

# Agroecology

## Practice in Northern Ghana

Regional Advisory Information and Network Systems (RAINS)

# Introduction

- **The Current Challenges to Agriculture Posed by food insecurity and climate change are serious**
- **A paradox of increased food production and growing hunger globally**
- **Conventional Agriculture has contributed immensely to CC crises**
- **Poor countries especially Smallholders will be affected**
- **IAASTD – “ ..business as usual no longer and option”.... the future of Agriculture is in biodiversity and agroecology**

# A growing crisis farming

## ***Root causes and drivers of the crisis***

- **declining soil fertility (reduced fallow, population Increase)**
- **climate change (late, irregular rains)**

## **Exacerbating factors:**

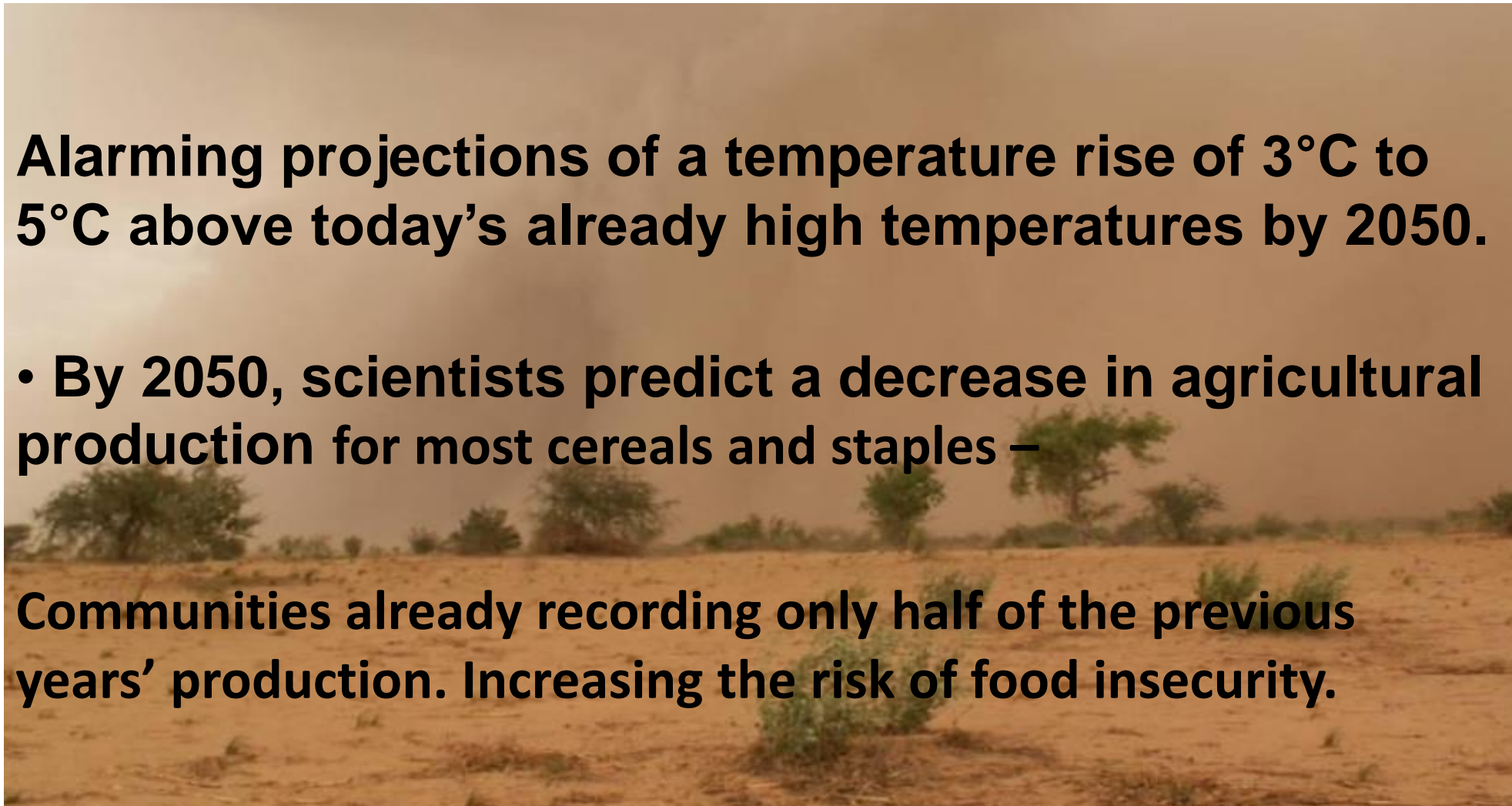
- **Gender inequality, poor nutrition practices,**
- **inadequate community capacity for rapid adaptation**
- **Inappropriate government policies for agriculture**

