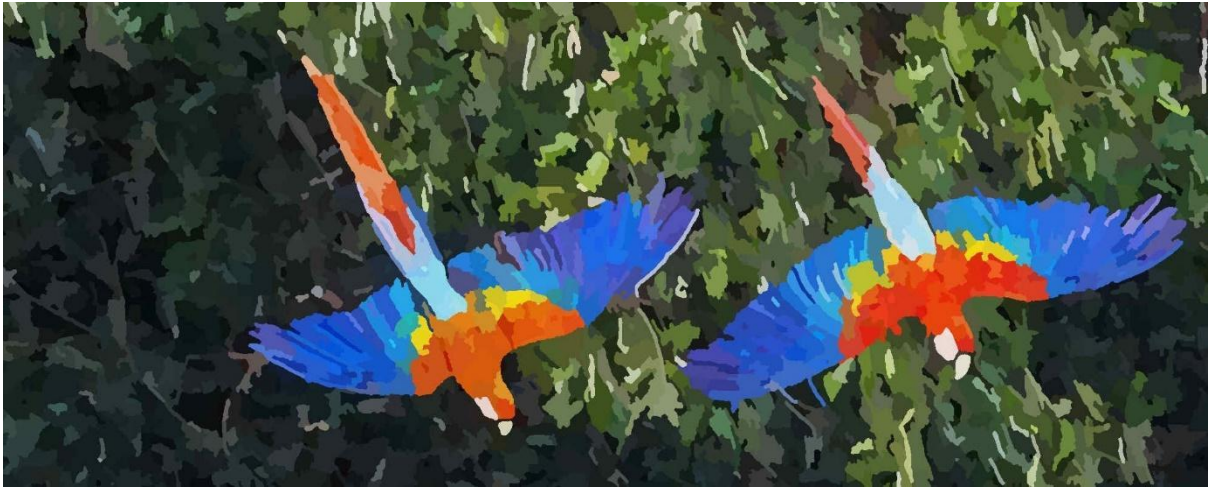


Amazon Reforestation Army Reward App - ARARA 1.0



WE CANNOT AFFORD TO LOSE THE AMAZON FOREST

The Amazon rainforest is a vital organ of our beautiful living planet and it is a majestic galaxy of innumerable interconnected beings, having formed an intricate living system over a period of more than sixty million years. Losing the Amazon is losing the fight on global heating and the sixth mass extinction. It will trigger catastrophic droughts in the Americas when it dies back within decades, sinking the whole world into famine, conflicts, wars and mass migration. It would be an ecocide and genocide of unfathomable proportions. Global complex society will not be able to survive this blow. This tragedy of enormous proportions is still avoidable if we put our minds, hearts and hands to it and let finance stream into the millions of people able and willing to regenerate this damaged ecosystem. The tropical forest belts (both the rainforests and the dryer parts) hold the potential to sequester enough carbon for the decades to come to slow down climate change if done at the scale necessary. This can be done through the Arara App. Arara is the indigenous Tupi word for the colorful and noisy macaw, one of the most iconic bird species in the world, who heralds the dawn while flying long distances over the rainforest.

A THRIVING FUTURE IS POSSIBLE

If we regenerate the Amazon rainforest, within 10-20 years a new vibrant economy will arise not just based on the current knowledge of socio bioeconomy, but with the merger of indigenous and western science, the cutting edge integrated forms of agroforestry, and technology the treasures it still largely hides for us will reveal themselves in its biological and biomimetic qualities that holds game-changing solutions for energy, food, light, clothing, medicine and disease prevention, transport, mental and social health and many other aspects of human life. Even right now a hectare of well managed rainforest can provide an income of 8-10 times the amount of income a hectare of soybeans or cattle would earn. The problem is that the underlying structure for investment is not available right now. The influx of earnings through reforestation would at the same time establish the structure to grow the bioeconomy.

