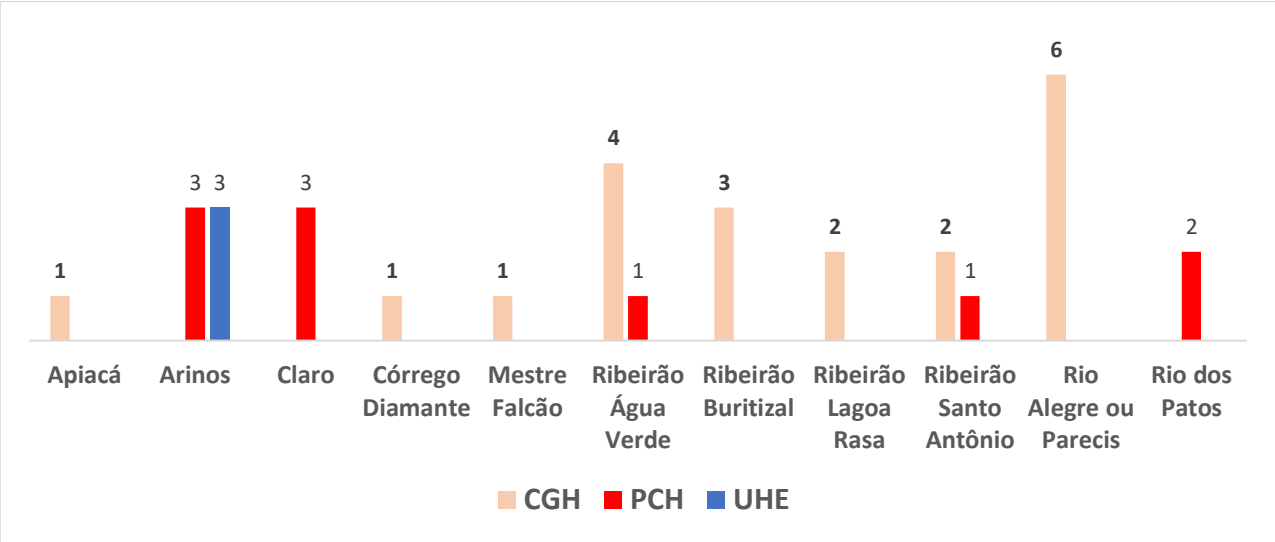
Figure 8 - Hydropower plants and authorization orders granted in the Arinos Microbasin



Source: OPAN, SEPTEMBER 2021 (TN: CGH = MHPP; PCH = SHPP; UHE = HPP; Outorga = With authorization; Sem outorga = Without authorization)

Even though MHPPs are exempt from requesting grants, the Mato Grosso State Department of the Environment does require them, thus guaranteeing the exclusive appropriation of water sections. Figure 9 depicts the set of hydropower plants authorized for each river.

Figure 9 – Overview of hydropower projects installed in the Arinos Microbasin



Source: OPAN, 2021. (TN: CGH = MHPP; PCH = SHPP; UHE = HPP)

In addition to the warning sign of this reality of MHPPs multiplying in the micro-region, it is worth noting the request for DRDH was made by those responsible for the Castanheira HPP on October 28, 2020, which means that an authorization order is imminent. So far, the DRDH Ordinance has not been published in Iomat.

3. Other Warning Signs in Other Microbasins

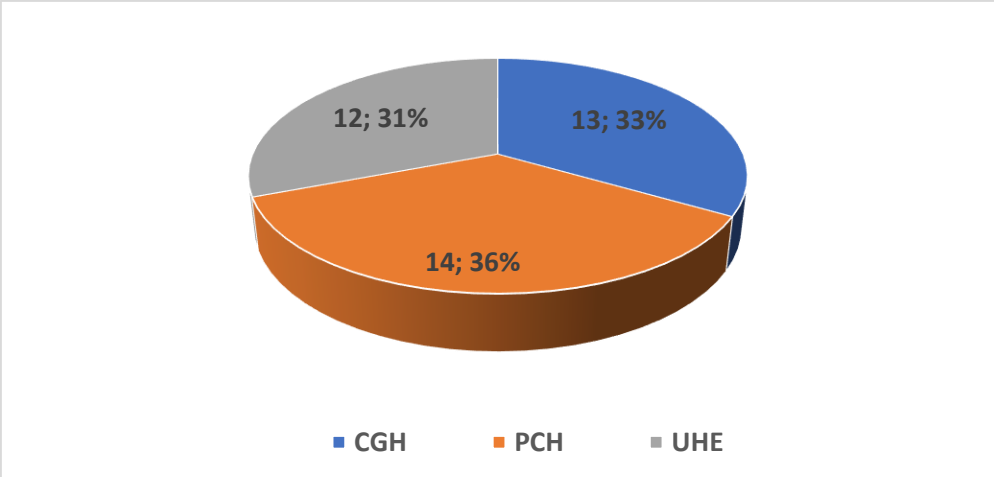
Concerning the other microbasins that make up the Juruena River Sub-basin, the activities covered by this report were restricted to pointing out which plants have advanced in their stage and phase.

In the **Papagaio Microbasin**, the Foz do Buriti SHPP already has a DRDH and is on the verge of obtaining an authoriztion order, and the SU-75, SU-93, SU-104, and SU-118 SHPPs already have DRIs, having as holding companies a subsidiary of the Bom Futuro group–Sapezal Energia Ltda. The Porto do Buriti and Gado Bravo SHPPs have DRSs.

In the **Juruena Microbasin**, the warning signs are based on the fact that the Juruena and Cachoeirão HPPs have received their preliminary licenses from the Mato Grosso State Department of the Environment (SEMA-MT).

