

Climate Change and Genetic Resources for Food and Agriculture

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Some perspectives

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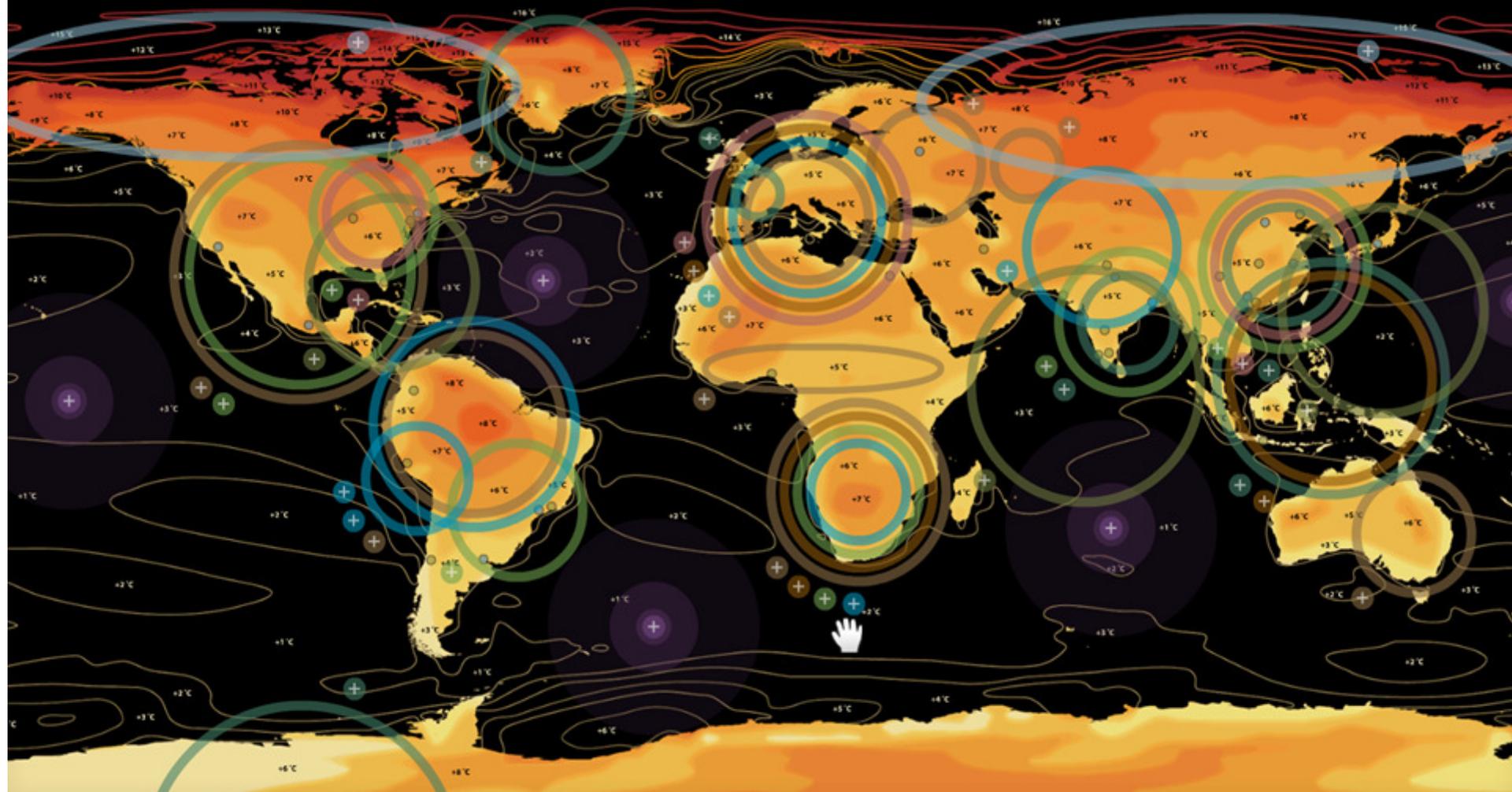


