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Trainer's Manual on Climate Change Adaptation and Development

Integrating Climate Change in Policy Making for Sustainable Development in Agriculture and Natural Resources Management

Alterra-report 1991
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J. van Geene, C.T.H.M. Terwisscha van Scheltinga, F. Gordijn, A.M.J. Jaspers and M. Argaw

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Trainer's Manual on Climate Change Adaptation and Development

Dit onderzoek is uitgevoerd binnen het kader van:
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Trainer's Manual on Climate Change Adaptation and Development

Integrating Climate Change in Policy Making for Sustainable Development in Agriculture and Natural Resources Management

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Abstract

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Wageningen-UR implements research for the Ministry of Agriculture, Nature and Food Safety (LNV) through the BO programme with a focus on knowledge development and knowledge dissemination. Alterra and Wageningen International composed this training manual based on the training material developed for the first training on 'Climate Change in Agriculture and Natural Resources Management' held in Addis Abeba, Ethiopia from 15-26 June 2009. The Training was organised in cooperation with the Horn of Africa Regional Environment Centre and Network (HoA-REC/N), the International Union for the Conservation of Nature and Natural Resources (IUCN), the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) and the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA).
The training helps the participants to understand better the potential impact of future climate change including the increased variability and uncertainty and to combine this knowledge with the planned and on-going activities at national, regional and local scale in view of sustainable development.
The Manual is developed for future trainers providing them a training set-up and guidance for implementation. Training material will be available on a CD-rom on request.

Key words: training, trainer, climate change, agriculture, natural resources management, NAPA, climate variability, scenarios, adaptation framework, uncertainty, complexity, policy process, vulnerability, adaptive capacity, adaptation strategies, negotiations.

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The authors would also like to thank all colleagues who contributed to this first course on climate change adaptation in Ethiopia: the team members in the BO project, in particular Dr Jan Verhagen; our colleagues at the Horn of Africa Regional Environmental Centre and Network (HoA-REC/N), in particular Dr Mekuria Argaw; our southern partners, IUCN Eastern and Southern Africa Regional Office, RUFORUM and ASARECA.

Finally, we would like to thank Femke Gordijn and Fons Jaspers who supported the creation of this manual with dedication and rigor. It was not easy to create consistency and structure around the materials and notes and we appreciate your efforts to bring this manual to a close.
Above all, we wish to thank the students of the first course who have greatly contributed with their critical remarks and useful suggestions.

Jouwert van Geene and Catharien Terwisscha van Scheltinga
February 2010, Wageningen

Summary

This document provides a didactic overview of the training course: Regional Training on Climate Change Adaptation in Agriculture and Natural Resources Management: Integrating climate change in policy making and programming for sustainable development. The focus is on the research - policy interface.

The objective of this manual is to provide trainers and organizers with a good overview of the course to effectively contribute to the organization and lecturing of the course. Furthermore our experience can be shared with a wider group of professionals who are involved in this topic.

The information is based on the first implementation of this course in June 2009 in Addis Ababa, Ethiopia. It is building on the preparation, the implementation and the useful feedback and evaluating remarks of the participants at the end of the course.

Target audience of this course are mid-career professionals working in the field of policy development and implementation, research and representatives of civil society like officials of NGO's, CBO's and CSO's. The participants are working on policy making and implementation in agriculture, water management, biodiversity, forestry or otherwise related to natural resources management. In their day to day work they have to 'translate' impacts of climate change into practical solutions and climate informed policies.

How to use this document

The introduction provides you with the approaches to the course, the set-up and the programme.

The course issues are presented in chapter 2 to 6 which start with an overview of the sessions. For each session you find the learning objectives the session plan, the content, the notes for the facilitator and suggestions for further reading. Specific assignments and exercises are presented in a text box.

For people actively involved in the training a CD-rom contains the related literature and specific training material used during the sessions like the presentation and selected documents.

More information you can find at the website http://portals.wi.wur.nl/climatechange/

We hope this manual is useful to you. For feedback or comment on this manual you can contact: Catharien.Terwisscha@wur.nl or Jouwert.vangeene@wur.nl

Please enjoy your reading.

1 Introduction

This chapter starts with a brief background on why and how this training took place. Then the design of the training will be explained and the course flow (building blocks). After that the learning objectives of the training are presented followed by the approach that was designed to work on climate change adaptation hotspots. Then the learning approach of the course will be presented. Lastly the implementation and the general course programme are described.

1.1 Background and rationale

Changing climate and weather patterns are predicted to have severe negative impacts on food production, food security and natural resources in East Africa. Without appropriate responses climate change is likely to constrain economic development and poverty reduction efforts and exacerbate already pressing difficulties. Especially countries with economies rooted in climate sensitive sectors like agriculture, fisheries and forestry are expected to be hardest hit. Climate change is both a global environment and a local development issue, as it could jeopardize the livelihoods of millions, particularly where its impacts are compounded by other factors or where existing poverty and hunger make it particularly difficult to cope with its impacts.
Targets as defined in the Millennium Development Goals will be more difficult to reach.

