Expert Meeting
on
Climate Change Adaptation and Mitigation
FAO Headquarters, Rome, 5-7 March 2008

Issues Paper

Introduction

The Expert Meeting on Climate Change Adaptation and Mitigation (EM_1) will be one of six preparatory meetings for the High-Level Conference on World Food Security and the Challenges of Climate Change and Bioenergy (HLC) that will be held at FAO Headquarters in Rome from 3 to 5 June 2008. The Expert Meetings most closely related to EM_1 are EM_2 (*Climate change, water and food security*) and EM_4 (*Climate Change, Food Security and Disaster Risk Management*)**.** The outcomes of the International Consultation "Climate Change and Biodiversity for Food and Agriculture", organized by FAO and Bioversity, will be presented to EM_1.

FAO Member countries, individual experts from universities and governments, inter-governmental and non-governmental organizations, as well as other UN organisations relevant institutions are being invited to participate.

The overall purpose of the EM is to identify technical issues and options for action that are available to FAO Member Countries in the areas of climate change adaptation, prevention and mitigation in agriculture. Efforts are being made to bring together experts that span the spectrum of crops and livestock production, forestry and fisheries, while maintaining a broad geographic scope, and paying due attention to critical concerns related to biodiversity and fragile and vulnerable ecosystem where the impact of climate change is expected to be severe, especially rainfed agriculture in semi-arid areas (drylands).

A background document is being prepared to be used as a methodological basis for the discussions and possible follow-up action, focusing on points that will need considering regarding the four issues covered in greater detail below, i.e. knowledge and data, priority setting, strengthening required capacities and short-term and long-term policy options available to countries and to FAO.

Main issues

Issue 1: baseline data: Assessing and synthesising the basic knowledge and data to orient action in mitigation and adaptation

Essentially three items will be focused on:

- Vulnerability patterns: who are the most vulnerable rural people with regard to direct and indirect impacts of climate change and variability impacts and food security? A break-down is to be provided by socio-economic and livelihoods groups, by geographic area and regions, by agroecosystem, farming systems or sub-sectors? Some FAO maps will be produced to show a typology of countries/regions according to the combination of existing FS situations with projections of climate change impact. This typology will be central, for instance for priority setting categories.

- Actual sources of agricultural GHG emissions: in sufficient detail (e.g. by agro-ecosystems & aggregated by countries). The analysis should also identify knowledge gaps, data gaps and options to improve uncertainties, and provide an overview of the institutional landscape (incl. Kyoto options).

- An "inventory" of adaptation and mitigation measures: a stock taking exercise that will provide the spectrum of possible action that can be taken by various stakeholders, from farm-level measures to non-structural measures such as legislation, international instruments and agreements and payment for agricultural services. What is their scope to increase livelihood security and ecosystem resilience Vis a Vis CC and what is their potential for broader replication?

Status and trends of biodiversity for food and agriculture for CC adaptation: biodiversity is both a critical resource for livelihoods and adaptation, and a resource threatened by Climate Change increasing international interdependence. FAO and Bioversity will report the evidence-base and knowledge gaps with regard to biodiversity management to ensure agro-ecosystem functioning and the threats posed to genetic resources by Climate Change.

Issue 2: priority setting, by countries and people within countries?

How might the various mitigation and adaptation measures that exist in the crop and livestock, forestry, fisheries, bioenergy and in other sectors outside "agricultural" sectors (identified as part of the baseline above) affect the food security of vulnerable people, both positively (win-win situations) and negatively (trade-offs and conflict situations)?

Can we ascertain the link between the hunger spot regions/countries (as indicated by the Millennium Development Hunger Task Force) with vulnerability to the impact of climate change and variability? Where can the most efficient actions be undertaken to ensure maximum impact of adaptation and mitigation measures in the areas of the mandate of FAO? What are suitable indicators to define success and/or limitations of adaptation and mitigation caused by the interdependencies existing with other sectors' responsibilities?

The priority setting will presumably focus on the following items:

- The central role of people and the preservation of their livelihood. This will focus on rural people, their sources of income, food and the options available to them as regards adaptation and mitigation. The vulnerability patterns (by farming system etc.) and the corresponding adaptation/mitigation options will be central in this debate. It must be ensured that mitigation and adaptation measures do benefit the most needy, not sacrificing food security and poverty reduction

- Uncertainties in decision making related to food insecurity as they depend on climate variability and change, due to such factors as difficulty in predicting climate events due to climate change, data, statistics, lack or carbon-biased statistics, the difficulty to model countries "mitigation potential", and still-not-very-well quantified risks of genetic erosion and loss of food biodiversity especially on-farm.

