Implications from Cancún on climate change and agriculture
&
Climate Change Work at FAO

Peter Holmgren
Director, Climate, Energy and Tenure Division
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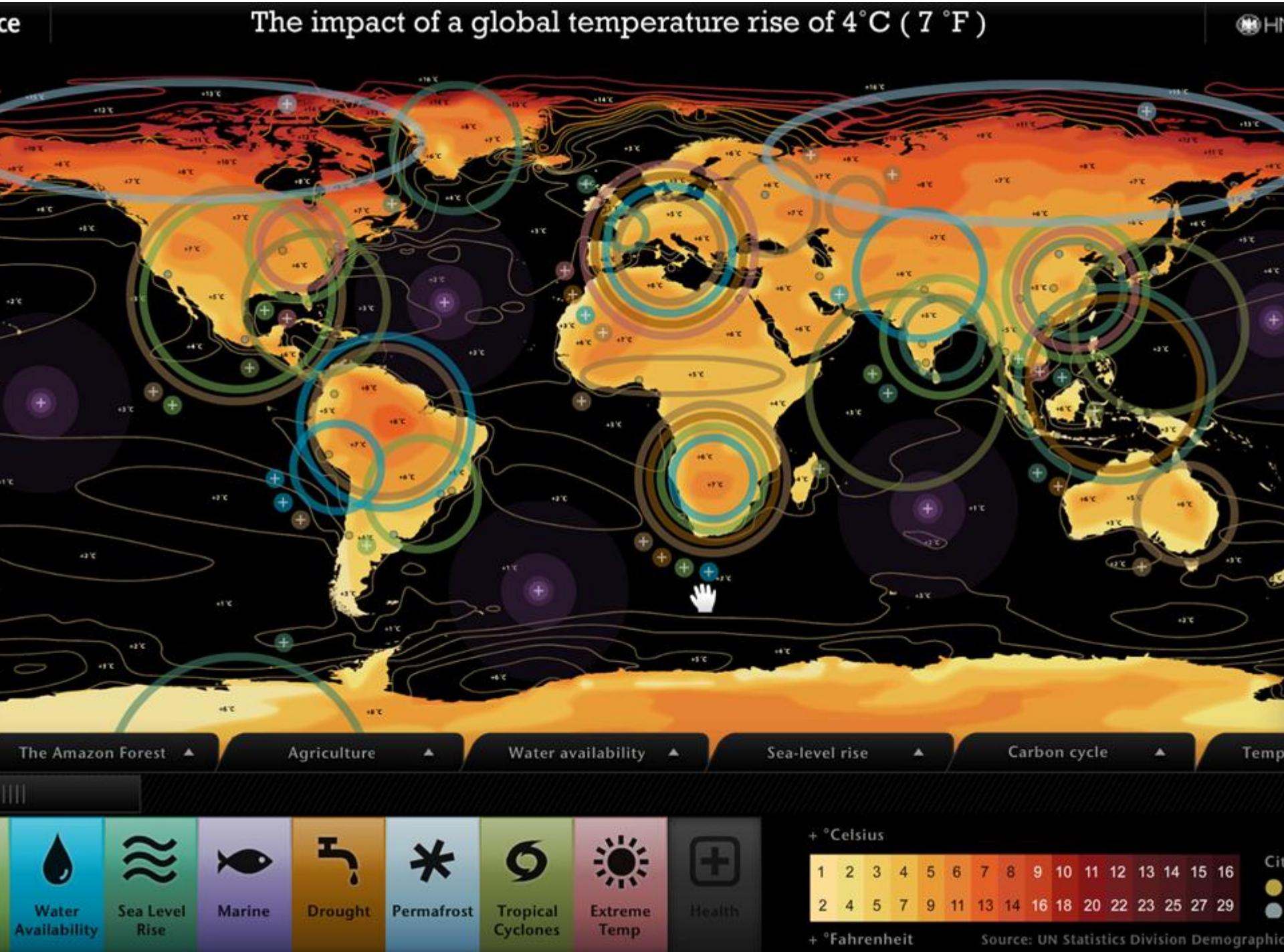
Act fast, get it right and make it work