Simply because for countries in East Africa agriculture is, currently, the main economic activity and agriculture has traditionally been the key livelihood strategy for most people living in rural areas, it is also important in achieving development goals at national levels. Agriculture is at the forefront of shaping the concept of sustainable development. The renewed attention for the role of agriculture in development processes will have to take account of the vulnerabilities and risks posed by climate change. Also possible positive impacts on natural resources should be taken into account.

The formulation of climate change adaptation projects is done by most least developed countries via the National Action Programmes for Adaptation (NAPA's). Most projects focus on technical issues and not on the institutional and technical capacities that should be in place to actually implement possible adaptation strategies.

This course is the outcome of a process of needs assessment and dialogue between the partners on how to respond to Climate Change challenges in East Africa. Through a regional scoping workshop[1] and deliberations in 2008 a support programme for Climate Change Adaptation in East Africa was proposed[2]. This training is one way of strengthening the capacities in the region, through well established local structures.

There is often limited knowledge and understanding of climate change adaptation concepts and local level implication. It is a rather new phenomena with potential risks but limited reaction of policy makers. Moreover

[1] See workshop report at: http://portals.wi.wur.nl/climatechange/?Output_workshop

[2] course is developed in an innovative partnership between Wageningen University and Research centre (Wageningen International, Alterra and PRI), the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) and the International Union for Conservation of Nature (IUCN).

the capacities for adaptive planning, informed policy development and climate proof programming are weak. This course will bridge the research-policy divide. The impact of climate change brings an urgency to act.

1.2 Learning objectives

Overall objective: To enable participants to contribute meaningfully in the debate on climate change adaptation, either in the policy process and or in providing knowledge to the policy process - should include enhancing capacity in the implementation of adaptation measures.

In order to be able to do achieve this, it is expected that participants need knowledge (climate change adaptation, adaptation options etc), skills (how to deal with uncertainty, vulnerability, how to create adaptive capacity) and attitude (open for change, accepting uncertainty).

At the end of this course participants will have full understanding of climate change adaptation concepts. They are able to effectively and meaningfully contribute to the debate on climate change adaptation, either in the policy process and or in providing knowledge to the policy process. They will strengthen their positions in these processes on the basis of newly acquired concepts, skills and methodologies.

More specific subjects:

- Enhancing capacity to identify the knowledge gap and to mainstream climate change in policy processes (agriculture, food security, livelihood);
- Climate change adaptation in agricultural sector and NRM (adaptation and mitigation);
- (NAPA) adaptation process/practice and implementation;
- Impacts, vulnerability and risk management;
- Mainstreaming, policy planning and development;
- Improving the knowledge gap, linking scientific data with policy making;
- Build network of alumni comprising of policy and research people.

Overview participants' learning goals

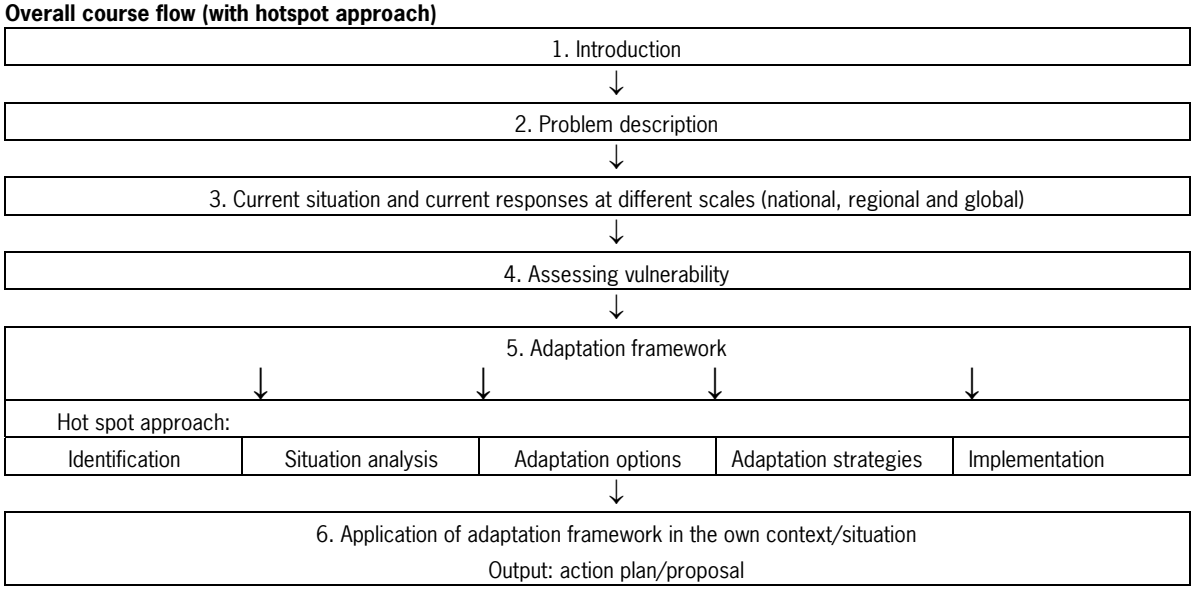
- Designing and formulation of strategy for the development of renewable energy that are linked with climate change adaptation
- Identification of thematic areas for research and development on climate change (contextualized)
- To evaluate incidences of pests and diseases in agro-ecosystems in relation to climate change
- Identify the existing traditional practices to mitigate climate change
- Introduce real practices of adaptation strategies for climate change
- To better understand adaptation options and strategies related to water and food
- To be equipped with skills and knowledge, mitigating challenges related to climate change in agriculture (strategies)
- To evaluate incidences of pests and diseases in agro-ecosystems in relation to climate change
- To broaden my knowledge on how to mainstream climate change with existing projects/programs
- To broaden my knowledge on issues of climate change and adaptation
- Analytical capabilities on vulnerability and adaptation assessment options
- How to explore coping strategies of pastoral and agro-pastoralist communities to climate change
- Basic understanding of climate change issues and their implication for agriculture and development
- Participating teachers and students in the climate change campaign
- Understand concepts and principles in relation to climate change adaptation
- Gain experience and skills that help to develop strategies and plans
- Resource mobilization for climate change adaptation
- Assessment methods of climate change on ecosystems, livelihoods and adaptation mechanisms
- Develop capacity to link climate change adaptation to policy making and community development
- Develop adaptation strategies that can be operationalized at grassroots level.
- Up-scaling of local technologies versus foreign technologies and non tested innovations
- How to integrate CCA into NRM policy and legislation
- Establish national and international linking (network established)

