SESSION SUMMARY

FAO Climate Change Days
21 to 23 June 2010, FAO headquarters

Summary

FAO Climate Change Days: Share and Learn

Rome, 21-24 June, 2010

What

The FAO Climate Change Days were held at FAO headquarters on 21-24 June, 2010. From field offices and government counterparts, 34 representatives traveled to Rome to attend. They were joined by over 80 people from headquarters. More than 30 facilitators and as many rapporteurs and resource persons from all FAO departments as well as external partners organized 28 dynamic sessions on a broad range of climate change related topics, in which the participants could discuss current challenges and future plans.

The workshop provided an excellent opportunity for FAO staff and close collaborators working on climate change in offices world-wide to meet in person and discuss the current state of their work and share experiences from ongoing and past field projects. Simultaneously, it was an opportunity to give briefings on the status of FAO's normative work, learn more about various climate change topics and generate ideas for future projects.

How

The workshop started off with an opening session and overview of FAO's priorities and strategies in climate change. Peter Holmgren (Director, Climate, Energy and Tenure Division; Chair of the interdepartmental working group on climate change) talked about the need to align the climate change and food security agendas. Jim Butler (FAO Deputy Director-General) and Stephen Katz (Chief, Knowledge Management and Library Services Branch) stressed the importance of communication, cooperation and knowledge sharing for breaking down the silos and effective delivery of FAO's work. Participants expressed the need for having a common vision on how to address climate change as an organization, and gaining a better understanding of the needs of colleagues in decentralized offices and projects. These issues were further discussed from many angles during the workshop.

The four days of the workshop were structured into sessions with complementing purposes:

- Topical sessions, given in parallel for smaller groups, aimed at giving an overview of the topic and allowing for discussion of key issues based on local examples
- Collaborative sessions gathering all participants on the sharing of good practices and how to integrate work coming from organizationally separated teams within the organization
- Demonstrations of various web-based tools and platforms for accessing and sharing climate change related data and information, networking and e-learning
- One full training day on the EX-ACT carbon balance tool

The facilitated and preplanned sessions of the workshop were complemented by Open Space meetings – impromptu gatherings quickly organised on site to discuss a particular topic in smaller

groups. Feedback from participants included appreciation of the positive and relaxed atmosphere of the workshop, which encouraged informal exchange, brainstorming and networking. A feedback survey distributed after the event shows high interest in attending contingent repetitions of the workshop in the future.

Outcomes

A reoccurring point in the discussions throughout the workshop was the need for cross-sectoral approaches and building strategies on a systems perspective to address climate change. Participants stressed that making project outcomes sustainable is key. This demands firm anchoring of interventions in local governance structures and finding synergistic solutions for adaptation and mitigation that promote resilient agricultural systems, for example sustainable land and water management. At the same time, it is crucial to have sufficient information; baseline data as well as monitoring data and projections, to make informed decisions on the impacts of climate change – and the effect of intervention measures – on different spatial and temporal scales. Impact and vulnerability assessments are complex due to various uncertainties, but should support adaptation planning.

The dissemination of good practices was also a central topic. Research with active farmer involvement and field demonstrations, financial mechanisms such as micro credits and subsidies enabling policies, strategic partnerships with governments, donors, research institutions and networks were brought up as means in this process.

Strengthening partnerships with other institutions and improving communication across organisational and sectoral boundaries within FAO was stressed as being exceedingly important for effective field work. The application of knowledge sharing tools and better organisation of focal points for regions could be helpful in this regard.

A clear need was expressed for strategies to strengthen the capacities of country offices. Country offices need to have sufficient information and experience to communicate with donors and take better advantage of funding opportunities. Participants called for trainings on writing funding applications and training packages on climate change issues to be distributed in the regions.

Future

The ultimate purpose of the FAO Climate Change Days was to strengthen a community of practice among people involved in FAO's climate change work. Therefore, the follow-up activities after the event are crucial. A mailing list/discussion group using the D-group platform has been set up for FAO staff to continue discussions, inform each other about advances and share documents. A case study publication is being prepared based on contributions from the participants, and the FAO's topical webpages on climate change are being reworked to better communicate information to decentralized offices.

For futher information and resource material from the FAO Climate Change Days, visit the event website: http://www.fao.org/climatechange/ccdays. Focal point for follow up: Claudia Hiepe claudia.hiepe@fao.org

FAO CLIMATE CHANGE DAYS – PROGRAMME

Time	June 21 (Monday)	June 22 (Tuesday)	June 23 (Wednesday)	June 24 (Thursday)
8.00-8.45	Registration			
9.00-10.00	Opening session (I)	Integrating FAOs work on CC: Linking HQ, regional and country offices – Part I (A)	Addressing CC & food security: good practices for smallholders (A)	**EX-ACT practical training** (E) **9.00 -10.30** General EX-ACT Tool presentation 1. Objective and perspectives of the EX-ACT tool (where and when to use it?) 2. Structure of the tool (what is inside?) 3. Where and how to enter data? **10.30-10.45** - Coffee Break **10.45-12.30** First iterative entry in the tool (individually or in groups of 2-3) 1. Practical exercise on reforestation /deforestation in Brazil 2. Review and correction 3. Practical exercise on palm trees in Indonesia 4. Review and correction **12.30-13.45** - Lunch Break **13.45- 15.00** Second Practical exercise 1. Practical exercise on perennial and annual crops in Benin 2. Review and correction **15.00-15.15** - Coffee Break **15.15-16.30** Apply the Tool 1. Apply the tool on your own project or case study, or follow exercise on livestock and grassland in Mongolia 2. Technical discussion/corrections http://www.fao.org/tc/tcs/exact
10.05-10.45	FAO's priorities and strategies in CC (I)		Capacity development in CC projects (F) / Good practices platforms (E)	
10.45-11.15	Coffee	Coffee	Coffee	
11.15-12.05	ABC of CC (F) / FAO and the UNFCCC negotiations (C)	Developing land use carbon finance projects for smallholders (F) / Community based adaptation to climate change (E, C)	Addressing climate change and food security linkages at the policy level (F) / CC and water II - options for adaptation & mitigation (C)	
12.10-13.00	Status of REDD+ (Reducing Emissions from Deforestation & Degradation) (F) / Experiences in NAPA formulation and implementation (C)		Linking disaster risk reduction to adaptation (F) / Livestock emissions & mitigation options (C)	
13.00-14.30	**LUNCH** – In parallel: Open Space (G, U)	**LUNCH** – In parallel: Open Space (G, U)	**Synthesis session + Brown bag lunch** (A)	
14.30-15.45	CC and water - I impacts (F) / Bioenergy: country experiences (C)	Integrating FAOs work on CC: Linking HQ, regional and country offices – Part II (A)	Land & Water Seminar (F) / Social Media/Collaborative Tools (U) / Capacity Assessment Tool (C)	
15.45-16.15	Coffee	Coffee		
16.15-17.05	Land and agro-ecosystems management for climate change adaptation and mitigation (F) / Experiences from using the EX Ante Carbon Balance Tool (C)	CC impact and vulnerability assessments on natural resources and food security (F) / Financing mechanisms for CC projects (C)		
17.10-18.00	Research, Extension and Communication for CC (C)		**In parallel: self-organized meetings**	
Evening	18:00 Cocktail at FAO (Aventino Room, 8th Floor)	19:00 Aperitivo in Testaccio (10 € /person) Oasis della Birra, Piazza Testaccio 40	Rooms: A – Atrium, C – Culture Change, E – E-Lab , F – Facilitation, G – Gabon, I – Iran, U - Uemoa	

Table of content

1 Opening Session

Facilitator:
Marja-Liisa Tapio-Bistrom

Rapporteur:
Anna Ricoy

Overall purpose
Welcome the participants officially but also to stimulate an interactive frame of mind. Frame the event in the climate change and knowledge sharing context – linking HQ and field operations.

Key issues raised:

- Welcome by **Marja-Liisa Tapio-Bistrom** on how this did initiative arise: need to recognize the important work done by colleagues in the field, useful for everyone to share experiences and get new ideas/insights from colleagues. Importance of interaction, communication and sharing of experiences. The event is framed in the climate change and knowledge sharing context and aims at linking HQ and field operations.

- Presentation of the rest of the FAO CC Field Days' Team: Claudia Hiepe, Sally Bunning, Elena Di Paola, Jean-Marc Faures, Nicoletta Forlano, Federica Matteoli, Lisen Runsten, Gauri Salokhe, Christina Seeberg-Elverfeldt

- Opening by **Peter Holmgren** on the need to align CC agenda with food security agenda. To what extend can we move towards this?

- **Stephen Katz** on knowledge sharing and FAO reform. Importance of HOW we do things: interdisciplinary, collaboration, teamwork, knowledge café....

- **Yianna Lambrou** on "the faces of climate change" (pictures presentation): Climate change is about the men, the women, the children, how they make their living, it is about food and it is about the women who prepare it.... If climate change matters it is because people matter.

- **10 min for talk in groups of 4, including sharing of expectations from the FAO CC Days**

- **A few interventions from participants on their expectations:**
  - To share experiences on adaptation at community level
  - To get a common vision on how to address climate change as an organization
  - To understand how to prepare projects on carbon sequestration
  - To get a better understanding of what colleagues are doing in the field.

- **Jim Butler on how culture change is facilitating interaction.**
  The reform is about Delivering as One UN and it is admitting when our colleagues can be more effective than us, it is about the use of resources and about the way colleagues are welcomed into the building.

- **Nadejda Loumbeva on introduction to the "Open Space" methodology**
  Presentation of the objective, principles and process and of how Open Space will be organized during lunch time: anyone can convene people for discussion on different topics and under "the law of two feet"

- **Lisen Runsten on practical organizational issues and highlight of sustainability attempts in the organization of the CC Days**

2 FAO's priorities and strategies in climate change

Facilitator:
Constance Neely

Rapporteur:
Hideki Kanamaru

Session description
Four panellists from HQ and regional offices interviewed regarding their views on FAO's priorities and strategies in climate change and then the floor will be opened to the audience.

Overall purpose

- Hear from senior management (HQ & regional offices) their views regarding FAO's priorities and strategies in climate change

- Opportunity for participants to pose questions to senior management (panellists)

Key issues raised

- Two inter-related goals for FAO: achieve food security and avoid dangerous climate change at the same time.

- FAO priorities and strategies:
    1. Coordinated interaction with UNFCCC – at global policy level
    2. Alignment of CC and food security issues
    3. Crosscutting and inter departmental programmes – tapping available CC finance
    4. Coordinated information and communication
    5. Internal exchange and capacity building
- FAO's role on CC will depend on coordinated approach and collaboration across units and offices

- There are regions and sectors that have not benefited from carbon finance programs; agriculture is not yet recognized as an important sector for mitigation. It will be necessary to continue to draw attention to the role agriculture can play and FAO's efforts.

- FAO's work in regions:
    1. assist on-going policy dialogues; strategy and policy advice, helping national priority frameworks
    2. provide database, technical capacity, hot-spots; typology assessment
    3. soil carbon stock finance programmes
    4. field programs, UN-REDD, etc
    5. regional conference, collaboration and coordination, climate change adaptation/mitigation network

- Attention to local realities and indicators:
    1. Distinguish climate change and variability
    2. For the analysis, issue of spatial and temporal scales, what can be the coping strategies at local, basin, national scales?
    3. Understanding the trade-offs, understand the local situation why farmers favour one approach over another and assist in addressing trade-offs.
    4. Uncertainties – require new risk management strategies, require more information, build local networks of monitoring and observations

- Distinguish between business-as-usual and climate change; land degradation is ongoing but for many other reasons than climate change

- FAO's comparative advantages:
    1. FAO is the only organization that covers all subsectors of agriculture, forestry and fisheries - FAO can approach the topic in a holistic manner
    2. CC is first about water and food. Food security is the main vision of FAO. Focus on food security is where FAO's advantage is.
    3. FAO is a knowledge organization, has good knowledge base and technical expertise

4. FAO's effective administration is able to be responsive in a timely way on the ground.
5. FAO has vast information on natural resources, can be used for baseline information of impact and vulnerability assessments

- FAO's work to be done differently:
  1. FAO's priorities should be based on needs at different levels (local to national scales)
  2. FAO should not duplicate work that is done by other organizations. We can team up with partners – we don't have to do everything, being aware of hierarchical scheme of operations.
  3. FAO should do more work on monitoring, emissions, needs for adaptation, water resources, monitoring of natural resources
  4. Work on payments for ecosystem services - need to be evolved for climate change cross cutting work
  5. FAO is not good at bringing technical expertise to political level; presenting what we are doing technically well. We need to uplift our gaze as climate change is about multiple ministries and heads of state. We should achieve balance between good technical work and ensuring the world is listening to us – we need to bring evidence to policy level.
  6. FAO is not reaching out as much as we might – not to Head of States level; other organizations are more prominent at ground level and getting projects in the field; is this what we want to do more of and compete with organizations? (underlying thought seemed to be about other organizations that bring in money and consultants whereas FAO has relevant expertise in house)
  7. FAO should strengthen our partners at local government level and focus on attention how national counterparts can work better.
  8. We need data and maps to demonstrate specific issues and convince policy makers

3 ABC of CC

Facilitators:
Christina Seeberg-Elverfeldt &
Hideki Kanamaru

Rapporteur:
Christiane Kessl

Session description

An introduction to climate change issues in relation to agriculture, providing an overview of

synergies and trade-offs between climate change and food security. Mitigation and adaptation actions are described and an introduction given to FAO's strategy on CC.

Key issues raised

- *Brainstorming:* what do you associate with climate change?
  Extreme events, Bonn, Copenhagen, understanding, data, research, change, effects, water, adaptation, behaviour change, urgency, temperature, impacts, reality.

- *Scientific background of CC:* climate and weather – IPCC Fourth assessment report, no original work, a group of scientists reviewing scientific literature. Global average surface temperature has increased. Greenhouse gas emissions (70% increase over last 40/50 years) – emissions vs. concentrations. Emissions paths to stabilisation. Surface warming projections. Projected precipitation changes.

- *CC and agriculture:* Methane emissions – agriculture and land use contribute about 1/3 of global greenhouse gas emissions. Linkages between agriculture and forestry. GHG sources. Highest emissions from these sectors in developing countries, projected to increase, reasons are different depending on country/continent. Adaptation in agriculture closely linked to the field of disaster risk management. Mitigation comprises actions to reduce emissions of greenhouse gases, for example avoiding deforestation, livestock management, agroforestry, etc. UNFCCC linkage to FAO. Synergies between food security and adaptation/mitigation: identifying priority areas. FAO programmes/project on climate change: UN-REDD, MICCA, (see slides).

- *Discussion/questions raised:* national policies for appropriate use of fertilizers?, deforestation and its impact on climate change, how to put into practice policies targeting impacts of cc in different developing countries

4 FAO and the UNFCCC negotiations

Facilitator:
Wendy Mann

Rapporteur:
Anna Ricoy

Session objectives
Introduction to the climate change negotiations and their importance for agriculture and FAO.

Stimulation of possible involvement of FAO field offices in country preparations of delegates attending the negotiations/UNFCCC processes.

Key issues raised

- Why are global level negotiations on cc important for the field level?

1. **Agriculture has a role to play and the reality of the field should inform global-level decision-making**

   Agriculture is strongly linked climate change (CC); 14% of GHGs are from agriculture (excluding forestry and land use change), 74% of these emissions are from developing countries. At the same time, agriculture is one of the most climate-sensitive sectors.

   Food security is also a driver of CC through expansion of cultivation into forested areas, and a survival issue that takes precedence over environmental areas. Part of the challenge is that food security and climate change are integrated at farm level but at global and national governance levels, they are separated.

2. **The outcome of negotiations will influence action at regional, national and local levels**

   a) The formulation of national policies, strategies
      - NAPAS (already exist for most LDCs but implementation has been slow)
      - NAMAS (voluntary, how to formulate/implement still unclear)
      - Low-emission sustainable development strategies (how would they be different from NAMAs, how would they relate to national development plans?)
      - Important to see how alignment could be achieved across national development plans, PRSPs, national food security strategies and CC policy frameworks.

   b) The availability of international support enabling implementation of the policies within these frameworks: how to capture this support and how to get the design elements right.

3. **Food security, poverty reduction and climate change have strong interdependencies in the agriculture sector and need to be addressed together, rather than in isolation from each other.**

   Food security and climate change are highly interdependent in the agriculture sector, options that maximize synergies and minimize trade-offs is a priority area for action. Some agricultural practices, particularly those that sequester carbon in the soil and in biomass can also have positive co-benefits for development, adaptation and food security (agroforestry, mulching, composting, certain crop rotations, better use of crop residues).

   But we have also seen trade-offs, e.g. in terms of biofuels, good as alternative form of energy but harmful in certain contexts for food security or locking up forests under REDD, with possible negative implications for food security.

4. **State of play of negotiations and role of FAO**

   Agriculture is well-positioned in the negotiations. The negotiating text on agriculture includes an operative paragraph that calls for a SBSTA work programme on agriculture. The text has only one sentence bracketed, could be adopted in Cancun. However, if the negotiating text is taken as a

whole or package, then a decision on agriculture could be delayed. FAO has played an active role in highlighting that agriculture affects and is affected by climate change, has multiple benefits and opportunities for synergies as well as challenges in terms of trade-offs, underlining that it could be part of a global solution to climate change in ways that are not harmful to development and food security.

5. LULUCF

Another topic of major interest for FAO is LULUCF (land use, land use changes and forestry) which designates the way carbon sinks are taken into account under the Kyoto protocol. Being about accounting rules it is indeed a very technical topic. It is also a very political one: each country having different national interest in order to reach its own emission reduction target.

Under the Kyoto protocol, deforestation has to be accounted for, forestry management and agricultural land management are optional. Only three countries have opted for agricultural land management. Until now there has been little progress on agricultural soils MRV's.

FAO has a particular role on the issue of land uses as international body for agriculture, forestry. For example, there are very numerous forest definitions, not only in every country but in each country for various legal purposes. The only generally recognised definition and as such used for accounting is FAO's definition.

According to the IPCC, 89% of agriculture's mitigation potential is in better management of carbon stocks in soils. 70% of agriculture's mitigation potential is in developing countries.

Although LULUCF is a Kyoto protocol issue and as such concerns industrialized countries, it is also relevant for developing countries. Its rules are used for the Clean Mechanism Project by which industrialized countries can develop projects in developing countries. Enlargement of CDM to agricultural soils management is critical to enable agriculture's access to carbon financing. It is of particular relevance for Africa which has very few CDM projects.

There is also a need to have clear methods and work around methods that can be used for small-scale accounting. This is why FAO made a submission on a proposed program of work on mitigation actions in agriculture.

These accounting and MRV issues under LULUCF are also of renewed interest as they are very likely to have influence on the rules which will be used for the implementation of voluntary reductions in developing countries in their NAMA's, or on any voluntary scheme such as VCS for instance. To a certain extent LULUCF could be considered as a pilot of wider accounting of carbon sinks and sources.

FAO can play an important role in gathering evidence on what can be done in the field and on what is needed to deliver results in order to inform negotiators.

Key messages and conclusions/outcomes

1. Technical

- We need a work program in SBSTA
- Benefits in having pilot action to test/demonstrate approaches and build capacities of countries, with a feedback loop into the negotiations
- We need to design financing mechanisms so that they can respond to the special needs of agriculture
- Phased approach that takes into account the capacities of countries, closing the knowledge gaps and building institutional mechanisms.

2. Policy
   - Integration and/or alignment of climate change and food security policies are needed.
   - Capture new CC resources for smallholders who will be among the most affected and who could, in exchange for incentives/payment for environmental service, contribute to mitigation and adaptation in development and food security-smart ways
   - Policy alignment is needed across policy frameworks at global and national levels
   - Ensure that the design of financing, technology transfer and capacity building mechanisms enable and incentivize action in line with the specificities of agriculture
   - Agriculture can be part of the solution to climate change and for this reason reflection in a global climate change instrument and in national CC strategies

3. Networking/communication/partnerships/capacity building
   - FAO has made extensive contributions to the negotiations through side events, policy briefs, submissions and publications that sought to clarify options and issues, in many instances it has partnered with World Bank, CGIAR, IFAD, and the Global Donor, including in the organization of Agriculture and Rural Development Day.

Additional materials

- Submissions placed in the UNFCCC and FAO websites
- Publication: Food Security and Climate Change in Developing Countries: Options for Capturing Synergies

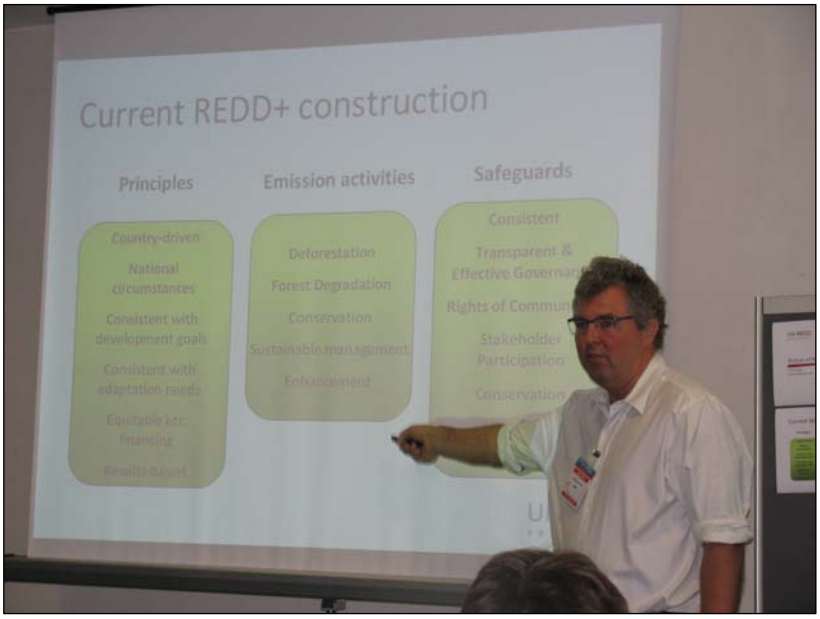
"Parking lot" – topics raised by participants during the session, which could not be addressed and should be picked up in another session or at another occasion

- What concrete actions to take for Cancun and South-Africa?
- How can FAO contribute? How can HQs and the field contribute?
- Centralized offices in the dark on where we stand in terms of negotiations
- Why is it that regions are not involved in these works?
- We are supposed to help countries with financial mechanisms but we are in the dark

5 Status of REDD+

Facilitator:
Peter Holmgren

Rapporteur:
Sibyl Nelson



Key issues raised

- Construction of **REDD+** in the negotiations: Principles (e.g. country-driven, consistent with development goals) + Emission activities (e.g. deforestation, conservation) + Safeguards (e.g. transparent & effective governance, stakeholder participation)
- UN-REDD Programme: a coordinated UN response, country-driven
- Within UN-REDD, FAO is taking the lead in **MRV & Monitoring** (which means tracking how much carbon there is in the ground and by how much emissions are reduced)
- MRV/Monitoring: takes place at country and global level, with partners, through normative role, through implementation on the ground.
- Monitoring three things: (1) carbon, (2) benefits and impacts and (3) governance (not just monitoring carbon, also the safeguard aspect of REDD+)
- Two levels of monitoring: Strategic Level (international commitments, national policies) and Operational Level (in-country implementation). Different kinds of information are needed at the two levels.
- Much is known on how to do the monitoring, for example through national forest inventories.
- What is ahead for FAO in REDD+: (1) New REDD+ Partnership established on 27 May 2010 (about $5 billion in readiness phase), (2) Growing demand from countries, (3) MRV & Monitoring work will expand with FAO leading technical assistance, (4) FAO can/will broaden its involvement in areas like governance, payment systems and tenure
- This doesn't stop at REDD+, FAO's role in other areas of mitigation can grow

Key messages and conclusions/outcomes

1. Technical

- Payments for Environmental Services in the context of REDD+: This is an area where FAO could contribute technical knowledge. Ideas: Should payments be called "rewards" or "compensation"? "Payments" can have a negative connotation for some countries.

"Compensation" is a more popular term in Latin America than payments. To be interesting for local stakeholders there needs to be some money in it.

- Governance issue: This is UNDP's niche, but there is a need for FAO to be involved because it can work with farmers/producers in a way UNDP can't and this is important for scaling up governance structures.
- Clarification: Which forests? In theory all countries that are not rich countries could participate in REDD; now it is mainly countries with tropical forests.
- Clarification: The acronym R-E-D-D? First D is for deforestation (aligned with conservation efforts), second D is for degradation, the plus is the interesting part – it is going from reducing emissions to storing more carbon and has synergies with other goals.
- Clarification: Is a system approach possible? Almost all of the emission reductions must be achieved by changing agricultural practices which depend on activities in and outside the forest.

2. Policy

- At the international level, focus is on carbon, while at local level, carbon is important along with benefits and impacts and governance. An international agreement must account for the more complex environment at local level and not focus only on carbon.
- The trick is to conform to the negotiation process while working from FAO's specific role, such as bringing in sustainable land management.
- How do we address multiple issues at once, e.g. mitigation and water availability? Can we merge funds so that synergies are established between issues and how they're addressed? At some point these objectives need to be brought together, but where? Maybe integration of issues should be at local level, and international level should address issues one-by-one.
- Are the global policies affecting decisions by landowners on what to do on the land?
- Trade in forest products between countries has not come up in REDD.

3. Networking/communication/partnerships/capacity building

- Is FAO ready to provide technical assistance to countries on methodologies, measurements, etc.? Ideas: FAO can provide assistance on forest monitoring and has expertise on payment for environmental services, land tenure and governance, but hasn't brought these into UN-REDD. FAO's REDD work should collaborate with LADA (land degradation assessment) to ensure that different tools we use include the same indicators.

Specific recommendations for follow up action

- There is a need to remove the invisible barrier around REDD work at FAO and work across divisions. How do we work across different departments on cross-cutting issues? Nothing stops us from a human resources perspective, only the custom of not doing it stops us.
- FAO must change the way it engages with countries when addressing the issue of REDD. It is unlikely that the Forestry Ministry in a given country is handling REDD, it is more likely that there is a REDD or climate change office under the prime minister. FAO must engage at right political level.

Further information

- The UN-REDD Website

6 Experiences in NAPA formulation and implementation

Facilitator:
Alemneh Dejene

Rapporteurs:
Kuena Morebotsane &
Selvaraju Ramasamy

Session description

NAPA provides Least Developed Countries (LDCs) with a tool to identify action-oriented priority activities that address urgent needs to adapt to climate change. Participants will share experience and lessons learned in the NAPA formulation and implementation during this session and suggest ways in accelerating implementation.

