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# Building mangroves with TREEs

28 Feb 2019

*Arne Fjortoft stumbled into the world of fintech and cryptocurrencies while tackling global warming*

When the 2004 Indian Ocean Tsunami struck on Boxing Day, over 200,000 were killed by the surge of seawater and the debris it created. Four years later Cyclone Nargis swept through Myanmar, leveling padi fields and leaving some 130,000 dead. It later emerged that mangrove swamps in both disasters helped save lives by shielding coastal communities from the destructive waves.

Mangroves, as **Arne Fjortoft** would discover, also have an impressive ability to suck carbon out of the air.

“We have more than 400 million particles [of CO<sub>2</sub>] per million in the atmosphere,” noted Fjortoft, chairman of climate change non-profit organisation Worldview Impact Foundation. “We can solve this via technology, at US\$600 per ton, or plant mangroves, and sequester carbon at US\$1 per ton!”

Fjortoft, who founded Worldview in 1979 to accelerate a digital revolution and empower disadvantaged communities in the developing world, had been looking for a new focus with the onset of the information age. The Norwegian was studying the environmental and social challenges of poor communities in the Bay of Bengal region when he stumbled upon the potential of mangroves to address climate issues.

However, the mangrove’s ability to ‘sequester’ carbon – the long term storage of carbon dioxide and other forms of carbon – translates to a high concentration of the element within the tree and roots. When baked, it becomes lucrative high-carbon density charcoal, the source of the considerable illegal trade.

Fjortoft, who had convinced the Myanmarese government to reforest the Heyerdahl Climate Park’s mangrove forest following a surprise invitation after the relaxation of military rule in 2012, found that transient charcoal traders were paying villagers to illegally cut down the mangroves and make charcoal out of them. To reverse this development, he needed to provide the villagers with an alternative income and skills to earn it. He also needed to ensure biodiversity, which in test planting raised survival rate of mangroves from 50 percent (mono-culture) to 86.4 percent. Funding was all important, he explained:

*“Ours is a cycle. If we don't start the nurseries in time, and if we don't plant the trees in the nursery in time, it will all be spoilt. Mangroves have a very sensitive nature. The seedlings are living plants, living beings, and they have their own way of doing things and we have to respect that. If not, they will not grow up. We are their custodians. They are our babies.”*

## Money does not grow on (mangrove) trees...but on TREE?

By running a skeleton crew that included a dry season team of only four full time nursery gardeners, three boatmen and a small office staff, Fjortoft was able to stretch funds he got from

friends and private organisations. Fjortoft, however, understood that governments and international organisations such as the United Nations (UN) were more stable sources of funds, and with bigger chequebooks.

The Green Climate Fund, an UN-linked fund, was the prime choice for Fjortoft, but it presented its own set of problems:

*“But for all their projects, you still need an accredited agency. So after we gave up with UNDP in 2015, we tried the WWF [Worldwide Wildlife Foundation], because they had offices here in Myanmar, but they said they needed to send the project to America. And time passed, and then finally we got word back, ‘Sorry, but we are understaffed here, and we don’t have the capacity now to take on your project.’ So this too failed.”*

After further efforts with the World Food Program (WFP) also failed, Fjortoft looked into the ‘voluntary carbon market’. Essentially building mangroves for money, the basic premise is easy to understand but the verification process to register as a certified carbon project would cost money that is meant for planting the trees themselves.

Fjortoft was at a loss until he met Alan Laubsch, a passionate environmentalist who worked for a Swiss fintech firm called Lykke. Lykke’s founder, Richard Olson, had a vision to “build a sustainable, global marketplace for all assets, powered by blockchain”.

After discussions with Fjortoft, Laubsch proposed a new cryptocurrency called TREE. One TREE coin would represent a single mangrove tree and be backed by the carbon credits to be issued against the carbon sequestration of the trees themselves. Laubsch proposed an initial issuance of 1,000,000 coins, at one dollar per coin, and proposed that 90 percent of the proceeds would flow directly to Heyerdahl while Lykke would retain 10 percent to ensure liquidity on its exchange. He further added:

*“If we monetise mangroves in a TREE coin, we can provide companies with an opportunity to diversify and decarbonise their portfolios, to invest directly in natural capital. This becomes an insurance portfolio for my entire portfolio, while being good for the rest of the world. With a TREE coin, and a global and transparent system for valuing mangroves, we can develop a global system to make it easier for people around the world to restore mangroves, monitor their health, and verify positive impact. TREE coins can be the first of a series of ‘currencies of purpose’ that incentivise good investments in natural capital.”*

## **Decision time**

While the TREE idea was a much needed innovation that solved what had appeared to be an intractable problem, Fjortoft felt it sounded like a claim against carbon credits. Furthermore, Worldview owned neither the mangroves nor the land, and Fjortoft had long promised to send at least 50 percent of all proceeds of future carbon credits directly to the people.

The TREE coin promised critical working capital, but ‘crypto’ was new and untested. Fjortoft wondered, if Worldview started work with Lykke, would it scare off critical UN stakeholders, or instead show donors that it was innovative and savvy? And what were the risks of tying Worldview’s name to a digital currency on the far side of the world?

What should Fjortoft do?

*This is an adapted version of the SMU Case, “[Miracle Mangroves: Funding of green shields in the Bay of Bengal](https://cmp.smu.edu.sg/case/3676)”, part of the [SMU case collection](https://cmp.smu.edu.sg/case/3676). To see the full case, please click on the following link: <https://cmp.smu.edu.sg/case/3676>*

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