

COSTS, BENEFITS AND CO-BENEFITS OF MITIGATION ACTIVITIES IN AGRICULTURE AND FORESTRY

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Combining climate change and rural development objectives

Land use and agriculture are directly related to at least three of the Millennium development goals:

- Eradicate extreme poverty and hunger
- Ensure environmental sustainability
- Develop a global partnership for development

In most developing countries agriculture and forestry are key livelihood strategies for people living in rural areas. Agriculture and forestry contribute to socio-economic development in terms of income generation and employment. Sustainable development, however also depends on conservation of the natural resources base and environmental services such as carbon sequestration, water supply and biodiversity. Underdevelopment, poverty and climate change are man made crises and require immediate action. We need to develop policies and actions that can drive development and at the same time address the challenge of climate change.

Agriculture and forestry are both an agent and victim of climate change and this double nature is reflected in climate policies that take into account both adaptation and mitigation measures for these sectors. Adapting to climate change and climate variability is needed because of the overarching effect of climate on the functioning of agricultural and forestry systems. It can hamper rural development (e.g. through extreme weather events like droughts and floods), but it can also create new opportunities (e.g. positive changes in the climate, introductions of new crops, livestock and opening of new markets).

Land use and agriculture can contribute to the stabilization of greenhouse gases in the atmosphere. Rehabilitation of strongly degraded areas and controlling wild fires are only a few options to maintain or increase soil organic matter or reduce losses that contribute to mitigation targets. Another promising mitigation option is the production of biomass to substitute fossil fuel. This option may, as new markets open, provide new development directions for rural areas.

Methodologies to address the costs and benefits of integrated approaches are being developed but attribution is difficult. Problems with monetising the benefits and addressing the differences in time horizon over which benefits may occur are discussed briefly. Possible solution pathways will be given.

Examples

Examples on how climate change objectives (adaptation and mitigation) and rural development can be combined are given for tropical peatland areas, semi-arid regions in Sub Saharan Africa and North Western Europe with special attention for co-benefits for biodiversity, water availability and sustainable development. Where possible a cost benefit analysis or approach will be presented.

Conclusions

Short discussion on whether it makes sense to combine various objectives including the pros and cons for such an approach. Highlight some of the lessons learned from the examples followed by some recommendation on how to move forward on policies and actions to implement climate policies and implementation.