ALIANÇA
REFLORESTAR DA AMAZÔNIA

Puyanawa Reforest Alliance Project

Ipiranga Village | Acre | Brazil

March/April 2023

planting effort

Aim:

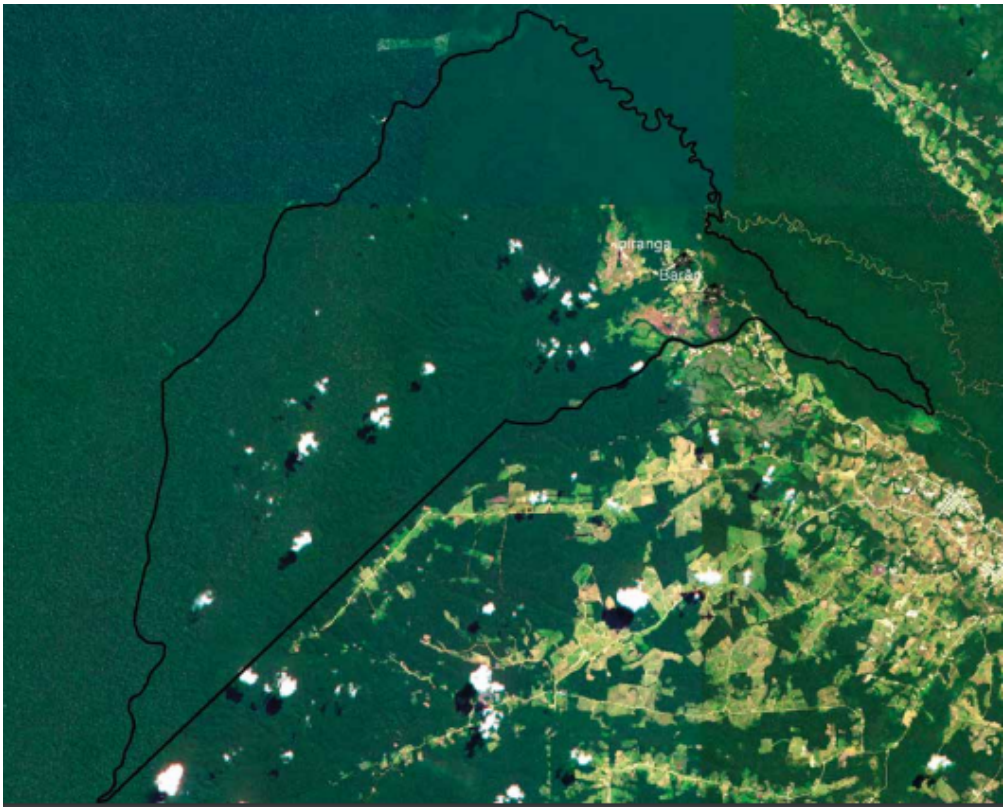
This report aims to present the progress of actions for the Agroforestry Reforestation project carried out by Aliança Reflorestar da Amazônia in partnership with the Inochi Foundation in the Poyanawa Indigenous Land.

Location

The Poyanawa Indigenous Land is located in the Brazilian Legal Amazon, in the municipality of Mâncio Lima, Acre State, about 28 kilometers from the city.
The area is part of the watershed of the Juruá River and is mainly composed of the vegetation physiognomy of the Dense Ombrophilous Forest.

The Indigenous Land was officially recognized in 2001 by the Brazilian federal government, after more than 20 years of struggle. The area has about 59 thousand

acres, where approximately 800 people live. The Puyanawa people live mainly in two villages, Barão do Rio Branco and Ipiranga.



Satellite map locating the Poyanawa Indigenous Land and the villages of Ipiranga and Barão do Rio Branco.

A brief history of the area:

In the last two decades of the 19th century, indigenous territories rich in rubber, located in the watershed of the Juruá River, were violently invaded by groups of rubber tappers.

Historical records confirm that the Puyanawa people were contacted and enslaved by rubber tappers at the beginning of the 20th century. Rubber extraction was the main activity carried out on the land, mostly by Puyanawa men, combined with large swiddens of corn, cassava, beans, sugar cane, and rice, which were managed by Puyanawa women.