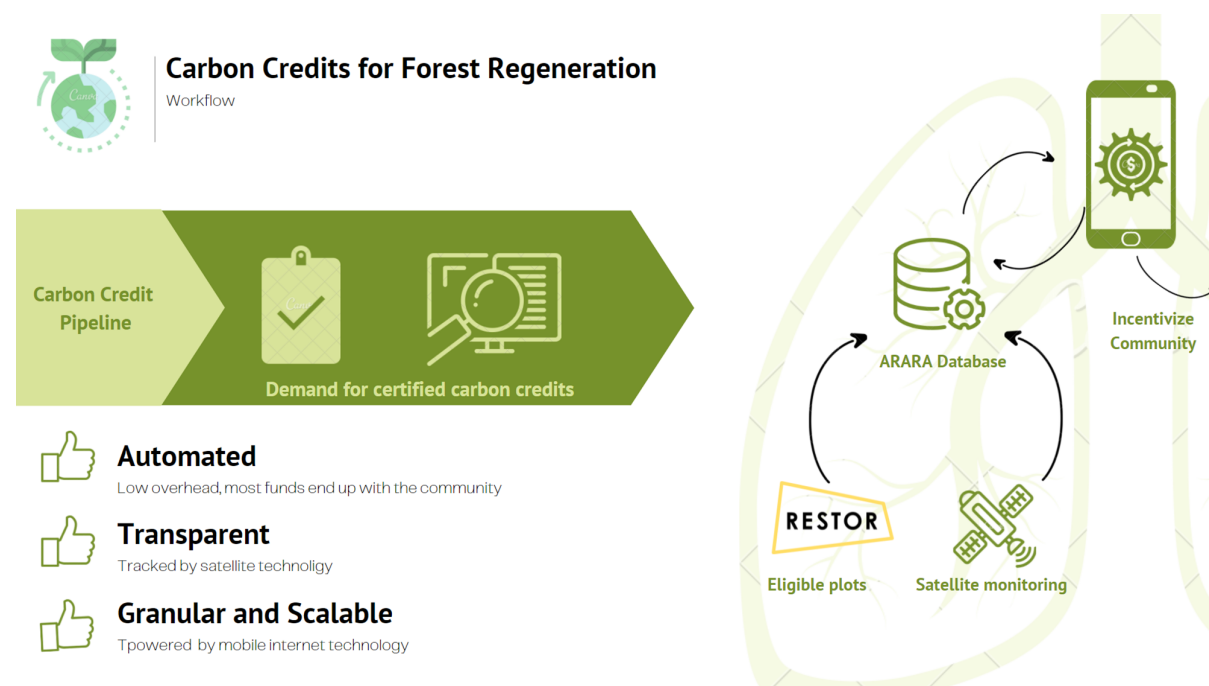
WE CAN RESTORE THE HEALTH OF THE GREAT BIOME

In order to regenerate the Amazon and other tropical forests, the trees, the rivers, its peoples, cultures and the animals and create a runway for the bioeconomy to take off at scale, based on the abundance of the forest, we need to call in the help and pay the rural population of these areas to reforest and regenerate their abundant natural environments. To do this at the scale and speed necessary, we need to design a digital application and onboard all the stakeholders.

ARARA 1.0 is meant to turn the current destructive situation around, activating hundreds of thousands of people to earn money with reforestation. ARARA 2.0 will include 1.0 but adds a network of stakeholders to integrate thousands of communities, organisations, companies to exchange information and trade bio-economy produce, while supporting information, communication, e-health, e-education, e-banking and so on. And yes, the app ticks most of the SDG boxes!

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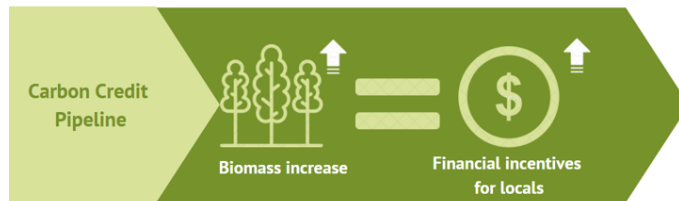
The first app is designed to offer communities, individuals, municipalities, farmers a seamless toolset to earn a living with regeneration of the forest.





