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Climate-Resilient Pathways: Adaptation, Mitigation, and Sustainable Development

OBJECTIVES

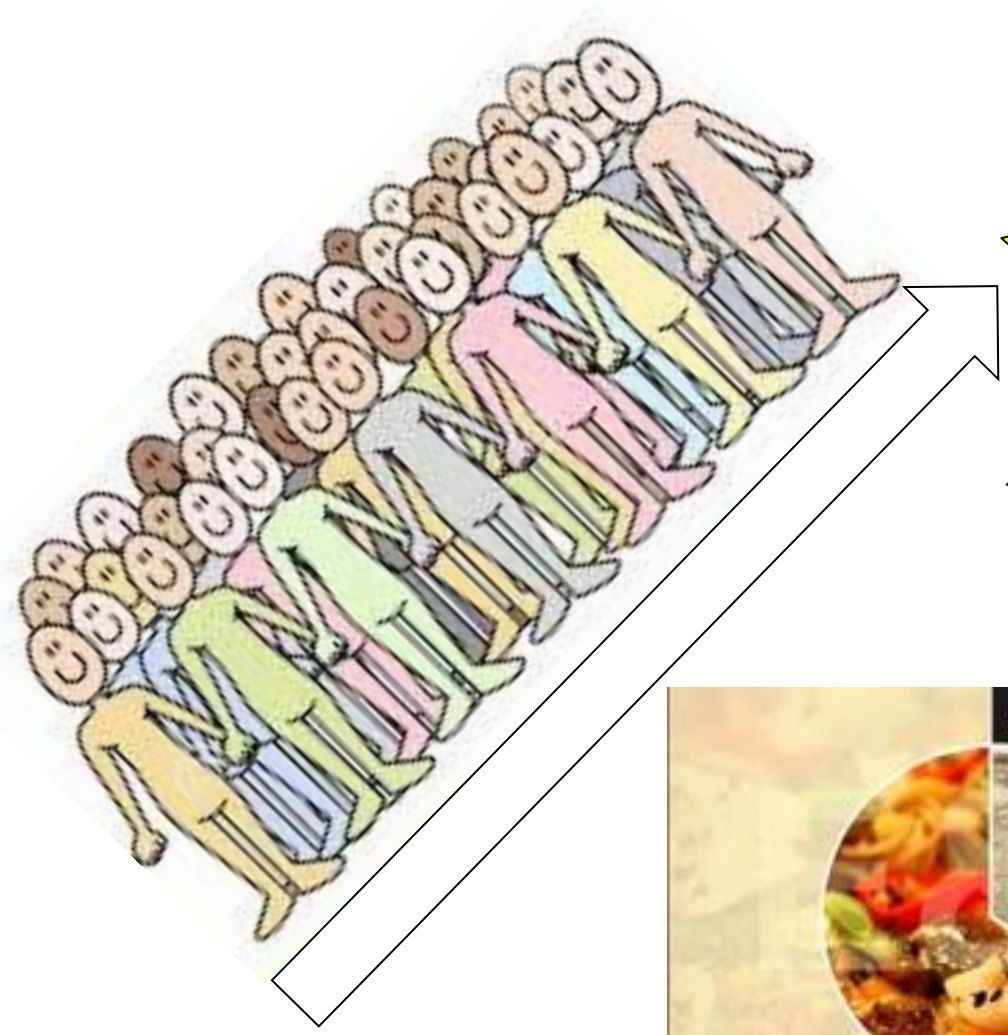
At the end of the presentation, the participants must be able to:

1) Enumerate at least 5 emergent risks;
2) Define climate resilient pathways;
3) Give examples of elements of climate resilient pathways;
4) Discuss the trade-offs between economic and environmental goals; and
5) Be informed about the SHARP App tool to evaluate climate resilience on the farm level.

OUTLINE

- Emergent risks
- Climate resilient pathways
- Elements of climate resilient pathways
- Resolving trade-offs between economic and environmental goals
- Climate resilience and the SHARP Tool

The Scenario



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The Question

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Emergent risks

Emergent risks from climate change related to sustainable development include:

- losses of ecosystem services
- challenges to land and water management
- effects on human health
- particular risks of severe harm and loss in certain vulnerable areas
- increasing prices of food commodities on the global market
- consequences for migration flows at particular times and places
- increasing risks of flooding
- risks of food insecurity
- systemic risks to infrastructures from extreme events
- loss of biodiversity
- and risks for rural livelihoods

Risks grow if the magnitude of warming increases!

