

Eclosio

Agroecology Garden for the Future (AG4F) Project

Improve Access of Public School Students in Phnom Penh City to Greenspace
and Knowledge on Agroecology and Public Health



Part 1:

The Project



Project Overview

- The AG4F project is funded under the U.S.-ASEAN Smart Cities Partnership (USASCP) program of the US Department of State in collaboration with Cherokee Nation.
- The USASCP is a climate finance mechanism provided to stakeholders to develop and implement sustainable net-zero/low carbon solutions to address urban challenges.
- The AG4F was one among the 6 selected awardees from the 72 applicants in the ASEAN nations in 2022.
- The project budget is 147,000 USD for a duration of 2 years from May 2022 to April 2024.
- The project is currently extended to December 2024.

smartcities BUSINESS INNOVATION FUND

The U.S. ASEAN Smart Cities Business Innovation Fund is a climate finance mechanism targeted to sub-national/city stakeholders offering sustainable net-zero/low carbon solutions to address urban challenges. Proposals were received from countries across the ASEAN region, and awardees were selected from Cambodia, Indonesia, Laos, Malaysia, the Philippines, and Vietnam. The fund provides seed capital grants and mentorship.

KEY NUMBERS

- Offered **\$1,000,000** in Total Funding awards, individual projects ranging from **\$100,000-\$200,000**
- Received **72** on-time proposals totaling **\$14,000,000** worth of market demand
- **6** winning proposals funded

CAMBODIA
AGROECOLOGY GARDEN FOR THE FUTURE (AG4F)

Establishes community gardens in urban areas to encourage environmental education and stewardship among youth

- Collaborated with the Faculty of Agricultural Science (Royal University of Agriculture) and the Department of School Health under the Ministry of Education, Youth, and Sport
- Created gardens in **4 public schools**
- Directed irrigation **tube-wells**, built garden structures, sourced **seeds and fertilizers**
- Produced **training manuals** to educate high school teachers in agroecology and nutrition

INDONESIA
BIOPAC

Aims to reduce single-use plastic pollution by creating packaging materials from seaweed under female leadership

- Registered **5 patents**: Seaweed Capsule, Flexible Packaging, Semi Rigid Packaging, Biodegradable Bioplastic and Seaweed Bioplastics
- Secured **3 product certificates**: Halal, Food Safety, and Conformity
- Expanded market reach in Indonesia, in ASEAN, and globally
- Manufactured **sheets, drawing bags, sachets, pouches, and tape**

LAOS
PATHHOU

Straws, cleaners, presses, and molds recycled plastic into raw materials for school and construction materials

- Addresses issues through **value creation**, enhanced **sorting programs**, improved **collection schemes**, and **value-added processing** for impact
- Converts **100% of plastics** into unique, functional, and **affordable** products
- **Empowers** local waste workers through an integrated approach
- Utilizes an **entirely circular process** in creating products

MALAYSIA
GREENER WHEELS

Measures carbon footprints of transport fleets, improves corporate economic, social, and governance (ESG) standards

- Hour track method includes identifying a **data source**, preparing **assessments**, using **simulations**, and tracking **implementation**
- Scope to hold **many** discussions on **carbon taxes and credits** to meet carbon emissions and green house gases (GHGs) and enhance **CSG compliance**
- Advised by Penang Green Council and partnered with the national government, agencies, and the private sector

THE PHILIPPINES
KLOUDTECH

Develops 3-D printable climate and hydrology monitoring systems to address rising sea levels and urban flooding

- Provides **real time data**, disseminates **early local warnings**, and **empowers at risk community**
- Printed and tested **prototypes**
- Participated in the **GPSU Research Invention and Exhibit** in 2022
- Collaborates with **provincial governments** and the **City Disaster Risk Reduction and Management Office**
- **Trained** students and surveyed community members

VIETNAM
SOLAR PANEL RECYCLING PROJECT

Seeks to improve recycling of panels and reuse of panel components using green technology solutions

- Product concept consists of **four modules**: recashyng, disassembling, classifying, and material recycling
- Targeting **ASEAN countries** in addition to domestic markets
- Seeks collaboration with solar power plants and farmers
- Partnered with **Digitech Co., Ltd** and **Danapi Engineering Co., Ltd** in addition to USASCP for technical and financial assistance

Contact: Helen Santiago Pirk (santiago.hrp@state.gov, usascp.org) March 2023



Project Rationale

- The lack of urban green space (UGS) in Phnom Penh is a growing challenge.
- According to the WHO, every city should provide its citizens with at least 9 square meters of UGS per capita.
- In 2019, Global Green Growth Institute estimated that Phnom Penh city offered only 1.1 square meters of UGS per capita.
- A study by MDPI (2016) showed there was a widespread desire for more public green spaces among youths in Phnom Penh city.



