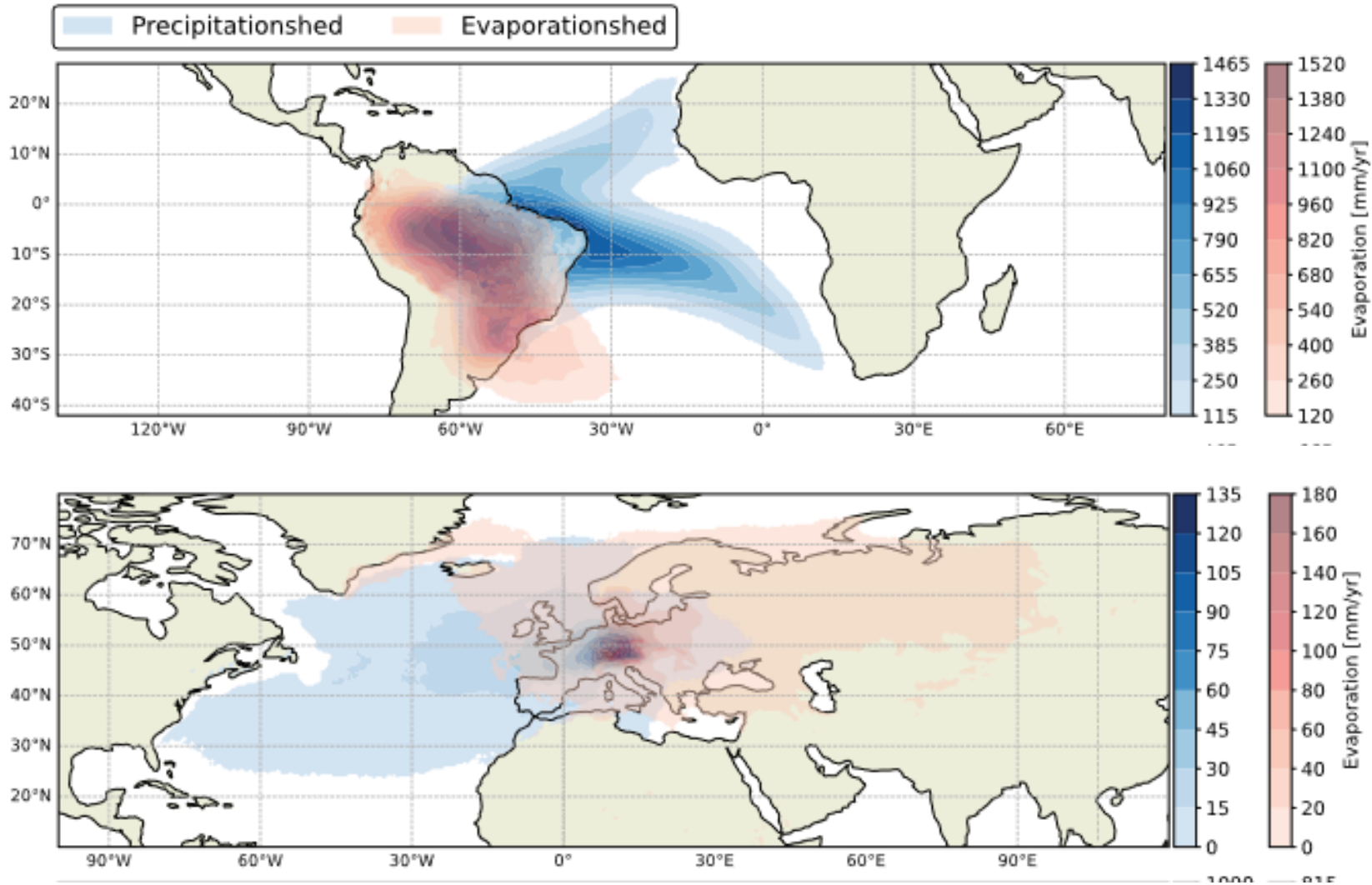


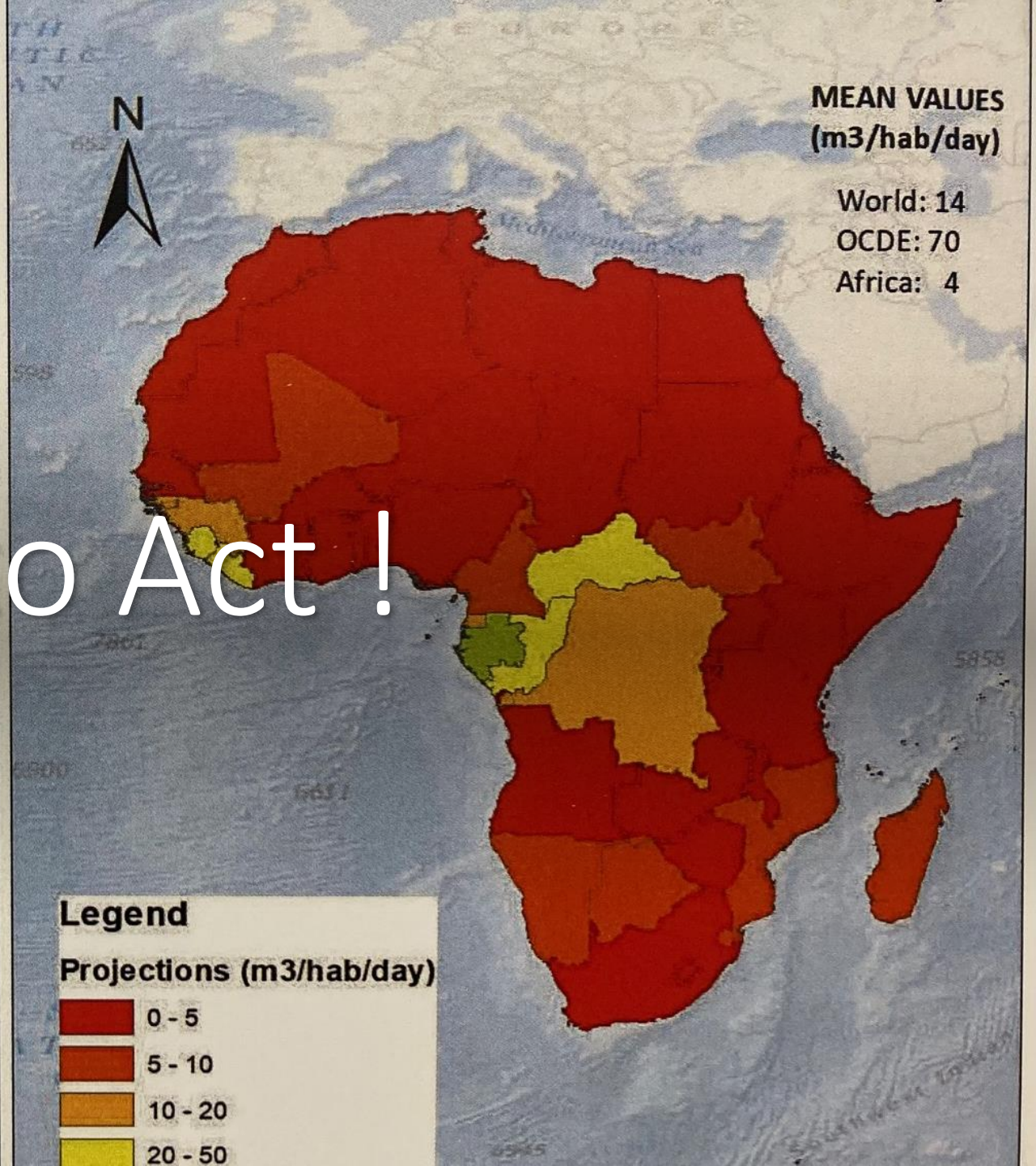
