



# Cambio Climático:

## Guías para la Mitigación en la Agricultura

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# Agricultura climáticamente inteligente



INCREMENTA DE  
FORMA SOSTENIBLE

FORTALECE LA RESILIENCIA

REDUCE LA CONTRIBUCIÓN DE LA  
AGRICULTURA AL CAMBIO CLIMÁTICO



\* FAO incluye forestaría, pesca, acuicultura en la definición de Agricultura



Food and Agriculture Organization of the United Nations

[www.fao.org/climatechange](http://www.fao.org/climatechange)



# Gestión de



WOCAT

World Overview of  
Conservation Approaches  
and Technologies



EPIC ECONOMICS & POLIC  
CLIMATE-SMART AGI



Agro-MAPS

Climpag

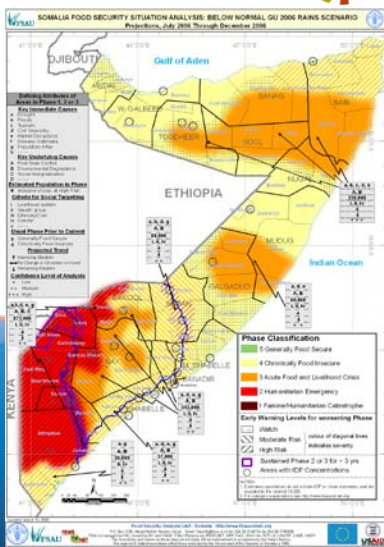
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NEGOTIATIONS

Compendium on methods and tools to evaluate impacts of, and vulnerability and adaptation to climate change

Total entries: 30

Method / Tool	Sector	Theme	Type
ACRU (Agricultural Catchments Research Unit)	Agriculture	Impact assessment	Mode
AFRC-Wheat	Agriculture	Impact assessment	Mode
Agroclimatic Water Stress Mapping	Agriculture	Impact assessment Vulnerability mapping	Mode Risk and a decis tool
AgroMetShell	Agriculture	Impact assessment	Mode
Alfalfa 1.4	Agriculture	Impact assessment	Mode
APSIM (Agricultural Production Systems SIMulator)	Agriculture	Impact assessment Methodological frameworks	Mode Risk and a decis tool
AquaCrop	Agriculture	Impact assessment	Mode
Climate Outlooks and Agent-based Simulation of Adaptation in Africa (CLOUD)	Agriculture Terrestrial ecosystem	Adaptation evaluation Impact assessment	Mode Risk and a decis tool
CLIMWAT 2.0	Agriculture	Adaptation evaluation Climate scenarios Stakeholder engagement	Mode
	Agriculture	Climate scenarios	Reso
	Agriculture	Impact assessment	Mode
	Agriculture	Economic analysis	Mode



African Regional Agriculture



## Mitigation of Greenhouse Gas Emissions in Livestock Production - A review of technical options for non-CO2 emissions



This report presents a unique and exhaustive review of current knowledge on mitigation practices for greenhouse gas emissions in the livestock sector. It focuses specifically on non-CO2 emissions from enteric fermentation and manure management.

It is part of a stream of activities being carried out by FAO to identify low greenhouse gas emission pathways for the livestock sector. The report references over 900 publications on the mitigation of direct nitrous oxide and methane emissions and highlights the most promising options, given their demonstrated effectiveness and feasibility for adoption. The review was deliberately limited to in vivo experiments to reflect what can be achieved with

available mitigation practices.





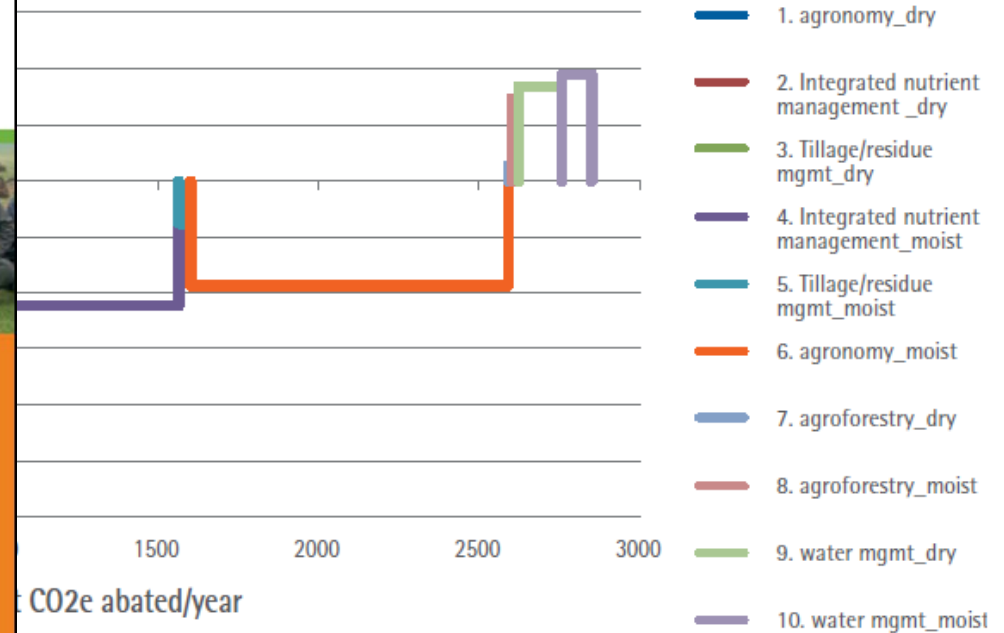
# MITIGATION of CLIMATE CHANGE in AGRICULTURE

## Climate Change Mitigation Finance for Smallholder Agriculture

A guide book to harvesting soil carbon sequestration benefits



costo efectivas para el abatimiento de GEI  
 Manejo agronómico. Plan Nacional de Inversiones  
 (Inca et al, 2012).



**National integrated mitigation  
planning in agriculture:  
A review paper**



7

MITIGATION OF CLIMATE CHANGE IN AGRICULTURE SERIES



RESEARCH PROGRAM ON  
Climate Change,  
Agriculture and  
Food Security



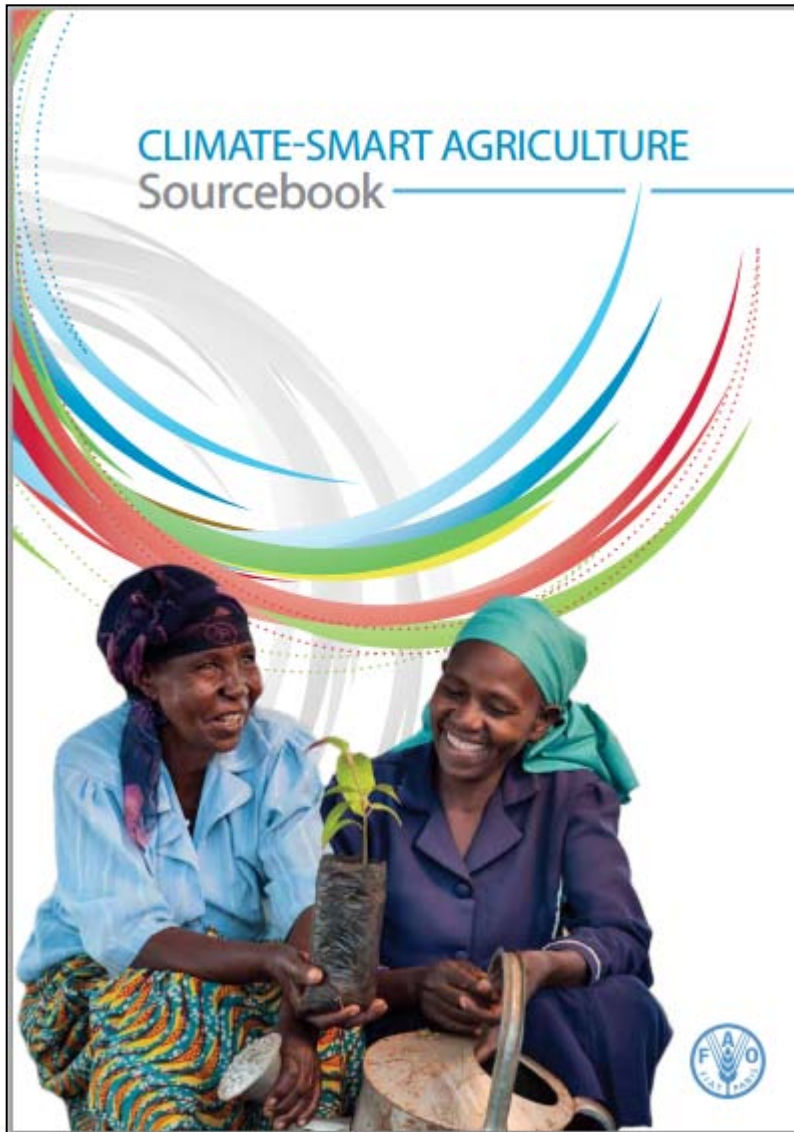
Este documento  
revisa Desarrollos  
Bajo en Carbono  
en 18 países y  
NAMAs Agrícolas  
en 30 países

<http://www.fao.org/docrep/017/i3237e/i3237e.pdf>



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# Agricultura Climáticamente Inteligente: Sourcebook

<http://www.fao.org/docrep/017/i3237e/i3237e.pdf>



# Sourcebook modules

## Section A



1. Concept and scope



2. Landscape approach

## Section B



3. Farming practices



4. Farming systems



5. Food chains

## Section C



9. DRR



10. Safety nets



11. Capacity building



6. Institutions



7. Policy



8. Finance



12. Assessment





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Food security and climate change can be addressed together by transforming agriculture and adopting practices that are "climate-smart".



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Herramientas para la Planificación en Agricultura: Mitigación

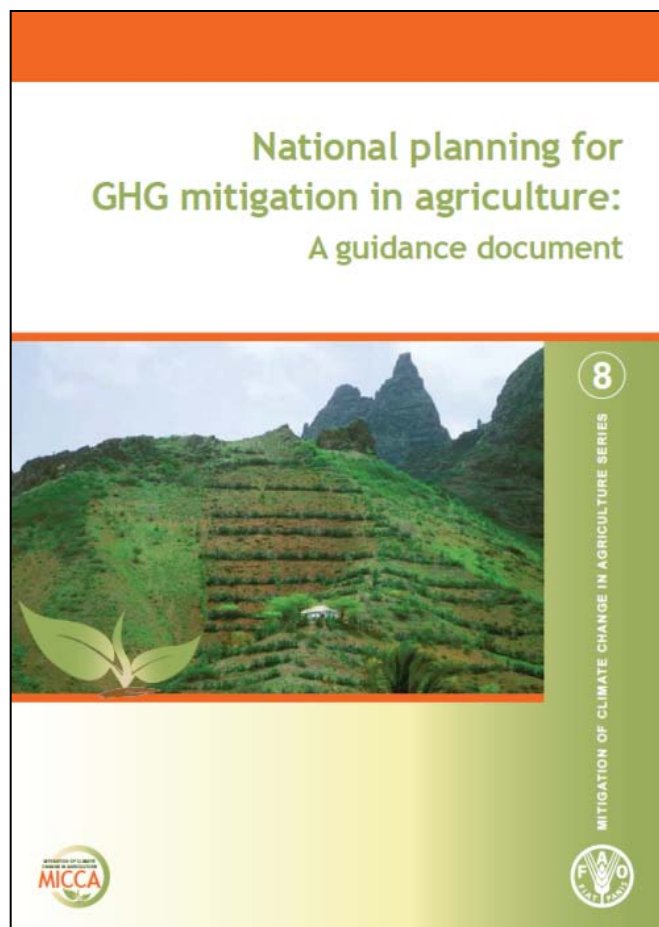
# **GUIA PARA LA ELABORACIÓN DE NAMA EN LA AGRICULTURA**



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# Guía de Apoyo a la planificación de NAMA



<http://www.fao.org/docrep/017/i3237e/i3237e.pdf>

- **Mensaje Principal:** El Cambio climático puede ser alineado con los objetivos de desarrollo agrícola.