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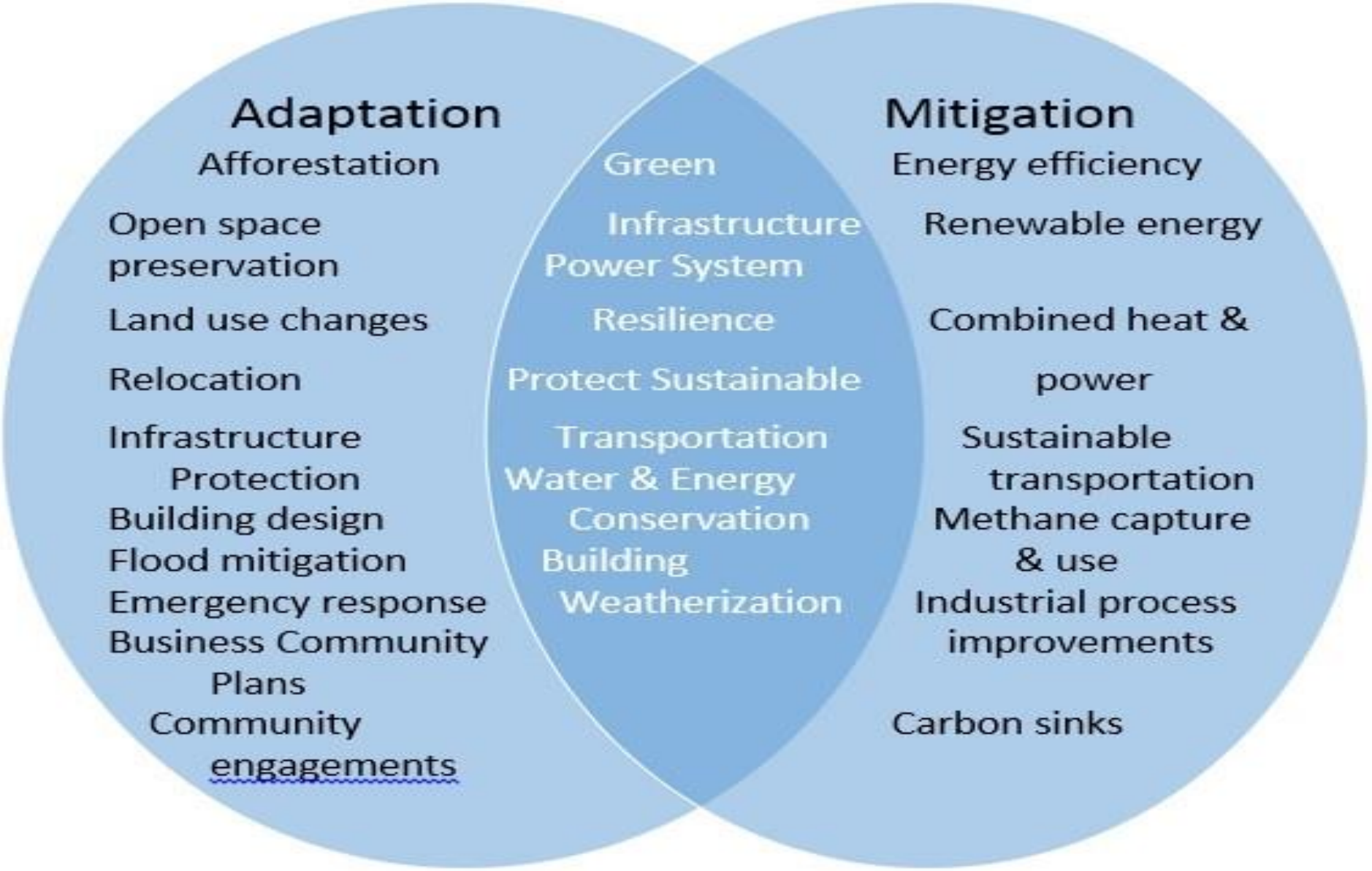
Climate Resilience Pathways

Definition: Climate-resilient pathways

Development trajectories that **combine adaptation and mitigation** to realize the goal of sustainable development.