Between 1910 and 1950, many areas of forest were cut down to expand swiddens. Pastures for cattle raising and roads were created for the transport of rubber and other products. In addition to the destruction of the forest, it is important to note that since the first contacts, many Puyanawa have died in clashes, attempts to escape or by diseases acquired in this process. The survivors were forced to work in the rubber plantations and quickly saw their way of life being erased as a result of the methods used by the "rubber colonels" to have the indigenous people under their yoke. The Puyanawa were expropriated from their lands, catechized, and educated in schools that prohibited the expression of any trace of their culture.

With the decline of the rubber plantation Barão do Rio Branco after the death of Colonel Mâncio Lima in 1950, the Puyanawa were finally freed from the regime of servitude to which they had been subjected. From the middle of the 20th century onwards, the Puyanawa people began to work in swiddens for their own families, something that, until then, they had been prevented from doing. They continued to produce rubber, despite the rubber crisis in the region, but they were still obliged to pay for the use of rubber roads to the heirs of the former owner of the rubber plantation. The payment of “rent from the rubber roads” meant that the Puyanawa people had no rights to any part of their former territories and thus continued to live on their lands as intruders. Only in 1977 did Funai carry out the first studies to identify the Poyanawa Indigenous Land, which was ratified in 2001.

Currently, the livelihood of the Puyanawa is strongly based on agriculture. Families carry out mechanized planting of cassava for the production and sale of cassava flour, and the community has small animal husbandry, such as pigs and cattle, on a small scale. Subsistence farming of fruit trees and food varieties are also present and mostly carried out in family backyards.

In 2015, the Territorial and Environmental Management Plan for the Poyanawa Indigenous Land was developed in a partnership between three groups: the Puyanawa do Barão and Ipiranga Agroextractive Association (AAPBI), the Association of the Movement of Indigenous Agroforestry Agents of Acre (AMAAIAC) and the Pro-Índio do Acre (CPI-AC). This plan made it possible to organize the community around

common objectives for the management, conservation, and inspection of its territory and has as one of its objectives the expansion of agroforestry plantations in the territory, especially close to water courses.

The reforestation project carried out by Aliança Reflorestar da Amazônia, funded by the Inochi Foundation, is one of the partnerships built by the Puyanawa community to implement the Territorial and Environmental Management plan.