# Working with family farmers to adapt to climate change?

**Alarming projections of a temperature rise of 3°C to 5°C above today's already high temperatures by 2050.**

- **By 2050, scientists predict a decrease in agricultural production for most cereals and staples –**

**Communities already recording only half of the previous years' production. Increasing the risk of food insecurity.**



A wide-angle photograph of a dry, open landscape. The ground is a mix of light brown soil and dark, charred earth. Numerous tree stumps of various sizes are scattered across the terrain, indicating deforestation. Sparse, low-lying green shrubs and a few taller, thin trees are visible in the background under a clear, bright sky. The overall scene conveys a sense of environmental degradation and land scarcity.

As land becomes scarce  
and soil fertility collapses,

# Field preparation



**R** Farmer Managed Natural Regeneration of Trees  
(a  
dominated by *Faidherbia Albida*



Productive  
Trees are  
managed



Unwanted trees  
are removed

18/05/2015



***Transformation  
achieved by a farmer  
applying FMNR***

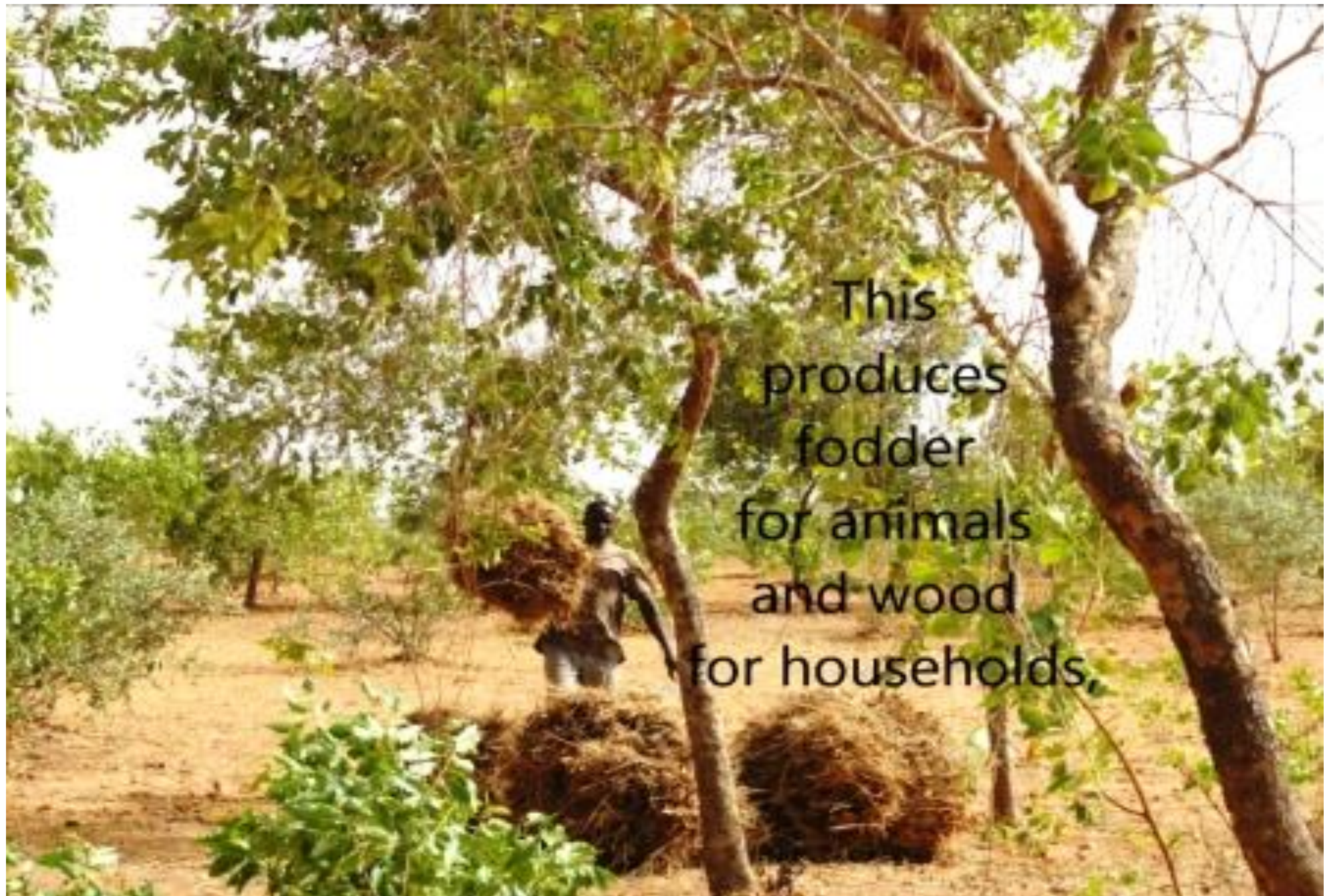
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# FMNR