Key issues raised

The facilitator introduced the session by providing brief background about the NAPA processes. He recognized and acknowledged the great deal of work done by countries in identifying the adaptation priorities despite their limitations with respect to technical and financial capacity. The facilitator underscored the major challenges with regard to NAPA implementation and stressed that multiple means should be used to accelerate the implementation such as GEF, UN joint programme and bilateral means and future climate fund on adaptation. The introduction was followed by discussion and individual feedback from the participants. The challenges encountered in NAPA preparation and Implementation, as perceived by the participants, are listed below.

1. Weak institutional capacity to develop and implement adaptation activities in the countries
2. Some countries have encountered difficulties in integrating climate change priorities into development objectives. Nonetheless, several LDC countries were able to prioritise based on their local context.
3. Lack of programmatic approach to implementing climate change activities and inadequate strategy on how project results/outcomes will be sustained in the long term - lessons learned from completed/ongoing projects are not up-scaled and therefore get lost.
4. Lack of sustained research efforts, to support learning and inform policies and adaptation activities on the ground warrants additional efforts in the future.
5. Considering cross-sectoral nature of the issues, implementation of NAPA priorities at the country level need to ensure coordination between the relevant ministries in the countries

6. Time lag between the completion of the NAPA reports and actual implementation of projects is too large, which could mean that some of the priorities have changed by the time the projects are prepared. It was elaborated that there are possibilities to redefine the focus considering emerging challenges within the major identified priorities.

Key messages and conclusions/outcomes

1. Technical

- FAO could identify key areas in the NAPAs which are consistent with FAO's programmes in which they could help the countries accelerate the NAPA implementation
- FAO to help the countries develop an integrated/programmatic approach to implement NAPA activities. Interventions based on the NAPA priorities are already in progress in some countries through various means (e.g. Lesotho, Ethiopia, Nepal, Cambodia, Mali).
- FAO could assist the countries in linking plans and strategies under the environmental conventions and encourage synergies among these.

2. Policy

- The participants of the session provided input on the role of policy in implementation of the adaptation priorities, specifically referring to the sustainability of actions. This element reiterates the need for integration of climate change concerns into agriculture and food security related policies and programmes. However, the policy level intervention requires more focused local level actions. There are some opportunities to integrate adaptation priorities through National Medium Term Priority Framework facilitated by FAO and specific plans of Actions for the countries. Participants provided specific examples from Nepal in agriculture, and in fisheries.

3. Networking/communication/partnerships/capacity building

- Leveraging existing networks is essential to effectively factor in the adaptation priorities. FAO's partnership through MDG projects on adaptation is one of the several examples to assist the LDCs to implement NAPA priorities. The capacity building and training programmes should be integral part of the interventions.

Specific recommendations for follow up action

Out of 49 LDCs, 44 countries have submitted their NAPA document to the UNFCCC. Though there were some issues raised during the session on the NAPA prioritization process, given the expertise at the country level, a great deal of consensus has been achieved among the stakeholders. The NAPA priorities clearly overlap with other development objectives at the country level and thus reiterate the importance of mainstreaming adaptation priorities into sustainable development. A significant portion of the identified projects are related to agriculture, livestock, forestry and fishery sectors, FAO has comparative advantage to play a greater role in implementing these priorities. FAO's ongoing assistance to countries on adaptation will clearly add value to NAPA implementation in future. However, there are issues which need additional considerations, such as coordination and collaboration among the agencies at the national and local level, capacity building and community participation etc.

Additional information

- The LDC portal of the UNFCCC website provides information about NAPA projects and priorities:

http://unfccc.int/cooperation_support/least_developed_countries_portal/items/4751.php

- The LDCF (Least Developed Country Fund) is managed by GEF and operationalized for preparation of NAPA in 2002. The total pledged funds reached USD 340 million (April 2010). The eligible countries can access these resources. Prior to June 2009, each LDC country was eligible to access up to USD 3.6 million; now it stands at USD 6 million. It was estimated that 2 billion USD is required for full implementation of NAPAs.

7 Climate change and water I: Impacts

Facilitators:
Jean-Marc Faures & Hugh Turral

Rapporteurs:
Domitille Vallee & Janie Rioux

Session description

Water is the primary medium through which climate change influences agriculture and rural livelihoods. The purpose of the session is to move towards better understanding of likely impacts of climate change on water across different scales and contexts of agricultural water management.

Objectives

- To move towards better definition of likely impacts of climate change on water across different scales and contexts of agricultural water management.
- A more solid technical base for the evaluation of impacts on agricultural water management systems
- The collection and discussion of specific experience on the range, type and nature of impacts from participants.
- An agreed typology of impacts across water management systems.
- A discussion on tools to assess impact at different levels, and linkage with the response options session (Session 27).

Key issues raised

What are the likely impacts of climate change on water? Participants provided examples of what they thought were the most important water related impacts of CC in their area.

Issues raised in presentation by Hugh Turral:

- Change of mean and change of extreme events
- Availability of ground water and surface water affected. Runoff is only a very small part of rainfall but highly impacted (ex. Cyprus: 14% less rainfall means 34% reduction in runoff).

- Impacts depend on context – the current one, and future demands on land and water (e.g. NENA region: irrigation water needs with and without CC).
- Climate change impacts will be felt more in areas already affected by water scarcity and natural hazards, such as drylands.
- Ability to diagnose and adapt are key as there is high uncertainty in prediction (GCM modelling are coarse).
- Agricultural production cycles and climate change are closely linked either when looking at CO_2 effects or temperature/climatic effects as both are working on factors of production
- Possible to fill a productivity gap in most least developed countries, where the potential is still untapped, even in the face of climate change, as the current production is low.
- Assess the impacts in the different systems → Typologies of agricultural systems
- For irrigated agriculture, food production is linked with water availability and use, so increase temperature and increase CO_2 will affect crop production.
- For rainfed agriculture, cropped areas and food production are affected by rainfalls, snowmelt and runoffs.
- Humid systems may have to adopt the approach of a dryer agricultural system, while a dry system will balance on the margins.
- Huge impacts on aquatic ecosystems, e.g. Australia → more conflicts over the resource where it is limited, between agriculture and environment (this is a bigger problem than the conflict with urban demands)

Comments from the audience:

- Q: Climate change is already observed as there is more variability and extreme events in this region, so it is not only predictions. There is enough evidence that it is happening to act.
  RESP: If the mean changes you have more variability of events.
- Q: Graph on carbon dioxide; do you have the same for precipitation?
  RESP: Australia went through 10 years of drought that does not correspond to previous patterns. No clear evidence.
- Q: work in semi-arid areas – maybe we are overly negative.
  RESP: general trend – if you go from 300 mm to 250 mm; and you may have more frequent drought, you need to reconsider the options at hand: is irrigation or conservation agriculture still a reasonable option in 30 years? Must start understanding and accounting for the specific context as we need to move away from broad prescription in adaptation options.

GROUP work elements – identifying issues in different systems as illustrated in a fictional country, Miragia, experiencing climate change. Each working group, arranged according to system (high valley, humid zone, arid-semi arid zone) looked at their system and referred to real examples (projects of one person in the group).

- High valleys – impact: deforestation and reduced hydropower capacity in the uplands; change in farming methods, change in temp and water related (example – landslide prone areas in Uganda where there are efforts to relocate people)
- Humid zones - impact: unpredictability of monsoon – intensity and shifting of rainfall; vulnerability: farmers more vulnerable as they are not able to plan anymore when to plant or harvest (example – Bangladesh, this is also the case of delta systems).

- Arid and semi-arid zones – impact: drought/exacerbated water scarcity; livestock sector (grazing); decrease of water quality (use of waste water) (example: Project in Jordan)
- Deltas – impact: sea level rise, salt water intrusion, flooding; sedimentation (example: Mekong river)
- Large scale irrigation scheme – impact: less precipitation and drought; less water from rivers (ex: Mozambique, Chile)

Key messages /conclusions

1. Technical
   - Develop the capacity to understand the different dimensions of the water & CC problem and make a diagnostic of different typologies of agricultural systems to decide on adaptation interventions.
   - Still a potential to bridge the production gap in many countries as the current level of productivity in many countries is relatively low.
   - Climate change does not happen in isolation, but hit a country that has its own specificity. Some of the key diagnostic elements to consider are: status, climate change drivers & impacts, vulnerability, adaptability.
   - To adapt, we need to understand well what the impact will be over time and over space. Need to verify whether a solution you propose now will be a problem in the future.

2. Networking/communication/partnerships
   - Multidisciplinary partnership necessary in the phase of diagnosing status, drivers, impacts, vulnerability.

8 Bioenergy: country experiences

Facilitator:
Olivier Dubois

Rapporteur:
Maizura Ismail

Objectives

- Provide an overview on some key bioenergy development issues through two country experiences; woodfuel in Mexico, and the BEFS project in Tanzania, Thailand and Peru
- Participants becoming more familiarised with bioenergy development issues
- Introducing participants to what FAO does regarding bioenergy
- Collecting input from participants on these topics

Key issues raised

- Clarification of the definition of bioenergy – the range of energy from traditional biomass, to liquid biofuels, the contribution of each component in percentage, and biochar.
- Trends and forecast of demand for liquid biofuels, and the percentage of the population depending on traditional bioenergy
- Energy mixes, main uses of energy, options and solutions available to fulfil the energy needs of the population – the win-win solution of biogas, the use of agricultural product residues and the subsequent competition with other residue uses like compost
- Different systems and scales of bioenergy operations – FAO supports small-scale bioenergy, there is slow development of large-scale bioenergy production due to the economic crisis.
- Feedstock use competition – forecasted increase in the demand for feedstock, impacts of second generation bioenergy, impacts of land-use change
- Pros and cons of using certain crops – Jatropha (cost of production very high), food crops vs. non-food crops (competition and flip-flop use of crop for food/energy based on demand and food security situation), food culture of the locals.

Presentation 1: Woodfuel development and climate change mitigation in Mexico

- Mitigation options potentials – Biomass electricity (wood-based), efficient charcoal production, improved stoves, fuel wood co-firing, and forest management.
- Comparison of mitigation options based on area needed, CO_2 mitigation potential, financial investment and net cost
- Impact on forests & forest industries – competition for feedstock, revenues for primary forest producers, increase in employment and investment.
- Barriers – Institutional/policy (all options), financial (electricity and charcoal), regulatory (electricity generation, sustainable forest management) , technical (improved stove)
- Recommendations – development of local capacity building, streamlining the existing policies across sectors, cut time needed for procedures and permits for operations, development of minimum performance standards for improved stoves, clearly defined strategies and goals for fossil fuel substitution with woodfuel, establishment of simple, standard small power purchasing agreements, priority to biomass-based power generation, include wood co-combustion capability in the specifications for new coal power plants, increased range of intervention but with woodfuel, conversion of degraded areas and efficient utilisation of resources

Presentation 2: Bioenergy and Food Security (BEFS) project

- Evidence based knowledge to build capacity and inform policy in three countries – Tanzania, Peru and Thailand
- Based on four building blocks: (1) natural resources (land suitability assessment, biomass available from residues, water resource management); (2) socioeconomic analysis (economy wide effects, household and vulnerability analysis, community based bioenergy development: identifying good practices); (3) techno-economic and environment analysis (technical capacity assessment, economic feasibility analysis, green house gas emissions modeling); and (4) agriculture markets outlook (baseline and scenario analysis)

Key messages and conclusions/outcomes

- Climate change, and the challenges that come with it, is already taking place. Alternative sources of energy have to be developed. Many types of bioenergy sources are available, which should be explored as part of the energy matrix.
- Energy is necessary, but safe and efficient energy is still not accessible to everyone. This has to be addressed, with or without the challenges that comes with climate change.
- The overlap between bioenergy and food security is a multifaceted issue, involving energy, environmental, social-economic, rural development and commodities aspects.
- Barriers to implementation are not exclusive for bioenergy programmes, but also other multi-sectoral areas like climate change.
- Biofuels are neither good nor bad per se, and the impacts depend largely on the management of the sector. The aim is to deliver maximum benefits with fewest risks, keeping in mind the different issues, minimizing the risks ex-ante, as well as having mechanisms to monitor and deal with problems.
- Combination of energy types in the energy matrix - what type of energy is suitable for what use in which area – crop species, agricultural system, energy use, technology available, rural/peri-urban/urban areas, compared with other potential energy sources. Decisions should not be made on one single criterion, but with all information simultaneously.
- Inefficient use of resources constitutes wastage that could be avoided.
- Institutional obstacles to implementation of bioenergy policies – involves not only the environment, but also energy/rural development sectors, the need for more effective collaboration, policies that do not encourage development of the wood energy sector.
- Financial issues – specifically for electricity generation where the power plant would need to be retooled, financial schemes to pay for improved stoves (barter credit)
- Technical issues – quality monitoring of improved stoves is difficult.

Specific recommendations for follow up action

- BEFS Project – for FAO: The Tanzanian government requested for analysis of a few crops that were being considered as energy crops. The exercise has been useful for the government to begin with, with transfer of skills and tools, through which the government can now extend the analysis to other crops. For extension to other crops, there should be an overlapping period for the government to carry out the exercise and FAO to oversee, looking at the complexities that were encountered during the last 3 years of BEFS implementation.

9 Experiences from using the EX-Ante Carbon Balance Tool (EX-ACT)

Facilitator:
Katia Medeiros

Rapporteur:
Francois Delobel

Objectives

Present the recently developed FAO EX-Ante Carbon-balance Tool (EX-ACT) which estimates GHG emissions and carbon sequestration potentials in agricultural development projects

- Share experiences from applying EX-ACT in two rural development projects in Brazil
- Discuss potential sources of GHG emissions and carbon sequestration in agricultural development projects.
- Discuss how (and to which extent) EX-ACT can provide estimates of the mitigation potential of rural development projects and help project designers – participants and their national counterparts – to integrate climate response activities in agricultural projects.
- Shared lessons learned from the two cases studies, aiming for a lively discussion on the possible applications of the tool in other project typologies and in different geographical contexts.