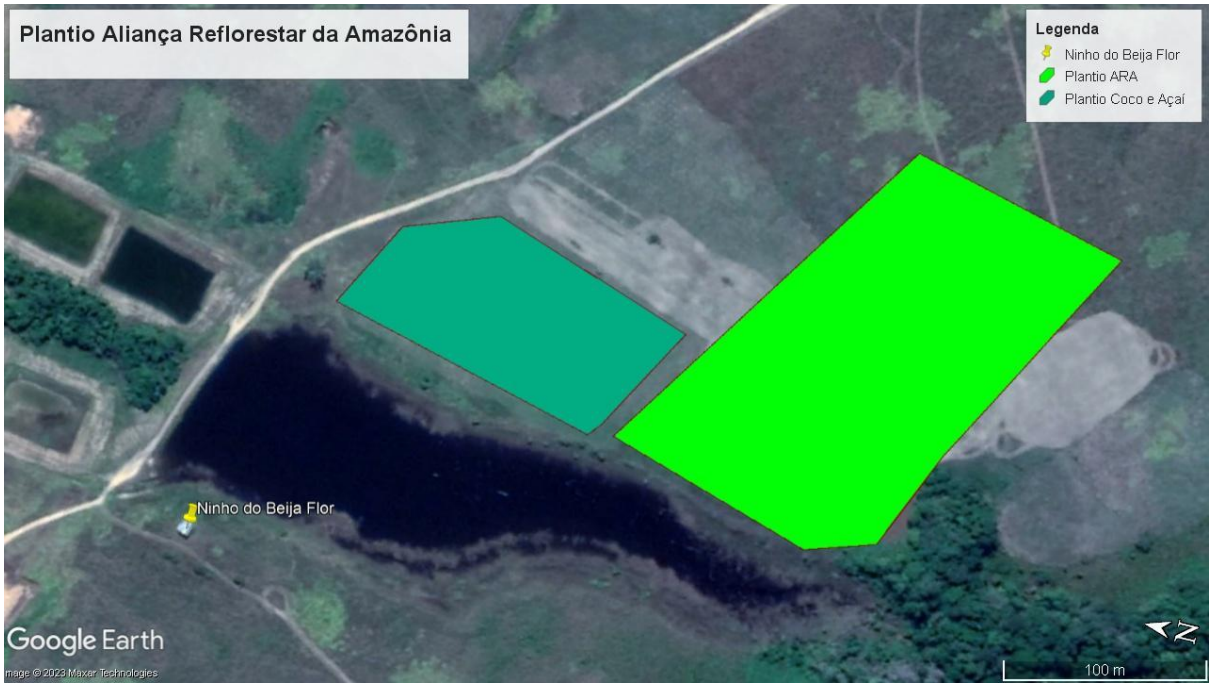
Planting effort

Agroforestry Reforestation:

The reforested area in this project is located in the village of Ipiranga, in a place known as “Ninho do Beija-Flor”. The area was an old pasture, lined with *colonião* grass (*Panicum maximum Jacq. or* Guinea grass) and ferns. The soil is sandy with a high degree of acidity, evidenced by the growth of ferns (known as *feathers* in the region). Despite being abandoned for the last 20 years, the area has not yet started a natural process of forest succession, probably due to low soil fertility.

The area is adjacent to a region of forest remnant, which has a source of water that flows into a small lagoon where many fish live. According to José Luiz Puwe, local leader, the ancients say that this forest remnant was never cut down because it is the home of enchanted beings, such as *Runduã* - the wise boa.

The area was chosen with a vision to expand the remaining forest, connecting the forest to the new agroforestry system, and to a region of coconut and açaí plantation, carried out 1 and 4 years ago, respectively. According to José Luiz Puwe, the community's dream is to create a forest corridor that connects this forest (or *Dimánã*, as *the forest* is spoken in the Ûdikuî language of the Puyanawa people) with the riparian forest of the Moa River.



Geo satellite map locating the main reforestation area (in light green) + pre-planting area (coconut and açai plantation, in dark green) + Ninho do Beija-Flor

Area preparation:

The first equipment for planting (cutters, gullies, wheelbarrows, machetes, boots, and others) and irrigation (5,000-liter water tank and irrigation hose) in the area arrived at the site on **March 15th**.

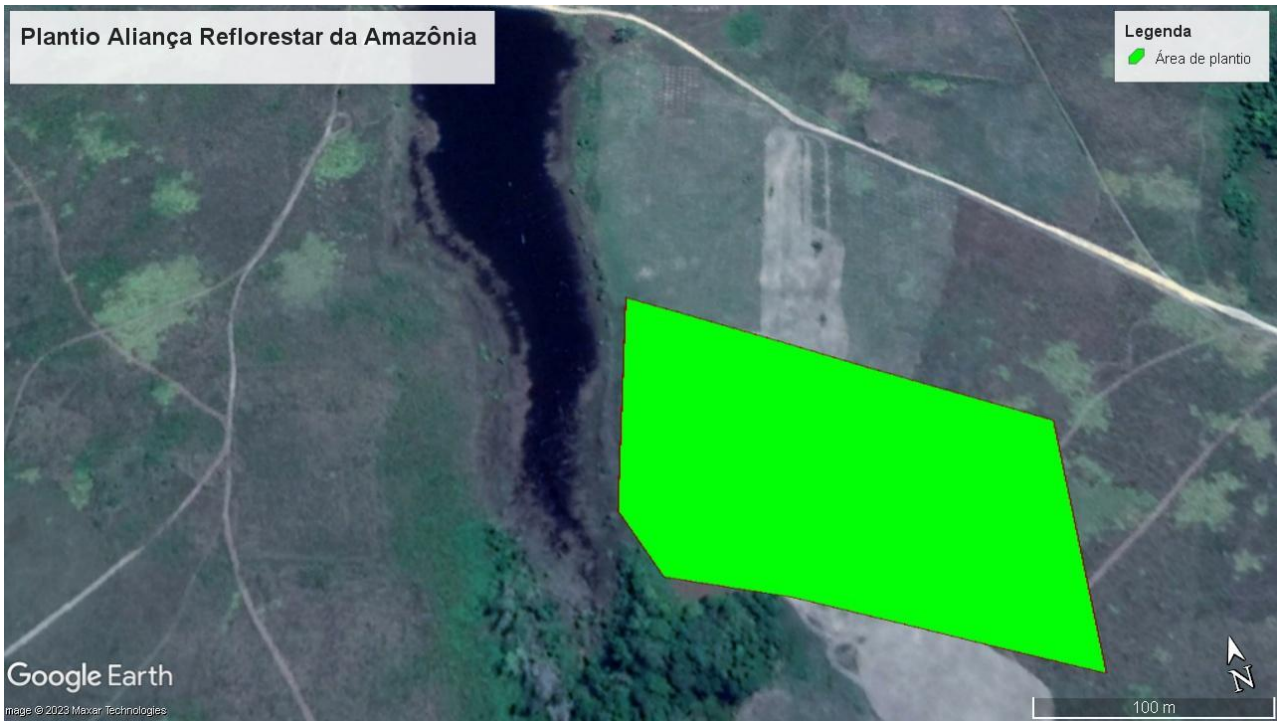
The preparation of the area began on **March 17th** by mowing the guinea grass and ferns, followed by the opening of planting lines. The resulting dry matter was left in the planting site in order to protect the soil from erosion and prevent the growth of more grass. The community's tractor was broken, so the preparation of the land had to be done predominantly manually, using brush cutters.

