

Agriculture and climate change – overview

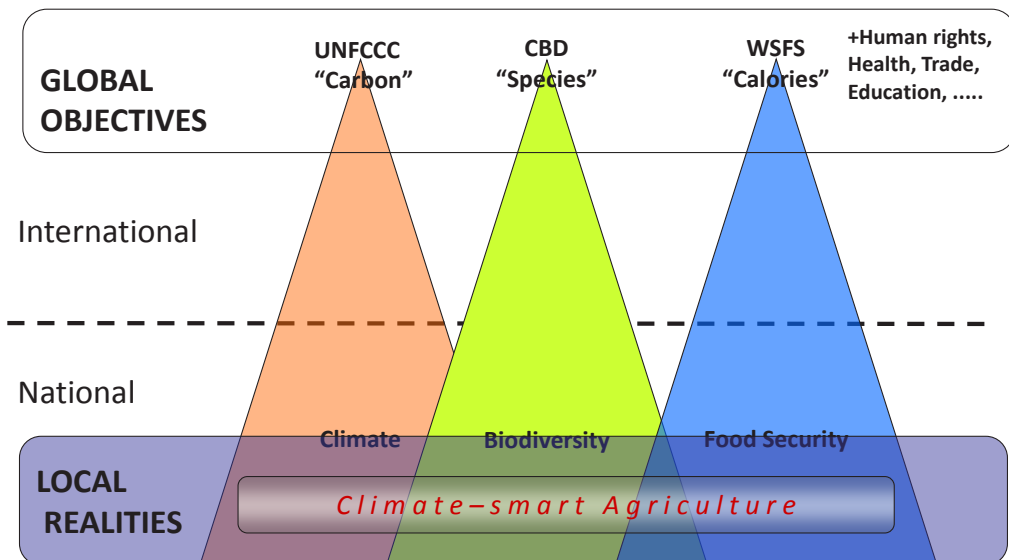
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In the wider context, there are two major issues to be faced. First, there is the need to achieve food security to feed the 1 billion hungry. To achieve this, food production needs to be increased by 60 percent by 2050, thus adaptation to climate change is critical. Second, there is the need to avoid dangerous climate change effects – in order to meet the “2 degree goal”, major emission cuts are required. As agriculture and land use contribute 30 percent of these emissions, reducing them must be part of the solution.

CLIMATE-SMART AGRICULTURE

Climate-smart agriculture (CSA) (which includes the agriculture, forestry and fisheries sectors) at the local level contributes to meeting global objectives, primarily those of the United Nations Framework on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD) and the World Summit on Food Security (WSFS), leading to a sustainable development landscape.



CSA is built on three pillars (FAO, 2010), which focus on:

- **Sustainably increasing farm productivity and income.** Productivity must increase in order to secure enough food for our growing population.
- **Strengthening resilience to climate change and variability.** Climate change requires adaptation of food production systems for resilience both at the livelihood level and at the ecosystem level.
- **Mitigating the contribution of agricultural practices to climate change through a reduction or removal of greenhouse gas emissions.** A reduction in greenhouse gas emissions and the agricultural carbon footprint is essential, which calls for changes of practices, including more resource efficiency, use of clean energy and carbon sequestration.

It therefore enhances the achievement of national food security and development goals, and reflects the realities of the local and field levels.

CSA differs from other concepts in that it addresses real-world situations, has multiple objectives and places the needs of the local stakeholders as the focal point, placing food security and climate change effects at the centre of these considerations. It is relevant to several international goals and process, for example, achieving food security, the Millennium Development Goals and those of the UNFCCC. It builds on and integrates existing knowledge and experiences, combined with the finance to achieve the objectives.

RIO+20

Rio +20 constituted a global meeting of parties concerned with global environmental, social and economic challenges that are increasingly facing the world today. From the perspective of agriculture, fisheries and forestry, FAO and the Rome-based international agencies brought forward three main messages:

- Eradicating hunger and improving human nutrition are fundamental to achieving the Rio vision of sustainable development.
- For healthy people and healthy ecosystems, food consumption and production must be sustainable.
- More inclusive and effective governance of agricultural and food systems is essential to achieving the Rio vision.

This was therefore an occasion to address possible paradigm shifts, such as converging agendas on food and the environment, and diverging agendas on food security and agricultural production.

FAO-ADAPT

FAO-Adapt is an organization-wide framework programme that gives general guidance and provides principles, priority themes, actions and implementation support to FAO's activities that are directly related to climate change adaptation. FAO-Adapt encourages activities in the sectors of agriculture, forestry and fisheries that increase sustainable production while strengthening the resilience of agricultural ecosystems in order to cope with the current and future climate change challenges. It is a part of a family of FAO climate-smart programmes designed to expand the capacity of Member Nations to implement

climate change adaptation measures and assist them in making climate-smart decisions with regard to agricultural practices (FAO, 2011), including:

- Data and knowledge for impact and vulnerability assessment and adaptation.
- Institutions, policy and financing to strengthen capacities for adaptation.
- Sustainable and climate-smart management of land, water and biodiversity.
- Technologies, practices and processes for adaptation.
- Disaster risk management.

THE CASE FOR INVESTING IN RESILIENCE/CSA

There are a number of questions that need to be addressed when examining the case for investing in resilience and CSA:

- To what extent is capital for sustainable agriculture/land use a limiting factor?
- Risk management issues?
- Can sustainable agriculture be profitable?
- How can we engage private finance in an equitable and effective way?
- How do we measure success?
 - How many indicators do we need?
 - Is three enough?

SOME WORDS ON UNFCCC PROCESS

The next COP (18) of the UNFCCC presents an opportunity to ensure that agriculture is included in the climate change negotiations. Although it is a long process, work must continue to establish a work programme on agriculture in Doha. In addition, the workshop on NAPs (National Action Plans) is also an opportunity to include agriculture and climate change considerations into national agendas.

CONCLUSION

The quest for food security is the common thread that links the different challenges with a view to building a sustainable future. Eradicating hunger and improving human nutrition, creating sustainable food consumption and production systems, and building more inclusive and effective governance of agricultural and food systems are fundamental and at the heart of achieving the Rio+20 vision of a world with both healthier people and healthier ecosystems (FAO, 2012). CSA is a practice that can help us achieve this target. It embraces multiple objectives, it aims to increase agricultural productivity and farmers' income; strengthen the resilience of ecosystems and livelihoods to climate change; and reduce greenhouse gas emissions. It takes into consideration context-specific and locally-adapted actions and interventions, along the whole agricultural value chain. FAO promotes CSA through strengthening the knowledge base on sustainable practices, as well as on financial and policy options that would enable countries and communities to meet their food, water and nutritional security and development goals. CSA in FAO involves a people-centred approach, keeping farmers and those most vulnerable, including women, at the heart of dialogue, decision-making and action, and empowering them as critical agents of change. Finally, improving farmers' access to and awareness of available knowledge services,

finance, agricultural inputs (e.g. seeds and fertilizers), and rights (e.g. land tenure rights) is key to the successful implementation of CSA strategies.

REFERENCES

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