Unlike other micro-regions, HPPs and SHPPs are predominant, intensifying the threat to the indigenous peoples and communities living there if such projects are implemented.

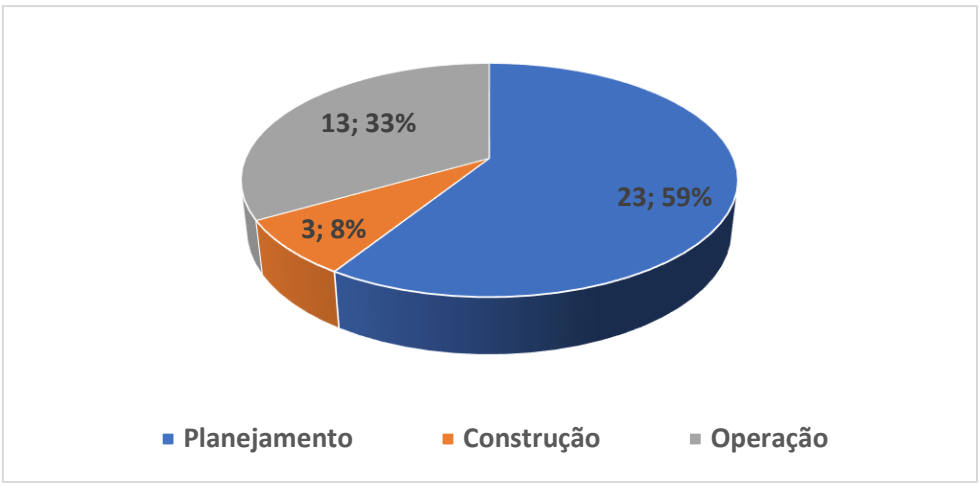
Figure 10 – HPPs, SHPPs, and MHPPs in the Juruena River Microbasin



Source: OPAN, 2021. (CGH = MHPP; PCH = SHPP; UHE = HPP)

There is a significant percentage of plants in operation (33%), which tends to increase because there are plants that are being licensed, aiming at implementation in the short-term: Juína Hum MHPP, and the Comodoro and Presente de Deus SHPPs. They are added to the others that are in planning, advancing in their stages, as warned about with the Juruena and Cachoeirão HPPs.

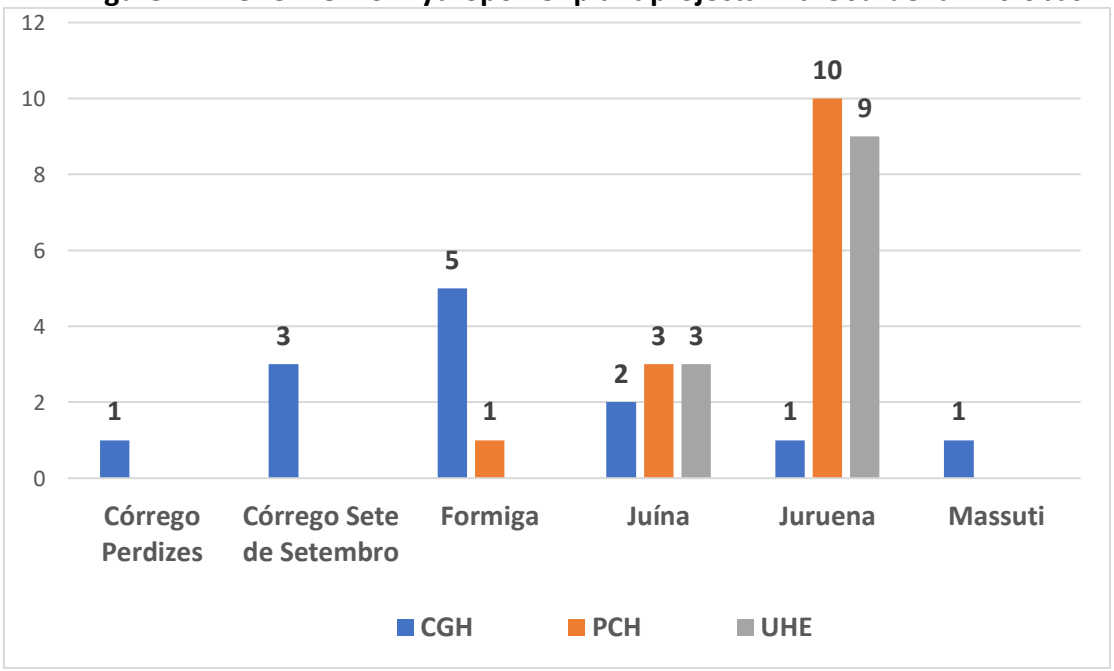
Figure 11 – Hydropower plant stages in the Juruena Sub-basin



Source: OPAN, 2021 (Planejamento = Under development; Construção = Under construction; Operação = Operating)

The initiatives of the project sponsors responsible for the Cachoeirão and Juruena HPPs are advances oriented towards the project installations. Their impacts are assessed here regarding such HPPs being part of this overview of the 39 hydropower plants in the microbasin.

Figure 12 – Overview of hydropower plant projects in the Juruena Microbasin



Source: OPAN, 2021. (CGH = MHPP; PCH = SHPP; UHE = HPP)

Taking into account that the rivers are all interconnected, the hydropower plants on the Formiga, Juína, and Juruena Rivers will not only cause local impacts. They will also introduce changes

to water flows and water availability in the microbasin as a whole, threatening the various indigenous territories that are part of it.