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ice

The impact of a global temperature rise of 4°C (7°F)



- The Amazon Forest ▲
- Agriculture ▲
- Water availability ▲
- Sea-level rise ▲
- Carbon cycle ▲
- Temp ▲

III

 Water Availability	 Sea Level Rise	 Marine	 Drought	 Permafrost	 Tropical Cyclones	 Extreme Temp	 Health
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+ °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 Demograph

Climate Change and Food Security

or

Climate Change, Food and Security

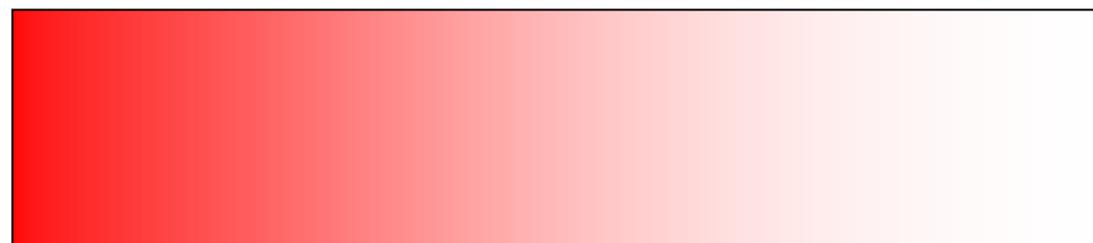


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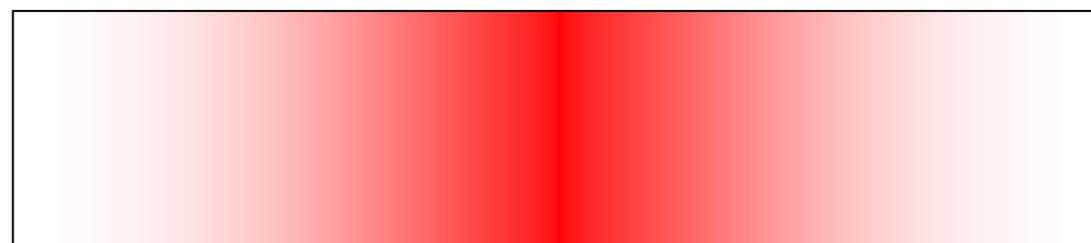
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Timescales of attention