- Contenido: **NAMA componentes**

Technical  
dimensions

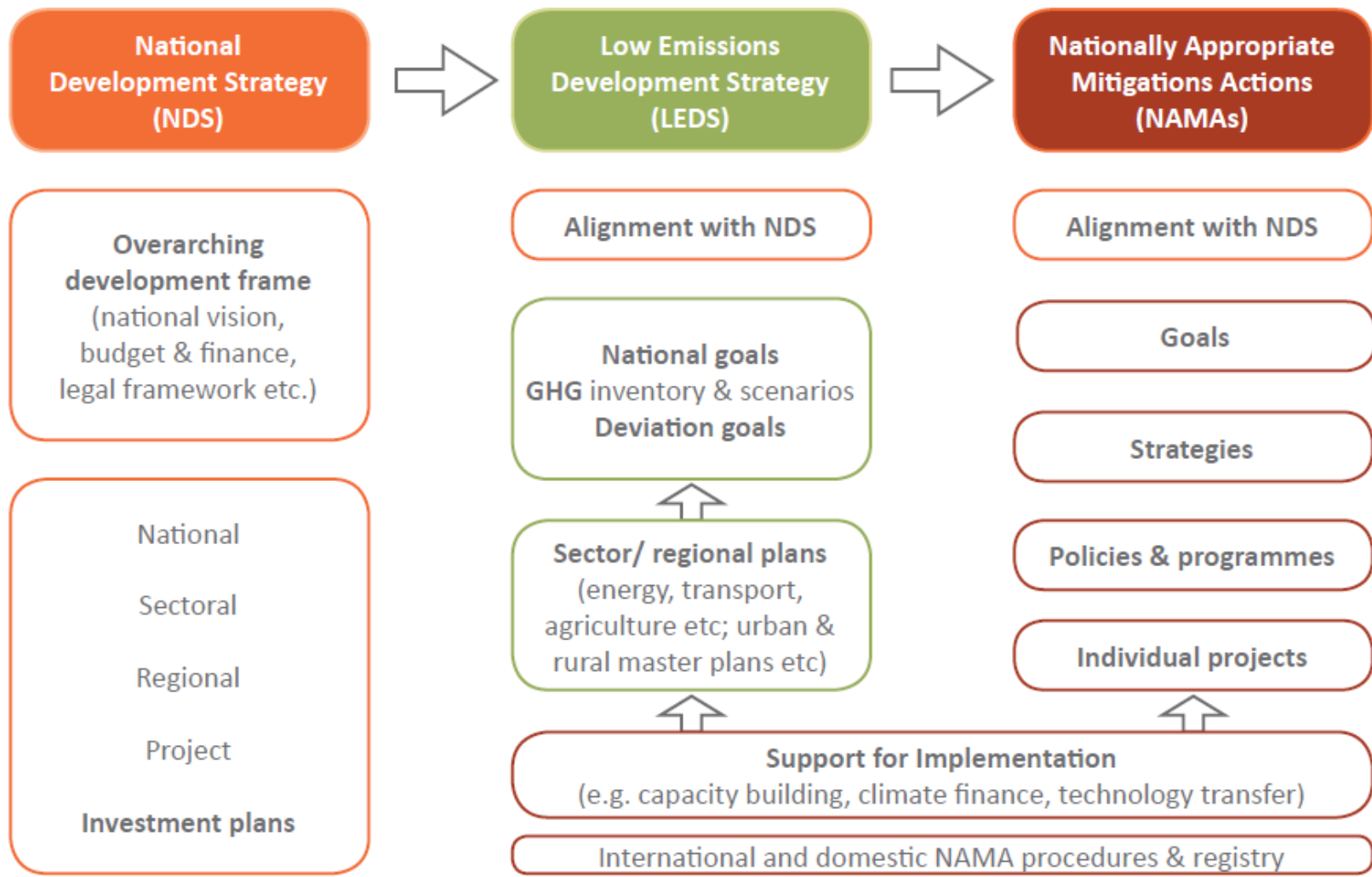
Policy  
dimensions

Institutional  
dimensions

- **Enfoque Paso-a-Paso** para diseñar un NAMA
- **Casos de estudio** de país que permite ilustrar el abanico de opciones
- **Combinando** otras **fuentes de financiamiento** además del financiamiento climático
  - **El mayor desafío es MRV** para solicitud de financiamiento en clima