Adaptation & Mitigation Synergy



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Elements of Climate Resilience Pathways

Elements of Climate-Resilient Pathways

Resources

- Access to scientific and technological expertise
- Access to financing for appropriate climate change response strategies and actions
- Information linkages

Elements of Climate-Resilient Pathways

Practices

- Continuing development and evaluation of institutionalized vulnerability assessments and risk management strategy development
- Monitoring of emerging climate change impacts and contingency planning for responding to them
- Policy, regulatory, and legal frameworks that encourage and support distributed voluntary actions for climate change risk management
- Effective programs to assist the most vulnerable populations and systems in coping with impacts of climate change

Concepts in Assessing climate resilient pathways

- Sustainable development
- Mitigation
- Adaptation

In most cases, sustainable development will also involve capacities for implementing and sustaining appropriate risk management.

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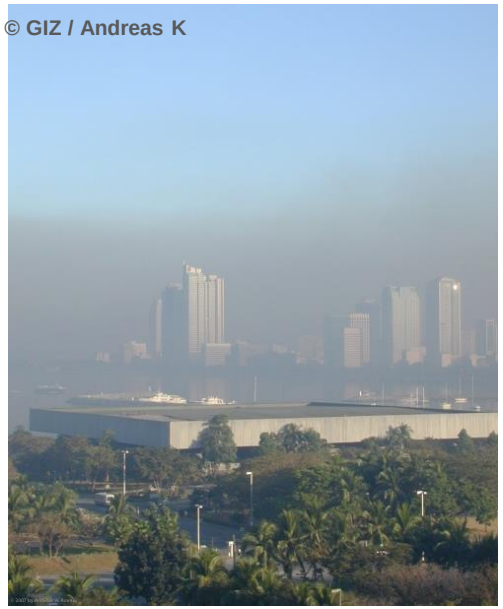
Resolving trade-offs between economic and environmental goals

Sustainable development pathways will be more climate resilient if they develop and utilize socioeconomic and institutional structures that are effective in resolving trade-offs among social, economic, and environmental goals

Resolving Trade-offs between Economic and Environmental Goals



- In practice, trade-offs between different development goals may or not be resolved in coherent ways→ Co-benefits
- A specific resilience-enhancing action may have benefits for both development and for addressing concerns about climate change

Tools for analysing such issues are associated with research on “externalities”

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Measuring Climate Resilience with SHARP

How to withstand in a changing environment?

Resilience of social-ecological systems

The capacity of a social-ecological system to cope with a hazardous event or disturbance, responding or reorganizing in ways that maintain its essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation.

Source: IPCC 5. Assessment Report. Glossary IPCC. Geneva

Different forms of resilience

Ecological resilience

- **magnitude of disturbance that a system can absorb** before it redefines its structure by changing the variables and processes that control behaviour

