

The background of the slide is a photograph of several tall sorghum plants with dark, dense panicles. The scene is captured at sunset, with a bright orange sun on the right side of the frame, casting a warm glow over the plants and the sky. The sky transitions from a pale blue on the left to a deep orange on the right.

# FROM SCIENCE TO ACTION – Climate risk analyses to support adaptation policies and planning at a local level in northern Ghana

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## Motivation

- Crop production has already declined in West Africa due to climate change and future negative impacts are projected to be high.
- Information on the suitability of adaptation measures on a local scale in West Africa is limited.

## Aim

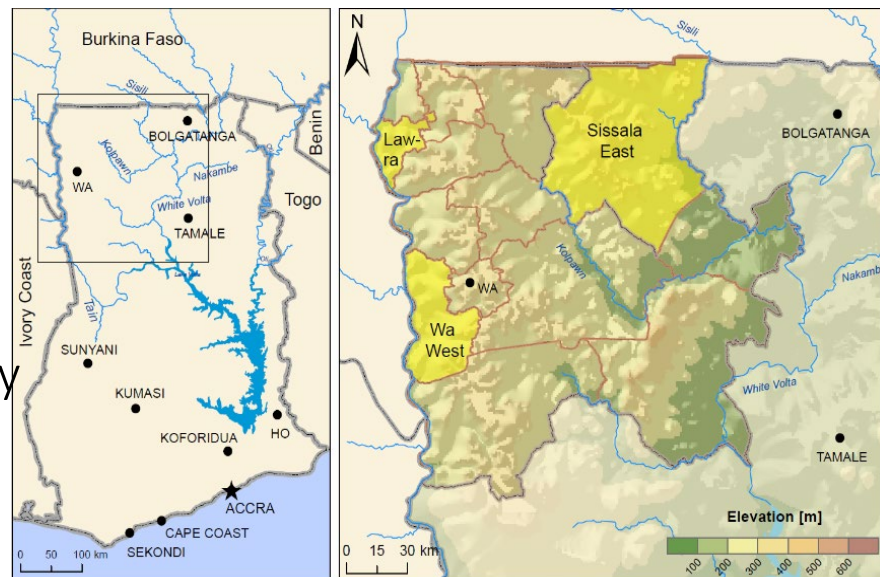
Supporting decision makers in the Upper West Region (northern Ghana) and beyond with science-based information to adapt the agricultural sector to climate change.

## Study Location

The analysis focuses on three districts in the Upper West Region in northern Ghana: Lawra, Wa West & Sissala East

The northern part of Ghana:

- is highly dependent on rainfed agriculture
  - has a short rainy season and a long dry season
- adaptation planning is needed

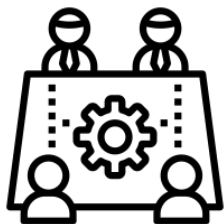


## Impact – Action – Uncertainty Chain

**Rationale:** Climate change adaptation, NDC and NAP investment planning should be risk informed, science-based and consider the cost of adaptation



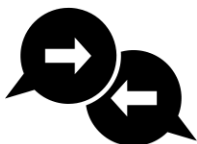
## Stakeholders from political institutions, academia, practitioners, civil society and development cooperation



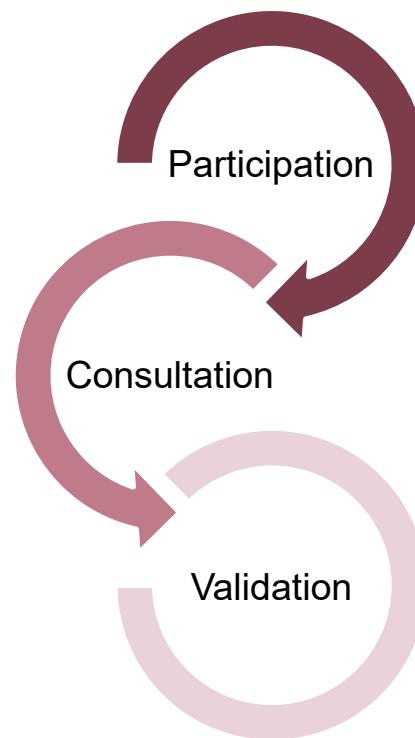
Kick-off workshops: specifying, contextualising and prioritising the adaptation strategies



Interviews: integration of local expert knowledge



Validation workshop: cross-checking and disseminating results



## Recommendations on four different adaptation strategies



**Irrigation** of high value cash-crops can create jobs and be a valuable source of income in the dry season. We recommend the public development and maintenance of irrigation infrastructure for dry-season irrigation in areas where it is economically useful and environmentally sustainable.



**Cashew plantations alley cropped with legumes** have a great economic potential under climate change, especially when the whole product chain is utilized. We recommend to incentivize small-scale cashew production to avoid negative outcomes like increased inequality and food insecurity.




**Farmer Managed Natural Regeneration (FMNR)** is an affordable strategy with low input requirements and positive co-benefits for societies and the environment. We recommend a wide upscaling in the whole region.

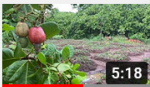



**Improved seeds** can significantly increase production. To benefit from the use of improved seeds and limit potential negative outcomes, more research in local breeding including farmers' participation needs to be done and access to resources needs to be ensured.




# Disseminating results to different groups

1

3:29

2

5:18

3

3:55

4

2:09

## Impacts of climate change on crop production in Ghana's Upper West Region

Federal Ministry for Economic Cooperation and Development

POTSDAM INSTITUTE FOR CLIMATE IMPACT RESEARCH

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

## Irrigation in Ghana's Upper West Region

Potsdam Institute for Climate Impact Research PIK

## Summary for Policymakers


Federal Ministry for Economic Cooperation and Development


POTSDAM INSTITUTE FOR CLIMATE IMPACT RESEARCH



giz

### Climate Risk Analysis for Identifying and Weighing Adaptation Strategies for the Agricultural Sector in Northern Ghana

– A Study at District Level in the Upper West Region –








### ACW2021

#### Africa Climate Week 2021

Virtual Thematic Sessions  
26-29 September

Hosted by the Government of Uganda



## Lessons learned

- Being non-local scientists a **close collaboration with local research institutes is needed to create applicable results.**
- To integrate scientific results into policy measures, **ownership of respective government partners** must be supported and ensured.
- The dissemination of findings should be **tailored to various stakeholders** from political institutions, academia, practitioners and development cooperation. A **diversity of dissemination products** can support this: short reports, films, radio broadcasts, games, workshops,...





U N I K A S S E L  
V E R S I T Ä T

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thank you.