1.3 Design of this course

This course was designed by first distinguishing the overall objectives of this course within the larger framework of this programme on climate change adaptation. The building blocks of the course flow gave a first structure to course. Then the learning objectives per day were defined and from there the detailed programme, the lecturers and assignments were planned.

The structure of this document follows the course flow and programme. Per content subject the following aspects will be described:
1. Learning objectives
2. Session plan (time, materials needed)
3. Content
4. Notes for facilitator
5. Further reading (available at http://portals.wi.wur.nl/climatechange)

Overall course flow (with hotspot approach)



1.4 Hotspot approach

Apart from a scientific research approach to vulnerability assessment (Aretz, 2009) the Climate Change course also considers a more applied, action research approach through the hotspots. This focuses more on the scale and the cross-scales of the field conditions (Cash et al., 2006).

Although macro level vulnerability assessment is still lacking, critical choices about climate change adaptation measures at local level for specific hot spots can already be made, especially when they fit within a wider development agenda of a country, and they contribute to the overall level of resilience of a sector, value chain or community. Whenever countries want to make interventions, these should be specific and focused on vulnerability to climate change, and based on a set of priorities under the given level of information.

This approach builds on concepts and models on multi-stakeholder processes, governance, capacity development, institutional change and social learning (Woodhill et al., 2009). Critical in our approach is the policy - research interface.

The basic steps in this approach are:
1. Identification
2. Situation analysis
3. Adaptation Options
4. Action/strategy
5. Adaptive management

There are two possible ways to come to adaptive strategies:
6. Looking at specific 'hot spots'(local/regional)
7. Starting from the big picture (global trends)

Both the contribution of research and science (on climate change, socio-economics etc.) on the one hand and multi-stakeholder processes on the other go hand in hand throughout these steps.

1. Identification
For the identification of hot spots one needs to look at:
- Vulnerability, risk and uncertainty (see Aretz (2009), forthcoming)
- Criteria (economic, social, environmental, time scale)
- Probable impact: environmental impact assessment
- Precautionary principle (if you don't know the consequences but you expect a risk, then take action?)
- Policy analysis (are current policies climate proof?)

This process is a policy stakeholder process with a strong emphasis on agenda setting. There is need to take into account the 'irrationalities' of the policy cycle (Van Geene, 2007).
Based on this 'quick scan' you arrive at 'hotspots' and boundary decisions have to be made to define the scope and the focus. A hot spot is not necessarily a location, could also be a value chain.

2. Situation analysis
For the (participatory) situation analysis of hot spots one needs to do:
- Scenario analysis (what could happen at different levels of uncertainty, and what does that mean for the adaptive strategies)
- Stakeholder analysis
- Institutional & policy analysis
- Impact analysis (what is possible change and what could be the possible impact)

Important to look at the environmental services and to take into account the landscape approach. These first two steps are mostly based on scientific knowledge.

Alternatively the identification and analysis could be done starting from the big picture at macro level. NAPA's, Copenhagen, policies, institutions, etc.

3. Adaptive options

To come to specific actions for change, one needs to look at:

1. Costs
2. Political
3. M&E research

From this step onwards the stakeholder knowledge will be more important/ leading.