Source: Phnom Penh Post News.



Project Objectives

1. Increase access of school students and staff to UGS through the establishment of one agroecology (AE) garden at each school.
2. Empower students in acquiring environmental stewardship skills.
3. Educate students on nutrition and non-communicable diseases (NCDs) prevention.
4. Promote the adaptation of agroecology garden development at other schools in urban areas.



Components and Activities



AGROECOLOGY

1. Transfer knowledge on AE garden establishment and management to teachers and students.
2. Create a model AE garden at each school.
3. Develop a manual for the establishment and management of AE garden for schools.
4. Promote the adaptation of AE gardens by other schools in the urban areas.



PUBLIC HEALTH

1. Provide training to school teachers on nutrition and NCDs prevention.
2. Support trained teachers to raise public health awareness to students.

Project Stakeholders



IMPLEMENTING PARTNERS:

Eclosio

Louvain Coop ration

The Faculty of Agricultural Science (FoAS) of the
Royal University of Agriculture (RUA)

RESPONSIBLE COMPONENTS:

Agroecology

Public Health

Agroecology

IN COLLABORATION WITH:

Department of School Health (DSH) of the
Ministry of Education, Youth and Sports

Public Health

Department of Preventive Medicine (DPM) of the
Ministry of Health (MoH)

Public Health

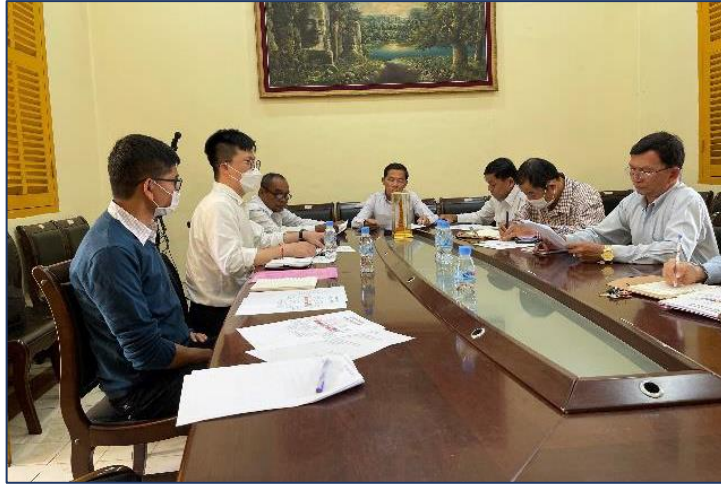


Part 2:

The Outcomes



Seeking Collaborations with Public Schools

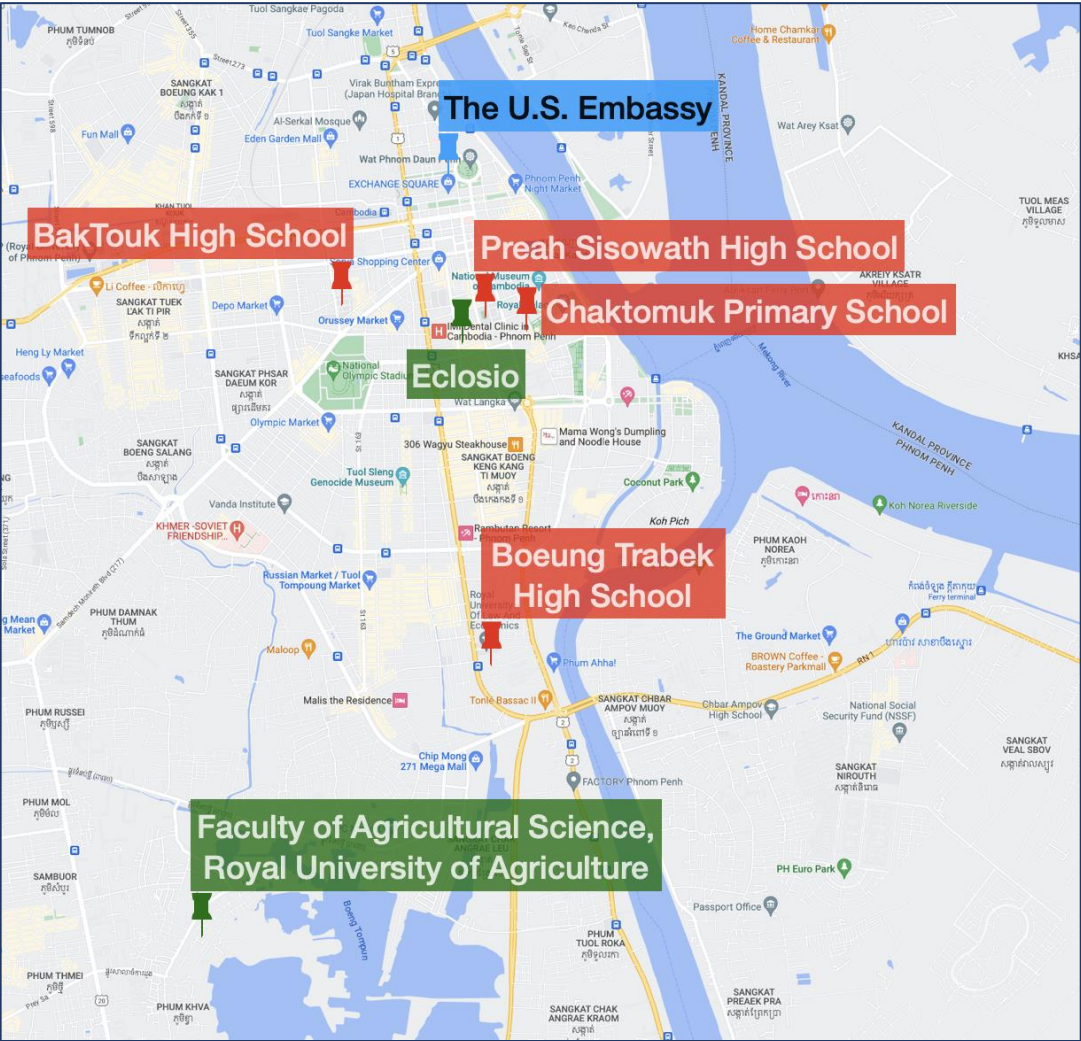


- 7 schools were visited, and 4 were selected for the project implementation including:

1. Preah Sisowath High School
2. Baktouk High School
3. Boueng Trabek High School
4. Chaktomuk Primary School



Project Locations



- Baktouk, Preah Sisowath and Chaktomuk schools are located around the city center.
- Boueng Trabek High School is in the southern part of the city.

Source: www.googlemap



Building of Infrastructures



- Infrastructures were built and installed in the gardens including tube-wells, irrigation systems, drainage systems, nurseries, garden fence, wooden boxes...

Agroecology Training to Teachers



- Provided 3 trainings to 20 teachers from the 4 partner schools on Agroecology Principles and horticultural techniques.

Extended Training from Teachers to Students

- Supported trained teachers to extend the capacity building to students at their schools.



Ongoing Activities in the Gardens



- Promoted ownership of the garden to responsible teachers and increased participation from students.

Ongoing Activities in the Gardens

- Promoted the transparent distribution of the produce from the gardens.



School Peer Evaluation Program



- Organized 3 peer-evaluation sessions to create sense of competition among partner schools.

Training on Nutrition and NCDs Prevention to Teachers

- Organized 4 training sessions on Nutrition and Non-Communicable Diseases Prevention to 75 teachers.



Training on Nutrition and NCDs Prevention to Students



- Supported trained teachers to organize in-class knowledge sharing sessions to students on NCDs prevention and nutrition using a leaflet developed by the project.