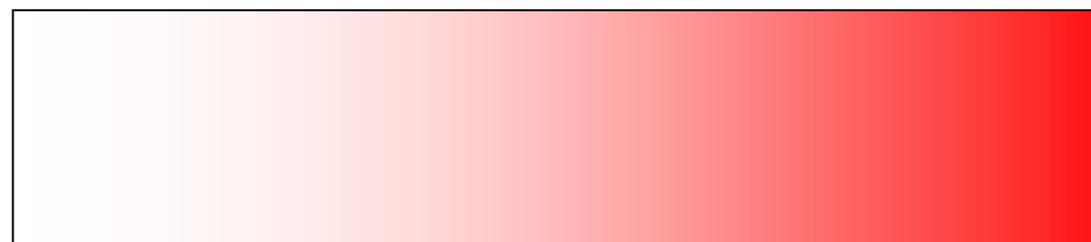
Politics,
Finance



Agriculture
investments



Climate change
impacts



years: 1

10

100



Two Long-term Goals of Our Time

1. Achieving Food Security

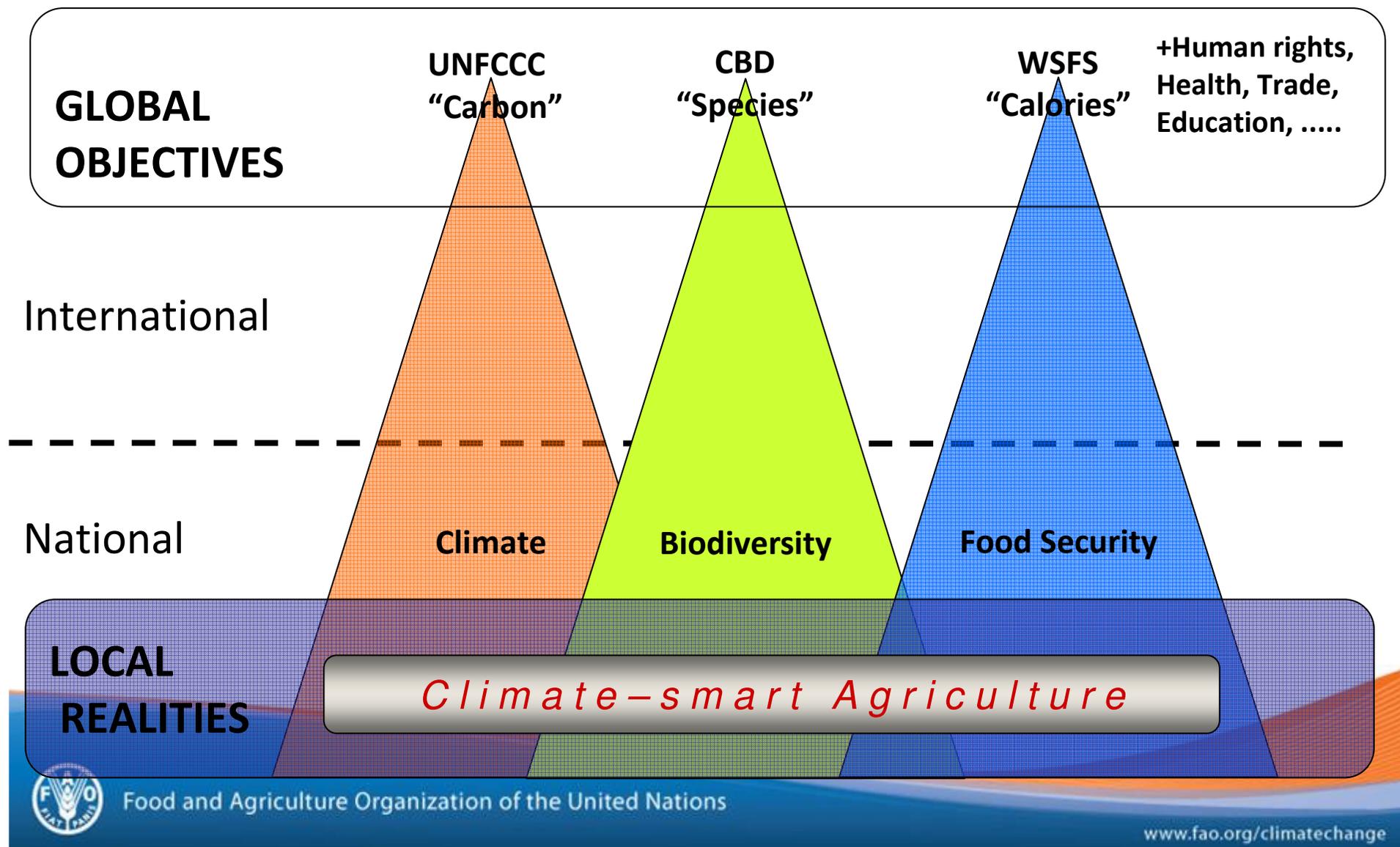
- 1 billion hungry
- Food production to increase 70% by 2050
- Adaptation to Climate Change critical

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

⇒ **ADDRESSES MULTIPLE OBJECTIVES!**

*) FAO includes agriculture, forestry and fisheries sectors in the "agriculture" concept



THE HAGUE CONFERENCE ON AGRICULTURE, FOOD SECURITY AND CLIMATE CHANGE

"Climate-Smart" Agriculture

Policies, Practices and Financing for Food Security, Adaptation and Mitigation



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Practices and Policies

- Increased productivity **and** resilience **and** less emissions is the “**win-win-win**”
- Often but not always possible
- Some knowledge gaps
- Multiple-objective policies needed
 - Not determine success with only 1 objective (e.g. GHG emissions)
 - Not micro-manage actions through detailed agreements (e.g. CDM)