Food security can't wait, neither can action on climate change


The impact of a global temperature rise of 4°C (7 °F)
The Amazon Forest
Agriculture
Water availability
Sea-level rise
Carbon cycle
Water Availability
Sea Level Rise
Marine
Drought
Permafrost
Tropical Cyclones
Extreme Temp
Health
+ °Celsius
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
2 4 5 7 9 11 13 14 16 18 20 22 23 25 27 29
+ °Fahrenheit
Source: UN Statistics Division Demographic

Cancún Agreement – selected points

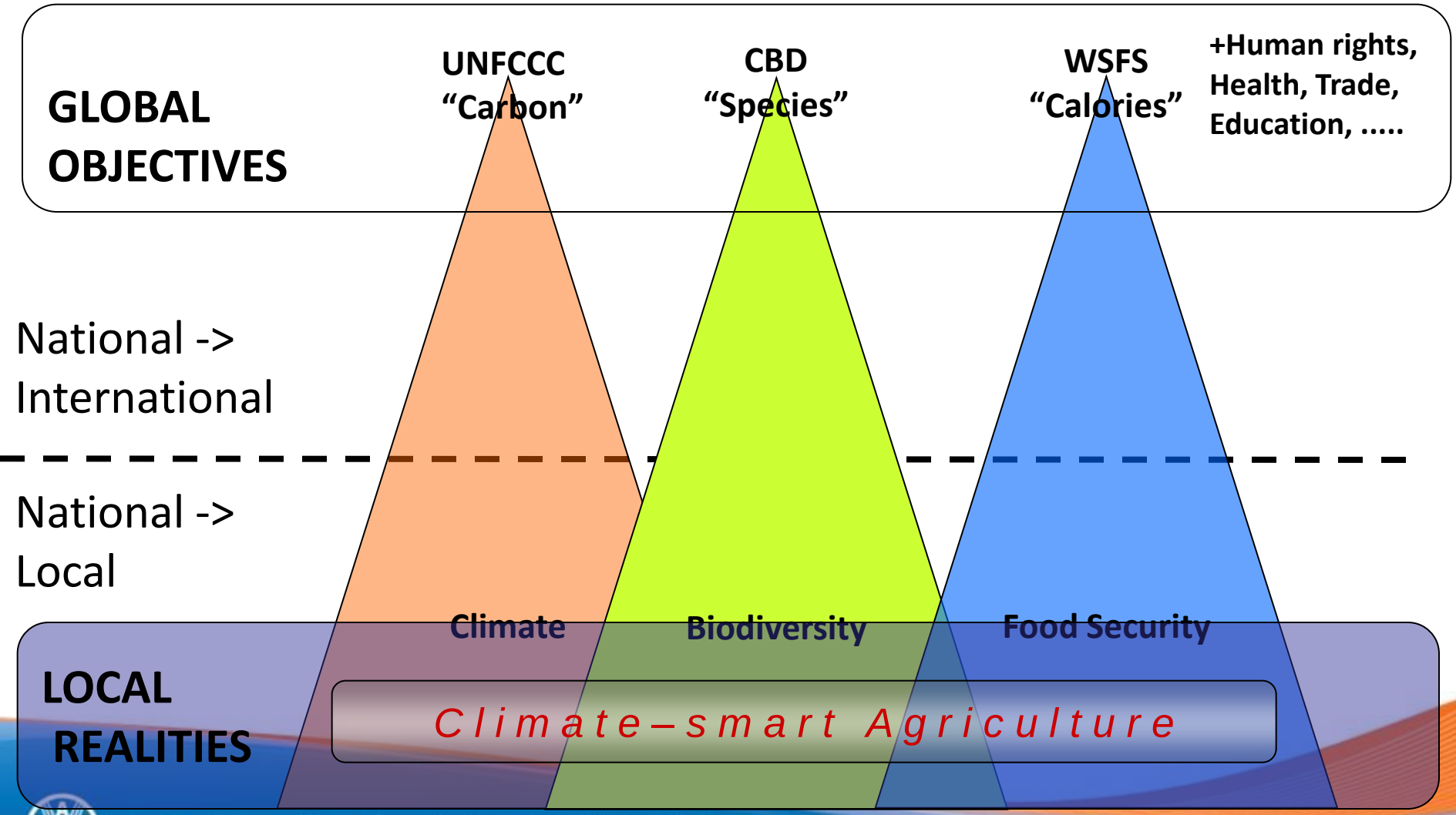
- Formal recognition that current emissions pledges need to rise
- Decision on Long-Term Cooperative Action, including:
  - Enhanced action on adaptation (Cancun Adaptation Framework)
  - Enhanced action on mitigation:
    - improved assessments nationally and internationally,
    - registry of nationally appropriate mitigation actions)
    - REDD+ (includes, potentially, mitigation actions related to all types of forests, i.e. in the agriculture–forest interface)
  - Finance (Green Fund, 100 b$/year by 2020 for developing countries against climate impact and for low-carbon development. World Bank to be interim trustee)
- Extension of Kyoto protocol was postponed
- Agriculture work programme was postponed