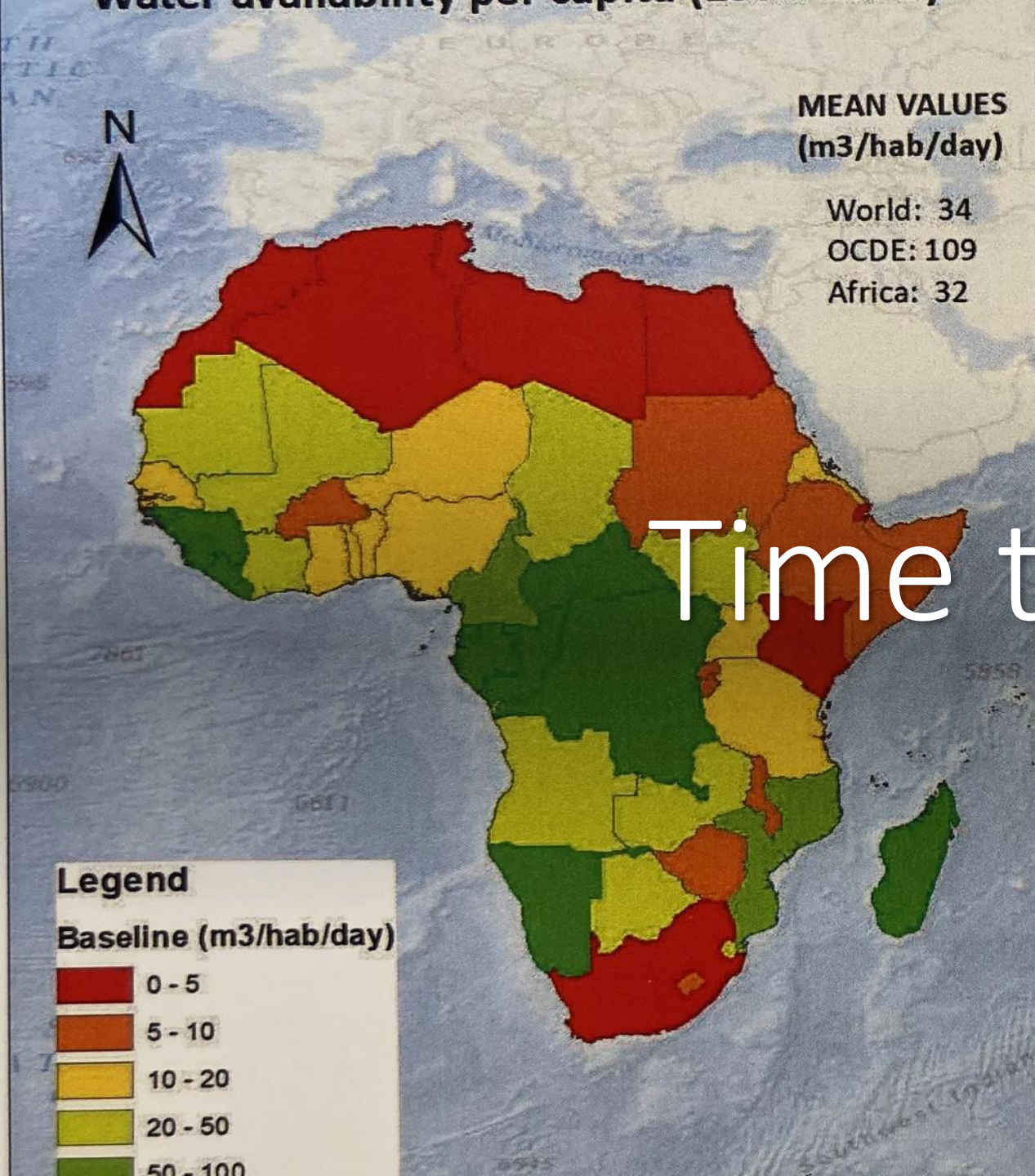
Is climate change adaptation all about water?