4. Strategies/Action

Different strategies are needed at different levels and in different domains:

- Institutional change
- Political
- Capacities
- Process
- Funding mechanisms

5. Adaptive management

Monitoring, adaptive learning and management of change are important in these non-linear processes.
Policy processes. It is important to emphasize the complexity of policy processes. Policy processes are most often not rational and usually not linear (Van Geene, 2007). To be able to make the hot spot approach work it is important to link research to policy in a way that addresses issues of power, inclusiveness, public awareness, complexity and irrationality.
What is a standard policy making process in the countries of East Africa? Why do the 'old' policy making processes not work in these kind of settings? Climate change presents a new need for responsiveness and adaptation.

References:

Cash, D. W., W. Adger, F. Berkes, P. Garden, L. Lebel, P. Olsson, L. Pritchard and O. Young, 2006. *Scale and cross-scale dynamics: governance and information in a multilevel world.* Ecology and Society 11(2): 8. [online] URL: http://www.ecologyandsociety.org/vol11/iss2/art8/

Geene, J. van,. 2007. *Rationality in Policy Making; a reality check*. Unpublished paper, University of Birmingham.

Verburg, Arets et al., 2009 (forthcoming). *Vulnerability, risk and uncertainty*.

Woodhill, J., S. van Vugt, J. van, Geene and K. Verhoosel, 2009. *Facilitating Multi-stakeholder Processes - Complexity, Learning and the Dynamics of Social Change. A Practitioners Guide. Wageningen International.*

1.5 Learning approach and course structure

Before the course already it is important to gave good communication and timely information on the course, on the logistics, and on contact details of the trainers. Also keep in mind that some participants don't have easy internet access.

Pre-course assignment
Participants were asked three weeks in advance to work on a pre-course assignment. They could build on their motivation letters. The idea was that in this way participants have a basic understanding of the NAPA, are able to relate climate change to their own work, analyze CCA developments in their own country and mention related key challenges in their work. Furthermore they have thought about what they want to get out of the course, formulated as their learning objectives.

The pre-course assignment is an important learning method for the participants themselves to know why they are coming to the course. Therefore thinking about it is more important than sharing this at the start of the course, but that should be explained in the beginning of the course. The pre-course assignment could feed into the output at the end of the course, think that through and explain.

Pre-course assignment

1. Describe your own work in ½ A4.
2. Read the NAPA/National Communication (NC) of your own country. Mention one key challenge in your country related to climate change adaptation and elaborate with examples in ½ A4 (a short case study).
3. Indicate in ½ A4 the link between your country's NAPA/NC and your current and future work.
4. Mention one or two key challenges in your work related to climate change adaptation and elaborate in ½ A4.
5. Write down your learning objectives based on your case study, the key challenges and the link between climate change adaptation and your work. What do you want to get out of the course?

Practical preparations:

- Please discuss your learning objectives with your supervisor before you come for the course.
- Bring related information and background materials (reports, presentations, videos etc) on the case study and key challenges in your country and in your work, related to climate change.
- Bring your own laptop to the course. Let us know if you can't!

We kindly ask you to send us your case and learning objectives through email one week before the course.

Getting to know each other
The objective was that participants know each others field of expertise and start building a network. They were interviewing each other about work, family, hobbies, relation to climate change, and their motto.

Learning objectives and overview course approach
To have an overview of the course program and course set-up with learning framework this was presented at the first day of the course.

Furthermore the participants were asked for their learning objectives to cluster them around the course learning objectives (mindmap). The programme of the two weeks was explained, roughly from defining the problem, analysis of the vulnerabilities and situation, to adaptation options and planning/implementation.

Program approach is based on active participation of participants, a mix of theory and practice, collaborative learning, case studies, individual learning, conversation methods, critical reflection, own experience and shared responsibility for learning. The trainers would like this to be an active two weeks, for all of us.

In order to improve the applicability of 'lessons learned' during the course we have developed some tools, which will help to 'translate' ideas into working situations:

- Development of personal learning objectives (pre-course assignment);
- Personal Learning Journal (at the end of each day);
- Recap and Reflection committee who will give a seven minute presentation with the most important messages of yesterday's session.

Learning journal: every day at the end of the day you can reflect on the day in your personal learning journal. The learning journal was well appreciated by the participants. The individual learning journal can also assist in making the personal/organizational action plan (during and at the end of the course) and in evaluating the course.

Individual Learning Journal

Date: ….

1. What was today's programme in key words?
2. Personal learning: What did you personally learn?
3. Implications for you: What are the implications of this learning for you in your work?
4. Implications for your organization: What are the implications of this learning for your organization?
5. Extra reflection questions of today (related to one of the daily topics): *e.g. what is the key challenge in your work you want to work on during the course?*
6. What new questions are emerging for you now?

