



Technical Assistance: Enhanced lowland rice production to improve food security through solar powered irrigation

Location: Bong County, Liberia

Solution: Solar Powered Irrigation Systems (SPIS) integrated with System of Rice Intensification (SRI) practices

UNEP CTCN grant: USD 233,825



Rice farmers, photo courtesy of Prince D Peters Chairman Fuamah District Multipurpose Cooperative Society

Rice production in Liberia is heavily impacted by climate change, particularly due to erratic rainfall patterns. This project enhances lowland rice production by introducing solar-powered irrigation systems (SPIS) and a system of rice intensification (SRI). The initiative focuses on piloting irrigation technologies, supported by targeted training and the development of a conducive policy environment. It aims to reduce water use, improve rice yield, and the resilience to climate change of Liberia’s agricultural sector.



Objectives

- The primary objective is to enhance lowland rice production using SPIS and SRI to improve food security and reduce water use.
- The project targets smallholder farmers, local communities, and government bodies, providing them with the tools, training, and resources necessary to adopt climate-resilient agricultural practices.



Social Impact

- The project directly supports 50 beneficiaries (of which 25 were women and 2 were youth) by building their capacity to adopt sustainable agricultural practices.
- Further, it supported 500 indirect beneficiaries, of which 250 were women and 25 were youth.



Adaptation Impact

- **Enhanced Agricultural Productivity and Water Efficiency:** The project increases rice production by implementing SPIS and SRI, which optimizes water use and enhances crop yields. This reduces the vulnerability of farmers to climate-induced water scarcity.
- **Sustainable Resource Management:** By promoting the efficient use of water and solar energy, the project ensures sustainable resource management and aligns with adaptation goals.
- **Improved Livelihood Security:** The project enhances the capacity of local farmers to manage resources effectively, improving their livelihoods and food security.



Other Co-Benefits

- Energy savings.
- Reduction of air pollution.
- Increased knowledge and capacity to support climate change adaptation.



Innovation & Technology

- **Solar Powered Irrigation Systems (SPIS):** Use of solar energy to power irrigation systems, ensuring sustainable and efficient water use.
- **System of Rice Intensification (SRI):** Adoption of rice cultivation techniques that improve yields while reducing water usage.
- **Efficient Water Management Practices:** Implementation of Alternate Wetting and Drying (AWD) and other water-saving techniques to optimize resource use.



Replication Potential

- The project has a high replication potential in similar contexts where water management practices can be improved with energy-efficient technologies.
- It can also serve as a model for other projects seeking to improve rice yields with reduced water use.

Key Figures

- USD 233,825 project budget
- 550 people benefitted in total
- 14 events organized as part of the project, 3 of which were trainings
- 2 governmental institutions and 1 non-governmental organization had their representatives trained as part of the project
- 19 climate technologies were transferred or deployed as part of the project
- 10 collaborations facilitated or enabled
- The project contributed to the following SDGs:

