Context and problem statement

Agriculture production systems provide at the same time multiple outcomes of agroecological performance, including the capacity to be resilient to weather variations and a changing climate. Also they determine the amount of net greenhouse gas (GHG) emissions or mitigation that is associated with production practices.

Priority actions for mitigation in agriculture and their co-benefits

Many of the technical options for mitigation in agriculture are readily available and could be deployed immediately.

Numerous key mitigation activities provide at the same time outcomes that are central agroecological concerns.

Examples are the increase of soil organic matter that benefits soil structure, water-holding capacity and soil fertility, or the association of annual and perennial crops as in agroforestry systems.

Agriculture is … the source of 10-12% of global GHG emissions.

Agriculture is … a cost effective sector for important contributions to GHG mitigation.

Key mitigation actions and their co-benefits

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<th>Agriculture adaptation targets</th>
<th>Multi objective practices</th>
<th>Agriculture mitigation targets</th>
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<td>Cropping systems resilient to drought and water stress</td>
<td>Land Water conservation measures</td>
<td>Increase in soils carbon</td>
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<td>Reduce flood recurrence and improved resilience to natural disasters</td>
<td>Watershed rehabilitation</td>
<td>Increased carbon stored in forest and rehabilitated land</td>
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<td>Diversity rural income and strengthen economic resilience</td>
<td>Payment for Environmental Services</td>
<td>Reduced deforestation and slash and burn practices</td>
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<td>Increase investments in long term soil fertility and nutrient cycling</td>
<td>Improved institutions for land tenure</td>
<td>Effective soil conservation measures</td>
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EX-ACT compares a project scenario to a reference (without project) scenario.

EX-ACT is a land-based accounting system, estimating C stock changes and GHG emissions per unit of land. It account for a variety of field activities in Agriculture, Forestry and Land-Use Change.

EX-ACT analyses have been carried out in over 50 countries and stakeholders from roughly 40 countries were trained in using the tool.

EX-ACT uses and benefits

International Financial Institutions have agreed in November 2012 on a harmonized approach to project-level greenhouse gas accounting.

In 2014, the World Bank and the French Development Agency (AFD) selected EX-ACT as a suitable tool for Agriculture and Forestry Projects.

The EX-ACT appraisal identifies which project actions are associated to the main mitigation benefits and specifies the type of carbon pool (biomass, soil, other) and GHG which is causing this impact.

The quantification of soil carbon dynamics is a central agroecological variable that generates multiple co-benefits and allows a first performance assessment of different agricultural production systems.