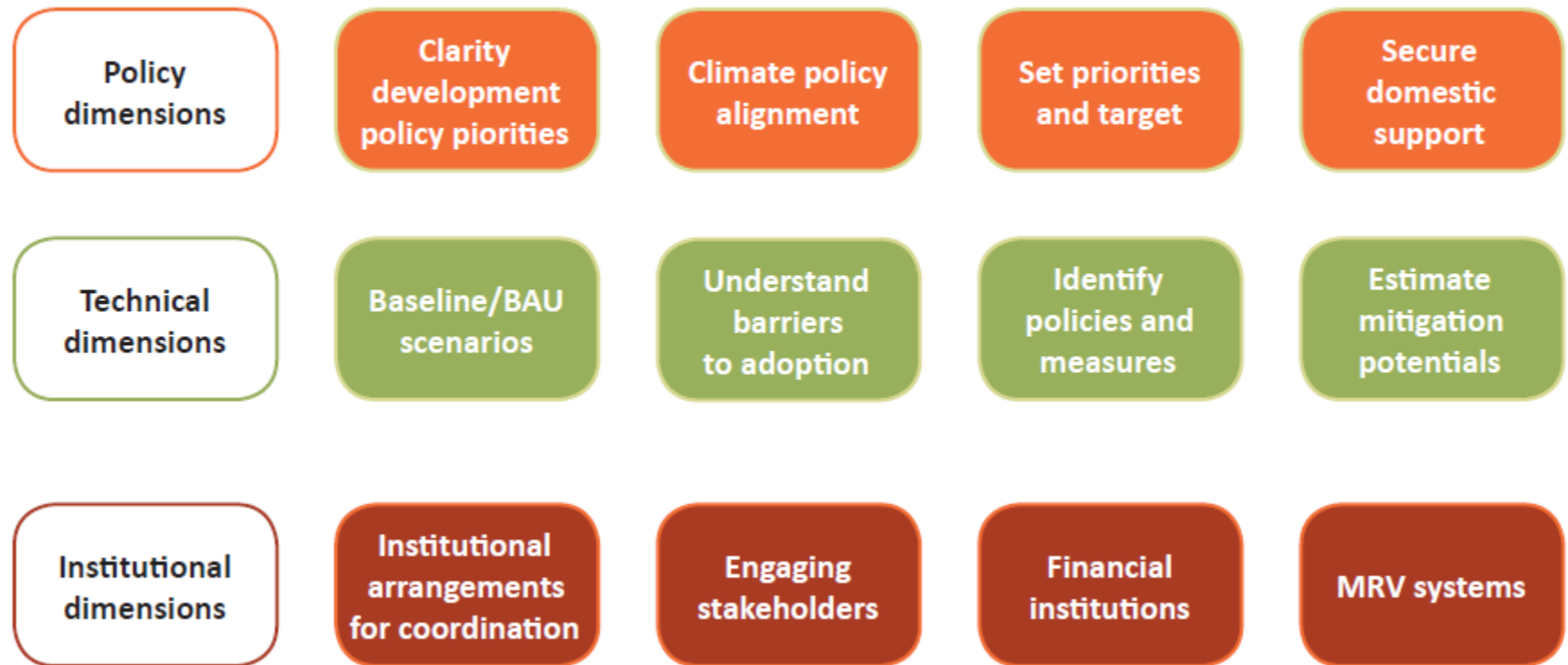
## Box 1: Relationship between national development plans, LEDS and NAMAs



Source: (Adapted from UNEP, 2012)