International conference | 25-26 April 2023 | Brussels

A global common good





Time to Act !

Different definitions for the WEFE



The WEFE Nexus = **description of interlinkages** of the water, energy, and food sectors, and how **they rely on and impact ecosystems**. The Nexus **approach** highlights the **interdependencies** between achieving water, energy and food security for **human well-being**, while ensuring **ecologically sustainable use** of globally essential resources.

The WEF Nexus approach = **understanding of synergies** and **trade-offs** between **competing uses** of water, land, and energy-related resources. Aim to **connect multi-sectorial stakeholders** to improve resource use and sustainable development

The water–food–energy (WFE) Nexus **is a strategic system** that integrates different separated sectors by using their interconnectedness to reduce trade-offs and allow sustainable development by **preventing future resource insecurity**.

The Nexus **is an approach** that integrates **management** and **governance** across multiple sectors involved, recognizing their interdependencies and the value of natural capital, ensuring coordination among stakeholders and identifying suitable **policy solutions** in order to **optimize** trade-offs and synergies across sectors

The **WEF Nexus** = extended **concept of Integrated Water Resource Management (IWRM)** and **Adaptive Water Management (AWM)** to overcome Water and manage resource scarcity. The WEF nexus refers to the intricate and close **interconnections** (synergies and tradeoffs) among the WEF sectors in order to achieve sustainable development

Is climate change adaptation all about water?