Two Goals of Our Time

1. Achieving Food Security
   - 1 billion hungry
   - Food production to increase 70% by 2050
   - Adaptation to Climate Change critical

2. Avoiding Dangerous Climate Change
   - ”2 degree goal” requires major emission cuts
   - Agriculture and Land use = 30% of emissions..
   - ..and needs to be part of the solution

A Sustainable Development landscape



Climate-smart Agriculture

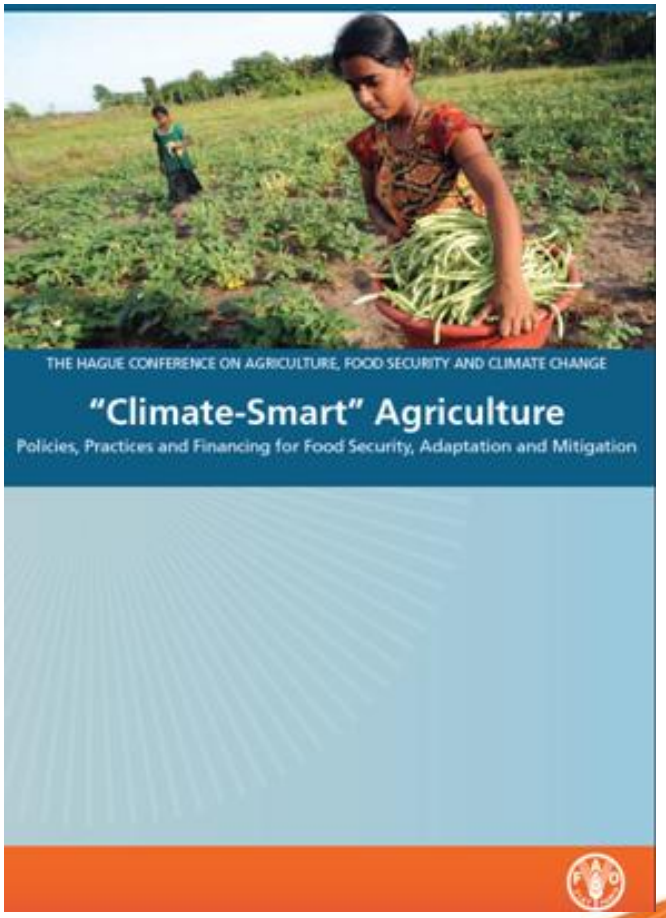
Agriculture that sustainably:

- increases productivity
- increases resilience (adaptation)
- reduces/removes GHGs

AND

- enhances achievement of national food security and development goals

MULTIPLE OBJECTIVES!