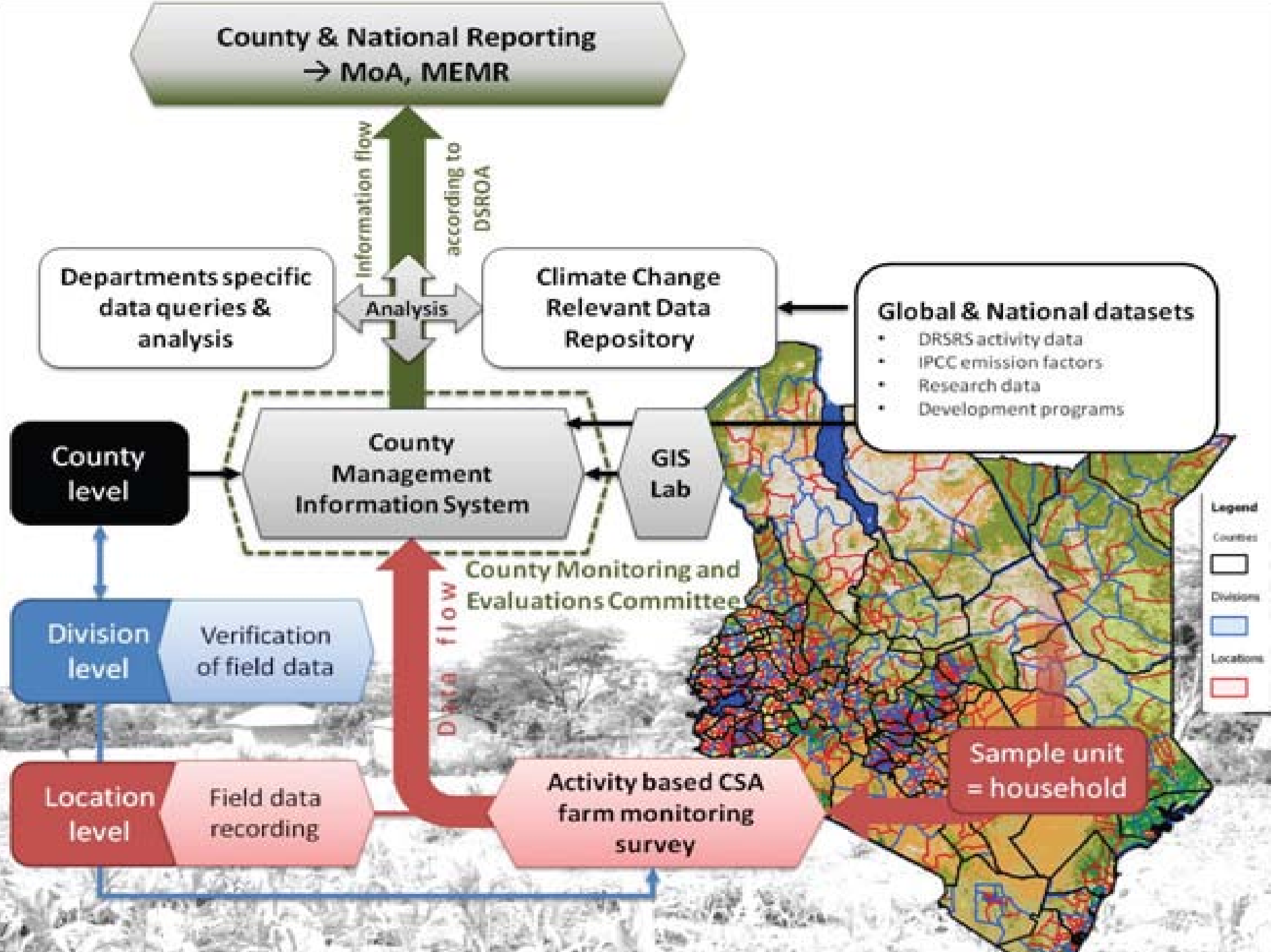
## Box 2: Key elements in the mitigation planning process



Source: Wilkes, Tennigkeit and Solymosi, 2013

## Box 12: Matching finance tools to adoption barriers

Barriers to mitigation actions	Type of financing	Public finance mechanism
Low (or no) return on investment	Contribution to investment and operational costs	Up-front grant (e.g. direct subsidies, investment tax breaks, grant or concessional loans) Funding during operation (e.g. feed-in remuneration, carbon markets)
High up-front costs and lack of access to capital	Facilitate access to finance	Provide debt, e.g. loans or credit lines Provide equity Incentivize existing financial system
High risk	Provide risk coverage	Risk guarantees, insurance schemes
High transaction costs		Standardization and aggregation
Non-financial barriers (e.g. regulatory, lack of information or capacity)	Finance technical assistance	Mostly grants



