

# Land Use Actions with Climate Benefits



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# Land Use

"Land use is characterised by arrangements, activities and inputs people undertake in a certain land cover type to produce, change or maintain it" (FAO,1999)



Any given area of land is usually used to satisfy multiple objectives or purposes. Carbon sequestration adds an additional objective.

Need to maximize synergies/minimize trade-offs among different land uses.



# In the context of this ADP TEM

## **Two important objectives....**

### Achieving food security

- 870 million hungry people
- Food production should increase 60-70% by 2050
- Adaptation to climate change critical

### Avoiding as much as possible dangerous impacts of climate change

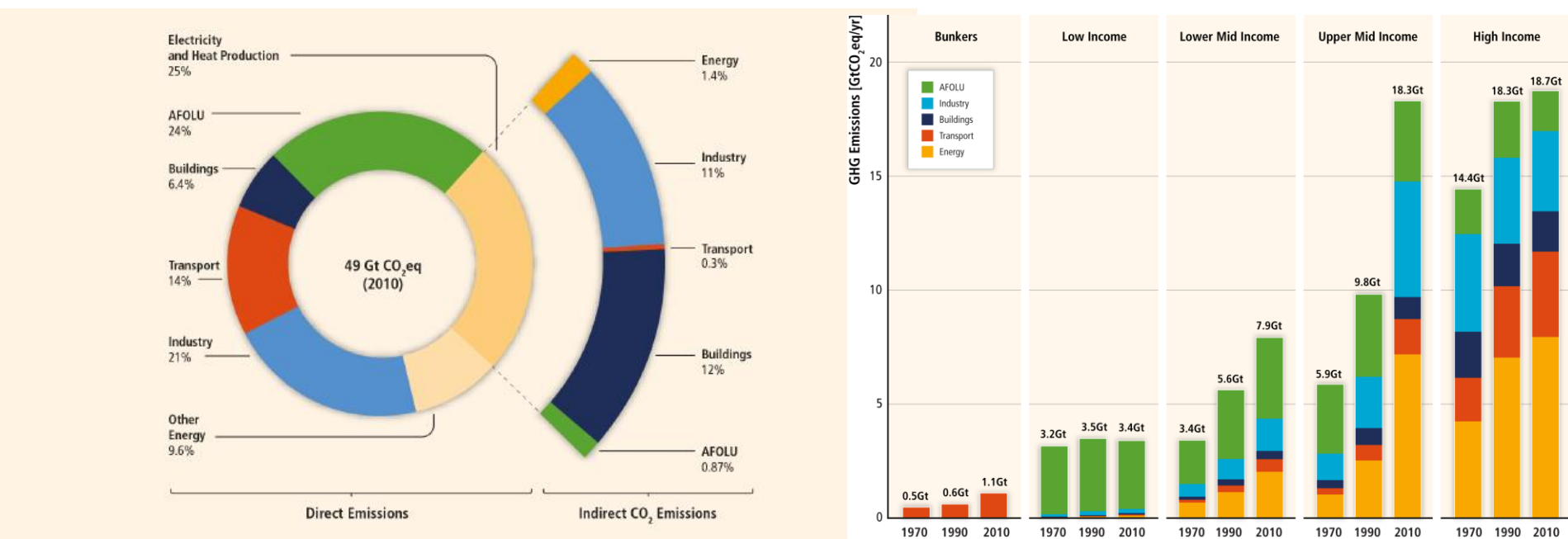
- The “2 C goal” requires major emission cuts
- The Agriculture sectors, including forestry, leads to 20-25% of global emissions
- To define most suitable and effective mitigation measures in the context of the expected changes in the climate adaptation aspects are to be consider



# The mitigation context - NEW FINDINGS of AR5

AFOLU represents 20-24% of total emissions.

Globally the largest emitting sector after energy...



...and even more important in developing countries



# How the latest assessment looks into it .....

## Globally



# AR5 AFOLU Summary Findings:

- **A combination of supply-side and demand side options** up to 80% the emissions potential reductions by 2030.
- Assessment of overall potential, including **bioenergy**, needs to include analysis of **trade-offs** and feedbacks with **land-use competition**
- **Many positive linkages with sustainable development and with adaptation exist, but are case- and site specific** as they depend on scale, scope, and pace of implementation.
- **Good governance** is central for reducing mitigation barriers in this sector and ensure multiple co-benefits for rural development and food security are achieved



What you will look for.....

on the ground



# Managing multiple objectives, integrative and landscape approaches

*“An agriculture that sustainably increases productivity, resilience, reduces/removes greenhouse gases while enhancing the achievement of national food security and development goals”*