Climate-smart agriculture – Key work areas

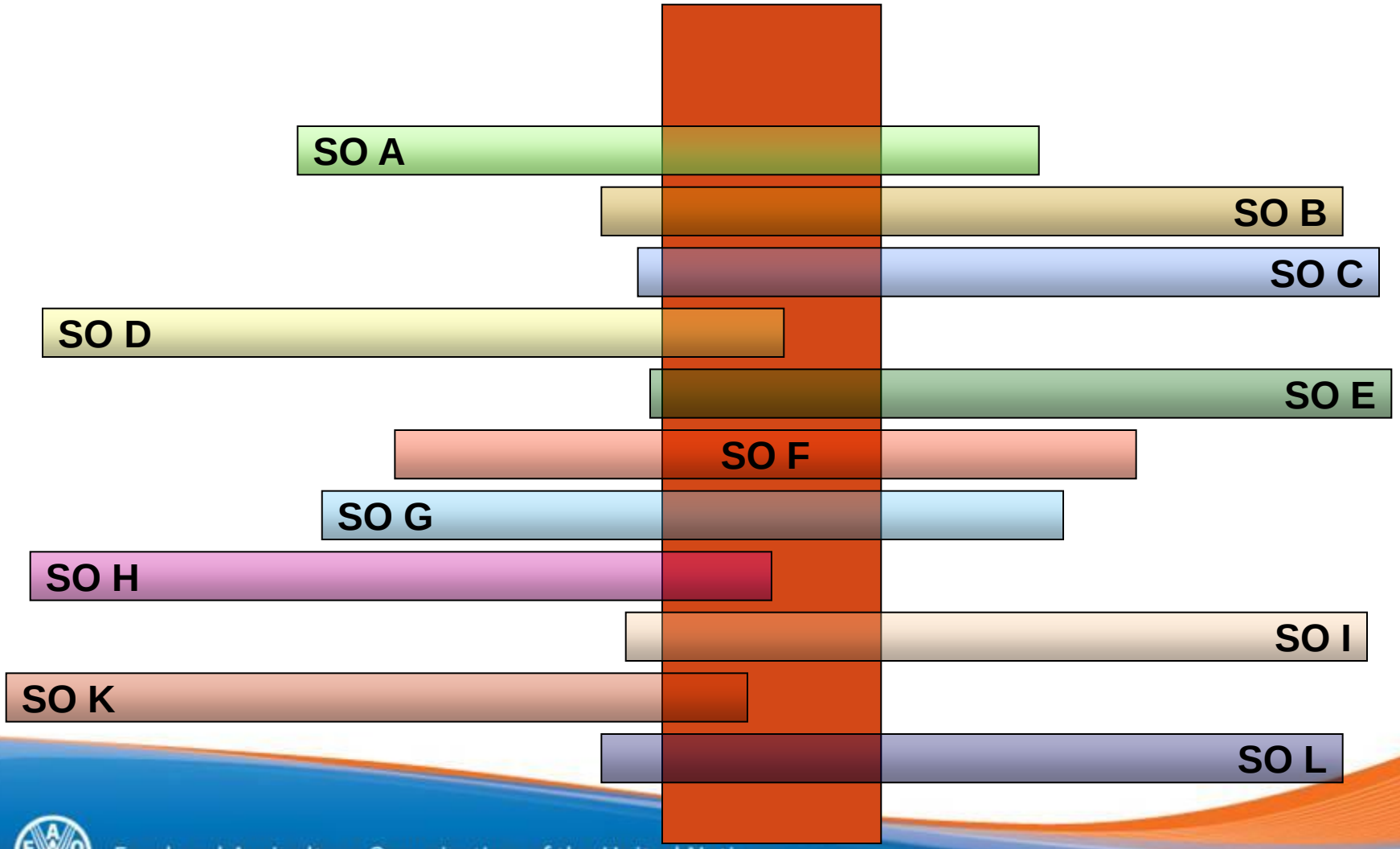
Always inter-departmental and cross-cutting:

- **FAO-Adapt**
  - Framework Programme on Climate Change Adaptation
- **MICCA**
  - Mitigation of Climate Change in Agriculture
  - **Assessment of Emissions and Mitigation Potentials** in Agriculture Sectors
- **MOSAICC**
  - Modelling System for Agricultural Impacts of Climate Change
- **EX-ACT**
  - Incorporating climate impact into agriculture investments
- **REDD+**
- Coordinated response to **UNFCCC**