The Promotional Event

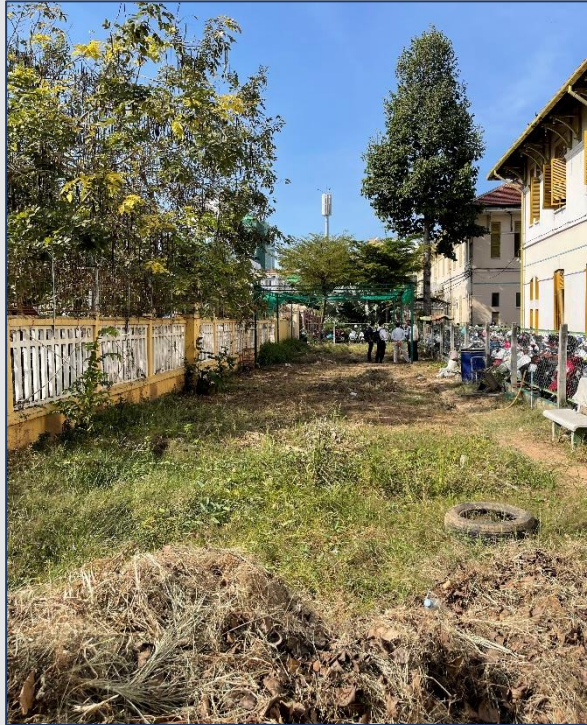


- Organized 1 Field-day event to promote the AE garden at schools.



Agroecological Gardens: Before and After

1. Preah Sisowath High School



December 2022



July 2023



March 2024

Agroecological Gardens: Before and After (Cont.)

2. Baktouk High School



December 2022



July 2023



July 2024

Agroecological Garden Before and After (Cont.)

3. Boeung Trabek High School



December 2022



July 2023



July 2024



Agroecological Garden Before and After (Cont.)

4. Chaktomuk Primary School



January 2023



July 2023



July 2024



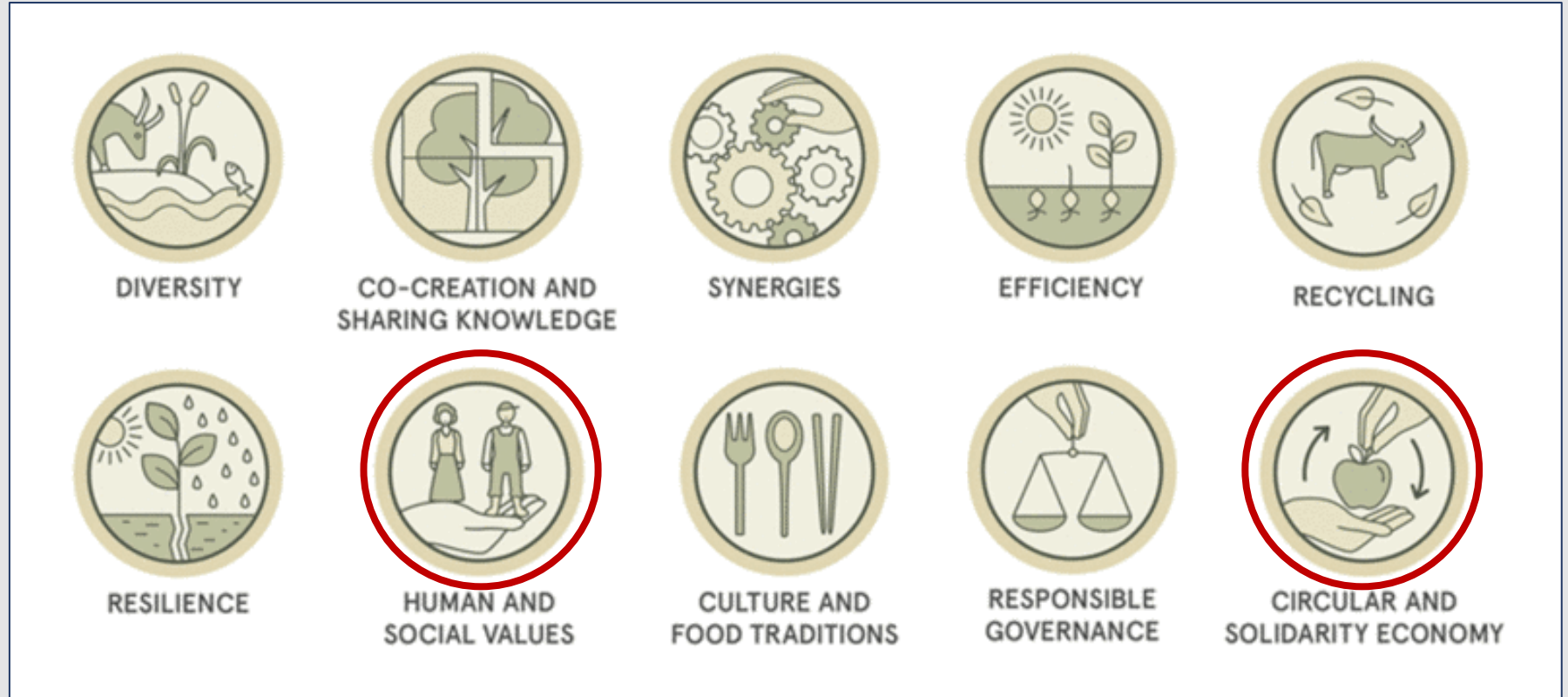
Part 3:

The Challenges



Challenges

1. Limited adaptation of agroecological elements



Source: www.fao.org

Challenges (Cont.)

- 2. Limited ownership of the gardens by the partner schools



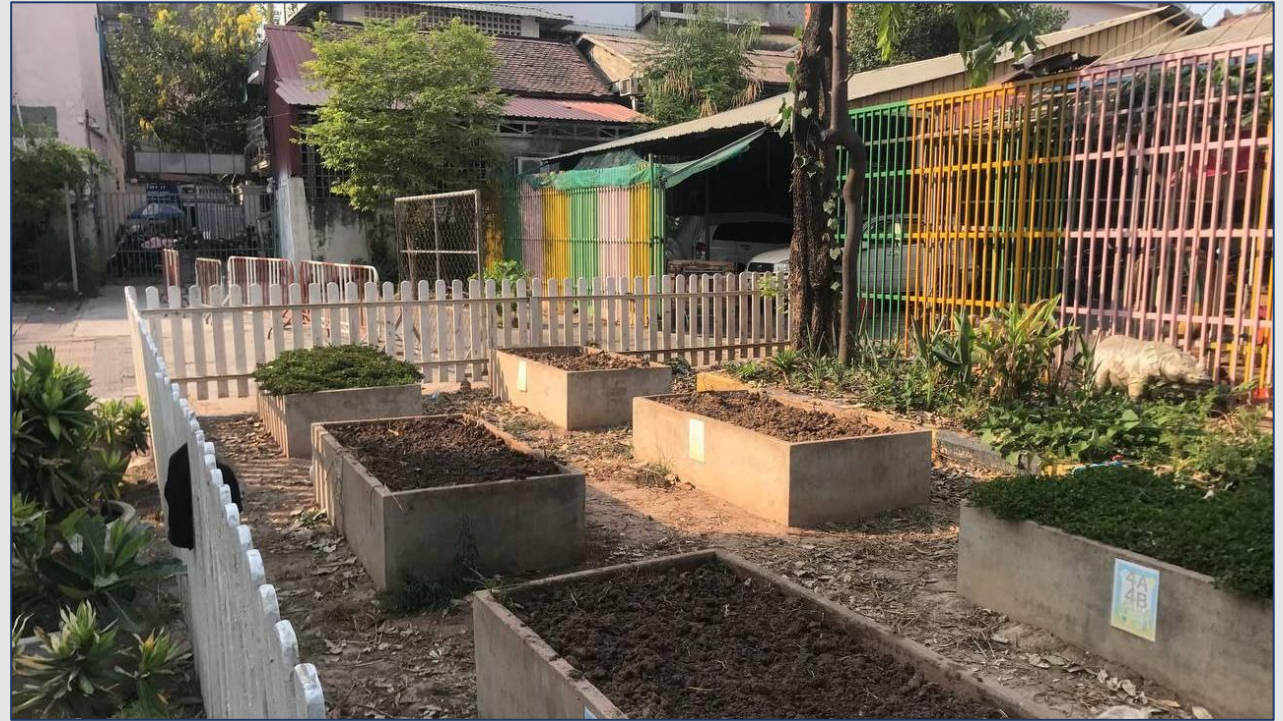
Challenges (Cont.)



3. The gardens require high maintenance

Challenges (Cont.)

