



Innovative fish and algae aqua-farming : Cook Islands

Offering inexpensive fish and livestock feed to island communities

Project description

Since 2006, the tropical multi-species aqua-farm has contributed to food security by providing sustainable supplies of organic oysters, milkfish and tilapia. More recently, they also cultivate micro-algae as livestock feed for fish. The initiative furthermore creates a local source of income and employment.



Business model

Fish are co-farmed with shellfish and micro-algae in inland ponds, drawing on the tropical climate, natural nutrient cycles and new harvesting technologies.

The initiative originally had three products: Pacific oysters, milkfish and tilapia. Now it also cultivates and harvests micro-algae to make livestock feed.

By providing locally-made, algae-based feed, the project is tapping into an under-served market of 8,000 seafood-loving residents in the Cook Islands and 90,000 visitors.

Scaling up activities

- Run trials to separate algae from water in the most efficient way
- Test the harvested algae cakes as feedstock for local pigs, chickens, goats and a variety of fish
- Make organic fish and livestock pellets from the micro algae and terrestrial plants: moringa, maniota, portulaca
- Utilise the herbivorous fish as yet another organic livestock feed ingredient
- Expand the aquafarm to new sites, such as the neighbouring island Mauke where the impoverished community needs a livestock industry, and continue oyster farming
- Continue paid aquaculture consultation to Maori tribes.

Immediate needs

- Financial assistance to add a small algae laboratory.
- Financial assistance to employ a micro-biologist to oversee the rapidly developing technology.
- Professional planning consultancy to assist with regional expansion and submissions to international aid sources.





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Partnership

- **Ecoculture Ltd** manages the aquafarm, headed by a marine biologist and businessman, and supported by TGA's Chairman.
- **Titikaveka Growers Association** (TGA) is an NGO that promotes the combination of biological agriculture and organic aqua-farming as a new basis for sustainable, regional fish and livestock farming .
- **The Ministry of Agriculture** is a strategic partner that informs national policy regarding food security and import substitution.



Social, environmental and economic impacts

Social impact: Aqua-farming contributes to food security by offering inexpensive and toxin-free seafood, a traditional part of the local diet, while also providing a local source of employment. Additionally, producing inexpensive fish and livestock feed contributes to expanding the local and regional economy so countering its dependence on expensive food imports.

Environmental impact: Farming fish reduces pressure on natural fish stocks while farming micro-algae

extracts CO₂ from the atmosphere and converts it into a useful, carbon-based product. The project abides by all applicable international health, environmental and organic standards.

Economic impact: Each KAITE partner farmer increases its family's income by 150% while fulfilling international customers' demands for organic products and derivatives. This provides a sustainable income base for farmer families, in addition to a marked improvement in food security.

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SEED Partners

SEED is hosted by the United Nations Environment Programme (UNEP). Other current partners are the United Nations Development Programme (UNDP); IUCN (International Union for Conservation of Nature); and the governments of Germany, India, the Netherlands, Norway, South Africa, Spain, the United Kingdom and the United States of America.



About the SEED Initiative

The SEED Initiative identifies and supports promising small scale social and environmental entrepreneurs around the globe, entrepreneurs that while working towards a greener economy also tackle poverty, marginalisation and social exclusion.

SEED provides these social entrepreneurs with know how and networks, taking the lessons learnt at local level up to decision-makers to promote evidence-based policy making.

More information: www.seedinit.org

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