FAO-Adapt

- New framework programme for up-scaling FAO's support to member countries in climate change adaptation.
- Defines priority adaptation themes and actions, where FAO can provide technical and policy support
- Strengthens FAO's internal coordination and cross-departmental work on adaptation
- Facilitates resource mobilization, especially climate finance
- Prepared as a joint effort of the whole of FAO

FAO-Adapt
and the FAO Strategic Framework



MICCA

- Mitigation of Climate Change in Agriculture
- 5 year programme, 2010-2014
- **Goal**: Support developing countries in contributing to mitigation of climate change & move towards climate-smart agriculture
  - improve global information on GHG emissions from agriculture
  - accurately assess potentials of mitigation
  - piloting mitigation mechanisms

- **Conservation Agriculture** project in Uluguru Mountains, Tanzania with CARE International, start May 2011
- **Smallholder East Africa Dairy Development** (EADD) Project in Western Kenya with Heifer International, ICRAF and ILRI, start May 2011
- Smallholder **agro-ecological/landscape management project** at forest-intensive maize cultivation land use border, Loja, South Ecuador with Heifer Ecuador, planned for Autumn 2011
- **Smallholder integrated food energy system project** in Vietnam with SNV, CCRD and FAO Bioenergy group, planned for Autumn 2011
- **Smallholder rice project** in Cambodia or other country

Key knowledge gaps

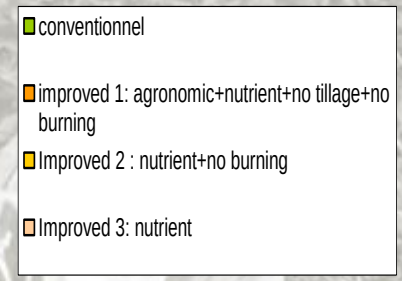
- Impact **OF** agriculture sectors **ON** climate
  - assessment of emissions and mitigation potentials, part of MICCA
  - land based and life-cycle based assessments
  - strong IPCC connection
  - links to investments in agriculture
- Impact **ON** agriculture sectors **OF** climate
  - MOSAICC, improved and accessible models
  - downscaling projections and assessments of climate, hydrology, crop productivity

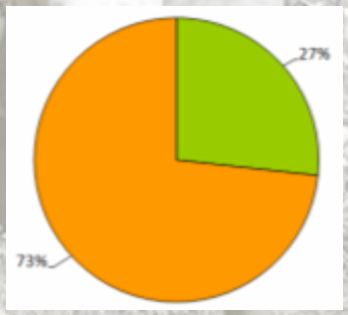
APPLICATIONS OF THE EX-ACT TOOL

Accelerated Food Security Project in the United Republic of Tanzania

Objective: Increase agricultural production and productivity
Targets: 2.5 millions farmers
Means: improve rice and maize crops (vouchers : improved seeds, inputs), stop residue burning, adoption of improved practises with better agronomic practises and better nutrient management
Duration of carbon balance appraisal: 7+13 years

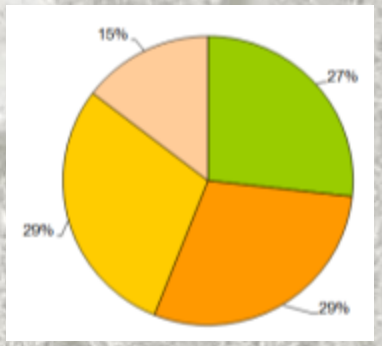
T Eq-CO_2	Maize	Irrigation	Irrigated rice	Inputs	Total
Carbon balance (CB)	-12.616.561	235	2.607.667	4.187.055	-5.821.604
				CB.ha^{-1}	-5,5
				CB.an^{-1}.ha^{-1}	-0,28





SCENARIO 1

T Eq-CO_2	Maize	Irrigation	Irrigated rice	Inputs	Total
Carbon blance (CB)	-8.353.397	235	2.607.667	4.187.055	-1.558.440
				CB.ha^{-1}	-1,5
				CB.an^{-1}.ha^{-1}	-0,07