Incentivizing the community

Workflow



Community engagement

Through a more sustainable form of income



Limited investment

Microfinance for accessibility



Foundation for Bioeconomy

Income and connectivity weave the new economy



TECHNOLOGY ARCHITECTURE:

- A database to upload plots of land (exists: app for the WEF 1 trillion tree project, [RESTOR](#)) Restor has promised to deliver their data feed for the app.
- Satellite monitoring that measures biomass increase (exists, e.g.: [Indigo Ag | Harnessing Nature to Help Farmers Sustainably Feed the Planet](#) and especially [Biomass - Earth Online](#)) calibrated by samples through [Lidar](#) who are already providing this service for [Earthbanc](#) and other projects.
- A carbon credit pipeline that rewards biomass increase, combined with a first mile combination of grants and microcredit facilities to kickstart projects.
- Automatic payment system linking carbon credits to pay biomass increase to award plot owners.
- These rewards could be in the form of a digital currency, "Earth", it's decentralized, based on the latest crypto technology (low carbon footprint), belongs to no one, and circulates in regenerative economy. The initial influx is from USD, Euro, etc, but stays within the green and equitable economy. No interest, loans increase with green success, total transparency of all project transactions, visible online for public audit.
- Rewards of other functions can also go through the app, such as people guarding an area against logging, to protect against fires, special protection of hotspots of biodiversity and other functions that strengthen communities that are regenerating the forest.
- Who joins get a simple smartphone with the Arara App installed + solar panel + data bundle internet package.
- Normal cell phones that work with data-muling and in the near future in some cases directly linked to satellites (will happen within months, [AST & Science](#) other companies are approaching this as well)
- The overall idea to connect people to cell phone pay outs for regeneration came from [Simon Fjell](#) who is setting up a similar project in the Philippines.

Well managed reforestation projects in rainforest areas can reach a CO2 sequestration per year in the Amazon area and other tropical rainforests of up to 10 tons of carbon or 36 tons of CO2 per hectare, see: [FAO article on the state of the world's forests](#), but a more realistic figure is 18,8 tons, coming from this study: [Global carbon dioxide removal rates from forest landscape restoration activities - Carbon Balance and Management](#)

While this is at the top of sequestration capacity, with a 50 euro per ton of CO2 sequestration carbon credit, a hectare in the tropics can easily reap more than a 1000 euro per hectare per year for the area on top of the possibility of income from sustainable forest produce. If we activate enough people to reforest the deforested areas of the Amazon and leave the rest of the forest alone, the sequestration can reach 15% of global fossil fuel and industrial emissions of the top year of 2019:

 CO2 sequestration potential Amazon.xlsx)

The application architecture would also start tipping the balance away from cattle ranching to more profitable reforestation starting at around [20 USD per ton of CO2](#) sequestered, not just in the Amazon area. It would also tip the balance in favor of land prices for forested land, with sustainable wood harvesting. Right now the perverse business logic in Brazil and likely elsewhere pushes for deforestation: first you deforest the land and sell the wood (the value of the wood alone is 3-4 times as high as the value of forested land. You need to bribe a few people to get the wood “laundered” but that is not complicated in most parts of Brazil. Once you clear it, you grow grass, put cows on for a few years. In the beginning the rich ashes and remaining forest soil brought good results with cows. Then you sell it at a ballpark 2-3 times the value of the original wooded land to put soybeans on, which does not require the exhausted land because they use chemical fertilizers and pesticides to grow their crop.

There are a lot of figures floating around in the literature, but we can estimate that the amount of above ground biomass increase in tropical areas, especially degraded ones could be as high as of 8-12 tons of biomass per hectare per year for At a price of 50 USD where we think it will go in the next couple of years, this means extra income from carbon credits to the tune of 400-600 USD per year.

PILOT PROJECT ONE: ARARIBÓIA

We are in contact with the Guajajara people to do a pilot in Araribóia, rolling this out with 300 cell phones and temporary data-mule technology to do it on the 413.000 hectare plot of this Indigenous Territory and hope to test later this year. Potential additional income from carbon credits could be tens of millions of USD per year and peak at 100-150 million USD per year at the top of the regeneration curve, which could be 10-15 years away. More than enough to invest in a more permanent bioeconomy or even investments in Amazonia 4.0 type investments.

- an extra feature that would be great to integrate is the acoustic warning system that alerts for chain saw and other destruction noises: [Rainforest Connection | Home](#)

[Terra Indígena Araribóia | Drupal](#)

(Here a nice introduction to the AST Mobile project: [Jason Silva, friend of the #SpaceMobile mission](#))

STRATEGIC PROJECT ONE: THE GREAT GREEN WALL FOR THE AMAZON

PITCH DECK

[Averting the Tipping Point of Dieback.pptx](#)