International conference | 25-26 April 2023 | Brussels

WEFE NEXUS approach – Our Conclusions



➤ Implementing the WEFE NEXUS approach – ADVANTAGES :

- **Good understanding of the inter-sectorial interactions;**
- Ensures a **more integrated and sustainable use** of resources;
- Strengthens the **legitimacy** of the intervention actions;
- **Facilitates the consensus** between stakeholders during the implementation;

➤ BUT :

- **SET-UP is complex** and asks for an intensive stakeholder engagement;
- **Difficulties arise mainly from the political will** to reach agreements

A Successful WEFE NEXUS Implementation



- Consider the **Diversity** of Actors involved and **Foster the dialogues** requested;
- **Do not minimise** the need for **robust competences and skills** of the professionals who will be involved;
- Consider the **complexity and heterogeneity** of the ground context: bio-physical, socio-economic, institutional, political, ...;

THE FRAMEWORK

A high level of governance and

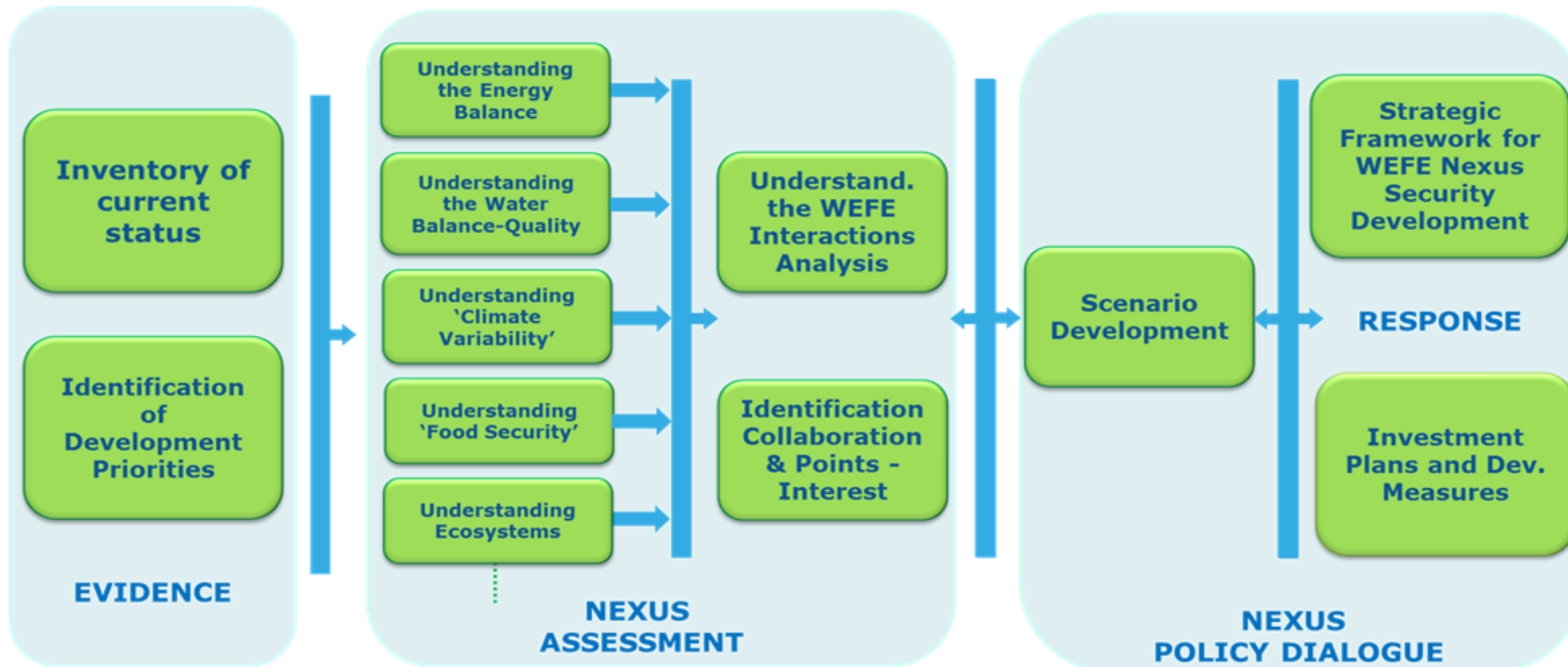


A policy will to reach concrete agreements

- Identify and agree on the **actual issues**, priorities, opportunities and needs to be addressed, **while** integrating and remaining consistent with the geopolitical context; and,
- **Establish and Implement Robust Mechanisms** for Information Management and Decision Making.