The cradles for the seedlings were made with a hoe, with a spacing of 3 meters (9.84 feet) between each one and a depth of about 20 cm (7.87 inches).

The area was marked by GPS, measuring 24,828 m^2 (or 267,246.37 sq feet).

The quadrant was determined from 6 georeferencing points described bellow::

1. S 07^{O} 31.205´
   In 073^{O} 01.788´
2. S 07^{O} 31.260´
   In 073^{O} 01.805´
3. S 07^{O} 31.290´
   In 073^{O}01.799´
4. S 07^{O}31.290´
   In 073^{O}01.770´
5. S 07^{O}31.327´
   In 073^{O}01.707´
6. S 07^{O}31.268´
   In 073^{O}01.694´



Geo satellite map locating the main reforestation area

planting effort

The planting:

The planting began on **March 22nd**, with the seedlings produced at the local nursery.

On **March 25th**, extra seedlings arrived from the Viveiro da Floresta in the city of Rio Branco. The collective planting effort was carried out between the **27th and 31st of March**. Three people from the Amazon Reforestation Alliance (Alice Fortes, Ana

Carolina Trebistch, and Nina Arouca) and a team of around 20 Puyanawas, 3 Nukinis, and 1 Nawa peoples were involved. The planting was accompanied by two Puyanawa Indigenous Agroforestry Agents (José Marcondes and Lucas Puyanawa) trained by the CPI-AC, and one agent in training from the Nawa people (Milton Nawa). José Marcondes Puyanawa is currently the president of AMAAIAC (Association of the Movement of Indigenous Agroforestry Agents of Acre).

The planting of 5,022 tree seedlings was completed on **April 14th**, surpassing the goal of 4,500 seedlings established in the project (522 additional seedlings were planted). We also evaluated the possibility, previously mentioned to the Inochi team, of planting additional 2,000 seedlings in other families' backyards in the next rainy season. *More details are coming soon.*

The choice of species to plant was made by the indigenous community, totaling 40 tree species among medicinal, fruit, and hardwood type trees. One-fifth of the seedlings came from the city of Rio Branco, and the rest was produced locally by the community itself through a process that involved collecting and planting seeds, and maintaining the seedlings in a local nursery. In addition, around 200 açaí seedlings were brought from the Nawa people for planting. The Puyanawa already had açaí trees in the territory, but not the same kind cultivated by the Nawa people. These seedlings brought for planting will diversify the varieties of açaí cultivated by the community.

The categorization of seedlings by type (hardwood, fruit, and medicinal), as shown in the table, was defined by the local leader José Luiz Puwe. However, some species are used by the community in more than one category. Examples are the trees known as Dragon’s blood and Andiroba, which are also used medicinally, and Malva, which is also used for construction.