Three committees were appointed:

1. Reflection group: to do the morning Recap and Reflection
2. Animation group: if people feel the energy is down, make sure you do something about that (energizer)
3. Logistics and support: to assist with time management and helping out with logistical arrangements

Also two group representatives are chosen by the group (1 male, 1 female) to be contact person to the course management. The tasks shift daily to another group.

1.6 Implementation

This course has been implemented from 15-26 June 2009 in Addis Ababa, Ethiopia and coordinated by Mekuria Argaw, Jouwert van Geene and Catharien Terwisscha van Scheltinga. There were 25 participants (lecturers from universities, NGO's, some policy makers and research institutes) from Ethiopia, Kenya, Uganda and Tanzania (see participants list in Annex 2).

Different local resource persons have contributed to the course:

- Ato Gebru Jember from NMA (National Meteorological Agency), NAPA team
- Dr Abebe Yeshanew from NMA, NAPA team

- Ato Desalegn Mamo from Federal EPA
- Dr Asferachew Abate from the Ethiopian Association of Impact Assessment
- Ato Wondowosen Girma from the Federal EPA

A list of resource persons can be found in Annex 2.

The focus of the course was on CCA and the science - policy interface. In the second week a seminar was organized for a brother audience. The case example for the excursion was Lake Chelekleca at Debre Zeit.

General Course Programme - June 2009

	Day 1	*Day 2*	*Day 3*	*Day 4*	*Day 5*	*Day 6*
Week 1 15-21 June	Context Key note speakers Climate Change and implications Getting to know each other and discuss programme Conceptual framework *Informal gathering*	Concepts Theoretical understanding Climate Change Adaptation + NAPA's, IPCC CCA and sustainable development	Paradigms <u>Hot Spot approach Identification of hot spots:</u> People - Planet - Profit Uncertainty Financing adaptation *Presentation of posters*	Vulnerability Framework impacts and risk management Environmental Impact Assessment and competing claims. Prioritisation of hot spots and boundary	<u>Situation analysis</u> Stakeholder processes Institutional analysis Scenario's Policy process mainstreaming	*Excursion/Field Work*

	Day 7	*Day 8*	*Day 9*	*Day 10*	*Day 11*	
Week 2 22-27 June	<u>Adaptation options</u> Indigenous knowledge and coping strategies Conflict management and competing claims	<u>Adaptation strategies</u> Lobby/ Advocacy, communication Preparation for seminar	Implementation <u>Adaptive management</u> and M&E *Seminar/ Presentation* embassy, government, NGO's, media, NL case, Ethiopia case	Translating Hotspot approach to own context Personal Action plans and Proposals and funding mechanisms Negotiation	Presenting product/output :proposal/ policy brief, etc. Ways forward - planning next steps Evaluation	Departure

Course programme according participants' report

Programme of the two week course:

First we look at the problem description, already started the first day. We talk the first days about the current status and how to respond. On the second day we will recap IPCC - so we know what we can take away from the international agenda. We will also tomorrow define climate change adaptation as a sustainable development problem. There are strong links between the two. Day three will focus on vulnerability. How to define vulnerability? Are we looking at the profit or at the environment? The pair of glasses we use is important - our own mindsets, we'll talk about that. Then we'll look at vulnerability costs and benefits (day three) and environmental impact assessment (day four). We'll look at the situation analysis on day five; which stakeholders are involved, besides the technological side of the issue we'll also take the societal issues into consideration (scenarios, complexity).
On day six we'll do a field trip. We want to look at a case where changes in land use and climate change is involved. Together we provide a platform to share what can happen in our own countries and at the excursion location.

The second week we look at adaptation options and strategies. Adaptation measures may have trade-offs like on mitigation. We'll analyze coping strategies and find that some strategies are conflicting. So we'll look at conflict management.
In communication, advocacy and lobby we will practice our key message for the policy makers. We'll provide a platform for a policy dialogue during the seminar on day nine. There will be an assignment for trying it out before hand.
Of course we also start about implementation and evaluation of strategies.
Towards the end of the second week - there will be time and guidance to work on your action plan/outline, summarizing what you learned and how to apply this in your work.

So we go roughly from defining the problem, analysis of the vulnerabilities and situation, to adaptation options and planning/implementation.

Presentation of issues and proposed outputs of training

The 26 participants came up with six main issues for themselves and of the organization they work in and six types of focus activities were formulated.

