UN environment programme | CTCN UN Climate Technology Centre & Network

CTCN – Technical Assistance
for
Guinea, RD Congo, Senegal, Togo

AGRIVOLTAICS
the 3 pillar solution

Water, Energy and Food
Systems integration

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CONTEXT

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

CONCEPT

- Co-developing solar photovoltaic power and agriculture on same land, preservation of fertile farmland
- Offers expansion of large-scale photovoltaic systems while keeping agricultural land usable
- Analysis of environmental conditions, including solar radiation, rainfall, water availability (waste water)
- Opportunity for farmers to diversify income source

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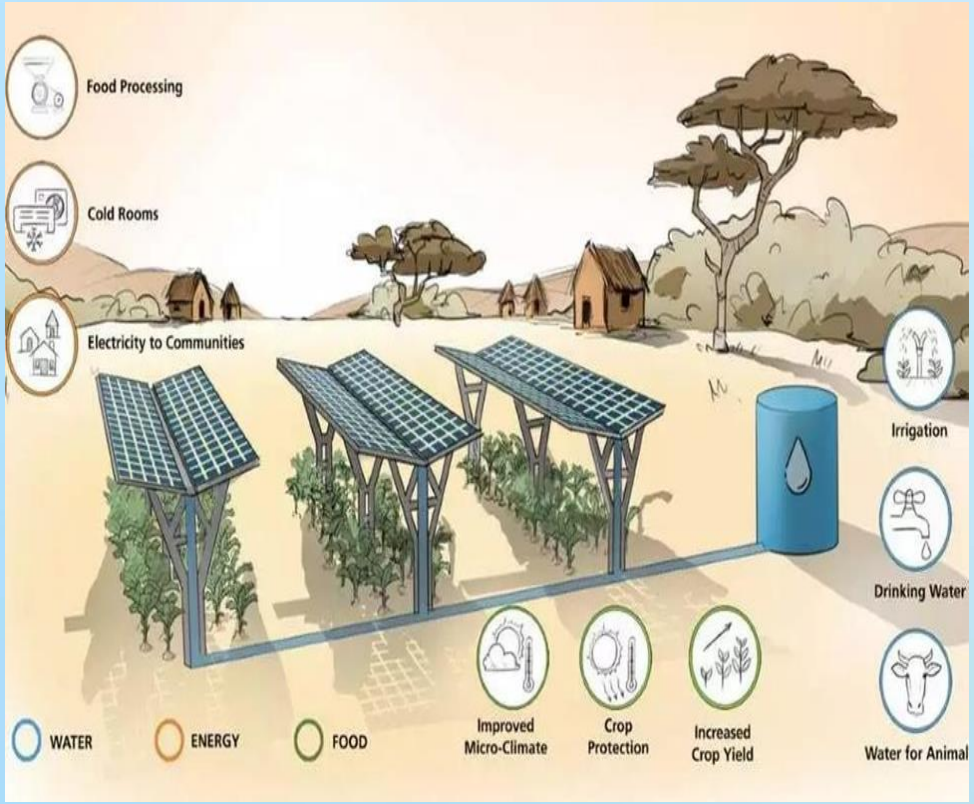
OUTCOMS



Source: CTCN

- The concerns identified in this CTCN -TA can be used to refine the technology, to increase adoption among farmers and to translate the potential of agrivoltaics into an appropriate business model that makes the technology affordable for all stakeholders.
- The impact of setting up an agrivoltaic system on productivity is determined (improvement of yields, reduction of yield losses due to drought, irrigation capacity outside the rainy season, Increased income from electricity sales);
- The integration of energy and food systems can lead to more productivity, minimization of agricultural displacement and reduction of greenhouse gas emissions from fossil fuels.
- The diffusion of this innovation for meeting growing demands for energy and food simultaneously.

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Visiting an agrivoltaic pilote project
South Germany, june 2024

THANKS

MERCI

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Urban application of agrivoltaic
Solar House in Dakar, Senegal