CVF | CLIMATE VULNERABLE FORUM

CPP PROJECT #9

CEYLON FRESH (SRI LANKA)

PROJECT SNAPSHOT

PROJECT OVERVIEW

The Nativa Project in Sri Lanka aims to organize 15,000 small-scale farmers across 7,500 acres in the Anuradhapura District to cultivate high-demand export crops. By leveraging solar energy for irrigation, the project seeks to enhance agricultural productivity and economic growth while mitigating the effects of climate change. The project aligns with national climate goals by promoting climate-smart agriculture and supporting Sri Lanka's carbon net-zero target.

- **Project Location:** Anuradhapura District, North Central Province, Sri Lanka
- **Land Area:** 7,500 acres involving 15,000 small-scale farmers.
- **Climate:** Tropical with variable rainfall and temperature patterns, vulnerable to climate change impacts.
- **Sector:** Agriculture, Renewable Energy, Export Development
- **Project Stage:** Implementation, with farmer selection and the setup of renewable energy and irrigation systems initiated in December 2022.
- **Key Partners and Stakeholders**
  - Government: Ministries of Agriculture, Finance, and Renewable Energy, Sri Lanka
  - Private Sector: Local agricultural companies and renewable energy providers
  - International Organizations: Climate Vulnerable Forum (CVF), Multilateral Development Banks
  - Civil Society: Local farming communities and agricultural cooperatives

BANKABILITY & FINANCIAL VIABILITY

- **Total Project Cost:** USD 99.83 million
- **Funding Required:** USD 99.83 million (grants, equity, and concessional debt)
- **Financial Structure:** Public-private partnership (PPP), involving grants, equity, and concessional debt from private and public sector partners.

Project Financial Breakdown

Item No	Item Description	Per Unit (0.5 acre) USD	Total for 7,500 acres (USD)
01	2Hp Water pump with PV panels	3,800.00	57,000,000.00
02	1500W Pure Sine Wave Power Inverter with battery	750.00	11,250,000.00
03	Electric fence with all accessories	610.00	9,150,000.00
04	Land preparation, Seeds, Fertilizers, Pesticides	790.00	11,850,000.00
05	Supervision, operation, and admin (6 months)	9.74	146,100.00
Total		**6,555.74**	**99,836,100.00**

Revenue Streams

1. **Export Revenue:** The project focuses on high-demand crops like chili, with at least 75% of the yield designated for export, generating significant revenue.
2. **Carbon Credits:** The project will sell carbon credits from solar energy use and the reduction in carbon emissions resulting from the transition from fuel-based irrigation systems.
3. **Renewable Energy Savings:** Solar energy will replace fuel-operated water pumps, leading to long-term cost savings.

Projected Crop Models and Yields

Crop	Duration (Days)	Yield (Kg)	Value (Rs/Wholesale)	Capital Cost (Kg)	Working Capital/Kg
Chili (Green)	180	10,500	3,150,000	0.04$	0.066$
Chili (Dry)	180	2,000	2,625,000	0.195$	0.34$
Watermelon	100	20,000	2,500,000	0.012$	0.002$
Cantaloupe	90	7,000	2,100,000	0.027$	0.03$
Sweet Potatoes	90	5,200	910,000	0.037$	0.05$
Green Bean	60	500	400,000	0.295$	0.68$
Brinjal	180	8,500	1,700,000	0.037$	0.07$
Ginger	240	3,500	3,150,000	0.10$	0.33$
Banana Pepper	120	6,250	4,375,000	0.04$	0.11$

EXPECTED FINANCIAL METRICS

- **Internal Rate of Return (IRR):** TBD based on financial assessments.
- **Net Present Value (NPV):** To be determined after financial model development.
- **Payback Period:** 5 years for capital recovery and equipment repayment.
- **Total Job Creation:** 15,000 farmers directly employed, with additional jobs in logistics, export services, and renewable energy infrastructure.

ENVIRONMENTAL BENEFITS AND CARBON EMISSION REDUCTIONS

- **Solar Power Generation:** One unit of the solar installation will generate 2.5kW (2,500W). The annual energy generation across the entire project will be 50,235,000 kWh.
- **Fuel Savings:** The amount of fuel saved will be equivalent to 20,076,000 liters of petroleum.
- **Carbon Emission Reduction:** This will result in 42,980.70 metric tons of CO_2 emissions avoided annually.
- **Carbon Credit Potential:** With the carbon credit price fluctuating between $6 and $100 per ton, this will generate significant revenue for the project based on global carbon offset standards.

ADDITIONAL INFORMATION/ INCENTIVES FOR INVESTORS

- **Green Economy:** The Nativa Project contributes to Sri Lanka's green economy by integrating renewable energy into agriculture, reducing carbon emissions, and boosting export-led growth.
- **Public-Private Backing:** The project enjoys strong support from the Sri Lankan government and private sector partners, ensuring long-term stability and investor confidence.
- **Other Advantages:** Investors can benefit from tax incentives related to renewable energy and agriculture export sectors. The project aligns with Sri Lanka's climate goals and its international market opportunities.

ADDITIONAL INFORMATION

The expected impact of the project interventions on the average yields of different crops is summarized in the Table below. Crop yield increases are highly conservative averaging 100% per cent. For example, the productivity of Chili cultivation is currently about 20Mt/Ha But the proposed project will be able to achieve a higher yield of about 45Mt /Ha

EXPECTED PROGRAMME IMPACT ON YIELDS (TONS/HA)

		Without programme	With programme	% Increase
01	Green Chilli	22	50	227
02	Watermelon	12	22	183
03	cantaloupe	10	18	180
04	sweet potatoes	15	27	146
05	Brinjal	12	20	166
06	Big onion	22	40	181

ADVANTAGE OF THE OVERALL PROJECT

- Approximately 400,000,000 kg of fresh food entering the global food supply chain per year ## Increasing rural food security in Sri Lanka
- Increasing crop diversity
- Zero labour disputes and problems
- Administrative costs and overhead costs are negligible compared to the size of the project # Minimizing fuel consumption.
- Maintaining a 7,500-acre monoculture requires huge farm labour costs, but not a single farm labourer has to be paid.
- A single crop is more susceptible to diseases and pests and disease control is very easy here

Climate Resilience

- **Water Management:** Solar-powered micro-irrigation systems will ensure a reliable water supply, mitigating the challenges posed by erratic rainfall and droughts.
- **Climate-Smart Agriculture:** The project promotes sustainable agricultural practices to increase productivity and resilience to climate change.

Social Inclusion

- **Support for Vulnerable Communities:** The project targets smallholder farmers, many of whom face poverty and productivity challenges due to climate variability.
- **Job Creation:** In addition to the direct employment of 15,000 farmers, the project will create jobs in logistics, solar power infrastructure maintenance, and export management.
- **Gender Equality:** Gender inclusion programs will ensure women benefit equally from job creation and agricultural training opportunities.

SDG Alignment

- **SDG 2:** Zero Hunger (improving food security through sustainable agriculture).
- **SDG 7:** Affordable and Clean Energy (solar-powered irrigation systems).
- **SDG 13:** Climate Action (reducing carbon emissions through renewable energy and climate-smart farming practices).