Kelp Klique Sustainability-Linked Fund

Investment Thesis: An investment fund that will help restore the pH of the ocean through Kelp farming and in turn provide refuge for marine life while generating income to coastal communities

Key Challenges

The average acidity of oceans has increased by 30% since the industrial revolution and is expected to double by end of this century[1]. High acidification corrodes shells and skeletons of marine organisms, increasing animal mortality, with juveniles and larvae most at risk[1]. The decline has a knock-on impact on the food chain, with current estimates predicting that we will run out of seafood by 2048[2]. Some shellfish fishermen have reported losing up to 95% of their stock[3]. Furthermore, human consumption of sea life from acidic waters is dangerous as it leads to toxin accumulation in the tissues[4]. The increased ocean acidity is a dire warning that the rich biodiversity that sustains all life on our planet is in crisis, putting every species at risk.

To address the biodiversity crisis, 196 countries signed the landmark "30×30" commitment in December 2022, aiming to protect 30% of land and sea by 2030. To meet these objectives, it is vital for countries to invest in technology and nature-based solutions.

Geographic Focus

Ocean acidification is a critical problem that poses a threat to the shellfish industry and the environment. The shellfish in Pacific Northwestern territories are highly vulnerable as the shells have a greater tendency to dissolve at the current acidity levels[1]. Further, the water is getting more acidic due to not only carbon pollution but also upwelling, a process in which water that was deep below for many years rises to the surface. This water is bringing acidity caused by CO2 absorbed around 50 years ago. With the increasing CO2 levels over the last 50 years, acidity levels from future upwelling could be catastrophic.

Innovative Solution

Kelp, a type of seaweed, is commonly likened to the trees of the ocean due to its ability to photosynthesize and provide habitat. Kelp forests play a vital role, as they harbor a wide variety of species and offer necessities such as food, shelter, and oxygen. Unfortunately, the increase in ocean water acidity is taking a toll on this ecosystem. Kelp absorbs carbon dioxide from the water and produces oxygen, which can mitigate acidification. We plan to rejuvenate and preserve these vital kelp forests by promoting kelp farming in the ocean[1].

The main hindrance to kelp farming is not the initial set-up cost but the cost of harvesting and scaling production to a significant level. Kelp farmers currently use manual and laborious equipment, which decreases productivity and efficiency. However, harvesting requires specialized and costly equipment, which is not readily available to meet the current demand. As a result, farmers with limited resources often resort to traditional, less efficient methods. Thus, our solution aims to provide farmers with the opportunity to scale production by creating a special purpose vehicle that will lease equipment to the farmers. The special purpose vehicle will enable them to use the latest technologies to harvest and scale kelp. Our solution has the following objectives:

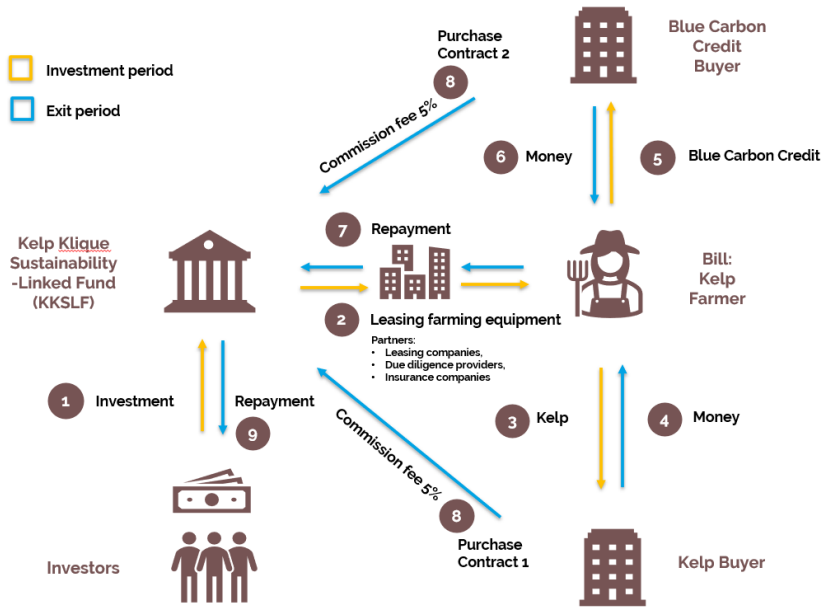
- **Environmental impact:** Kelp forests absorb carbon dioxide deposited in seawater, reducing ocean acidity and curbing climate change.
- **Protect and restore biodiversity:** Facilitate large-scale kelp farming to develop kelp farms, thus allowing biodiversity to flourish.
- **Community Development:** Promotes livelihood for farmers.
- **Financial returns:** Investors receive a risk-adjusted return, and the purchase contract acts as a payment guarantee.
- **Blue Carbon Credits:** The kelp farmers will also produce blue carbon credits, which is an additional layer of payment guarantee.
- **Provide advanced equipment:** Provide farmers with equipment such as harvesters, dryers, long-line system tools, etc.