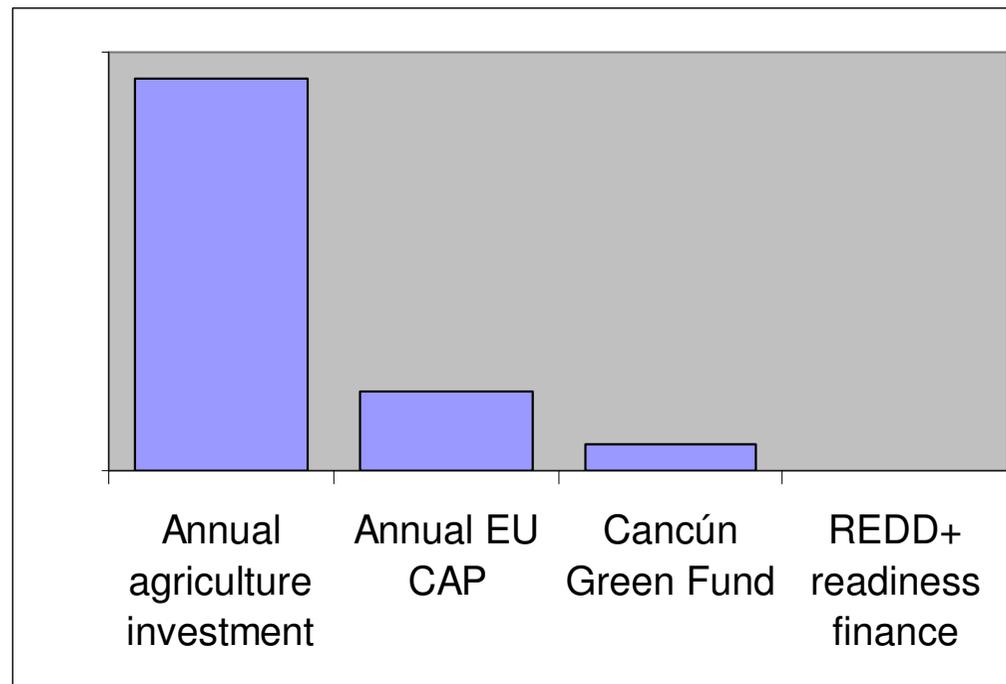


Action examples	Can help Food Security and Resilience	Can help meet CC Mitigation
Increase productivity (yields per area) under environmental and sustainability constraints	Yes	(yes)
Reduce expansion of agriculture and sustainable forest management		Yes
Effective water use	Yes	(yes)
Reduce losses in / more efficient agricultural practices	Yes	Yes
Reduce losses in food processing and handling	Yes	Yes
Improve agricultural markets and incentives	Yes	Yes
Carbon sequestration in vegetation and soil	(yes)	Yes



Combining Finance

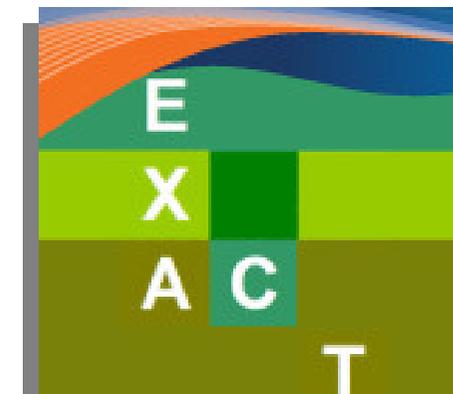
What difference can climate finance alone make?



FAO and Climate Change challenges

- Integrated across Programme of Work
 - addressed in all Strategic Objectives
- Involves all Departments and Offices

Climate-smart Agriculture



Concluding remarks

- Climate-smart agriculture embraces **multiple objectives**
- Genetic resources important both for adaptation/resilience **and** mitigation
- Long-term challenges and opportunities – such as **genetic resources** – receive less attention in the UNFCCC (FAO submission)
- But **action** cannot wait for conclusive agreements