SCENARIO 2

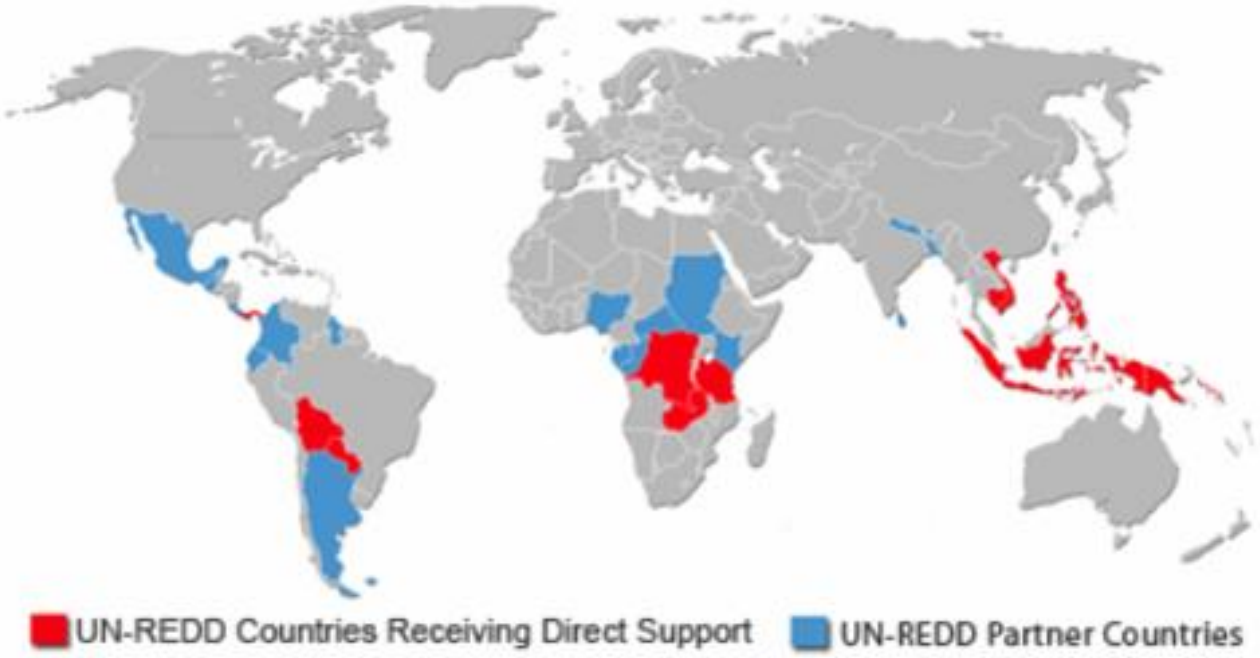
REDD+

- UN-REDD Programme
  - FAO – UNDP – UNEP
  - 29 member countries, 12 programme countries
  - Global Programme
  - 150 M$ portfolio, multi-donor trust fund
- REDD+ Partnership
  - Secretariat services
  - Database on REDD+ finance
- Other REDD+ Programmes/Contributions
  - Sida, FAO-FIN, Norway-Mexico, CBFF

UN-REDD Countries

Countries receiving direct support: Bolivia, Cambodia, Democratic Republic of the Congo, Indonesia, Panama, Papua New Guinea, Paraguay, Solomon Islands, The Philippines, Tanzania, Viet Nam, Zambia