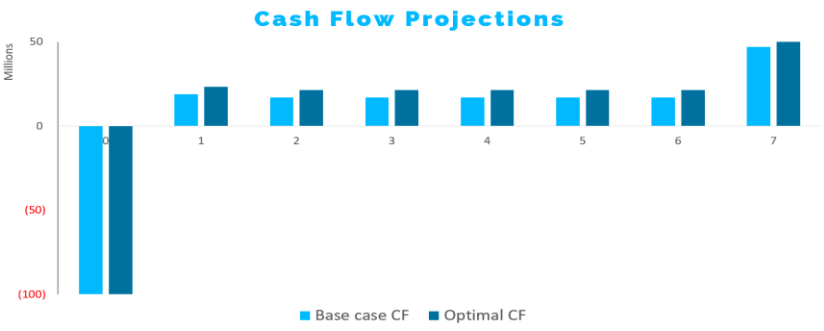
Operating Structure

The funding works in the following way:

1. The SPV will act as a financial vehicle to pool funds from institutional investors, such as governments and impact investors.
2. The SPV will hire intermediaries to purchase equipment & tools required for large-scale kelp farming and lease them to Kelp farmers to facilitate kelp farming with high efficiency.
3. The major revenue stream of the fund is leasing interest, which will provide investors with a stable income cash flow.
4. Other revenue sources include brokerage fees for connecting kelp farmers with potential buyers and commission fees for selling blue carbon credits as a by-product.
5. Through kelp and carbon credit sales, farmers will generate sufficient revenue to repay the lease.
6. The investors receive a return as well as create a positive impact through the economic, solution, and environmental development.
7. The fund will complete due diligence prior to leasing, regular reporting to investors and ongoing risk management process with lessees.
8. Sale of equipment leased after project finishes.

Fund Diagram





Assumptions:

1) Revenue: a) 2% upfront fee; b) 5% brokerage fee (kelp and blue carbon credit sales); c) 6% APR leasing revenue; d) Net sales proceeds of equipment (residual value equals 30%).
2) Base-case CF Assumptions: the kelp harvest cycle remains at the current level.
3) Optimal CF Assumptions: the kelp harvest cycle doubles due to high-end farming equipment.

Fund Investment Profile

Fund type	Special Purpose Vehicle and Private equity
Geography	The northwest pacific territories
Fund size	USD $100M
Fund life	5y (investment period) + 2y (grace period)
Target IRR	10-15% (Gross)
Fees	1.5% management fee; 8% return hurdle + 10% carry
Target Investors	The Federal government, World Bank, impact-oriented investors, family offices and institutional investors
Revenue	Origination Fee 2%, Leasing fee 6% APR, brokerage fee 5%, sales of equipment
Investment criteria	1. Lease kelp farming equipment through service providers 2. Minimum contract size of $100,000 3. Kelp purchase contract as a guarantee 4. Brokerage service for kelp sales and blue carbon credit sales 5. Insurance included mitigating the risk of equipment damage

Risks & Mitigation

Lack of community support	• Approach the community heads and get their buy-in and make them the ambassadors. Educate and promote the idea of leasing equipment.
Difficulty in obtaining certification for blue carbon credits	• Increasing share of revenue from sale of kelp. Revenue from blue carbons is low and will not have a significant impact on returns.
Variable production of kelp due to external factors, i.e., disasters, weather, etc.	• Use of advanced method reduces dependence on weather for survival of kelp. Using insurance to hedge risk
Default risk i.e., the leased equipment is not returned	• All the equipment be insured thus enabling us to recover the value of the asset
Operational risk and lack of know-how	• Partnerships with specialists who can provide training and education to farmers to ensure safe and optimum use of equipment

Projections

Market Size Projections financed by KKSLF (in USD for 2030).

	Farmer	KKSLF (Fund)
Total Revenue from Kelp Sales	**$1 billion**	**$ 50 million**
Total Carbon Credit Revenue	**$36 million**	**$ 1.8 million**
Total Revenue Generated	**$1.04 billion**	**$52 million**

Assumptions

- The wet-to-dry kelp conversion factor is assumed to be 0.53
- The carbon dioxide per hectare removed would be 4.3 tons per year.
- Carbon offset prices would be $35 per ton of carbon dioxide
- The current kelp price per ton $1.7k/ton which is subject to demand and supply

Partnerships

Potential partners for successful execution of the project.

Potential Leasing Partners

MACKENZIE LEASING
CREST CAPITAL
LeaseQ
BALBOA CAPITAL

Due Diligence Providers

STATE STREET
NORTHERN TRUST
SS&C
APEX

Specialist Partners

KELP FOREST FOUNDATION
GREENWAVE
The Nature Conservancy

Scalability

The proposed solution has the potential to be implemented globally along coastlines in Australia, Africa, Europe, South Asia, and Southeast Asia. It offers a means of neutralizing ocean acidification, preserving marine biodiversity, generating employment opportunities, and helping alleviate world hunger by providing a new food source. Additionally, these coastal communities could earn revenue by certifying and selling blue carbon credits, a byproduct of kelp farming.

Measuring Impact

Our solution results in a positive impact across various domains including social, environmental, and economic. Thus, it is crucial to assess these impact areas. To effectively evaluate the impact, we have developed quantifiable Key Performance Indicators (KPI's) for each impact category.

Environmental

Increase In The Population Of Dwindling Biodiversity
Monitoring increase in the population of affected species of biodiversity

Deacidification Of Water Due To Carbon Dioxide Removal By Kelp
- Tracking the pH level of water and percentage decrease
- Auditing and measuring the blue carbon capture

Social

Development Of A New Food Source
Tracking the supply of kelp to the food and beverage industry

Increased Job Opportunities
Tracking the employment rate in the local community in kelp related industries

Economic

Increased Market Opportunities
Tracking the correlation of growth in various industries, including food & beverage, cosmetics, biofuel etc., in relation to the kelp production

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