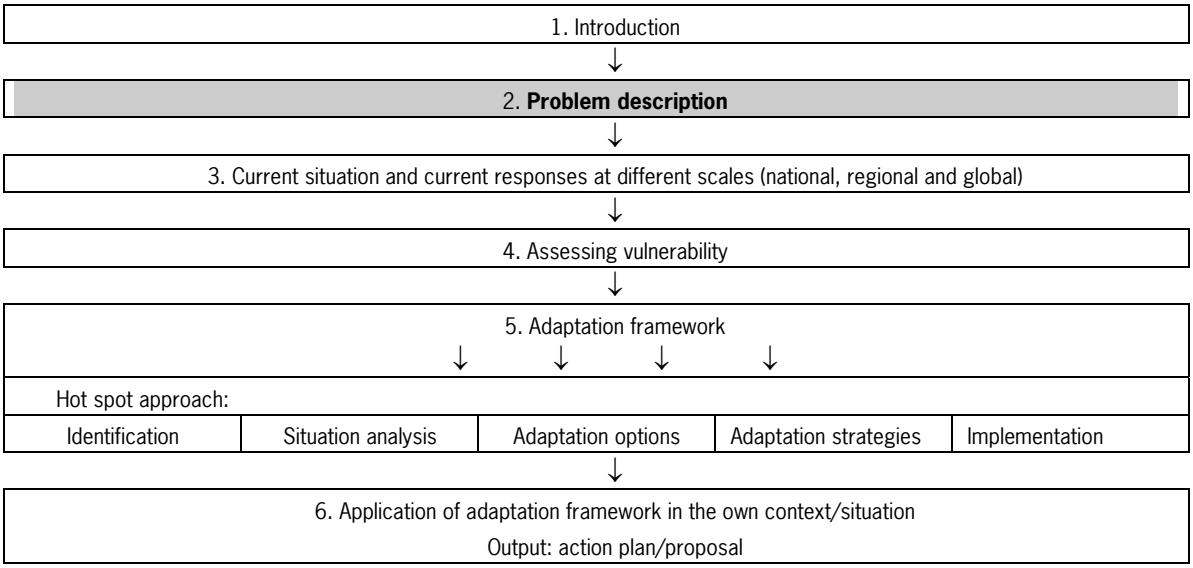
Issues		Follow-up	
Agriculture related	13x	Research	7x
Soil and water management	3x	Applied studies	2x
Community (livelihood)	5x	Field projects	5x
Health and ecosystem	2x	Project funding	4x
Integration	6x	Awareness raising	5x
Awareness	1x	Mainstreaming	3x

2 Problem definition

Chapter 2 is a combination of an introduction to the subject matter with problem definition and in the last paragraph some information on the course structure and learning approach.
The following subjects are dealt with:

Content
The 1st part of the course takes one day and provides participants and organizers the opportunity to start knowing each other and their intentions. The formal activities contain presentation of key-speakers from the region with their messages on the Climate Change Adaptation.
Participants formulate their expectations on the course and is the outcome presented against the background of the course programme.
Finally some course routines are shared with the participants and options for their personal involvement in the organization are discussed.

Overall course flow



2.1 Welcome and official opening

Learning objective

- To create an official atmosphere to start the course
- To embed the course in the local institutional setting
- To start with some content and clarify the overall objective and rational of the course

Session Plan

Day 1			
Time	**Topic**	**Method, activity**	**Material, comments, etc.**
09.00	Registration	Registration	Photo camera
09.30	Welcome and opening – Mekuria and Jan Verhagen	General welcome to the course - intro of facilitators Overall program and objectives of the training (Jan Verhagen)	Check coffee table Ppt. 201 Course welcome Ppt. 201 Introduction to CCA Paper: policy brief CCA 1 Paper: Wageningen UR, 2008
10.00	Official opening Dr. Araya Asfaw director of HoAREC	Brief opening address (10-15 minutes) to welcome the participants and introduce AAU/HoA-REC to set the context of the course and do the opening.	
10.30	COFFEE/TEA + snack		

Content

Participants are welcomed and familiarized with financial logistics and administrative matters and introduced on the setting and the objectives of the course.

Notes for facilitator

Morning session

- Registration
  - Participants like communication on logistics, financial decisions to be said in the plenary, e.g. coffee after lunch, flights - decisions should be communicated in the plenary.
  - Allowance - Those from abroad and Ethiopians get their appropriate allowances in the beginning.
- Participants welcomed by host of institute - Dr. Mekuria Argaw
- Opening remarks - Dr. Araya Asfaw (director of HoAREC)
- Course overview and aims of the course outlined - lead trainer
- Plan to report on the course - make a format/structure in advance/at the start
- Might be interesting to show the energy flows on the first day to illustrate the complexity of the system.

Further reading

Jim Woodhill J. and C. Terwisscha van Scheltinga C., *Supporting Capacities for Climate Change Adaptation In Eastern Africa*, Wageningen UR Strategy & Policy Brief #1, July 2008.

2.2 Key-note 1: CCA at global level

Learning objective

- Participants have a basic level of understanding on CCA at different levels
- Participants have been introduced to concrete cases at national level in the region

Session Plan

Day 1			
Time	**Topic**	**Method, activity**	**Material, comments, etc.**
11.45	Key-note 1 Prof Odinga, University of Nairobi	Outline of CCA at global and regional level – Climate change causes and impacts at regional and global level (macro level, big picture) – Climate change, variability and extreme events – Indicating process (time frame) and parties involved (UNFCCC, NAPA's, COP Copenhagen) (IPCC, AR4) Bali workplan. Discussion and interaction	Ppt. 202 Odinga: CCA at global and regional level
12.30	Lunch		

Content

Climate Change, its causes, effects and impacts are presented and discussed with a focus on Africa. The discussion implies threads and opportunities of climate change, impact of other drivers as well as adaptation strategies and parties involved at all levels.