# Basado en Casos de Estudio

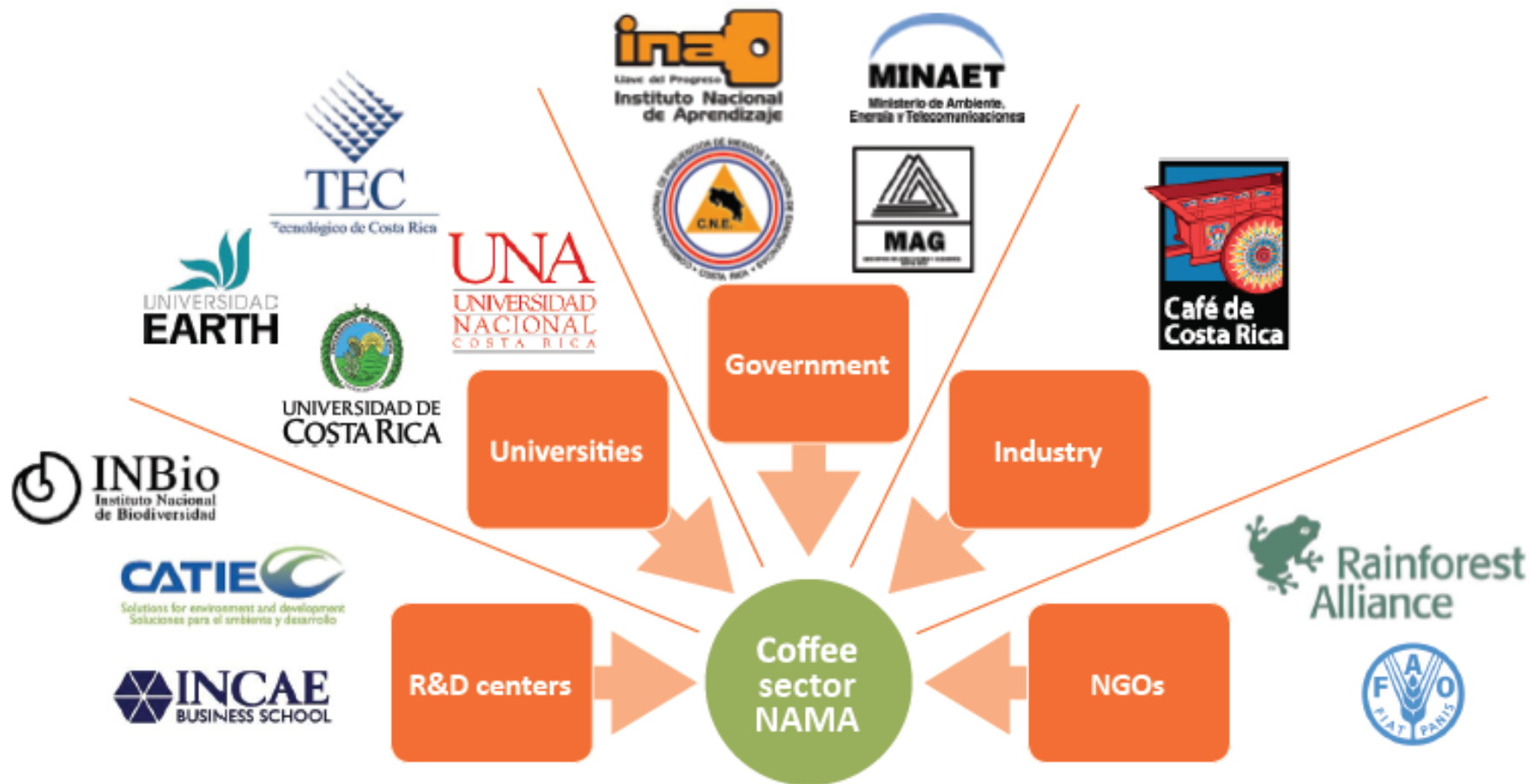
## Box 13: Estimated mitigation potentials of generic activities in selected countries

Country and mitigation action	Estimated emission reduction in megatonnes of CO <sub>2</sub> eq
<b>Brazil</b>	<b>by 2020</b>
Reduction of Amazon deforestation	564
Reduction of Cerrado deforestation	104
Restoration of grazing land	83-104
Integrated crop-livestock system	18-22
No-till farming	16-20
Biological nitrogen fixation	16-20
Planted forests	8-10
Animal waste treatment	6.9





# Caso de NAMA café en Costa Rica



# Para más informa información

- <http://www.fao.org/climatechange/micca/en/>
- <http://www.fao.org/docrep/017/i3237e/i3237e.pdf>
- <http://www.fao.org/docrep/018/i3325e/i3325e.pdf>
- <http://www.fao.org/docrep/017/i3237e/i3237e.pdf>

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