- Conflicting options (bioenergy/food production, fertiliser use/nitrous oxide emissions, and many others). Is there an equitable and objective way of handling them? Is it technically/ethically feasible to define a hierarchy of criteria that should guide our action, i.e. food security first or environment first? Where and to whom do the criteria apply? The meeting will be invited to consider the complex "conflicts/trade offs" that face many areas, especially marginal ones, including drylands when prospects for increased irrigation are limited.

- the fact that main actors in mitigation and adaptation are not the same, and that those most vulnerable may need to prioritize at the expense of mitigation measures. For example, large scale farmers or agri-business companies would obviously have larger impacts and roles in mitigation measures than small-scale farmers; fisherfolks are likely to have few mitigation options compared to adaptation ones; small island countries will never play a big role in terms of large impact of any mitigation measures, and they surely need to prioritise adaptation measures. Situations will arise where actors and the ones who are affected are different sets of people. Solutions will be needed for all, starting with the least favoured people. Therefore, priority setting would mean a clear delineation of the top options for Adaptation and mitigation taking into full account the most affected group, farming and livelihood systems.

- how can countries/individuals tap into the potential associated with the international mechanisms for mitigation and adaptation? For which countries is this most relevant? How can countries (particularly the least developed and food insecure countries) tap to these international mechanism?

- the time scale: Variability and change are regarded as two facets of the same phenomenon. For most practical purposes, we react to variability patterns and trends that result from the analysis of the weather during the immediate past years, i.e. we adapt to variability and not to change. In most cases, adapting pre-emptively to "change" (say 2030 conditions) would be meaningless, and rather expensive. The best strategy is to develop some win-win approaches to adapt to current conditions, and those that can be reasonably well extrapolated from today's agriculture and climate. We do not know what farming will be like in 2030 because of the uncertainties that affect climate, future adaptation patterns, socio-economic forces and mechanisms, politics (national, but also arrangements under the UNFCCC). It is therefore suggested that the most meaningful time horizon to keep in mind for the current exercise is the medium term, i.e. 15 to 20 years.

Issue 3: what capacities are needed for people and countries to implement different mitigation and adaptation options and techniques?

What needs to be done to strengthen the capabilities of countries (at all levels -- national to local) to respond effectively, equitably and in a timely manner to climate change?

- Effective national policy making instruments (including effective ways to address cross-sectoral issues and a long time horizon) can strengthen local decision making mechanisms to ensure effective and rapid response on the ground, etc.

- More specifically, many countries will need assistance in assessing their "mitigation potential" to get them to the forefront as a partner in the international climate change negotiations.

- Community based mechanisms for the quick and sustainable adoption of mitigation and adaptation options, complementary to the development of policy- and institutional-level instruments; appropriate local response is much more effective with participatory decision making with the local farming and rural communities;

- Local conditions and knowledge: adaptation and mitigation measures will be more effective if they are acceptable in terms of traditions, lifestyles (e.g. switch from potatoes to sweet potatoes, rice to wheat, and fish to meat).

- Making the best local use of international mechanisms: what kind of local mechanisms or instruments exist or need to be developed or promoted to tap effectively and complement the international mechanisms such as CDM, etc at the national/local level?

- Integrated approach to Information: better coordination among main players providing information in order to be able to provide comprehensive information (such as climatic variability linked to crop genetic diversity or the loss of it, crop reduction forecast, seed distribution pattern etc.)

Issue 4: Short-term and long-term policy options and the way ahead for countries, FAO and partners

Policy recommendations will benefit from the knowledge acquired through current international financial instruments (GEF, Bilateral and multi-lateral instruments, CDM and perhaps also JI), policy and financial incentives provided at international level (i.e. CDM and possible post-2012 instruments, including on REDD), and national level experience.

The policy options will presumably apply to the list of items below to ensure that, in spite of climate change and variability and increasing environmental constraints, food security is enhanced rather than compromised:

- Communication and dissemination of conference conclusions regarding action needed on food security and climate change to stakeholders at the international and national levels

- Priority setting in agronomic options for adaptation and mitigation including research and systems to monitor and predict impacts. and in data collection

- Measures to be taken nationally by government, NGOs and the private/commercial sector (insurance, legislation, win-win options in mitigation/adaptation, advice to producers)

- Areas for strengthening the policy and legal framework for food and agriculture (plans of action, goals and targets, regulations), in particular through FAO bodies, such as the CGRFA.

- Collaborations and strategic partnerships that can ensure that measures will be enforced to strengthen food security in the face of climate variability and change

- The role of developing countries and food security in the UNFCCC mechanisms with a much higher profile