The WEF NEXUS Process (1)

Supporting the Policy NEXUS Dialogues



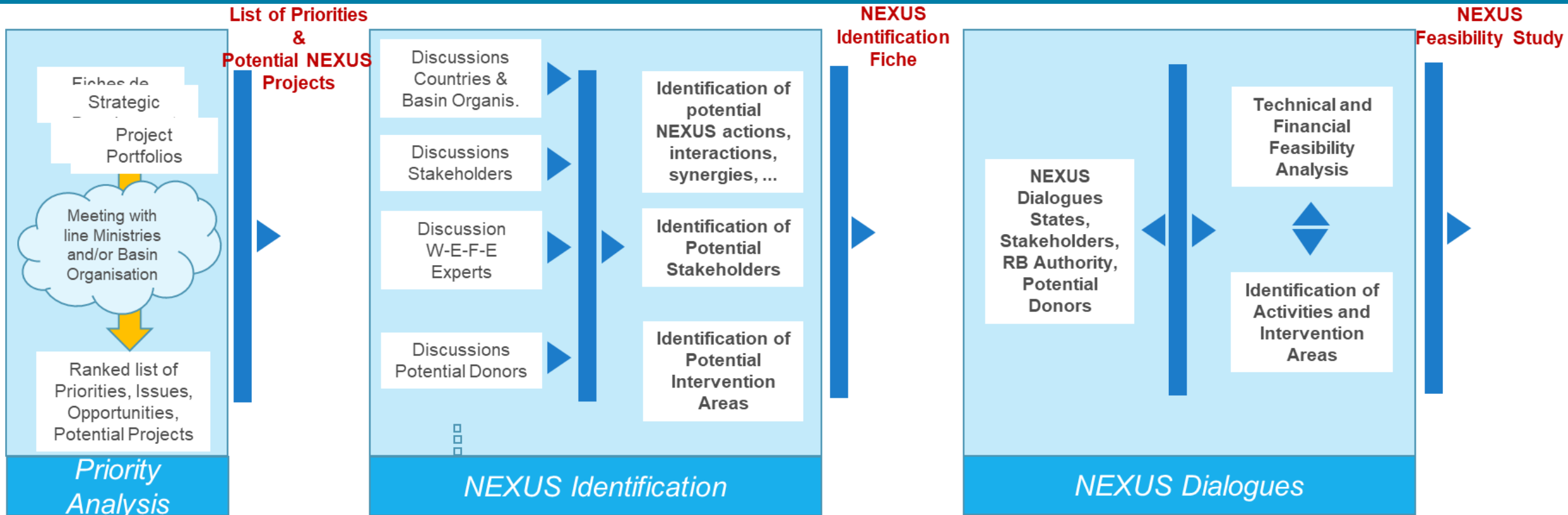
NEXUS Data Base:
Gathering Information
and Data

NEXUS MODELLING PHASE - Understanding
Cross-sector interactions and potential cross-
sector collaborations

SCENARIO DEVELOPMENT - Feeding Policy
Dialogues with Development Scenarios
-> Strategic Development Docs.

The WEFE NEXUS Process (2)

The Identification of Intervention Projects



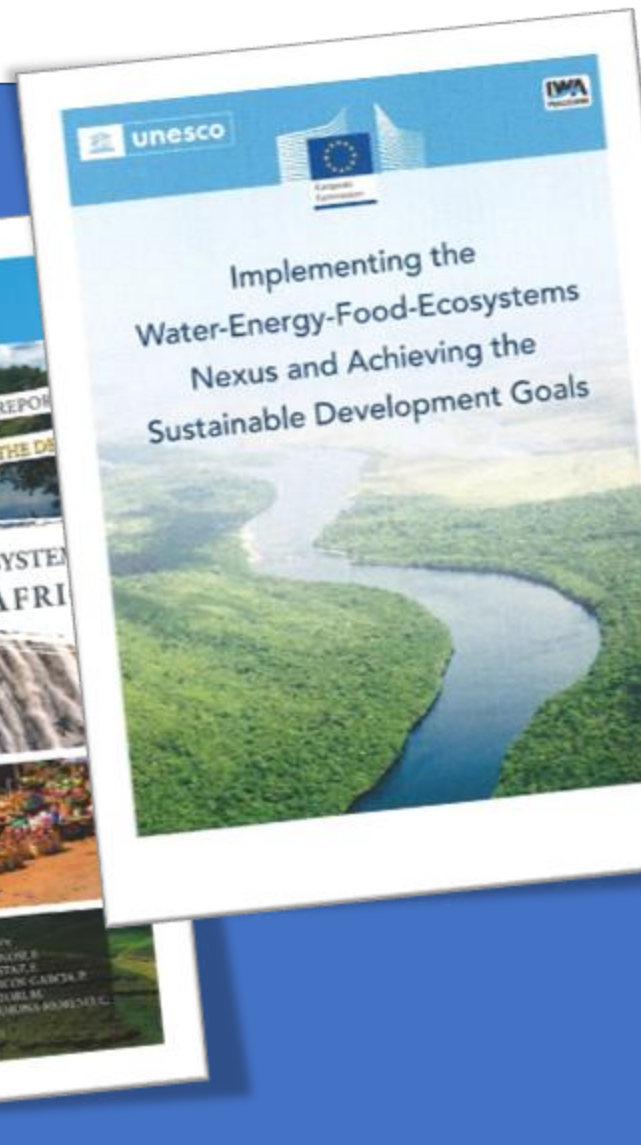
Analysis of the project portfolios, previous discussions and strategic development documents with a WEFE profile and establishment of a ranked list of priorities, issues, challenges and opportunities.