Notes for facilitator

- Important to work with experienced regional resource persons. If possible keep Odingo for a longer time and more sessions.
- Suggestions for presentation are on slide 2.
- Focusing on cases and examples:
  - Link to key-note 2 and lecture NAPA's on day 2.
  - Refer to lecture and assignment on the 4th Assessment Reports of IPCC on day 2.
- Summary of the discussion in text box on the following page.

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Further reading

African Economic Research Consortium, Climate Change and Economic Development in Sub-Saharan Africa, AERC, April 2008.

Questions from the participants on Climate Change Impacts and Adaptation

1. From your figures I can see that from 1915 to 1975 there was a decline in temperature. Could you please explain?
   Around the 1950s there was hope. Natural cyclic events where overridden by 1970s, by anthropogenic causes. In some cases temperature decline happens because of volcanic eruption. This gives cooling for two years after the event.

2. You talked about adaptation strategies. What about the issue of capacity?
   Capacity building in climate change adaptation is an issue which comes forth now. Let's be clear: nobody yet knows about adaptation and how to do it. Those who are in agriculture, know about the Green Revolution (seeds were improved to produce in dry areas), but unfortunately the hybrids that we made, do not seem to produce. The hybrids have a low production capacity. So nobody is an expert on capacity building for climate change adaptation. So we better start from a position being very humble and honest. Nobody has ready made answers for adaptation.

3. You sketch quite a bleak picture.
   Climate change is not only bad. It also has a good side. We also should look at that.

4. What can you tell about existing practices for adaptation?
   In plant breeding example I mentioned earlier (see question 2), we can try to learn from the mistakes. Indigenous knowledge is important. How have indigenous people been coping in West Africa? There were traditional rain makers. These people studied the behavior of trees, birds, insects, and use it for forecasting. We are now working with them - as we can reach better results together!

5. We are honored that you are here. Have the IPCC people of Africa been able to answer the policies in their own countries?
   That's a good question. Lots of meteorologists are involved in these meeting, representing their countries. However, climate change is an interdisciplinary issue, and therefore we should realize these people were to have quite a bit of background to deal with it!
   And yes, I would say they were fairly influential. The biggest problem is that we always send a 1 man delegation. And it's not easy to cover the whole. We should insist to send five to ten people to the IPCC meetings.

6. How do you single out the impact of climate change of other impacts?
   In Africa the climate has already been changing for the last 30 years. Land degradation can be bad and we've been trying to adapt. Sometimes it is a temporary solution.

2.3 Key-note 2: CCA at national level

Learning objective

- Participants have a basic level of understanding on CCA in Ethiopia
- Participants have been introduced to a concrete case at national level

Session Plan

Day 1			
Time	**Topic**	**Method, activity**	**Material, comments, etc.**
13.30 14.30	Key-note 2 Mr. Gebru Jember NMA (National Meteorological Agency)	Presentation by local expert: CCA at national level – Climate change and impacts at national level – Difference between climate variability and climate change – Examples of adaptation to climate change at national level (concrete case) – Indicating process (time frame), parties involved (ministries, NGOs, business etc.)	Ppt. 203 on CCA at national level

Content

Climate change is presented with the causes and effects and the impacts for Ethiopia for the periods 2030, 2050 and 2080. Also the increasing climate variability and the extremes - mainly drought - are shown with its impact on agriculture, drinking water, health and energy.

Notes for facilitator

- Resource persons should know about the background of the group.
- Good to get the local NAPA team involved.
- Suggestions for Ppt'. presentation are on the 2nd slide.
- Use real example for discussion to illustrate models, solutions participants can identify to be translated it into practical useful ideas.

Further reading

Ministry of Water Resources, National Meteorological Agency, *Climate Change National Adaptation Programme (NAPA) of Ethiopia,* Addis Ababa, 2007.

World Wildlife Fund, *Climate Change Impacts in East Africa - a review of scientific literature*, WWF, 2006.

2.4 Climate change - background knowledge

Learning objectives

Participants have a basic understanding of Climate Change.