Individual Resilience

- a **person's capacity to cope** with changes and challenges

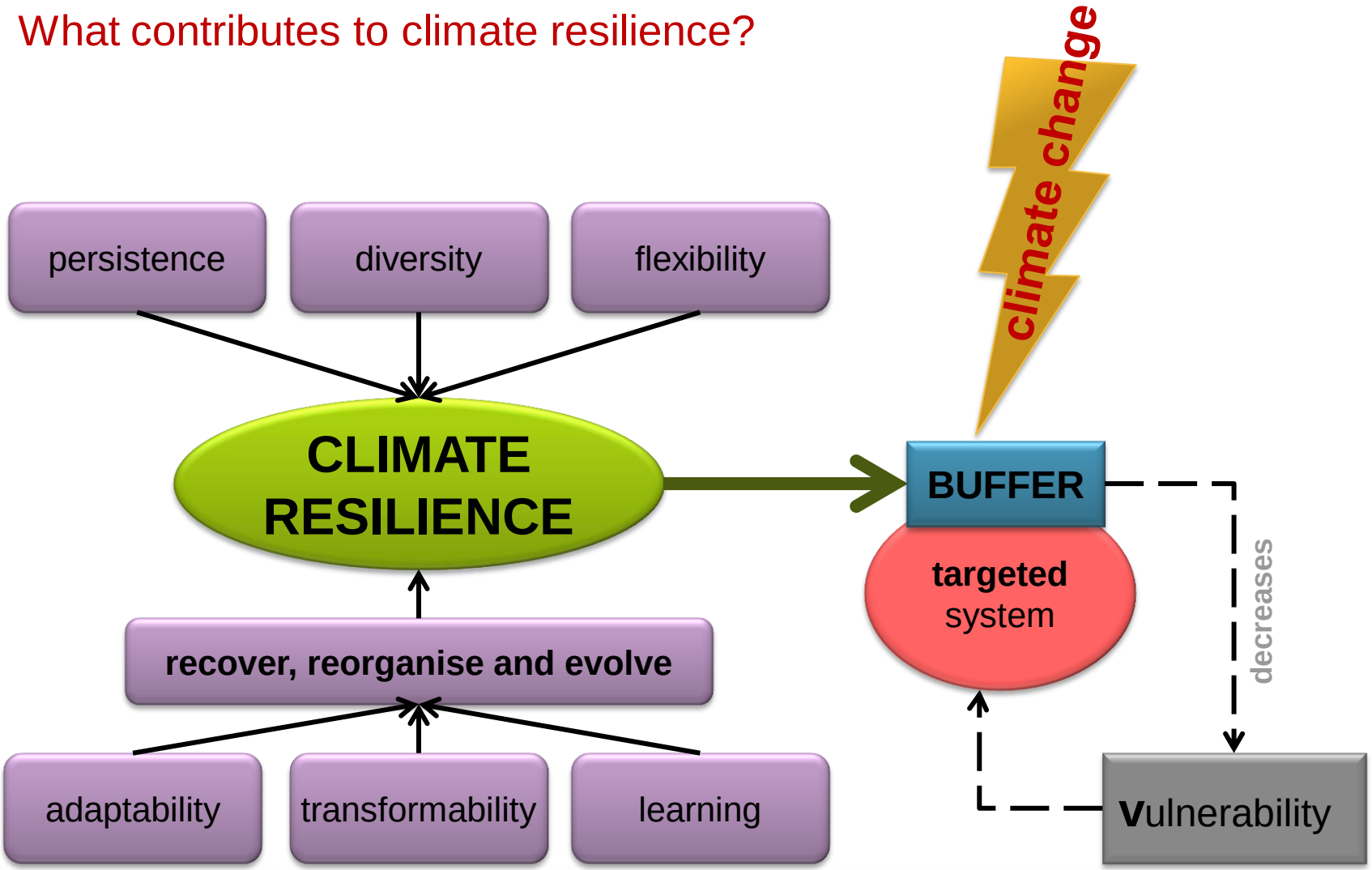
General Resilience

- resilience of a system to **all kinds of shocks and stresses**

Climate resilience

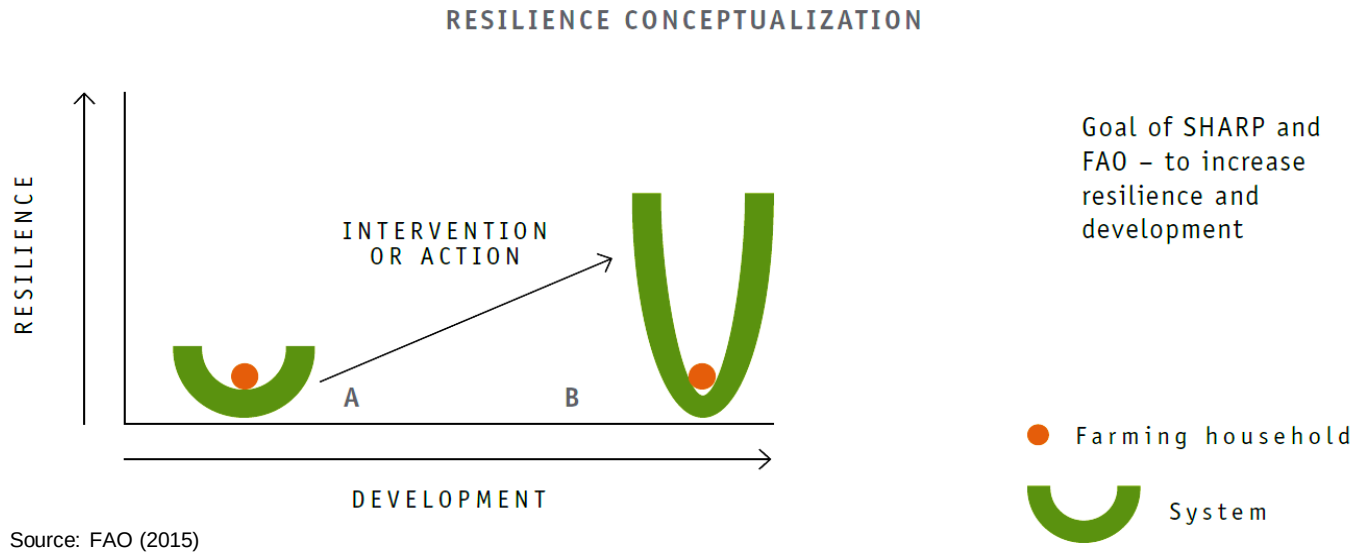
- resilience to **climate-related shocks and stresses**, ability to survive, recover and even thrive in changing climatic conditions

What contributes to climate resilience?



Self-evaluation and Holistic Assessment of climate Resilience of Farmers and Pastoralists (SHARP)

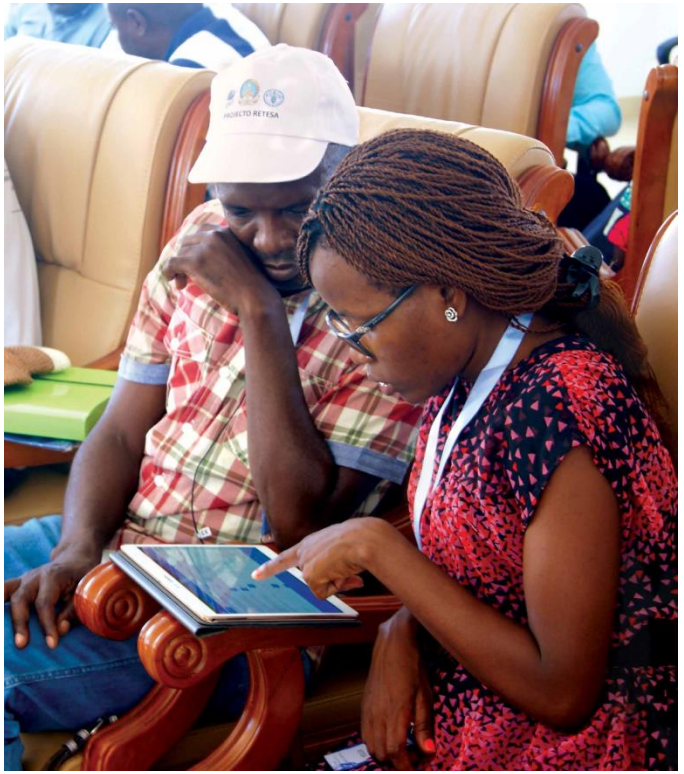
- Tool by **FAO** to evaluate climate-resilience on the **farm level**
- Understand **current level** of resilience, find ways to **increase adaptive capacity** and hence **lower vulnerability**
  - ➢ **Improve climate resilience**



Source: FAO (2015)

Self-evaluation and Holistic Assessment of climate Resilience of Farmers and Pastoralists (SHARP)

- **Holistic approach** to resilience
- Allow for **locally customized adaptation strategies**
- **Participatory**
- assessment areas: **governance, environment, society, economy and general information on the farm**
- Android **app for smartphones and tablets**



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SHARP App

A tablet-based android tool assesses governance, environmental, social and economic resilience with facilitators in a participatory manner. Using this assessment serves for informing and improves agricultural practices as well as curricula and government policies.

Practical tablet-based application with 54 questions that gives significant flexibility of the user to implement in different contexts and timescales to be downloaded at: https://play.google.com/store/apps/details?id=org.fao.sharp

SUMMARY

Climate change calls for new approaches to sustainable development that take into account complex interactions between climate and social and ecological systems.

Climate-resilient pathways are development trajectories that combine adaptation and mitigation to realize the goal of sustainable development. They can be seen as iterative, continually evolving processes for managing change within complex systems.

The Question

Thank you!

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On behalf of

Federal Ministry for Economic Cooperation and Development

IMPRINT

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