Key issues raised

- EX –ACT is a scoping tool aimed at providing preliminary estimates of GHG emissions and carbon sequestration potential related to the implementation of agricultural development projects. It should not be considered as a sufficient methodology for carbon crediting on the voluntary/formal carbon markets, but it can help quantifying the co-benefits of climate change mitigation in agricultural projects.
- EX-ACT is a land-based accounting system, measuring C stocks and stock changes per unit of land, expressed in $tCO_2eqv.$ /ha and year. It gives an indication about trade-offs between various options of land use and management measures. Default results are based on IPCC technical coefficients (Tier 1 approach), but national coefficients could also be used, when available (Tier 2 approach). Sensitivity analysis could be easily performed to test the robustness of results.
- The tool it is relatively easy to use, it allows to build several scenarios and to test different project options (e.g. different land use change or management options), and it can provide some insights about the potential of the project to get access to mitigation financing from the market or the public sector.
- EX-ACT has been tested on several projects in Africa (Eritrea, Tanzania, Madagascar, Ethiopia, and Uganda) and Latin America (Brazil). During the session, the results of the tests for the Santa Catarina Rural Competitiveness and Rio de Janeiro Sustainable Rural Development projects were presented and discussed.
- Recognition of the tools by other institutions: the tool was validated through an expert meeting involving other institutions, including the World Bank. Other institutions are also interested in the tool. The tool can be used with certain reliability as long as it is used for what it is meant (i.e. providing rough estimates of mitigation potential).

Key messages and conclusions

- Technical: Importance of using the tool appropriately
- Policy: Possible use on supporting policy simulations for agricultural mitigation actions (e.g. NAMAs)
- Capacity building: training on Thursday 24 June 2010

Specific recommendations for follow up action

- Integration with the Harmonized World Soil Database (FAO NRL)

Additional material

- The EX-ACT website, where documentation can be found
- The EX-ACT tool
- Publication on two case-studies in Brazil
- Key contacts

"Parking lot" - topics to be picked up in another session or at another occasion

- Validate methodology for carbon balance assessment in agriculture for mitigation finance

10 Research, extension and communication for climate change

Facilitator:
Federica Matteoli

Rapporteur:
Marzia Pafumi

Session description

Present climate change challenges require the implementation of a number of measures focused on improving rural institutions, knowledge and information sharing and broad participation in promoting concerted action towards mitigation and adaptation. This session explored the role of extension and communication for development in helping linking research knowledge and local communities' awareness to cope with climate change. Discussions covered potential applications of extension and communication in climate change projects.

Key issues raised

- Key role played by extension and communication to bridge the gap between researchers and farmers
- Two-way communication and dialogue as pre-conditions to actively involve rural communities and report local strategies back to researchers
- Importance of horizontal communication networks and farmer-to-farmer information flows
- Opportunities provided by communication tools (such as rural radios and ICTs) to improve those linkages
- Value added of extension and communication for CCA
- Field experiences in extension and communication applied to CCA

Key messages and conclusions/outcomes

1. Technical issues

- As climate change adaptation is a multidisciplinary and multi-stakeholder endeavour, extension and communication become particularly useful to enhance sharing and integration of different knowledge areas involved
- Extension and community development can contribute to better climate adaptation processes by raising awareness, fostering dialogue/negotiations between institutions and rural communities, promoting farmers' participation in decision-making and technology development
- Adaptive research, livelihood diversification, community-based technology development and disaster risk management are examples of the interface areas where Research, Extension and Communication should be used in support of CCA

2. Policy

- For climate change adaptation and in general, research, extension and communication are deeply interconnected and should work institutionally as a whole to reach their expected goals
- Communication is not always integrated in rural development programmes and often misused by decision-makers (e.g. governments/ministries)

3. Networking/communication/partnerships/capacity building

- Demonstrations are a common method used by extensionists, but they should be complemented by communication methods such as rural radios or ICTs to reach both wider coverage and effectiveness/ownership
- Extensionists need to understand local practices and traditional knowledge to stimulate successful innovation/ climate adaptation processes
- Although internet support is often available and guarantees interactivity, age of farmers and extensionists influences their e-readiness
- Main challenges from field experience: timeliness of information about CC, language and literacy issues, age and gender gaps, extensionists attitude and scarce infrastructures, lack of funds to invest on innovative communication tools (e.g. cell phones)

- Good practices from field experience: rural youth development groups, conservation agriculture, nutrition advice, use of digital assistants for crop monitoring, virtual platforms linking rural stakeholders

Specific recommendations for follow up action

- Research and extension should be managed within institutions as one thing, and the communication component should be always integrated at the institutional level (with specialised officers)
- Extensionists need to be trained in communication and facilitation skills to learn how to valorise traditional practices and local tacit knowledge in proposing new technologies or coping strategies
- Mobile phones could be used by extensionists to effectively communicate with and give advice to farmers overcoming the age and (ICTs) illiteracy barriers
- FAO resources are not always accessible; should always be on the INTERnet, not INTRAnet

Additional material

- FAO Glossary on Climate Change (long-life terminology)
- CSDI publications on communication for climate change adaptation
- VERCON network
- TECA

11 Land and agro-ecosystem management for CC adaptation and mitigation

Facilitators:
Sally Bunning & Constance Neely

Rapporteurs:
Janie Rioux & Domitille Vallee

Objectives

- Demonstrate the benefits of a systems approach for improved land and water management and livelihoods in the light of climate change
- Improved understanding of ecosystem processes and services related to sustainable land management practices
- Show how sustainable land management practices contribute to climate change mitigation and adaptation at different scales

Key issues raised

Exercise 1: For each impact, name a SLM technology and how it is useful for mitigation & adaptation

CC impacts	SLM technology	Mitigation	Adaptation
• floods • water scarcity • changing precipitation patterns • yield decrease • reduction in water bodies			

SLM practices:

- Conservation agriculture (to reduce land degradation): improve carbon stock, resilience
- Mixed cropping (to reduce land degradation): mitigation and adaptation
- Flood plain revitalization : both mitigation and adaptation
- Water conservation
- Integrated watershed management
- Optimize fertilization (energy saving)

Ecosystem processes:

1. *Solar energy flow* (captures the sun-carbon cycle; should maximize the capture of solar energy; could change our growing seasons. Greenhouse gases have different power (N_2O the largest – 310 times the greenhouse effect of CO_2)
2. *Nutrient dynamics* – necessary to make the nutrient cycle more efficient; optimize carbon in crops, better management of manure and fertilizers; water cycle – important to think about effective rainfall (how to capture the water that is falling even if it changes) if the ground is bare (50% is lost to evaporation or runoff); when the soil is covered with vegetation and mulch, more water is transferred into the ground water
3. *Community dynamics* – higher biodiversity and varied age distribution benefits ecosystem resilience
4. *Carbon sequestration potential*: grazing land management (1.5 GT CO_2e); rehabilitating degraded land (0.6 GT CO_2e) – use the EX-ACT tool – improving grasslands made a big difference (CATIE in Costa Rica – the carbon index increased when they went from degraded grassland to improved grassland); improved integrated farming system – show people which practice can give the biggest carbon sink.

- Ex. Zimbabwe – managing grazing can make a difference on grasslands and water availability
- Ex. Meru district in Tanzania
  Tillage disrupts the natural cycles and temperature decrease with mulching
  Questions: cost of conservation farming, agro-forestry and conservation agriculture with trees

Definitions:

- Adaptation: increasing resilience to drought /rainfall variability/extreme events/production failure
- Mitigation: increase carbon storage in soil or biomass and reduce GHG emissions (carbon dioxide, methane, and nitrous oxide)

Exercise 2: for each SLM practices, see how much (slight/moderate/strongly) it increases resilience or gives synergies with biodiversity, etc.

- Example is from WOCAT results from sub-Saharan Africa
- Lack of data: how can you improve the information in a country (water, land, livestock) – to start to document the most effective solutions in different contexts? Look at the co-benefit of adaptation and mitigation.

CC adaptation and mitigation need to address various scales:

1. Farm level: - what is in the interest of the local people?
   - To maintain productivity (water, nutrients, soil organic matter, biomass, labour)
   - To reduce risks of failure (diverse plant varieties and species; animal breeds; increase resilience; soil fertility; pollinators)
   - To increase household food and nutrition security → increase household resilience to change/shocks

2. Community/landscape level:
   - Improve management of individual and common property resources (access rights)
   - Maintain livelihoods – provide for changing/increasing needs of the community/society (food security, water, energy, products, income, energy sources, market sources, demographics)
   - Maintain ecosystem services: provisioning (food...), regulating, supporting, socio-cultural
   - Sustain resource base and promote rural development

   A big challenge is the energy issue, e.g. increase population, increase use of fuel wood, or new fuel source, but more emissions.
   Increase in value chain management (market driven approach), but there is a need to adopt a systems approach, including other ecosystem services, not only food production.

3. Watershed level:
   - Address aggregated effects of climate change and variability and negative effects of land management.

4. Governance: municipal to national
   - Enabling environment for SLM e.g. incentives, compensations for environmental services
   - Resource mobilisation (human, financial) to reduce risk/vulnerability

Example: Kagera river basin project – sequestering carbon is one goal. Identifying and scaling up the best SLM practices another.

Exercise 3: Group work – SLM principles and their effects

- There is a need to understand the single interventions at different levels (farm level, catchments/community, river basin/landscape)
- Soil/water conservation: farm level- impact on livelihood and productivity ; catchments and river basin- mixed effects , microclimate effect

Examples:

- Carpathians TCP on landscape revitalisation
- Watershed management affected mangrove ecosystem in India. Identifying tradeoffs – multidisciplinary teams
- Senegal – interventions to improve drainage (small size) but affected 30000 ha lagoon area.

Discussion: Specific case-studies contributing to adaptation and mitigation or comments

- For watershed management, there is a need for a strong community regulation context, e.g. to control water use or make sure water is used efficiently
- Watershed management needs social control, so it depends on human activity and governance structure
- In some countries, watershed management has worked, but only during project timeline.
- Effects of these measures cannot always be sustained when projects end; how can we have an aggregate effect that is sustainable over time (nobody will pay if there is no guaranteed benefits – permanence and sustainability); very difficult to prove.
- Policy makers are looking at larger scale farming and trade, not small scale farming. Important to change consumption behaviours towards eating local/regional products.
- Small scale farming not taken into account by policy makers: the carbon trading is directed at mass consumption and subsidies to fossil fuels. The whole trading scheme may have negative impacts on small farmers when it comes to changing their farming systems (but difficult as cultural change). Need to understand the consequences at national level and the trade-offs.
- Water management is different from land management as we talk about river basin management. Land, water, and biodiversity management need to come together. Need an ability to liaise. Get policy makers aware. Create multi disciplinary teams.

Key messages you would say to ministers going to the Cancun meeting:

- If they are serious about reaching the targets, they need to include agriculture
- Need to scale up, and influence extension, improve research in water/soils
- If they want to feed their people they need to manage natural resources sustainably
- Adaptation to CC benefits agriculture at the local level
- Lots of win-win solutions available with food security
- Need to include agriculture first, although trade matters a lot

Key messages /conclusions

1. Technical

- Synergies between SLM practices and adaptation and mitigation
- Different climate change impacts can be addressed by SLM practices as mitigation and adaptation options

- Carbon value depends on soil and ecosystem
- Need to compile data for each country, as most data is presented in isolation
- Important to understand impacts at different scales before implementing CC adaptation and mitigation options

2. Policy

- Important not to think about climate change mitigation and adaptation in isolation from SLM
- Taking into account both small and large scale farmers, as well as trade
- Make sure there are no conflicts among policies

Additional material

- Kagera project
- The EX-ACT tool and website
- Publication: Challenges and Opportunities for Carbon Sequestration in Grassland Systems - A technical report on grassland management and climate change mitigation
- Publication on challenges of monitoring
- Policy Brief: The Case for Food Security, Adaptation and Mitigation
- Policy Brief: Pastoralists – Playing a Critical Role in Managing Grasslands for Climate Change Mitigation and Adaptation

12 Integrating FAO's work on climate change: Linking HQ, regional and country offices I

Facilitators:
Claudia Hiepe, Gauri Salokhe & Nadeja Loumbeva

Rapporteur:
Mauro Bottaro

Session description

Effective linkages between FAO Headquarters, regional and country offices are crucial to respond to the rapidly growing country needs for FAO support in the field of climate change. This highly interactive session identified gaps and possible actions to improve existing ways of working in climate change.

Specific objectives

- Identifying gaps in existing mechanisms for collaboration among HQ, regional and country offices identified (flows of information and knowledge in different directions, capacities)
- Exploring ways in which this could be improved (Who? Doing what? For whom?)
- Defining set of priority actions to improve linkages between HQ, regional and country offices in FAOs climate change work (including support tools)

Key issues raised

- Analysis of Unit Results for PWB 2010/2011 shows that CC is really crosscutting among all FAO offices, most Units Results related to Climate Change under Strategic Objective F
- Mechanisms for collaboration/communication in climate change exist (IDWG Climate Change in HQ, Regional CC working groups, CC study circle in CC, regional conferences, workshops etc.) but still a lot of room for improvement
- FAO HQ groups' involvement in regional working groups on climate change is needed
- Need for more institutionalized mechanism
  - Who clears climate change projects?
  - To whom report attendance to climate change meetings?
- New SIDA programme, led by NRC, has one component explicitly on improved communication and coordination of FAOs climate change work
- Creating an FAO climate change framework? The FAO profile is an interim answer; this would be one guiding document. An adaptation programme also envisioned.