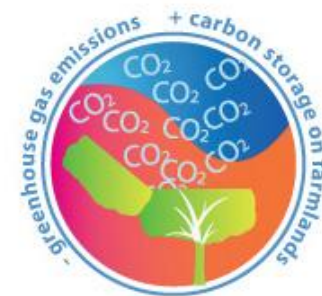
SUSTAINABLY INCREASES



STRENGTHENS RESILIENCE



REDUCES AGRICULTURE'S CONTRIBUTION TO CLIMATE CHANGE



FAO-Adapt provides an umbrella to FAO's adaptation activities, including short-term and long-term adaptation measures



Supporting readiness to implement context-specific, holistic approaches to food security, adaptation and mitigation with evidence based practices, strategies, policies, planning and investment.



A multidisciplinary programme, MICCA (Mitigation of Climate Change in Agriculture) builds on FAO's of different technical departments and collaborates with international and national organizations





## 1 ASSESSING THE SITUATION: AN EVIDENCE BASE

To identify which practices? Where?

To overcome barriers to adoption

To analyse costs and benefits (CBA)

To map policy landscapes

## 2 MANAGING CLIMATE RISK

Linking climate risks, safety  
nets, diversification strategies

## 3 COHERENT AG & CC POLICIES

across ministries &  
national to local levels

## 4 CSA STRATEGY INVESTMENT & FINANCE

TECHNICAL, INSTITUTIONAL  
& ECONOMIC PRIORITIES

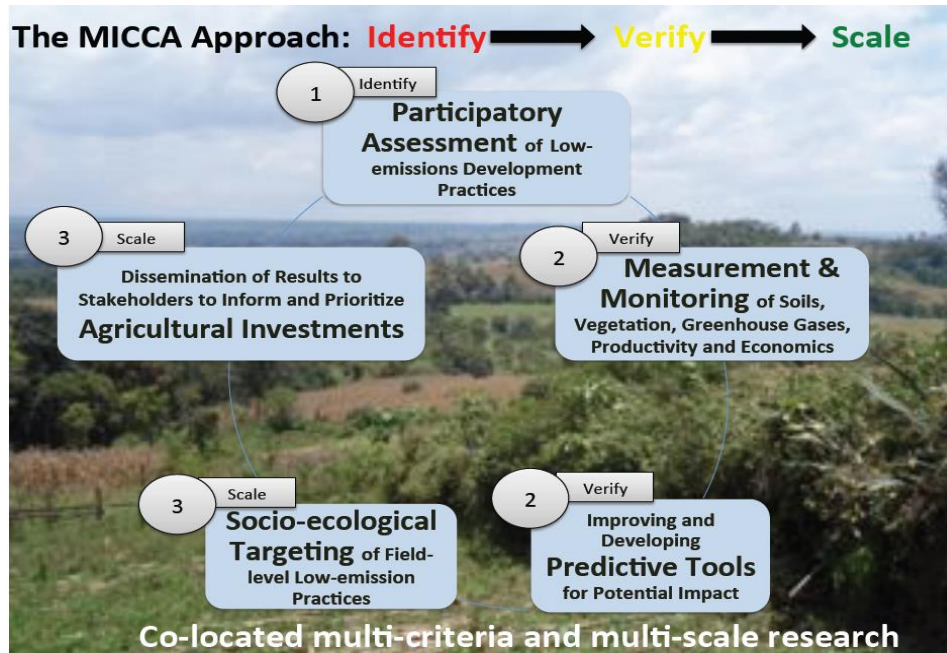
INVESTMENT PROPOSALS

BLENDING AG AND CC  
FINANCE



## Approach and initial lessons learnt

Bottom up - More than 2 500 farmers in Kenya and Tanzania



- **site-specific assessments** of the adaptation, mitigation and food security **benefits** of a range of agricultural practices.
- identified **agro-ecological** and **socio-economic settings**.