Below is the table of trees planted:

Popular name	Type	Succession stage	Amount	Scientific name
Samaúma	**hardwood**	**Secondary**	**170**	***Ceiba pentandra***

Yellow Ipe	**hardwood**	**Pioneer**	**148**	***Handroanthus caraiba***
Imbaúba	**hardwood**	**Pioneer**	**3**	***Cecropia pachystachya***
Lacre	**hardwood**	**Pioneer**	**1**	***Vismia guianensis***
Andiroba	**hardwood**	**Secondary**	**250**	***Carapa guianensis***
Dragon's blood	**hardwood**	**Secondary**	**18**	***Croton lechleri Müll. Arg.***
Angelim	**hardwood**	**Secondary**	**33**	***Dinizia excelsa***
Purple Rosewood	**hardwood**	**Secondary**	**200**	***Handroanthus impetiginosus***
Itauba	**hardwood**	**Secondary**	**57**	***Mezilaurus itauba***
Genipapo	**hardwood**	**Pioneer**	**393**	***Genipa americana***
Plumeria sucuuba	**hardwood**	**Pioneer**	**23**	***Himathantus succubus***
Cedar	**hardwood**	**Secondary**	**130**	***Cedrela fissilis***
Egg Nut	**hardwood**	**Secondary**	**157**	***Couepia longipendula Pilger***
Red Cedar	**hardwood**	**Secondary**	**278**	***Cedrela sp.***
Jucá	**hardwood**	**Pioneer**	**31**	***Caesalpinia ferrea***
Pink Ipe	**hardwood**	**Secondary**	**200**	***Handroanthus avellanedae***
Aguano Cedar	**hardwood**	**Secondary**	**12**	***Cedrela sp.***
Caesarweed	**hardwood**	**Pioneer**	**66**	***Urena lobata***
Brazilian teak	**hardwood**	**Secondary**	**90**	***Dipteryx odorata***
Pan Mulato	**hardwood**	**Secondary**	**200**	***Calycophyllum spruceanum***
TOTAL	**hardwood**		**2460**	
Jackfruit	**Fruit**	**Pioneer**	**90**	***Artocarpus heterophyllus***
Mango	**Fruit**	**Pioneer**	**39**	***Mangifera indica***
Bacaba	**Fruit**	**Secondary**	**125**	***Oenocarpus bacaba***
Abiu	**Fruit**	**Secondary**	**70**	***Pouteria caimito***
Cupuaçu	**Fruit**	**Secondary**	**90**	***Theobroma grandiflorum***
Soursop	**Fruit**	**Secondary**	**140**	***Annona muricata***
Inga	**Fruit**	**Pioneer**	**170**	***Inga alba***
Orange	**Fruit**	**Pioneer**	**18**	***Citrus sinensis L. Osbec***
Avocado	**Fruit**	**Pioneer**	**5**	***Persea americana***

Peach palm	Fruit	Secondary	250	*Bactris gasipaes*
Açaí	Fruit	Secondary	350	*Euterpe olerace*
Yellow mombin	Fruit	Pioneer	150	*Spondia mombin*
Cacao tree	Fruit	Secondary	50	*Theobroma cacao*
West Indian elm	Fruit	Secondary	40	*Guazuma ulmifolia*
Jatoba	Fruit	Secondary	300	*Hymenaea courbaril*
Imbiriba	Fruit	Secondary	10	*Eschweira ovata*
Coconut	Fruit	Pioneer	200	*Coccus nucifera L*
Achiote	Fruit	Pioneer	150	*Bixa orellana*
Ice-cream-bean	Fruit	Pioneer	90	Inga edulis
TOTAL	Fruit		2337	
Copaiba	Medicinal	Secondary	25	*Copaifera langsdorffii*
Chacruna	Medicinal	Pioneer	200	*Psychotria viridis*
TOTAL	Medicinal		225	

TOTAL SEEDLINGS PLANTED	TOTAL HARDWOOD	TOTAL FRUITS	TOTAL MEDICINAL	TOTAL OTHER SPECIES
5022	2460	2337	225	40

Henrique and José Luiz Puwe Puyanawa during the collective planting effort

The planting was done following the agroforestry principles in order to increase the diversity of food in the region and guarantee food security for the Puyanawa people and wild animals in the territory. As the planting area is adjacent to a pond with fish, the tree species chosen to be planted on the banks of the lagoon were fruit trees that also feed the fish, configuring a Piscicultural Agroforestry System.