Group work: Each table discussed gaps in existing mechanisms for collaboration among HQ, regional and country offices and identified possible ways forward. Then each table agreed on two short term and two long term priority actions. Afterwards all participants scored the priority actions (2 votes per person). In the following the identified actions are listed in order of priority (scores are added in brackets).

Actions – short term

- Prepare Training/info package on climate change for the regions – who: HQ (9)
- Create a climate change expert post in the regional and sub regional offices (6)
- Define simple internal communication (HQ to countries) with focal points in NRC for each region and coordinator within HQ (6)
- Conduct Capacity building for national decision makers on climate change FAO projects at sub regional level (5)
- Develop ABC book on climate change (key definitions, key topics, etc., including feedback from field) – who: NRC (4)
- Create FAO internal network on climate change to improve communications (3)
- Develop and agree on working arrangements linking all levels (including reporting and lines of communications) – who: Directors and IDWG-climate change (3)
- Set up Country task force on climate change (FAO/interagency) (2)
- Discuss project development and resource mobilization with division decentralized offers to develop strategy (1)

- Conduct Joint meeting FAO/WFP/IFAD to share information and data on CLIMATE CHANGE and develop joint info and communications strategies (0)
- Communication exchange on climate change missions via the intranet (0)
- Make available FAO profile on climate change in every country and region – if possible in national languages (climate change & food security awareness) (0)
- Boost FoodClimate Newsletter – who: NRC information (0)

Actions – long term

- Create a climate change fund within FAO in cooperation with GEF and **donors – who: HQ (10)**
- Prepare clear (and effective) technical framework strategy to connect HQ and regions (6)
- Pursue climate change framework for UN and FAO – like UNISDR or Hyogo framework (6)
- Strengthen at all levels cooperation with other CC agencies, UN agencies, networks and organizations, ex. UN water (5)
- Elaborate strategy for disseminating the climate change and food security message (e.g. journalists, teachers, governments, NGOs) in countries – who: countries, with help of NRC and regional offices (4)
- Identify Regional communications person linking HQ, regional, country offices on CC (2)
- Create FAO solution exchange on climate change (email list), ex. UN solution exchange to reach all stake holders (2)
- Translation of key FAO materials into all (UN) languages – who: NRC (2)
- Strengthen local and national FAO and country team expertise – who: FAO representatives (2)
- Regular consultation between FAO/WFP/IFAD at HQ and regional/subregional levels in preparing conferences for joint action (1)
- Training of FAO reps in regions, through events like the FAO Climate Change Days – who: regional offices, with support from HQ (0)
- Integration of climate change in regional priorities – who: regional conferences, regional secretary (0)

13 Developing land use carbon finance projects for smallholders

Facilitators:
Christina Seeberg- Elverfeldt &
Bernadette Neves

Rapporteur:
Ting Hui Lau

Session description

Introduction to land-based carbon finance activities and how they can be applied to smallholder projects. The session aimed to give practical understanding of the general carbon project cycle and its methodological approaches.

Specific objectives

- Understanding of key concepts of land-based carbon offset projects
- Understanding of eligible land-based mitigation activities
- Understanding of the general carbon project cycle: steps involved to develop a smallholder carbon finance project
- Understanding of methodological approaches of land-based carbon accounting
- Understanding of biophysical mitigation potential
- Overview of costs related to carbon project development
- Experiences and lessons-learned from a practical example

Key issues raised

- What are eligible activities for carbon finance projects?
- Biophysical mitigation potential of regions/countries need to be assessed
- Local institutional settings are important as basis for carbon finance projects
- Methodological approach for the Kenya carbon finance project: The concept of default values and activity monitoring are central
- It is about co-benefits. It is not about the carbon payments.
- There is a need for country or regional specific packages
- Costs of project implementation and rates of return

Key messages /conclusions

FEASIBILITY ASSESSMENT (Technical)

- There was great interest from participants regarding the development phase of projects. In particular in learning more about the various tests (e.g. barrier tests, additionality tests).
- It was noted that previous experiences should be linked to current research for updates.
- One noted that these tests place a very heavy burden on smallholder farmers and are impractical. Farmers would not be able to carry out such test before gaining carbon credits. Therefore a strong institutional setting is necessary to support farmers.

INSTITUTIONAL SETTING (Technical/policy)

- It was noted that for these types of project to be able to be successful there needs to be strong NGO networks and institutional support in the first place.

CO-BENEFICIAL aspects of the projects (Policy)

- It was agreed that beyond carbon generation, important co-benefits can be reaped from such projects. It was also noted that such activities are not new, but in fact have been taking place during many decades. We are playing with the win-win semantics in the context of climate change in order to promote what we have been doing all along.

ADOPTION and MONITORING (Technical)

- How surveys are carried out was questioned and participants were interested to find out more
- The issue of incentives for farmers to participate and comply was raised, especially as results of the projects will likely appear at the earliest after four years.

COSTS (Technical)

- The various costs of every phase of the project was a topic participants were very interested in, including development costs, implementation costs and physical investment costs.
- Rate of return was an especially important and controversial point. It was questioned whether returns from the project over the years were overestimated. Given that even though farmers will benefit from increase in yield, many conditions would still have to be met and there would be a few years before monetary benefits could be directly felt.

Specific recommendations for follow up action

- In terms of methodology: Need for more detailed default value research – at the same time need to find balance. Too many details may hinder progress.

Interesting materials, funding/networking opportunities, key contacts, etc

- Remote sensing: Would it be possible to use automated remote sensing to collect data on different land uses? How can we use remote sensing in a way that considers an integrated landscape? In many smallholder farms, land is not clearly divided, and remote sensing often shows gray areas.

"Parking lot" - topics to be picked up in another session or at another occasion

- At the policy level, there is a debate as to how precise default values need to be. If these were to be too detailed the process may take too long. This was discussed in the Wednesday session "Addressing climate change and food security linkages at the policy level."

14 Community Based Adaptation to Climate Change

Facilitators:
Selvaraju Ramasamy &
Claudia Hiepe

Rapporteurs:
Sibyl Nelson &
Mariko Fujisawa

Objectives

- Familiarize participants with key issues around planning and implementing community based adaptation to climate change
- Increasing understanding of planning and implementing CBA through the study of the E-learning tool Planning for community based adaptation to climate change and subsequent group work
- Discussing the participant's experiences regarding community based approaches and improving understanding of how to better link these to climate change projects
- Familiarizing participants with using the e-learning tool; giving ability and motivation to study it further and share it with colleagues after the event

Key issues raised

Intro Group exercise: Participants experience with community level engagement

PRACTICES

- small-scale community based rainwater harvesting
- coping strategy, appropriate techniques

PRINCIPLES

- cultural aspects
- ownership
- local relevance, local needs
- knowledge sharing, empowering of communities, institutionalizing CBA
- creative, inspiring and rewarding

METHODS

- challenges: the communities demand/need tons of information, presenting complex dynamics in simple terms
- listening = understanding
- participatory approaches at the centre, participatory rural appraisal(PRA)
- story telling on history/land use/seasonal calendar

Group discussion after individual practice with E-learning tool:

Feedback about content, flexibility and applicability of the tool

Positive feedback:

- Logical flow of the content/modules
- Key messages/well-simplified
- Contains relevant info on climate change for trainers/extension workers
- Simple, clear language (easy to translate to other languages)
- Good info and graphs/images to convince donors
- Methods how to involve communities actively
- Planning (participatory processes), stakeholder consultations
- Interactive exercises
- Charts/graphs/videos; action pictures: e.g. Vietnam, measuring flood level
- Will apply it immediately in Uganda
- Very general/flexible so it gives the opportunity to adapt it to local setting

Negative/Suggestions for improvement:

- monitoring and evaluation should be a separate module (link to results-based management)
- need of specific entry points in the beginning
- link terms adaptation options to SLM/Conservation Agriculture good practices
- add more context-specific examples, too much Asia, content to general
- PRA tools are general and community action plan hard to implement
- does not include large farmers
- put pictures showing examples of adaptation at the beginning to draw the user in
- gives impression of certainty in projection of future risk
- action oriented research can be a strategy for taking evidence from the field to policymaking
- scaling up CBA is not easy, the tool has a limitation for policy development, cannot influence policymakers
- better linkages between local/community with regional/national level (adaptation options/policies)
- CBA interventions on a holistic and multi-sectoral scale is too ambitious for extensionists
- parts could be integrated into farmer field school curricula
- for application at country/project level, it needs to be more specific

RESPONSES TO DISCUSSION FROM STEPHAN BAAS (leader of team that created the E-Learning tool):

- keep in mind that the audience is extension workers
- the challenge of finding balance between too general and too specific content will remain
- country examples that can be incorporated into the E-Learning tool are most welcome
- this tool is not intended for policymakers/policymaking

15 Integrating FAOs work on CC: Linking HQ, regional and country offices – Part II

Facilitators:
Claudia Hiepe, Nadejda Loumbeva
& Gauri Salokhe

Rapporteurs:
Mauro Bottaro & Ting Hui Lao

Objectives

- Develop an action plan for the priority activities that emerged in Session 12 (Part I)

- Enhanced group feeling developed among the participants

The top priority actions identified in session 12 were distributed across tables and participants could choose an action/table of their interest. Each group was asked to further specify the action according to what, who, how, when and challenges/barriers for implementation.

Action Plan 1 - Strengthen cooperation with other CC agencies, UN agencies, networks and organizations

Stewards of this action plan: Bangoura Sourakata (Gabon), Elizabeth Fox (Biodiversity), Kassu Kebedu (WFP), Jeeva Duraisamy (Cambodia), Giovanni Munoz (Turkey), Mikol Khan (WFP), Catherine Zanev (WFP)

Country level

- Align country priority plans with UNDAF's
- Define comparative advantages through mapping exercise. Comparative advantages should be based on mandates which need to be reviewed during the process.
- UN Country Teams: Create a working group on CC or Mainstream CC into existing WG's
- Joint programming

Global level

- Mapping exercise of climate change activities

Challenges

- Competition for resources
- Operationalization of RBA collaboration climate change

Action Plan 2 - Develop a climate change and food security communication strategy in countries

- who: countries, with help of NRC and regional offices

Stewards of this action plan: Lamourdia Thiombiano (Burkina Faso), Einstein Tejada (Bolivia), Francisco Xiu (Belize), Rufus Leandre (Saint Lucia), Laura Meza (Chile)

What:

1. Identify where the needs are in terms information gaps and communication with stakeholders. The needs can be assessed using survey methods.
2. Identify support tools and existing mechanisms that can be used to enhance communication strategies. These include tools such as regional conferences, statutory communities and commissions.
3. Raise public awareness
4. Information dissemination
5. Networking (though blogs, meetings, mailing list)

Challenges

- Lack of financial resources
- Difficulty in defining clear messages on the linkages between climate change & food security
- Difficulty in measuring effectiveness of the strategies

Action Plan 3 - Activity: Prepare Training package on climate change for the regions

Stewards of this action plan: Kenya Konno (RAP), Per Spolander (South Africa), Tommaso Alacevich (Bangladesh), Chiara Mellucci (Senegal), Marja Liisa Tapio Bistrom (FAO HQ), Christian Derlagen (Nicaragua), Doris Soto (FAO HQ)

What:

- Develop ABC of policy assistance on climate change issues by FAO (NRC & IDWG on CC)
- Organize sub-regional workshops (by NRC, SRO and COs)
- Create synergies especially among UN agencies

Challenges

- Lack of resources, time constraints, difficult to decentralize the process

Action Plan 4 - Create a Climate Change Fund within FAO in cooperation with GEF and Donors

Stewards of this action plan: Helena Kahiluoto, Zsuzsanna Flachner (Hungary)

What/when:

- By 2012
- Create a watchdog or quality control for climate change implementation at field and watershed level. A percentage of payment should go to institutional capacity.
- Mediation and agenda setting: Research / data from pilot areas ; Needs assessments
- Financing key pilots/research with large multiplication impacts and establishment of regional capacity
- Climate change policy in line with food security to incorporate SMES

How:

- WB – x percent from present ETS/carbon trading schemes, GEF – x percent
- Public Private Partnerships with NGOs, research projects
- Synergies: SLM , biodiversity and MDGs

Challenges

- Lack of data/experiments on long term effects (need global network with pilots)
- Models are not “Gods” – especially without local data for verification
- Simplification of donation/transparent schemes

Action Plan 5 - Create a climate change expert post in the regional and sub regional offices

Stewards of this action plan: Elminawy Ahmed (Jordan), Shinya Abe (RNE), Kennedy Igbokwe (Uganda), Makoala Marake (Lesotho), Zhijun Chen (RAP)

What/when:

- Develop terms of reference for the post, possible terms include:
    1. Facilitate and coordinate regional programme on climate change
    2. Mobilize resources
    3. Technical support
    4. Network with countries
- Budget allocation and mobilization
- Recruitment (preferably within the region)
- Time frame: December 2010

Challenges

- Multidisciplinary capabilities, mobilization of funds, synergy within FAO

Action Plan 6 - Prepare Capacity Building package for national counter parts

Stewards of this action plan: Marta Manjate (Mozambique), Isabel Tila (Mozambique), Andrew Mattick (Mozambique), Sandor Szalai (Hungary)

What/when:

- Assess existing knowledge and capacity on climate change in country and identify gaps
- Risk and impact assessment of climate change
- Design capacity building programme (hire experts)
- Select appropriate target group(s) for capacity building
- Conduct training
- When? ASAP

Challenges

- Rapid changes in knowledge and personnel, funding

16 Climate change impact and vulnerability assessments on natural resources and food security + climate change data and information resources

Facilitator:
Hideki Kanamaru

Rapporteur:
François Delobel

Objectives

- Share experiences of impact and vulnerability assessments and learn about available tools and data
- Understand why impact and vulnerability assessments are necessary, and how they link to adaptation work
- Understand how and what kind of assessments can be conducted
- Understand the challenges associated with assessments (uncertainties, temporal/spatial resolutions, data availability, etc)
- Become familiar with available resources (tools and data, at FAO and beyond) that facilitate assessments

Key messages and conclusions/outcomes

1. Technical

- One challenge in impact assessment and vulnerability analysis is to consider the inter-linkages of different sectors and systems also external to the sector considered. In fisheries for instance, stocks are affected not only by climate but also by river and coastal management.
- Another main challenge is to account for the numerous non linear effects of climate changes, such as positive and negative feedbacks.
- A third challenge is to take account of spatial inter-linkages: food crisis in one country can increase the vulnerability in neighbouring countries.
- The use of data sharing tools such as GeoNetwork can be very valuable in climate change assessment and vulnerability analysis, for which data often poses a big constraints.
- The issue of using a proper temporal scale in climate change impact assessment studies: seasonal vs. climate change time scale: link between adaptation to climate variability on short time scale (seasonal) and longer-term (multiple decades) adaptation planning.
- Impact assessment itself is not a goal, but should be conducted with the objective to support robust adaptation planning.
- Conducting sound and accurate quantification studies is generally a very difficult exercise due to the many sources of uncertainties. In fisheries for example, in addition to climatic (temperature and precipitation) and environmental (other species, pollutants, sediment and nutrient transports etc) variables, law regulation poses an additional source of uncertainty (fishing rights, territorial waters).
- Considering the increase of current investment for mitigation measures in global warming economics: should it be seen as a sacrifice of current consumption levels for higher future consumption or as a decrease in conventional investment and a keeping of total investment and consumption unchanged?

- Link between global warming economics and carbon trade: carbon trade is seen in global warming economics as one instrument to allocate effort and investments in mitigation.
- Assumption underlying economic analyses: consumption is used as a proxy for estimating living standards. How well does it also account for social and cultural values, which are also major determinants of living standards?

2. Policy

- Adaptation measures should also include structural, institutional, social and cultural factors, not only policy-makers and the main pressure groups. End-users should be included (social responsibility) while adaptation scenarios could be more often quality of life driven.

3. Networking/communication/partnerships/capacity building

- Capacity building in modelling: training to be organised in crop modelling (AQUACROP) and impact assessment on agriculture (FAO Climate Change Impact Toolbox)

Further information

The RIGA Project (Rural Income Generating Activities): http://www.fao.org/es/ESA/riga
Aquacrop (FAO's crop model): www.fao.org/nr/water
GeoNetwork (portal to spatial data and information): http://www.fao.org/geonetwork/srv

17 Funding mechanisms for climate change

Facilitators:
Barbara Cooney & Luc Dubreuil

Rapporteur:
Kuena Morebotsane

Session topic

Mobilizing climate change funding through GEF and the UNFCCC adaptation funds for agriculture, forestry and fisheries. Presentation of the Climate Change Fund Mobilisation Training Course. Opportunities to share experiences and explore possibilities for future engagement.

Objectives

- Raise awareness of participants about CC funding mechanisms, including GEF managed Funds

- Increase their ability to determine whether a project is potentially eligible for funding by the GEF Trust Fund, LCDF or SCCF

Key issues raised

- Regional offices have limited insight into GEF, which makes it difficult for field offices to assist countries in developing and implementing GEF projects. There is a need to familiarize field-based staff with GEF.
- Raising cofinancing is challenging for the countries, which delays development of GEF cofinanced projects. It was suggested that a way of addressing this challenge is building GEF projects on ongoing programmes and activities (adding a GEF eligible component). This may be a more feasible approach in particular for LDCF/SCCF, for which cofinancing refers to funding that is already available in the recipient countries in the form of existing development financing/projects.
- Combining GEF trust fund resources with SCCF/LDCF – it is now possible to combine resources from the GEF Trust Fund with resources from the adaptation funds, as in most cases projects would have both adaptation and global environment benefits.
- There are also possibilities for GEF agencies to implement projects jointly based on their comparative advantages.

Key messages and conclusions/outcomes

Technical issues

- FAO has a role to play in helping the countries to access funding (GEF managed funds or other sources of funding) given that most of adaptation priorities identified fall under FAO's comparative advantage and are consistent with FAO's strategic objectives.
- There are several sources of funding for mitigation and adaptation which should also be considered when developing CC projects (e.g. bilateral, private sector partners, investors). These should be considered at an early stage of project proposal preparation.
- Countries often do not have capacities to prepare proposals and this is where FAO could assist.

Capacity building

- Need for training of staff in project development (financed by GEF and other sources)

Specific recommendations for follow up action

- Training for regional and country offices on accessing GEF-managed funds, in order to enable the field offices to assist countries in developing and implementing GEF projects:
    - Training workshops have been held in country and subregional offices (Brazil in 2009, Chile 2009)
    - The GEF unit in TCI is organizing training in the FAO regional and country offices in 2010 and 2011. The first of these will be held in Cairo in September 2010.
- Training on mobilizing climate change financing for AFOLU (Agriculture, Forestry and other Land Uses) projects is being organized by TCI

18 Addressing climate change and food security: Good practices for smallholders

Facilitators:
Claudia Hiepe &
Nadejda Loumbeva

Rapporteur:
Maizura Ismail

Objectives

- Clarify the key good practices for addressing climate change and food insecurity and what has to be in place to advance them.
- The participants being familiar with available practices and tools that can be taken advantage of related to smallholder/pastoralist implementation

Key issues raised

Participants were grouped according to continent and discussed two main questions.

1. **From your perspective, what are the top three farming/pastoral systems or good practices which are the most effective to addressing climate change and ensuring food security?**

<u>Asia</u>

- Agricultural water management – water harvesting, on farm water management, modern irrigation methods and technology
- Conservation farming – minimise tillage, minimise use of chemical fertiliser, organic farming
- Crop selection – change of crop priority and cropping pattern to accommodate climate variability, choose crop/animal species based on suitability, use of early/late maturing/drought/saline/submergent varieties.

<u>Africa</u>

- Conservation farming
- Agricultural water management – rainwater harvesting, erosion control, hillside irrigation
- Improved soil management
- Community based watershed development planning
- Livelihood diversification

Central/Eastern Europe

- Agricultural water management – traditional water harvesting and spate irrigation
- Conservation farming – mulching, intercropping/multicropping
- Market access – connecting farmers to market
- Crop biodiversity – maintain and conserve traditional varieties ("special products")
- Safety measures – Weather index insurance, early warning system for floods and drought
- Financing – micro-credit

Latin America

- Agricultural water management – rainwater harvesting, dams/mini-dams, irrigation
- Safety measures – taking down greenhouses for hurricane season, windbreaks, community based early warning systems that incorporate local knowledge and methods
- Income generation and diversification – small feedlots, vegetable production, organic farming
- Natural resources management – reducing deforestation, agroforestry

Middle East

- Conservation farming
- Agricultural water management – water conservation, water harvesting, modern irrigation techniques, greywater treatment used for home-garden, improved rainfed agriculture
- Local knowledge – rediscover, tap and build on local knowledge of adaptation measures, tools include TECA – technology for small holders database

2. **With these practices in mind, what concrete activities or enabling elements are required to accelerate their adoption (e.g. capacity development, tools, awareness/policy briefs, etc.)?**

Asia

- Research – mapping of good practices in specific agroecological systems, consultation and verification of identified options, action research processes.
- Planning and programming – identification of programmes for replication and up-scaling through mainstreaming of planning
- Capacity building – trainings and extension
- Finance – innovative financing options and opportunities
- Governance – improved policy on access to land, water and forest resources

Africa

- Research – scientific evidence, farmer field schools
- Implementation – cultural change, livestock-crop integration, water harvesting
- Communication and information - environmental awareness
- Governance – enabling policies
- Strategic partnerships – dialogues with donors and governments

Central/Eastern Europe

- Research – training, pilot projects, field demonstrations, research focus on traditional and local knowledge
- Finance – subsidies, micro-credit
- Marketing – certification, distribution of information on marketing opportunities to farmers
- Early warning systems – real time data collection, technical capacity building of local authorities, communication with farmers through media
- Weather index insurance – downscaled data, yield forecasting system, training and awareness, links with micro-credit

Latin America

- Planning and programming – integration and incorporation of climate change factors into programmes and early warning systems
- Communication and public information – peer-to-peer sharing, better understanding of food security and agricultural vulnerability
- Governance – farmer and government access to resources
- Communication and information – public awareness and information dissemination

Middle East

- Financial constraints – Tapping into funding activities – GEF/adaptation fund
- Strategic partnerships – Rome-based/regional/country offices, knowledge sharing platforms and regional collaboration
- Weather index insurance – assistance in climate change related projects

19 Capacity development in climate change projects

Facilitator:
Sally Berman

Rapporteur:
Marzia Pafumi

Session description

A hands-on session that introduced a tool to assess the capacity of climate change project design to build on national and regional strengths, and identify the most critical capacity weaknesses.

Key issues raised

- FAO Corporate Strategy for capacity development and the FAO Capacity Development (CD) Framework
- Examples of capacity development in climate change at national and regional levels
- Critical success factors and lessons learned in capacity development

Key messages and conclusions/outcomes

1. Networking/communication/partnerships/capacity building

- Developing countries' capacity for both climate change adaptation and mitigation is included in FAO's strategic framework, specifically in *Organizational Result F05*.
- FAO capacity development framework is line with UN frameworks and international standards and emphasizes the need for FAO to play a supportive role in national and regional capacity development in the areas of FAO work.
- Capacity development in FAO is intended to cover three dimensions: individuals, organizations and a policy enabling environment. This entails developing technical capacities, as well as functional capacities that involve: (i) developing/implementing policies, (ii) information and knowledge management, (iii) outreach and partnering, and (iv) implementation and delivery.
- The Capacity Assessment tool is designed to identify strengths and weaknesses in national or regional capacities and to help identify the priority areas of work.

- **Critical success factors emerging from field experience in the group discussions were:**
    - Two-way learning/interaction between field programmes and regional programmes
    - Early involvement of national actors from the beginning of the process, and joint formulation of CD initiatives/projects with national actors
    - Policy dialogue and advocacy activities
    - Government commitment
    - Multiple stakeholders, interagency collaboration (at the global level) and interdepartmental collaboration (e.g. ministries at the national level)
    - Needs assessments
    - Design of long term CD programmes and follow-up
    - Projects and tools need to be relevant to the local context
    - South-south cooperation
    - Participatory approaches in training
    - Tailor design of CD for different levels and groups of people/organizations
    - Robust policies which support community networks
    - Benefits for farmers that outweighs the costs
    - Legal framework in place
    - In-house capacity at field level available

- **Lessons learned from not fully successful examples discussed in the groups:**
    - Need to actively involve field stakeholders (farmers)
    - Lack of climate change expertise
    - Need to compensate for staff loss/turn over after training (suggestion: contracts)

- Need for organizational buy-in of trained people
- Difficulty in establishing coordination mechanisms among local actors
- Capacity building takes a long time
- Commitment to CD was on a personal basis rather than an 'institutional' basis
- Project objectives were not realistic
- Lack of willingness of ministries to share information
- Need sufficient organizational buy-in for individuals' new knowledge to be properly utilized

20 Good practices platforms

Facilitator:
Claudia Hiepe

Rapporteur:
Monica Bröhl

Session description

Improving access to information and knowledge sharing about proven technologies is key in addressing food security, climate change and sustainable development. This session gave an overview of two good practice platforms (TECA and WOCAT) for agriculture and natural resource management.

Key issues raised

- What are platforms: databases; networks; d-groups; blogs

1. WOCAT (partnership): World Overview of Conservation Approaches and Technologies

- www.wocat.org
- A global network and database for assessment and monitoring of soil and water conservation (SWC) approaches, contributing to sustainable land management (SLM).
- Strategy: document immense available knowledge in a systematic way with SLM experts
- Based on active people entering data (to assess technologies and approaches in order to establish a database of case studies)
- Important that given information includes costs/benefits of the technology/approach
- University of Bern does maintenance; Input is made through detailed questionnaire
- systematic approach; questionnaire leads to detailed and structured information in the database; automatic generation of technology factsheets from database

- focal points in the countries play key role, e.g. in establishing working groups

2. **TECA (Technologies for smallholders):**
   - www.fao.org/teca
   - Collects/disseminates technologies for smallholders, including indigenous knowledge
   - Simple and easy to understand format, database with userfriendly search function for technologies, different output formats
   - Open-source content management: login is free, low cost maintenance
   - Opportunities to communicate within decentralized exchange groups (open/closed) incl. discussion for a; first exchange group is being piloted in Uganda
   - Editors rights are given from FAO, guidelines are given on how to enter data
   - Maintenance by OEK, cooperation with various initiatives and organisations
   - Is TECA targeting emergency issues? Yes, in fisheries for example. Not only climate change.

21 Adressing climate change and food security linkages at the policy level

Facilitators:
Jean Balié & Anna Ricoy

Rapporteur:
Winnie Bell

Session description:
This session was structured as a panel discussion with key inputs from Anna Ricoy (NRC), Doris Soto (FIRA), Jukka Tissari (FO). The purpose of the session was to present case studies of how FAO is working on climate change and food security linkages at policy level.