Growing trees  
and feed at  
the same time  
on the same  
plot



This  
produces  
fodder  
for animals  
and wood  
for households,

# Community Seed and Knowledge



- **Promoting local seed production and utilization**

# Community Seed and Knowledge

**Community participation at the heart of processes –**

**Community Dialogues**

**Historical Timelines & Maps**

**Seasonal Maps**





AE is about  
integrated soil  
management.  
Maize  
intercropped  
with cowpea  
fixes nitrogen



Yields can be increase  
through Agroecology  
without chemical  
fertilizers



# Community Seed Knowledge

- **The initiative succeeded in raising community members' awareness of climate change and its impact on rural livelihoods.**
- **Revived a number of indigenous seed varieties that were on the verge of extinction (bambara beans, cowpea, sanze, bungu, agusi, neri, late millet and sesame) – thereby improving access and diversifying their diets.**
- **Local communities hold the key to tried and tested indigenous Knowledge Systems and as such are vital actors in Climate Change adaptation initiatives.**

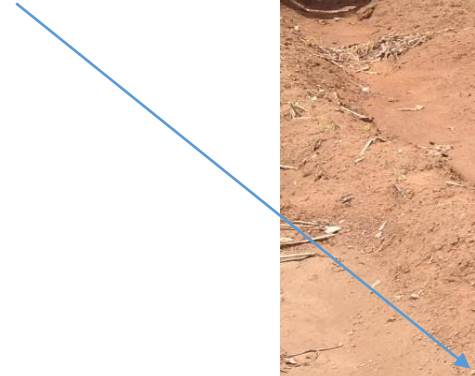


# Rock bunds along the contour





Bonding



Ridging





Compost  
Application

18/05/2015

Leaves from  
pruned trees  
are left on the  
field to rot.  
Tree reduces  
heat intensity  
and improves  
moisture



# Upscaling of Agroecology

- Upscaling research into AE – Testing Viability of Approaches and Cases Studies
- For Africa, Increase documentation of successful and AE approaches
- Change in existing policy environment needed.



**THANK**

**YOU**