The Amazonian rainfall regime is characterized by a rainy period of 7 months (October to April), known locally as Winter. Choosing this period for planting aimed to ensure greater adaptation of the trees and reduced loss of planted seedlings. However, it is necessary to monitor this reforestation with irrigation and mowing due to the decrease in water volume and the intense heat that will follow in the next 5 months (locally known as Summer, the months from May to September have less rainfall and higher heat intensity). Reforestations that do not guarantee monitoring in the dry season usually have a significant loss of seedlings.

4,500 seedlings were planted in the quadrant called *Plantio ARA*, 300 Ipê seedlings were planted in the area called *Plantio Coco e Açaí*, and the remaining seedlings were planted surrounding the *Ninho do Beija-Flor* house because they needed more management or because they were considered sacred, which was the case of Chacruna tree (*Psychotria viridis, known as "Queen" or "Rainha" in portuguese*).

In addition to the group of approximately 15 Puyanawa men, the planting also involved 3 young people from the Nukini ethnic group, one man from the Nawa ethnic group, and a team of cooks composed of d 5 women during this period of collective efforts. The Nukini and Nawa peoples live near the headwaters of the Moa River and Serra do Divisor, about 5 to 7 hours by boat from the Poyanawa Indigenous Land. This exchange between indigenous communities took place at the invitation of the leader José Luiz Puwe and aimed to expand the partnership between peoples and encourage these young people to carry out agroforestry reforestation actions in their own communities.

"Rocambole" of seedlings rolled out in front of the main planting area

Plantation maintenance:

For irrigation and general maintenance of the plantation, we are in the process of purchasing, delivering, and installing a water pump model 3TSM ce/11 580W 72V (Thebe Ecaros) powered by 2 solar panels. The pump was chosen according to the specific needs of the site (it draws water from the dam, and it is powered by solar energy, facilitating its use as it does not require fossil fuel) and was purchased at the end of March. The delivery by the supplier was delayed by almost a month and is now scheduled for May 15th.

In addition to the 5,000-liter (1320.86 gallons) water tank and irrigation hose purchased at the beginning of March, we are purchasing the pipe system needed to connect the tank to both the pump in the dam and the hose. The water tank will be suspended from a wooden structure. This structure has not yet been built because the rains are still heavy in the region, making this type of work difficult.

Delivery of the cell phone to the leader José Luiz Puwe

It was decided, at the suggestion of the project's indigenous leader and coordinator, José Luiz Puwe, that the main person responsible for monitoring the seedlings would be the Puyanawa indigenous Claudionor Rumim da Silva. Claudionor, known as Marga, has experience in planting and caring for seedlings. In addition to participating in this task force, he was part of the Puyanawa entourage of other two

planting efforts of the Alliance Reflorestar da Amazônia held in January and April 2022 in the Yawanawa TI, Nova Esperança village. To facilitate registration and communication with Marga, the project purchased a Samsung cell phone, model Galaxy A13, delivered to José Luiz Puwe on April 3rd.

Marga, responsible for monitoring the seedlings, and José Luiz Puwe, during a planting campaign.

Part of the planting effort team. Nukini indigenous people are third, fourth and seventh standing, from left to right. Milton, from the Nawa ethnic group, is the sixth.

Composition with images of the plantation, the nursery and the Aliança Reflorestar team that accompanied the mutirão, accompanied by José Luiz Puwe, indigenous coordinator of the project, and Vari Puyanawa, wife of Puwe and important community leader.

Bibliographic references:

- **Environmental and Territorial Management Plan for Puyanawa Land**. AAPBI, AAMAIAC e CPI-AC, 2015.
  Available in:https://cpiacre.org.br/wp-content/uploads/2020/03/PGTA-Poyanawa.pdf

- **Puyanawa**. Homepage Indigenous Peoples in Brazil, from Instituto Socioambiental.
  Available in:https://pib.socioambiental.org/pt/Povo:Puyanawa