The first case study was from Nicaragua. In the framework of the FMPP, a methodology has been developed and is being tested in Nicaragua in order to identify appropriate policy responses to address the impact of climate change on food security. The approach, focusing on how climate change affects household access to food, aims at improving the policy and institutional framework and engage policy communities to better address food security concerns in a changing climate, by bringing the very broad and global climate change issue to the community and household levels.

The second case studies concerns an FAO forestry project in Vietnam and is related to the establishment of a Payment for Environmental Services (PES) scheme as a suitable mechanism for accruing bamboo-related carbon incomes and distributing them to alleviate rural poverty. The aim is to help communities working with bamboo afforestation and reforestation to receive income from carbon trade. This project is currently under formulation and is the result of extensive field research and market analysis on how bamboo farming can provide a livelihood.

The third project presented related to the implementation of the ecosystem approach to fisheries and aquaculture in the Estero Real, Nicaragua, as a way to climate proof fishing and fish farming livelihoods. This case study aims at familiarizing the main stakeholder groups with the principles and practices of the ecosystem approach to fisheries and aquaculture and the guiding policy frameworks to implement the EAF/EAA based on stakeholders participation. The work is underway in a large mangrove estuary that poses important sustainability challenges related to capture fisheries and aquaculture which need to be addressed urgently, particularly given climate change scenarios.

The main objectives for the session were:

- Understanding that adaptation mechanisms for reducing vulnerability and strengthening resilience of the most vulnerable groups need to be supported by policy responses at local, national, regional levels
- Understanding of the policy implications that arise from the impact of climate change on food security and on how the policy framework can be improved by mainstreaming the climate change dimension and its linkages with food security
- Understanding of the range of activities in which FAO is approaching climate change from a policy perspective in the agricultural, forestry and fisheries sectors
- Reflection on what opportunities exist in countries to address the impact of climate change on food security at the policy level.

Key messages and conclusions

1. Technical

- From a technical point of view the case study in Nicaragua on the impact of climate change on household food security links climate change to vulnerability analysis through various steps:
    - Downscaling of CC scenarios at the national and local level
    - Estimation of the effects of CC on agricultural income and consumption**,** by factoring predictions of temperature and precipitation to the 2030 horizon into a model of vulnerability analysis to food insecurity
    - Analysis of how consumption affects vulnerability to food insecurity

- The project on Payment for Environmental Services (PES) on carbon for bamboo farmers in Vietnam highlighted the fact that technically it is a very complex undertaking. This is largely due to multiple factors including the ongoing process of commercialization of carbon credits, monitoring and evaluation, and the need for appropriate management of the carbon trade cycle –including certification of credits, registration, certification etc. Due to these various levels of complexity, undertaking a PES project requires a substantial amount of human resources. For this project to be successful it will require more partners so that the process can be mainstreamed and internationally upscaled.

- The case study on implementing the ecosystem approach to fisheries and aquaculture in the Estero Real, Nicaragua uses a participatory approach which is developed in conjunction with governments and stakeholders. The Ecosystems approach is guided by three fundamental principles: 1) work within ecosystem capacities 2) project must correspond to equity and fair use of ecosystems 3) project must be well integrated

2. Policy

- In the first case study in Nicaragua, according to estimates increases in temperature are associated with a decrease of farming income relatively to other incomes. The effect on households' food access depends on income sources and on policy response. In general, households who obtain their income mainly from farming are likely to face reduced consumption and become more vulnerable, hence the need of policy support to support farmer's income. Policy simulations that will be envisaged by the model can be direct (e.g. farm-level measures such as crop income insurance) or indirect (e.g. increased access to selected agricultural assets or measures related to investment in infrastructure). Policy simulations run by the model constitute an important input for further work on the improvement of the policy framework to address the impact of CC on household food security.

- For successful implementation of Payment of Environmental Services it is absolutely crucial that the government is involved and plays a direct role in shaping the policy. At this point the project has only explored the feasibility of this and will therefore require further work. The Philippines and Cambodia are examples of countries which have completed this process. A key policy point is the need to encourage new incentives for planting and managing bamboo for carbon. Another important point is the necessity to clarify with all stakeholders the common misconception that proceeds from carbon trade will make up majority of income for farmers, which is not the case. Bamboo growth will serve only as a supplementary income and therefore it is fundamental that government and/or developers make initial investments, around 1 million USD, to initiate the programme and actively participate in the shaping of the project.

- In the case of fishermen in Nicaragua, the policy process has been influenced—though it necessarily takes time, largely due to the fact that this process is based on collective participation and common objectives therefore stakeholders must work on a common vision to ensure ownership and ongoing participation. Key policy objectives that will need to be address to ensure success will include:
    - Early warning systems to work with farmers
    - Insurance for clusters of fish farmers
    - Effort to assist fishermen transitioning to becoming farmers
    - More integration with surrounding countries to ensure integrated policy approach
    - Collaborative work on combating climate change

3. Networking/communication/partnerships/capacity building

- WFP was interested in following up on the work being conducted in Nicaragua concerning the impact of climate change on household food security, focusing on access to food. This was stated in light of the fact that they are working towards expanding their knowledge/policy work

towards more access oriented dimensions. Therefore an open invitation to WFP was extended for further information sharing and a presentation at WFP.

Specific recommendations for follow up action

An important question which was raised by Christian Derlagen, APO based in Nicaragua concerned FAO's position on providing policy assistance related to CC and FS and more specifically how FAO can better respond and support policy process on country level? This question was not answered in full due to time constraints but the initial response was that policy assistance and guidelines are necessary but that policy needs should be structured to address local conditions.

Additional information

- Interest was shown in learning more about Payment for Environmental Services and cases of other existing programmes, policies, organizations and governments that are undertaking this work.
    - A person from Forestry said he would follow up directly but was not entirely aware of all ongoing initiatives
    - Recommended reading SOFA 2007 which deals with Payment for Environmental Services

22 Climate change and water II: options for adaptation and mitigation

Facilitators:
Jean-Marc Faures & Hugh Turral

Rapporteurs:
Janie Rioux & Domitille Vallee

Session description/format

The session took stock of knowledge on climate change impacts discussed in the session *Climate Change and Water I* and discussed development and tailoring of options for adaptation to specific contexts through the analysis of Miragia, a fictional country experiencing climate change.

1) Brief recap on impacts, the typology of impacts and the state of the fictional country Miragia. Formal summary of matrix, and simplified collated matrix from Session 7 presented and on wall.

2) Brief introduction to adaptation concepts and possibilities for water (both rainfed and irrigated)
3) Group work on the response options to the impacts in MIRAGIA at field/farm; system; river basin and national scales.
4) Summary of group work – resulting in a second matrix of responses (adaptation and mitigation) and possibly a subsidiary one on data needs and refined impact studies.

Session objectives:

- To begin thinking about the development and tailoring of options for adaptation to specific contexts; at field, system, river basin and national scales.

Specifically:

- Concrete options for adaptation and mitigation at different scales.
- Harvesting of participant's experience on defining options and selecting adaptation actions and strategies.
- Preliminary listings of data needs to better tailor adaptation strategies.

Key issues raised

Presentation by Hugh Turral

Debriefing of Day 1 session on water and climate change impacts.

- Large demand on food and water because of population increase; because of CC, large demand on water; potential for improved productivity in different areas
- Impacts are different between and within each system: high valleys, arid/semi arid, and humid zone (people at the margin of the delta are more likely to be affected).
- Impacts are spatial and temporal. Impacts will be felt across different time scales, e.g. melting of glaciers – first the flow will increase but later it may decrease if precipitation is the same or less.
- Impacts in one system may affect another system (river basin, up/downstream) – across the basin, they are at different levels of vulnerability which requires prioritization of interventions.

New issues related to adaptation

Downscaling of impacts (Timbal 2009)

- Downscaling – climate models are coarse and do not take into account landscape effect. Different approaches possible for downscaling: regional climate models, statistical downscaling (cheaper, more efficient), hybrid climate models and statistical models (one used in Australia). (Krishna Kuma, IITM, 2006 modelling for India)
- Downscaling requires: sufficient data for calibration, competent modellers and statisticians, being properly driven by appropriately informed and motivated stakeholders, partnerships between scientists and practitioners → not easy to get
- Downscaling do not reduce uncertainties from emission scenarios (Abotzogolou 2009); it increases the broad scale of variability but it helps to have a probabilistic approach to future conditions and then more precise adaptive approaches.

Responses – adaptation

Concepts - Adaptation happens at the level of farmers and will be either managed/planned or autonomous

- Risk (probability x magnitude of impact) and vulnerability
- Farmers need to assess risk/probability of impacts to be able to understand vulnerability; climate aware development: no regrets actions, adaptation or maladaptation, e.g. irrigation may seem like an adaptation measure today, but could become a maladaptation depending on evolution of impacts.

Water delivery options at the watershed level are to be analysed carefully – balance of winners and losers

Types of responses will depend of scales: (participants list adaptation options per level) in water – from farm to system (irrigation, catchments) to river basin.

- At the farm level, a range of responses (crop technology, shifting crop patterns, etc.); doing a better job at what farming is about (husbandry – crop and livestock management); soil and water management (refer to book – consider different options)
- At the basin level: managing water allocation and use, groundwater use and recharge, water measurement and accounting (groundwater is already under pressure; storage in dams is not popular)
- At the systems level - improving system performance (modernisation and improvement of irrigation systems, improved operation and management; land use management and zoning), flood mgt
- At different levels - drought management and preparedness; land use management and zoning; flood management; water allocation across sectors, key issue is environmental flow – water allocation to allow for functioning ecosystems
- Data and monitoring – not enough, will need more in future, it will be important to know what is changing and how it will change in the future

Comments:

1. On the water delivery side: lots can be done to improve water use at the landscape/ watershed level
2. Need to include water management plan in climate change related planning (NAPAS?)

Group Exercise: Understand vulnerability and response options by eco-zones and by different stakeholders (1 group - ministry of agriculture, 1 group ministry of water, 1 group irrigation manager, 3 groups as farmers)

- Who will be affected and how much? (qualitatively)
- What will be the major adaptation options?
- Farmers – 3 working groups took the role of farmers, each table dealing with different zones. Below are indicated the major adaptation options selected at the level of “farmers”:
    - High land valleys; integrated soil and water management (BUT need to think of potential impacts downstream from upstream water harvesting: (-) reduce flow downstream; (+) reduced siltation)
    - Humid areas – crop and livestock management
    - Arid zones – soil and water conservation; crop technology; animal and farm husbandry
    - Delta/coastal: drainage (but pb with pesticides for coastal communities dependant on fishing); modernize irrigation (decrease net flow; BUT this may not be at the level

of the farmers, although they should participate in the process of assessing the irrigation systems); conservation agriculture.

- Ministry of water – basin authority: capture climate change impacts; set standards for reporting info and presentation requirement; inter-sectoral allocation more flexible
- Ministry of agriculture – land management and redistribution of water; land and water management plan (focus on areas where there are likely erosion problems; high valleys); invest in water storage infrastructure (BUT stay under the water development plan); early warning systems (crop monitoring etc.)
- Irrigation manager – making irrigation more efficient; minimize losses, talk about crop diversification as one of the options, moisture is conserved and the possibility of dams. (BUT this affects people downstream)

➔ Look at impacts, solutions; secondary impacts (resulting from interventions)

Key messages /conclusions

1. Technical
   - Response options for water will vary depending on different stakeholder groups
   - Responses upstream can affect water resources downstream positively or negatively
   - Adaptation strategy to be based on good understanding of the specificity of the area; climate change impacts (water and land related), the solutions at hand but analysed at a basin or landscape level and looking at potential secondary impacts

2. Policy
   - Coordination between different sectors (agriculture, water, irrigation, livestock) is needed, including consultations with local levels and farmers
   - There are trade-offs to be considered when dealing with adaptation options and difficult decisions may be required.

3. Capacity building
   - Capacity should be built at all levels for understanding land and water impacts, potential solutions and ways to assess their impacts on local and basin scale or landscape unit.

4. Networking/communication/partnerships
   - Relevant partnerships between research, practitioners and decisions makers should be established to build adaptive capacity in water and land management, and think beyond disciplines or organisational levels.

5. FAO strategies
   - To be discussed in land and water seminar (afternoon 23/6)

“Parking lot” - topics to be picked up in another session or at another occasion

Participant’s experiences in defining options

- Cropping systems (crop diversification; mixed cropping; vegetal coverage; crop and livestock diversification with adapted species and varieties; crop rotation) → identified by “irrigation managers” + “farmers” groups in the exercise

- Soil and water conservation for increased water holding capacity (cordons pierreux, zai, thassa) → farmers in arid zones + large surface irrigation schemes
- Husbandry of farming and livestock management, drought resistant crops → farmers in arid zones + large surface irrigation schemes
- Conservation agriculture
- Slope protection (terraces, afforestation; tree species policy to increase diversity and age distribution)
- Flood plain revitalization

Planning and management

- Income diversification
- Land and water management plan/ policy framework (conservation agriculture, terracing, forestry)
- Enhanced planning and assessment (downscaling, new standards)
- Investment plan for improved infrastructure – modernization of irrigation, water harvesting, ground water recharge, drainage, water saving irrigation
- Integrated water and soil management, Integrated watershed management
- Infrastructures for mitigating increased salinity (sluices gates; seasonal dams)
- Reduced energy use; optimize use of fertilizers

Knowledge and monitoring, capacity building

- Enhanced monitoring to capture climate change impacts
- Set up an early warning system, weather forecast, contingency, crop monitoring
- More flexible water allocation mechanisms – adaptive management
- Capacity building on irrigation technologies → irrigation managers

23 Linking disaster risk reduction to adaptation

Facilitators:
Stephan Baas &
Selvaraju Ramasamy

Rapporteur:
Tamara van 't Wout

Session description

Key concepts and guiding principles of Disaster Risk Management (DRM) and Climate Change Adaptation (CCA), as well as their linkages and challenges related to technical and institutional aspects were presented and discussed among participants. The overall purpose is to make use of existing DRM structures and processes as one of the entry points for implementing climate change adaptation action.