- Identification of potential Priority Intervention Areas
- Identification of potential activities, Approx. budget, ...
- Identification of past, current and future activities
- Identification of potential stakeholders in relation to the activities under consideration.

- NEXUS dialogues on potential activities with Stakeholders, States, RB Authority and Donors
- Identification of concrete activities in priority intervention areas
- Feasibility analysis of intervention actions

Thank you

Cesar.CARMONA-MORENO@ec.europa.eu



Is climate change adaptation all about water?



International conference | 25-26 April 2023 | Brussels

Dr. Ir. Petra Schmitter, Principal Researcher Climate Change Adaptation
International Water Management Institute
p.schmitter@cgiar.org

A photograph of three men sitting around a table in a meeting room. They are looking at a large map or diagram on the table. The man on the left is wearing a light-colored shirt and glasses, and is holding a blue marker. The man in the middle is wearing a patterned shirt and glasses. The man on the right is wearing a light blue shirt. There are water bottles and other items on the table. The background shows a window with blinds and a wall with a grid pattern.

Be INCLUSIVE in multi-stakeholder dialogues

- Take a nested approach
- Across sectors, actors and scale
- Identify objectives and drivers for change
- Align roles and responsibilities
- Create incentives across the value chain



A woman in a pink shirt is spraying water in a field. In the background, another woman in a green and black patterned dress is visible. A solar panel is mounted on a structure to the left. The scene is outdoors with trees and a clear sky.

Entry points
for INCLUSION
are DIVERSE
and CONTEXT
specific

- Identify segments rather than generalization
- Move away from diagnostic approaches
- Move away from “quotas”
- Integrate socio-economic with biophysical assessments
- Identify entry points with target groups

A group of women in a rural setting, possibly a village, are gathered around a tablet computer. They are dressed in traditional African attire, including colorful headwraps and patterned dresses. The background shows a thatched roof and lush greenery, suggesting a rural environment. The women appear to be engaged in a collaborative activity, possibly a community meeting or a training session. The text 'Citizen science to drive CHANGE' is overlaid on the left side of the image.

Citizen science to drive CHANGE

- Co-generate knowledge
- Use experimental learning or games
- Ensure embeddedness in local realities
- Co-design scenarios and management plans
- Early warning information verification, interpretation and dissemination



INTEGRATE data tools, actors, sectors

- Stimulate private sector to fill crucial data gaps
 - Blended data approaches across scales
 - Develop accountable data systems
 - Actionable co-developed dashboards for good governance
- 

Is climate change adaptation all about water?



International conference | 25-26 April 2023 | Brussels



Co-funded by
the European Union

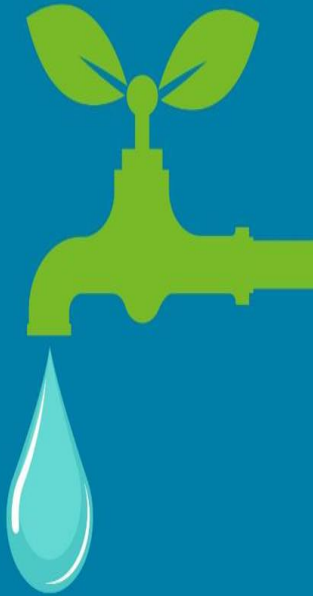


german
cooperation
DEUTSCHE ZUSAMMENARBEIT



What does it take to upscale Water-Energy-Food Nexus solutions?

