



# Climate-smart Agriculture – A useful paradigm for Development?

► To attain the goal of limiting global warming to below 2°C in order to protect those living in poverty from the severe impacts of climate change, sustainable and climate-friendly development in all economic sectors is essential. In the run-up to Rio+20, the Environment Programme (UNEP) has identified agriculture as a sector vital to the process of transformation from “brown” to “green” economies. Both, the Committee on Food Security (CFS) as well as the United Nations Framework Convention on Climate Change (UNFCCC) are addressing the issue this year. Based on 50 years of work in the field of sustainable agriculture, MISEREOR recognises the key role sustainable farming can play in adapting to and mitigating climate change. In a time when nearly one billion people go hungry while another billion over-consume we are, however, concerned that programmes and actions to support climate-smart agriculture may serve as a backdoor entrance for inappropriate solutions that effectively put food security and the climate at risk. The purpose of this series of papers is to draw attention to worrying policy developments and call for truly sustainable solutions that ensures the right in a warmer world.

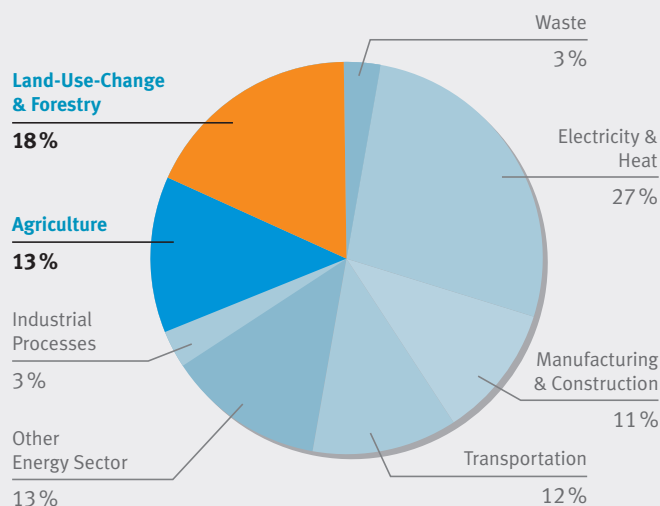
## Climate change and agriculture in a nutshell

According to the Intergovernmental Panel on Climate Change (IPCC) the agriculture sector, excluding emissions from fossil fuel consumption of machinery or for the production of fertilisers, accounts for 13% of global anthropogenic greenhouse gas emissions (GHGs) (Smith et al. 2007). 74% of all agricultural GHGs originate in developing countries. However, these numbers need to be looked at from a per capita perspective: China for example is the largest emitter with 1.1 GT CO<sub>2</sub>-eq per year in total but has low per capita emissions of 1 t CO<sub>2</sub>-eq. (see Müller et al. 2011). Together with emissions from land-use change (partly caused by agriculture) the sector accounts for one-third of global greenhouse gas emissions (see Figure). At the same time, the sector holds potential to reduce GHGs. Up to 90% of the total mitigation potential is assumed to be available through increased soil carbon sequestration, especially in developing countries (FAO 2009). Yet those assumptions fail to include many practices that have proven their ability to enhance soil quality and improve yields in organic farming systems worldwide. They neither look at the substitution of industrialised fertilisers nor do they address food waste or diet issues. Those aspects, however, are pivotal, for emissions have risen substantially due to meat consumption and the use of synthetic fertilisers in the last decades (Müller et al. 2011).

## The paradigm of climate-smart agriculture

Food is a basic need and human right. Agriculture in developing countries was therefore mostly excluded from the international climate change negotiations on mitigation. Though it has been addressed indirectly: the REDD mechanism under the UN Framework Convention on Climate Change will tackle national drivers of deforestation, and therefore most likely agriculture. Furthermore,

### Sources of Global Greenhouse Gas Emissions. Agriculture is the primary driver of land use change and deforestation.



Source: EarthTrends, 2008; using data from the the Climate Analysis Indicators Tool (CAIT)

in many developing countries governments are now formulating Nationally Appropriate Mitigation Actions which identify agriculture as an important sector. Today, boosted by new studies that indicate agriculture can be a cost-effective emissions reduction strategy and identify many synergies between adaptation and mitigation, climate-smart agriculture is becoming the new paradigm. The term is defined by FAO (2010) as “agriculture that sustainably increases productivity, resilience (adaptation), reduces/removes GHG (mitigation), and enhances achievement of national food security and development goals”. As a result, there is now discussion of the possible role of a work programme on agriculture under the Convention. Furthermore, many argue that the Clean Development Mechanism (CDM) should be opened to agriculture activities.

### Sustainable agriculture works

Ever since its foundation in 1958, MISEREOR has strengthened the self-help capacity of farming communities, who are not merely passive recipients of aid but work hard to ensure their own livelihoods. Sustainable small-scale agriculture offers large numbers of people in rural areas food security and cash income. These farmers often produce the majority of food in a country, thus making a significant contribution to the supply of staple foods to local and national markets. However, hunger remains rural and appropriate support for smallholders and landless people is urgent. Yet agricultural policies continue to be dominated by development models that promote rapid industrialization and export orientation. Small-scale farmers are excluded from support. Sustainable agriculture is a useful development paradigm. Such a “sustainable intensification”, however, need to be accompanied by a socio-economic, cultural and political shift towards farmer-centred development.

### False solutions for sustainable intensification in agriculture

As the scientific understanding of the nexus of agriculture and climate change is obviously in its infancy, it is most worrying to MISEREOR that many ambivalent initiatives are already being observed that follow the paradigm of industrialised agriculture – often disguised as best practices focusing on small producers – without any public debate on potential risks. Some companies and governments now promote blueprint technologies for food security and mitigation such as no-till (including genetically modified organisms) and biochar although agricultural practices, and especially soils, are complex systems, intertwined with ecosystems and embedded in socio-cultural structures as Paper 3 and 4 in this folder show. Furthermore, the inclusion of climate-smart agriculture in carbon markets would divert funds and efforts from the support of sustainable small-scale farming towards the quantification of GHG emissions of soils to enable market-based approaches that can neither serve the climate nor the people (see paper 2 in this folder).

### Ensuring the right to food in a carbon constrained world

Based on Christian ethics, MISEREOR's entry point to sustainable agriculture is first and foremost the right to food. In relation to climate change, this means strengthening the adaptive capacity of small-scale food producers rather than concentrating on – clearly most welcome – synergies such as carbon sequestration in soils or trees. Mitigation actions in this field should focus on reducing agro-industrial emissions like those from synthetic fertilisers and on making more efficient use of food – such as reducing post-harvest losses, preventing food waste and bringing down the consumption of meat.

The CFS is the legitimate policy-making organ which should guide international efforts to ensure coherence and avoid fragmentation between climate and food policies. In this, we urge the CFS to take into consideration the findings of the High Level Panel of Experts on Food Security and Nutrition (HLPE) Report on ‘Food security and climate change’ (2012). Sources for agriculture, existing investments and subsidies, including funds for



*Making compost in Haiti: Sustainable intensification based on local resources.*

science and education, should be diverted, from the present focus on agro-industrial practices towards real sustainable agriculture solutions to enhance the adaptive capacity of food producers. A work programme on agriculture under UNFCCC which does not address the urgent adaptation challenges and the need for financial and structural support to sustainable farming practices is not acceptable. This work programme should furthermore not undermine other efforts to address adaptation under the UNFCCC framework, such as the Nairobi work programme or the work programme on loss and damage.

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