**Institutional, environmental and socio-economic factors** shape the relevance of CSA practices for farmers, including:


- policy environment
- availability of labour and land tenure
- up-front investment costs, and access to credit
- gender roles
- climatic risks and variations
- Bio-physical conditions (e.g. soil, biomass, water)


# Smart practices identified


Kenyan and Tanzanian farmers prioritized these climate smart practices:





# FAO SUCCESS STORIES ON CLIMATE-SMART AGRICULTURE ON THE GROUND

- 


1 Preserving the Agro-forestry system on Mount Kilimanjaro
- 


2 Sustainable grazing for better livelihoods in China
- 


3 Climate-smart agriculture for smallholder farmers in Kenya and Tanzania
- 


4 Andean agriculture: the importance of genetic diversity
- 

5 Climate-smart agriculture: a readiness project in Malawi, Vietnam & Zambia
- 

6 A landscape approach for policy making, planning, and monitoring in the Kagera river basin
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7 Ecosystem approach to fisheries and aquaculture for food security in Nicaragua
- 

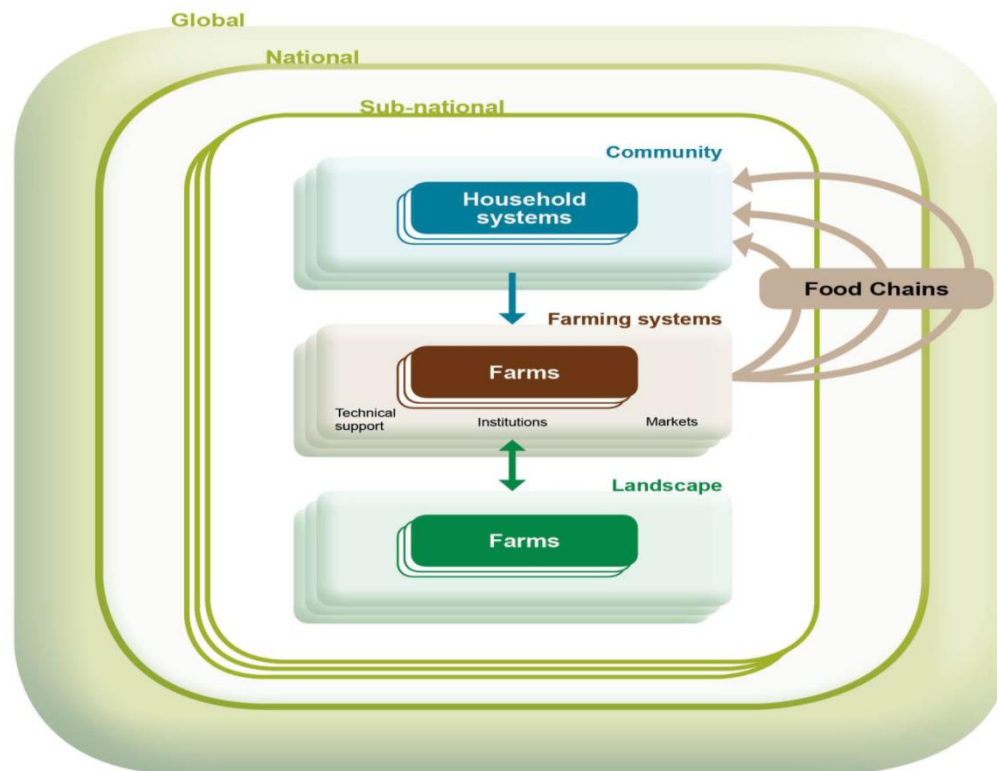
8 Promoting the development of urea deep placement in Nigeria through South/South cooperation
- 

