

Capacity Building of the Republic of Marshall Islands in Achieving SDGs through OTEC Technology (Draft)

< Hyeon-Ju Kim (SEPRC, KRISO) >

□ Background and Objective

- The 4th Korea-Pacific Islands Foreign Ministers' Meeting ('21) agreed to elevate the dialogue mechanism to the "summit" level and noted the enhanced cooperation in various fields including the "ocean thermal energy power".
- This project is intended to assist the RMI in improving the capacities to achieve the Sustainable Development Goals (Goals #2, #6 and #7 through #14) and to overcome climate crisis.

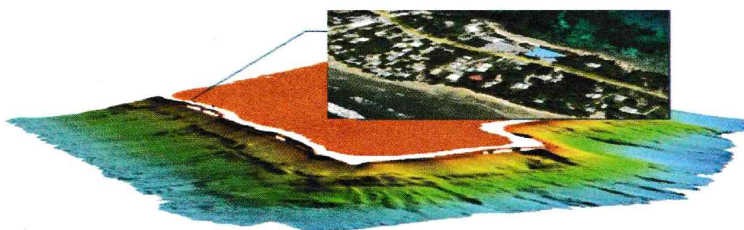
□ Project Overview

- **(Project Concept)** "Living lab" type pilot project in which local communities will participate the project throughout the life cycle (development → utilization → management) by education and practice in daily life
- **(Financing Agency)** Ocean Development Division, MOF
- **(Implementing Agencies)** RMI, KRISO and CMI
- **(Period / Budget)** 2023-2026 (4 years) / 6,600 million KRW (about 5M USD)

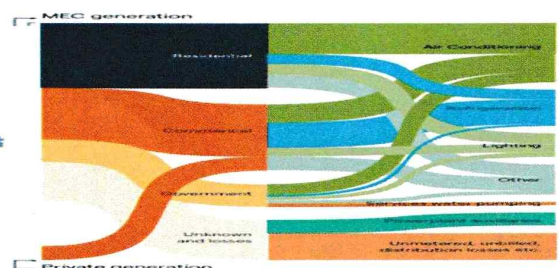
<Action Plan>	<Outputs and Benefits>
- Establishment and operation of the capacity enhancement program (SSUA*) - Seawater intake and drainage system - 50kW class OTEC pilot plant for education - 150RT SWAC** system for district-level cooling - 20 t/day PV-RO seawater desalination system - PV-based hydroponics system	- Power: 249,660 kWh/yr - Cooling: 766,500 kWh/yr - Fresh water: 6,570m³/yr - Vegetables: 24,000 head/yr - CO₂ uptake: 485 tCO₂/yr * Note: The figures above are expected values

* SSUA : Sustainable Seawater Utilization Academy

** SWAC : Sea Water Air Conditioning



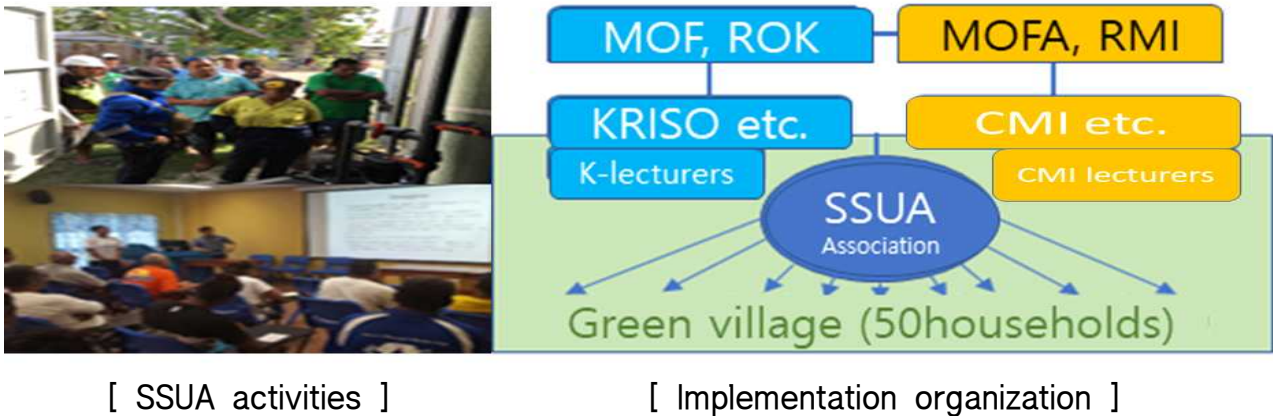
[Submarine topography and villages around USP Marshall campus]



[Status of final energy use]

☐ Implementation System

- Establishment and operation of the SSUA sponsored by both Governments and implemented by the KRISO and the CMI
- Formation of the SSUA Association by designating one village and transforming it into self-sufficient living lab
- Ex-post management on the project elements by the implementing agencies with support from the Governments even after the project closure



☐ Project Timeline

Component	Details	2023	2024	2025	2026
SSUA	Collaboration with the USP Marshall Islands Campus				
Power supply & cooling	50kW OTEC + 150RT SWAC				
Renewable desalination	PV power supply type 20m³/day				
Renewable hydroponics	100 sets of hydroponic cultivation equipment (3-stage type)				