Irene Sander, GIZ Head of Programme 'Nexus Regional Dialogues Programme'



26 April 2023

Implemented by

giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

Challenges to WEF Nexus solutions



Silo mentality of public and private sector organizations

Inadequate financing schemes for implementation at scale of WEF Nexus

Lack of adequate capacities to regulate, develop and manage integrated projects

Lack of viable and scalable business models

Business models for WEF Nexus solutions



With the objective to **identify and analyse the most promising WEF nexus solutions and related business models for MENA and Niger Basin regions**, a market analysis was carried out with a focus on **sectors able to attract private sector investment** and scale developers' solutions and initiatives.

Agrivoltaic technologies



Solar irrigation systems



Productive uses of energy

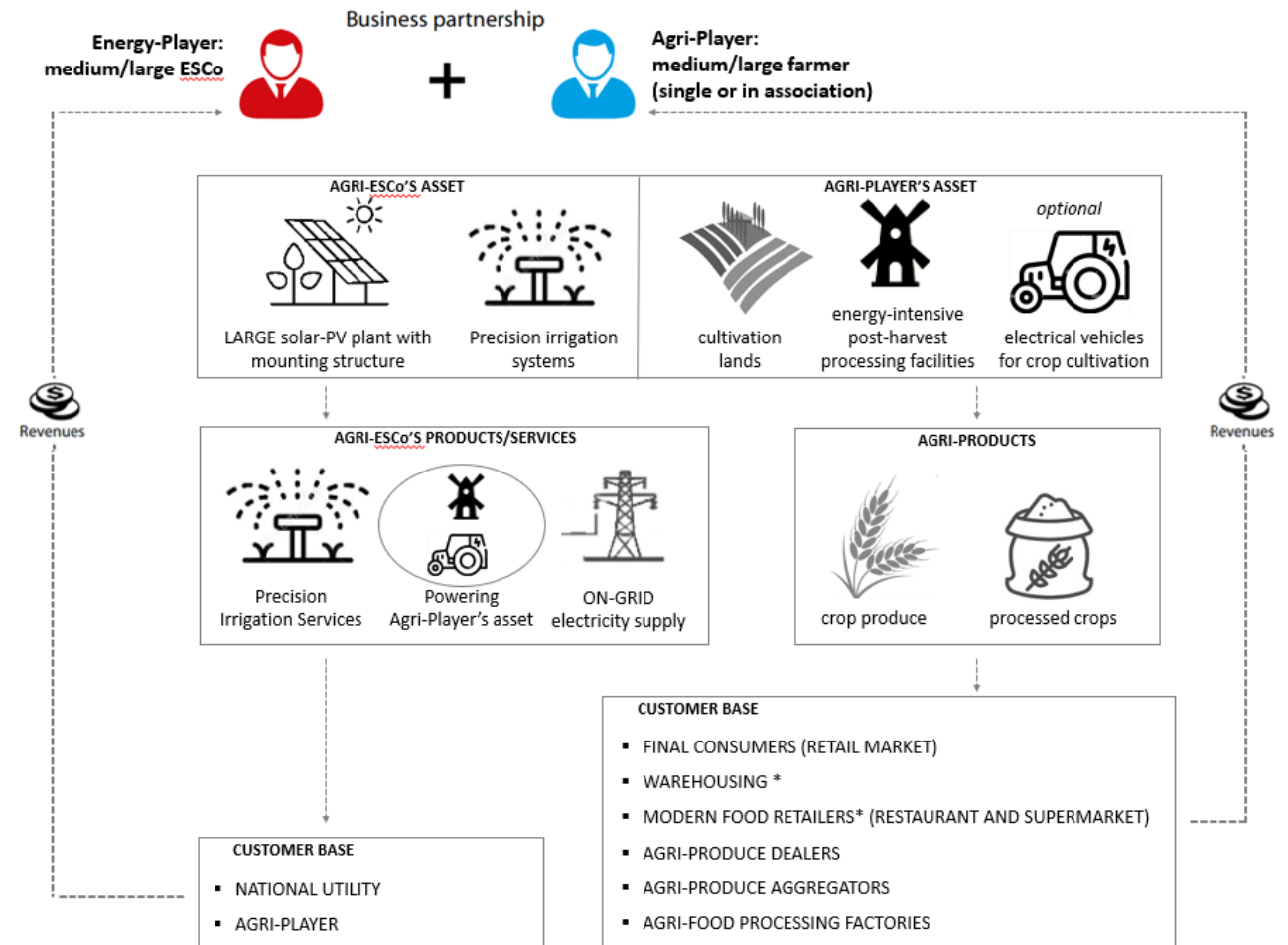


PV shading for horticulture



AGRI-ENERGY SERVICE COMPANY

- Agri-Energy Service Company (Agri-ESCo) who delivers a turnkey Agri-PV solution (full package of energy and precision irrigation services) for efficient agri-food production and processing.
- The Agri-ESCo inputs the extra electricity generated to the national grid and manages Agri-PV assets for a given period by adopting a Build-Own-Transfer (BOT) model, even if other options could be explored. The business model is suitable for medium-large Agri-ESCos and farmers (single or in associations).