9 Developing capacity to understand & address the gender dimensions of climate change and agriculture in India
- 

10 Livestock waste management in East Asia



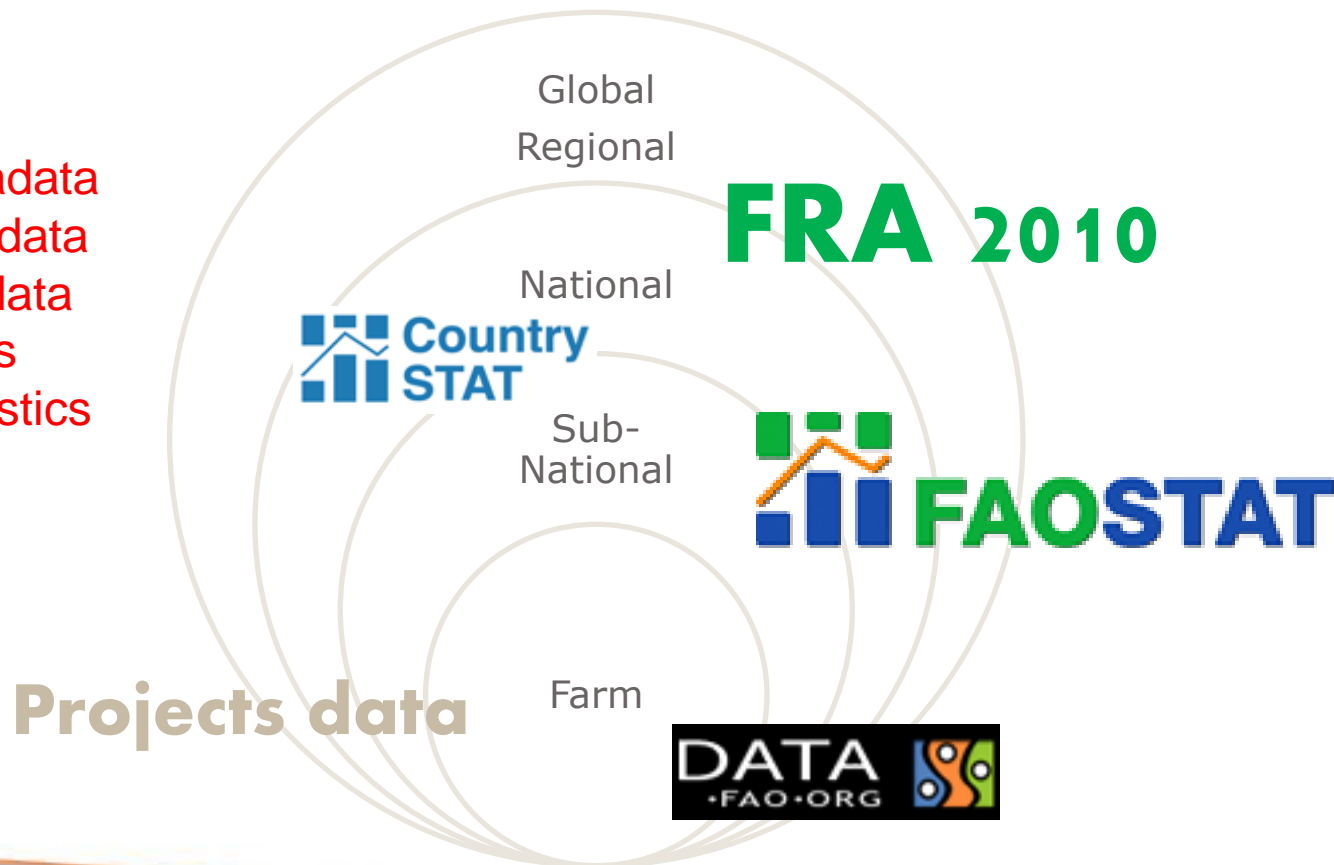
# Looking at different scales



**Scale down/up and integration**

# Inform decisions.... importance of data

Metadata  
GIS data  
RS data  
Maps  
Statistics  
Etc.



**Data collection and sharing is  
a challenge and an opportunity**



# What have we learned?

- New challenges
  - depleted/degraded land resources, lower carrying capacity of land but population increasing, land grabbing, limited land resources in some countries heightens competition for land and water among different land uses
- Increased productivity important to adoption of climate-smart practices by rural populations and to limit expansion of productive activities into carbon rich areas (but trade-offs and synergies, local contexts need to be analyzed).



# What have we learned?

- Land sectors can make a significant contribution to mitigation but must also fulfill other roles vis-à-vis food security, development.
- The good news is that there are options which have productivity, mitigation and adaptation benefits, particularly in agriculture. Many of these are sustainable land management practices.
- Therefore mitigation in these sectors requires a multiple objective approach, which also looks across different land uses and recognizes the special role of agriculture in food security.





# Why to take action now?

- Land use sectors is the main source of livelihoods of the world's food
- The largest growth in populations is expected in agricultural-based economies that already have high food insecurity
- Agricultural growth is needed not only to increase food supply, but to increase the incomes of poor producers and rural populations
- There are good opportunities to contribute to mitigation in the land use, such as REDD+ activities.



# Successful actions on the ground?

Incorporating mitigation into planning/strategies can offer increased potential for emissions reductions and enhancement of sinks and additional financing

**It will be more  
successful in resilient  
landscapes**

Climate change adaptation if incorporated in strategies to achieve agricultural development goals will build resilience in the entire food system – not just production systems



# Let's move on...

**Technical exchange/support at global, regional, national and local level, coordinating different partners**

- Data and knowledge: for impact and vulnerability assessment and adaptation, and exploring and realizing mitigation potential
- Sustainable and climate-smart management of land, water and biodiversity
- Technologies, practices and processes for adaptation and mitigation
- Institutions, policies and financing to strengthen capacities for adaptation and mitigation



# Let's move on....

- Building an evidence base on land use and land use change to inform land use planning and policy decision-making.
- Integrated land-use planning at different scales.
- Mechanisms for consulting land users to inform policies
- Enabling integrative approaches

**... To better understand how to contribute ...**



# Thank you