The session identified key differences, synergies and linkages related to disaster risk reduction (DRR) and CCA and concluded with defining common ground for working and opportunities for collaboration. However, there are key issues and challenges need to be addressed. For example, it is important to recognize that the institutions responsible for DRR and CCA at the national level are different. As the two major emerging concerns (natural disasters and CC impacts) are directly influencing sustainable development; integrating them into national and sectoral policies and programmes is key.

Key issues raised

Convergence of two the issues

- Extreme weather events are also an issue for DRR
- Challenges for countries but also for agencies
- Integration and linking two strings of action
- Institutional frameworks
- How to share international responsibility among stakeholders
- Mapping DRR and CCA – synergies and commonalities, both towards development

a) Differences

DRR

Humanitarian side

Risk and vulnerability analysis

- Strengthening of resilience especially at local level
- Qualitative and bottom up approach
- Analysis based on past and current events
- Focuses on immediate needs (short term)
- Scope covers all types of natural disasters
- Hyogo framework for action adopted in 2005 by 186 countries

CCA

- Science/environmental side
- More action oriented (DRR is a framework)
- Using impacts and how to make use of opportunities and enhancing them
- Extreme events and short, medium and long term change
- Science based analysis (climate change scenarios)
- Builds on current baselines to define actions for the future
- Short term and long term perspectives
- Mitigation synergies (capturing greenhouse gas emissions)

- Beyond extreme events: Glacial retreat, Biodiversity loss, Sea level rise, Salt water intrusion
- Driven by international negotiations: very structured, countries committed, Bali action plan
- NAPAs: addresses immediate needs LDCS
- NWP impacts, vulnerability and assessment
- From global to local (top down approach), Different players and top down/bottom up

Input from WFP representative:

- Still learning/trying to understand CCA, traditionally focus on DRR: hunger and food security
- Climate change revitalised DRR -> combined DRR and CCA organisationally
- Key: building resilience of communities against natural hazards for food security
- Adaptation is not fast enough: social protection is a key issue... more disasters results
- CC changes risk reduction: understanding risk reduction

Input from Philippines representative:

- DRR focuses on local and specific events, more community based
- CCA is global; more top down
- DRR is certain; events happen, shifts the response to recovery
- CCA is uncertain; response is about creating awareness and preparedness
- Strong support of all stakeholders and all local governments needed
- Challenges for government: to have effective extension delivery systems to transfer data and translate it to farmers so that they are given options/adaptation strategies
- To mainstream DRR in all programs is a challenge
- To have a unified approach: many organisations work on DRR and CCA -> to collect all data, need an umbrella organisation and relate it to the people
- Need to enhance capacity for agriculture extension workers

Input from Jennifer Nyberg (FAO, TCI):

- Different perspective: less development perspective
- Humanitarian perspective – more simplistic approach
- CCA and DRR fund: table summarises differences, challenges and areas of convergence
- CCA is only related to climate related hazards
- Practical actions: we have tools, effective responses, early warning systems, etc.
- FAO tools are ad hoc and context specific, range of tools are limited
- Funding is a major issue: DRR is ad hoc , insufficient and always underfunded
- Resistance by humanitarian workers

b) Synergies

- focus on capacity building, needs in government and communities
- Focus on vulnerabilities, Recent effort to merge tools and methodologies
- both to be integrated in sustainable development planning
- cross-sectoral perspective
- synergies with land planning (Latin America)
- farmers and policymakers need better understanding of climate change and multi-sectoral perspective in the policymaking process

- Climate risk management: through a reduced time frame, 10 or 15 years from now – make people aware of the time frame
- Political will to work on this issue was stated in national action plan

From a regional perspective, have been concentrating on DRR, CCA is new

- We have long way to go... these emerging issues are very new to field level people
- We need to integrate the programs of the ministries, put them into the ministry of agriculture, now it's scattered and needs to be mainstreamed. We need to understand the real impacts of climate change. It is a challenge to mobilize funding and other resources into climate change adaptation.
- DRR: farmers are responding when a disaster is thought to strike.... they are not prepared to identify climate change impacts which require much more foresight and overview.
- Drought: If we are more aware of CCA principles we will be able to deal with it better. We need to integrate CCA and DRR better into our programs.
- Strong need and scope for synergies, and action to make it happen. Institutionalisation through use of funds is a big issue. More funds for climate change side than DRR; relevant for issues of social protection. There is a long way to go and also not clear how to do it.

Community based approaches which are starting to be implemented

- DRR tools will be common, especially to address vulnerability at the local level
- Clear and simple information to decision makers at national and regional levels is vital

Input from FAO Bangladesh representative:

- DRR is a good entry point to raise awareness on CCA.
- Bangladesh: there is an early warning system in place, utilizing same images as DRR and monitors how disasters are going to increase. Shows red flags and what the risks are of cyclones or storms.
- Similarity: the disaster risk aspect – strengthening or building new capacities
- Concrete measures: flash floods, related to climate change and disasters... farmers lose harvests varieties that can resist multiple stresses.

New infrastructures should be low cost, combining new with old technologies and participatory scenario development. Must force people to consider different scenarios and include different paradigms – value quality of life.

Stress: big changes in scale and severity of disasters

- DRR based on the historical record, now we look at something that is unprecedented; irreversible impacts, like migration, which requires different policy measures, links between the global and the local, interdependencies and what policies are needed
- How to force local solutions without global agreements and favourable policy setting?

DRR and CCA can reap big opportunities by addressing multiple scales

- Stress is the common agenda between DRR and CCA, but they have different time horizons
- The current system is not sustainable, need to invest in education on the ground

- Scope: DRR tends to affect part of a country, but CCA is generally relevant to everyone
- Adaptation is a long term process, but with short term components. Requires adaptive management sensitive to variability and able to identify slow changes, but also need to be short term focused and locally driven, with policy support.

DRR is not short term

- To help reduce risk from e.g. earthquakes, construction is built in a certain way
- The economic aspect is long term; The response might be short term, but DRM is long term
- In the Sahel: conflicts over resources should not be put into boxes, there are more crosscutting aspects
- The origins presented were historical, but now the boundaries are now more blurred, farmers has always adapted to weather, this is not nothing new

From the field: externally funded operations – what the donors are saying

- We can test that the measures implemented work for both DRR and CCA, e.g. in trying new varieties. We do the same things but adapt to the donors objectives, documenting evidence. We try to address CCA and make sure that it works for upscaling. .
- We need to move this issue up the agenda, so that donors accept it and so that the strict distinction for DRR/CCA might be questioned and an integrated approach can be found.
- Use of EWS on different time scales, providing climate and weather information.

Trying to make risk reduction plans: not only short term but also long term

- Commonalities: have to feed into the development process
- Preparedness: DRR is a key entry point for CCA with cooperation on e.g. microcredit and insurance. Both are considering the convergence of DRR and CCA. The key difference here is that the tools and mechanisms are used in different contexts.
- Synergies: focus not only on hazards. Protecting livelihoods and resilience – several commonalities to work together.
- Key challenge: the institutions of DRR and CCA are completely different

24 Livestock emissions and mitigation options

Facilitator:
Pierre Gerber

Rapporteur:
Viola Weiler

Key issues raised

- The contribution of livestock sector to anthropogenic GHG emissions
- The different approaches and methodologies having various effects on emissions; explanation of the attribution of GHG under IPCC and other methodologies such as that used in Livestock's Long Shadow (FAO, 2006) and the LCA on dairy (FAO, 2010). The different system borders are determining.
- The most important GHG related to livestock production (CO_2, CH_4, N_2O)
- At which stages of production GHG emissions occur (cropping, animal husbandry, manure management, transport, processing)
- How GHG emissions change due to a change in production intensity

Key messages and conclusions/outcomes

- The positive effects of bio digesters independent of level of productivity were addressed
- GHG emissions is one effect of several; keep other environmental effects from livestock keeping (e.g. water use, biodiversity) and possible trade-offs in mind
- An example of smallholder reduction of GHG emissions was presented: project on potentials for carbon crediting in restoring degraded grazing systems in Qinghai, China
- Internalizing external costs changes the picture, at present many "costs" related to livestock production are not counted under livestock

Key question: How to achieve sustainability in different livestock production systems?

"Parking lot" – topics raised during the session, which could not be addressed and should be picked up in another session or at another occasion

What are the benefits of organic livestock production in comparison to conventional practices in terms of GHG emissions? This question was asked and the time was too limited to fully answer or discuss this issue.

25 Synthesis session

Facilitator:
Stephen Katz

Rapporteurs:
Hideki Kanamaru &
Kirsten Hayes

Objectives

- Synthesizing the outcome of the sessions and collecting feedbacks from participants
- Wrapping up the workshop

Key issues raised

TECHNICAL ISSUES

Summary from organizers:

1. There is a need for baseline data as well as monitoring. FAO databases, maps, tools, etc. can be used but should be harmonized.
2. Sustainable Land management (in its broad sense) has a big potential in synergizing adaptation and mitigation
3. To adapt, we need to understand impacts of climate change over time and space and also impacts of adaptation measures (e.g. bioenergy)
4. Need to address barriers for NAPA implementation and smallholders carbon projects (funding, data, monitoring methodologies, etc)
5. There is a need for strategies to increase funding opportunities to help our technical work and help countries
6. Impact and vulnerability assessments are complex (due to uncertainties, issues spanning across sectors/systems/borders) but should address/support the need for adaptation planning.

Additions from participants:

- Communication, Strategies/means for sharing of practices should continue to be developed
- Good practices need to be recorded and disseminated
- Cross-cutting issues should be addressed across sectors and systems, ecosystem approach
- Typology development, suitable system for MRV development
- Umbrella: food security, sustainable natural resources
- Institutional issues and integration, e.g. CC and DRR, CC and NRM, disaster recovery and CCA
- Need for Technical Capacity building in FAO offices on CC, increase in portfolio
- Climate proofing of all projects
- Technology and knowledge development
- Mountain issues and glacial issues
- Need Strategic partnership on monitoring and evaluation
- Need further research plus partnership with research institutions
- Data integration; Lack of local level data – more research is needed, e.g. NAPAs, gender impacts, socioeconomic consequences

POLICY

Summary from organizers:

1. FAO mandate should inspire a holistic approach to AFOLU sectors
2. Integration of CC and food security -> need to act now: climate change is happening

3. Technical expertise/good practices must reach to the political level, FAO needs to reach out more
4. Agriculture - adaptation AND mitigation AND synergies (SLM, food security, rural development)
5. FAO should team up with other institutions
6. Give policy assistance to governments with regards to CC and food security

Additions from participants:

- should be more proactive towards other organizations (easy at field level, more difficult at HQ level)
- should enhance lobbying in UNFCCC and other policy fora
- promote synergies between adaptation and mitigation in AFOLU sectors
- Need to better define own work from CC perspectives
- Stimulate interests among local stakeholders

NETWORKING/COMMUNICATION

Identified priority actions (from sessions 12+15)

1. Define internal communication with focal points in NRC for each region (HQ <-> countries) Suggestion: D-groups
2. Elaborate strategy for dissemination of climate change and food security messages on the country level

Additions from participants:

- Need for better knowledge sharing among decentralized offices and HQ and within HQ
- Local level data needs to be collected

PARTNERSHIPS

Identified priority actions (from sessions 12+15)

3. Pursue climate change framework for UN and FAO
4. Strengthen cooperation with other CC agencies through network and organizations (e.g. UN Water)
5. If feasible, create a climate change fund within FAO in cooperation with the GEF and/or other donors

Additions from participants:

- prioritize among partnership options
- development of partnership methodologies needed
- climate change framework across agencies might be more important and realistic at national and regional level than global level
- UN Climate Change is not feasible, too cross-cutting, too much problem with ownership

CAPACITY BUILDING

Identified priority actions (from sessions 12+15)

6. Capacity building for national decision makers on FAO CC projects at sub-regional/national level
7. Training, information package on climate change for the regions (local language)
8. Create a post in the regional and sub-regional offices

Additions from participants:

- Need to prioritize, what can be done in two years time?
- Need More info on HQ work, Countries need more info on UNFCCC
- Foster South-south exchange, Foster Mobility of staff (especially south-south)
- Creating climate change post in regional offices most effective solution

Further information

Workshop website, with summary video: http://www.fao.org/climatechange/ccdays

Photos from the event on Flickr: http://www.flickr.com/photos/51302988@N05/

Interviews with participants: http://www.fao.org/climatechange/ccdays/64433

Event focal points: Elena Di Paola: elena.dipaola@fao.org
Claudia Hiepe: claudia.hiepe@fao.org (contact for follow-up)
Lisen Runsten: lisen.runsten@fao.org
Gauri Salokhe: gauri.salokhe@fao.org
Christina Seeberg-Elverfeldt: christina.seebergelverfeldt@fao.org
Marja-Liisa Tapio-Biström: marjaliisa.tapiobistrom@fao.org