4. Extreme weather conditions





Part 4:

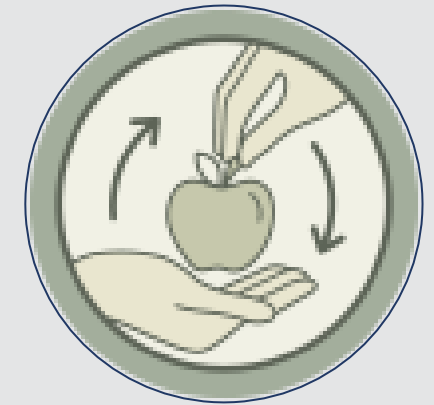
The Future



The Way Forward

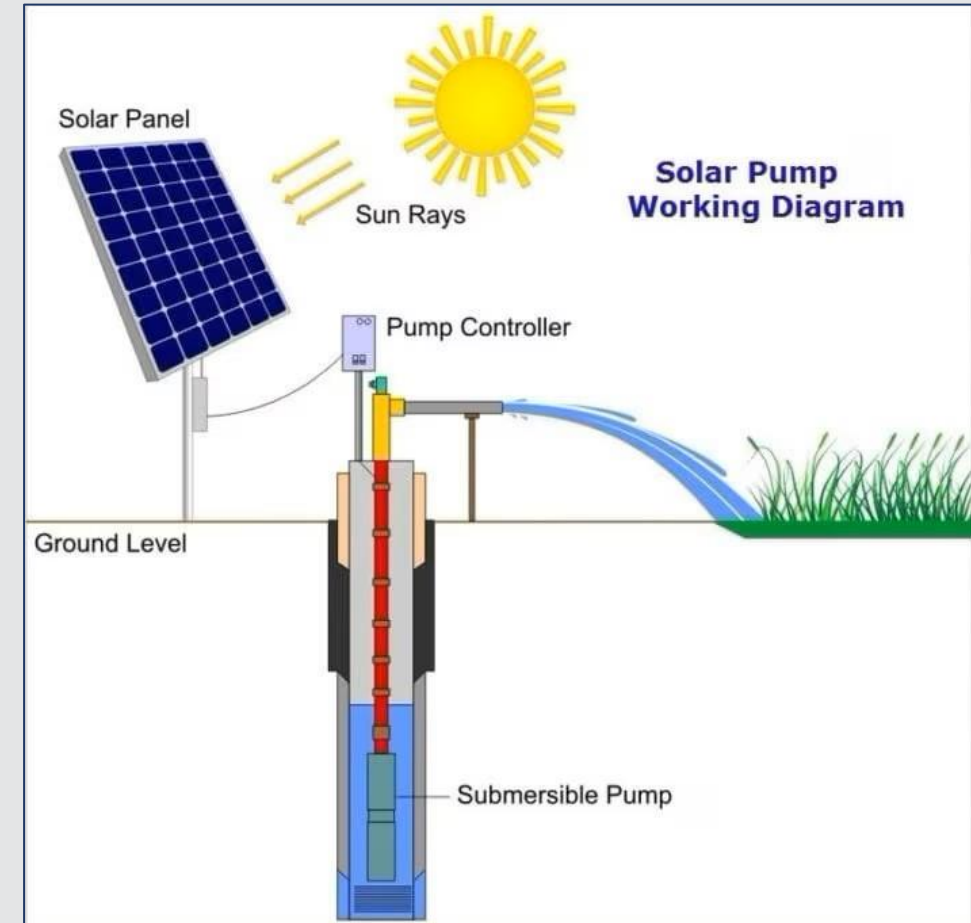
1. Include more social and business components to the project:

- Human and Social Values (especially gender)
- Circular and Solidarity Economy (especially entrepreneurship)



The Way Forward (Cont.)

2. Incorporate more climate-smart agricultural technologies
 - a. Solar pump
 - b. Irrigation systems controlled by a smart sensor



The Way Forward (Cont.)

3. Incorporate more climate-resilience agriculture techniques in the gardens:
 - Rain water collection systems
 - Applying Food Forest concept
 - Biological Carbon Sequestration



The Way Forward (Cont.)

4. Increase involvement of teachers and students through competitions (STEM competitions, Cooking competitions, Video competitions...)



Thank You!