Integrated Greenhouse – Nexus Farm Initiative Egypt

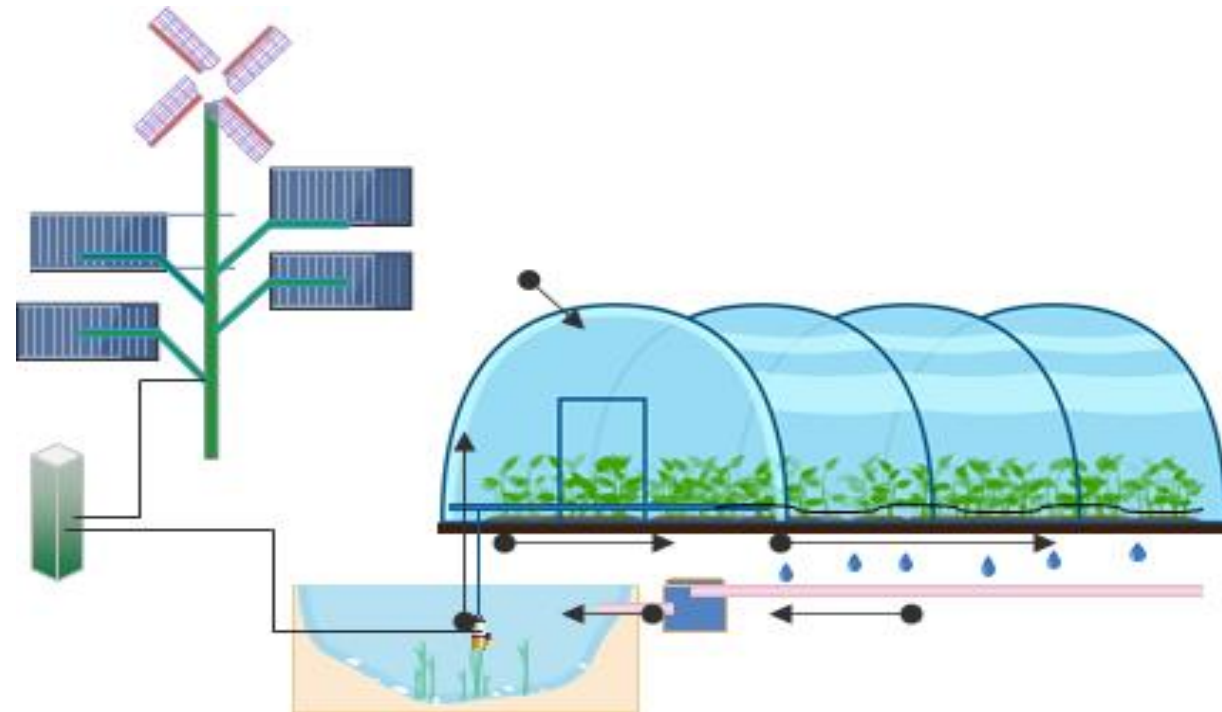


Figure 1: Schematic overview of the solar powered greenhouse with fishpond, growing area for seedlings, a solar panel tree and a charging station for phones and testing equipment.

Recommendations



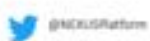
Provide more **evidence-based arguments** of Nexus approach

Concerted policy/governmental actions to promote technologies

Develop more projects at **scale**; consider different **business models**

Develop WEF-specific teams and capacities within financing mechanisms, and development organisations

Develop **end-user-driven** financing products; support **business development** of technology **suppliers**



Thank you for your attention



Irene Sander
Head of Programme
Nexus Regional Dialogues
irene.sander@giz.de

Implemented by



Is climate change adaptation all about water?



International conference | 25-26 April 2023 | Brussels

UNESCO conference WEF nexus conclusions



1. Water is a connector, but economic developments, particularly within energy and agriculture, are the strong drivers of a country's trajectory
2. To address the political objectives of natural resource management, an approach that considers the interdependencies of various systems is needed
3. While striving to bridge the gap between scientists and policymakers, it is crucial to remember the significance of using a common language and addressing stakeholder priorities