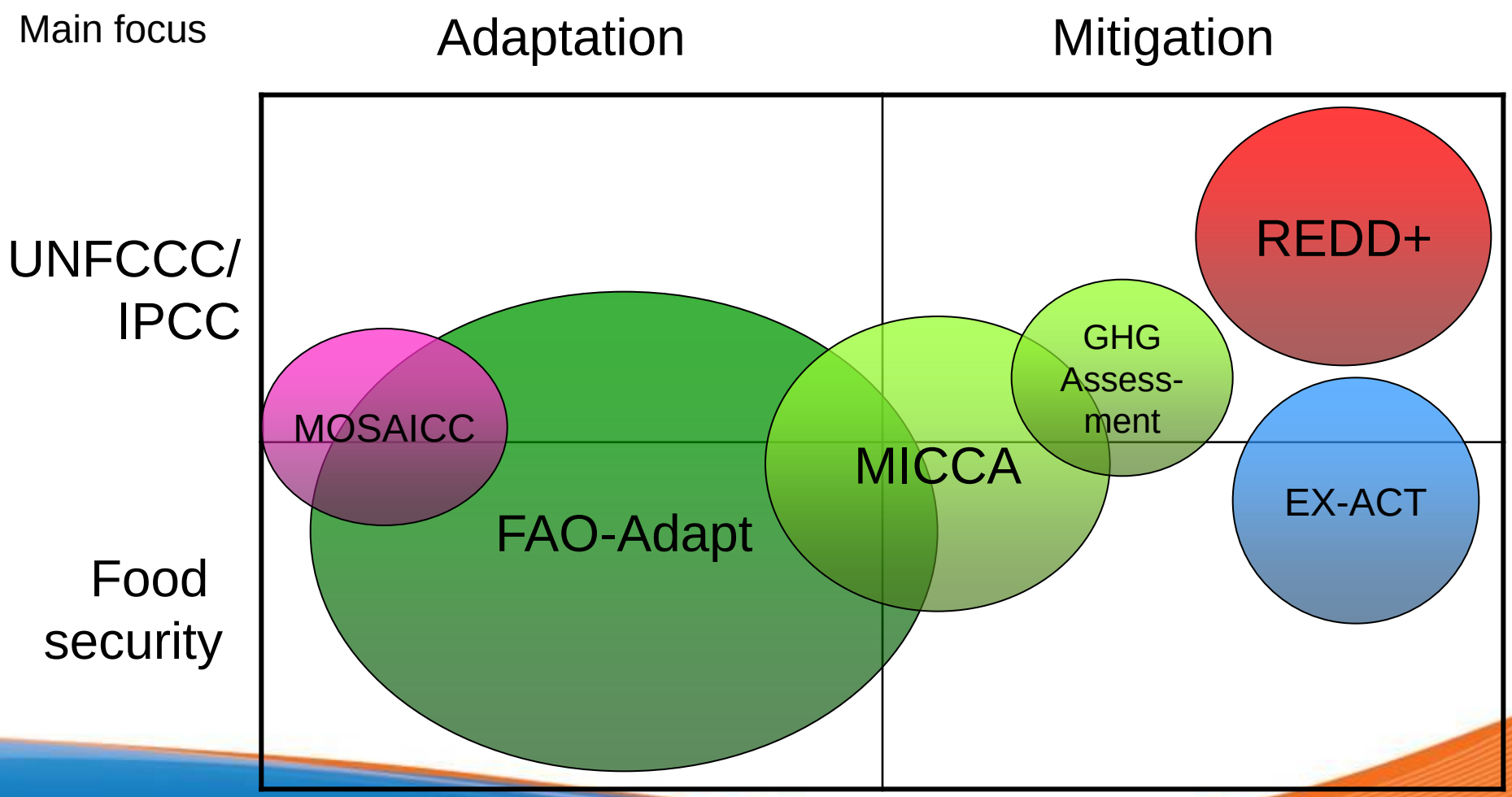
Partner countries: Argentina, Bangladesh, Bhutan, Central African Republic, Colombia, Costa Rica, Ecuador, Gabon, Guatemala, Guyana, Kenya, Mexico, Nepal, Nigeria, Republic of Congo, Sri Lanka, Sudan.



The right REDD+ focus?

No. 'It's the agriculture, stupid'

FAO climate change work areas



Concluding remarks

- Climate-smart agriculture
  - political momentum is growing
  - not yet in UNFCCC negotiations
  - but some key events planned for 2011
  - address multiple development objectives
  - combine finance streams
- FAO's role
  - climate change concerns all aspects of FAO's work
  - opportunity to re-emphasize existing goals
  - address knowledge and capacity gaps
  - pilots and demonstrations
  - seek up-scaling through existing institutions in agriculture sectors