

- Pitch Corner CCCA 2023 -

Agrivoltaics in Mali and The Gambia: Sustainable Electricity Production by Integrated Food, Energy and Water Systems (APV-MaGa Project)

Funded by BMBF, Germany

Mali and The Gambia
01.07.2020 – 30.06.2024

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CLIMATE CHANGE CONFERENCE AFRICA

Yaounde - Cameroon

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#CCCA2023



CLIMATE
CHANGE



Introduction to United Nations University (UNU)

■ Mandate of UNU

- Founded in 1973, as “ Academic Arm” of UN
- At present 17 Institutes in 12 countries
- 13 Associated institutions (e.g. AIT, University of Bonn, etc.)

- Think for UN (agencies)
- Research
- (Specialized) Education
- Capacity development

■ Mandate of Pan African Cooperation and Educational Technologies (PACET)

- Developing innovative methods and appropriate solutions to address challenges in the framework of the Sustainable Development Goals (SDGs), the Paris Agreement, the Sendai Framework (of UNDRR) and the Agenda 2063 of the African Union.
- Hosted by UNU Vice Rectorate in Europe, Bonn Germany

Background

- Rural areas face severe challenges of climate change
- Arable land becoming increasingly scarce – Climate protection and Climate resilience
- No access to electricity - high dependency on agriculture
- Urban areas have limited land space for traditional food production



Fig. 1: APV research plant of Fraunhofer ISE at Lake Constance, Germany

Agrivoltaics Concept

- Co-developing solar photovoltaic power and agriculture on same land
- Offers expansion of large-scale photovoltaic systems while keeping agricultural land usable
- Preservation of fertile farmland
- Opportunity for farmers to diversify income source

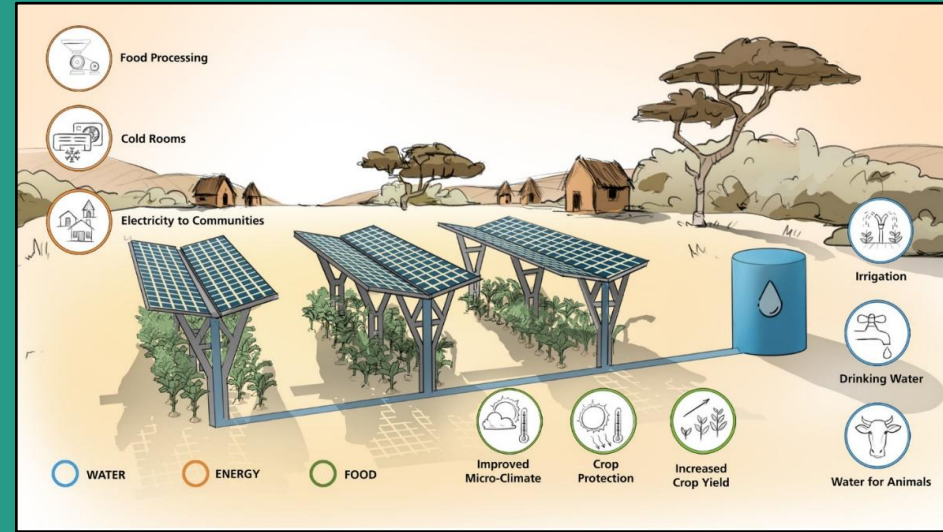
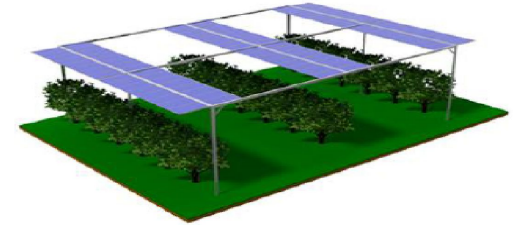
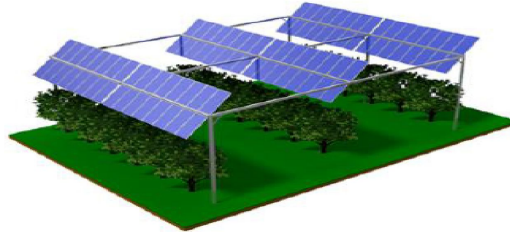


Fig. 2 Illustration of an agrivoltaic System

Our vision is to establish APV as a sustainable energy system that provides food, water and electricity to the local population while increasing resilience of the agriculture sector against climate change

Agrivoltaics Approaches

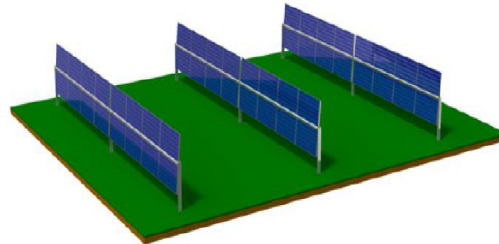
Overhead Tracked and Fixed Systems



Ground Mounted Interspaced



Ground Mounted Vertical



Rooftop Agrivoltaic



Future Outlook

- Solution for the Great Green Wall initiative
- Promoting community business through services
- Decentralise energy production
- Urban agrivoltaics: the future of energy and food security

Contact

Thank You

United Nations University - Vice Rectorate in Europe

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