Session plan

Day 1			
Time	**Topic**	**Method, activity**	**Material, comments, etc.**
	Introduction to climate change	Introduction of the concept climate change, what it means, what it implies	Ppt. 204 Climate change Verhagen

Content

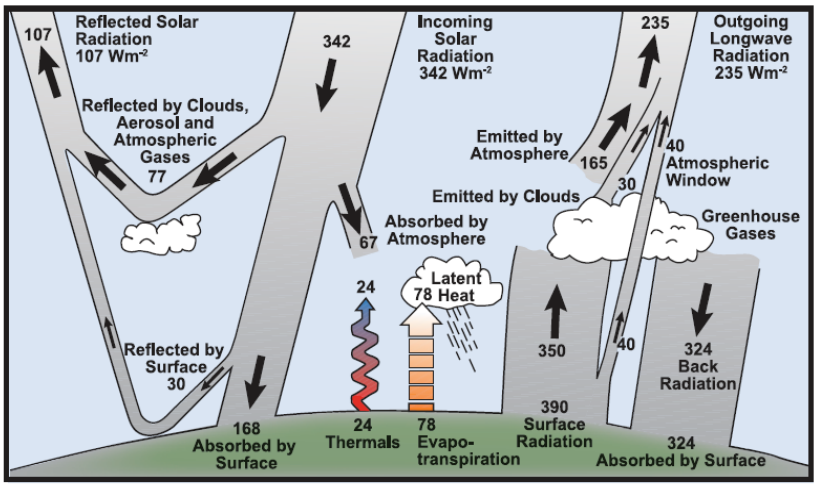
Participants are familiarized with the basic processes related to climate change, including the effect of the green house gasses (GHG) and other pollutants on the solar radiation, leading to the temperature rise, change in precipitation pattern and air turbulence.

Notes for facilitator

- This lecture on Climate Change was included at the last moment. The course was going directly to climate change adaptation and sustainable development, but there was a need for an introduction on 'What is Climate Change' in general first.
- Acquaintance with causes of climate change, basic terminologies and methods before starting with **adaptation** on climate change problems.

Further reading

IPCC, 2007: Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.



FAQ 1.1, Figure 1. *Estimate of the Earth's annual and global mean energy balance. Over the long term, the amount of incoming solar radiation absorbed by the Earth and atmosphere is balanced by the Earth and atmosphere releasing the same amount of outgoing longwave radiation. About half of the incoming solar radiation is absorbed by the Earth's surface. This energy is transferred to the atmosphere by warming the air in contact with the surface (thermals), by evapotranspiration and by longwave radiation that is absorbed by clouds and greenhouse gases. The atmosphere in turn radiates longwave energy back to Earth as well as out to space. Source: Kiehl and Trenberth (1997).*

2.5 Key concepts and conceptual framework

Learning objective

- Participants have a basic understanding of the key concept related to the hotspot approach; vulnerability, sustainable development, hotspot approach, etc.
- Participants can explain the different concepts: Climate change, adaptation, vulnerability, uncertainty..

Session Plan

Day 1			
Time	**Topic**	**Method, activity**	**Material, comments, etc.**
16.00	Introduction to hot spots Jouwert van Geene	Hot spots approach: Focus from different angle possible - environmental, social, economic PowerPoint presentation on:	Ppt. 401 on hotspots Ppt. 205: Adaptation concepts
17.00	Concepts and conceptual framework Jan Verhagen	Vulnerability Sustainable development Different levels/scales to be combined/linked Introduction to definitions	Wageningen UR policy brief on climate change adaptation. Document with definitions

Content

In this session participants are introduced to work together in hotspot areas focusing on the integration of specific issues. To structure their applied training work an overview is given on relevant concepts in impacts, vulnerability and adaptive and mitigation measures. This relates to human and natural systems, adaptation to prevent (mitigate) the impact (reservoirs prevent flooding and low flow), agronomic adaptation options, early warning and evacuation plans.

Notes for facilitator

- Introduce the Hotspot to participants as their own effort to the success of the course, with the conceptual framework as structuring element: impact adaptation and vulnerability.
- Stress linkage Hot spot approach and conceptual framework. Include a first exercise.
- Refer to lecture Sustainable Development and Climate Change on day 2.

Further reading

Woodhill J., C.Terwisscha Van Scheltinga, *Supporting Capacities for Climate Change Adaptation In Eastern Africa*, Wageningen UR Strategy & Policy Brief #1, July 2008.

2.6 Learning objectives and course approach

Learning objective

- Participants have an overview of the course program and course set-up with learning framework.

Implementation

Day 1			
Time	**Topic**	**Method, activity**	**Material, comments, etc.**
14.30	Learning Objectives Participants and Course	Processing of learning objectives, and link to course and Course programme.	Ppt. 203: learning objectives and expectation
	Tea break		
16.00	Overview of program and course approach (Wageningen UR lecturer)	Explain learning dairy Ask participants to come forward with their own cases (pre-course assignment) and discuss	Handouts: 1. CCA learning objectives 2. Program booklet 3. Binder with course material 4. Learning journal

Content

The objectives of the course and the learning objectives participants are discussed as well as the course programme the relation between the topics and specific activities.
The various learning approaches and tools are explained.

Notes for facilitator

- Have drinks available for refreshment and ease the atmosphere for the mini-workshop.
- Participants were asked to bring computers. Make sure there is Internet and do some individual assignments on the computers.
- Revision of lecture notes at the end of each session

Processing of the learning objectives

- Ask participants to write on cards the learning objectives (learning journal): choose one!
- Cluster learning objectives around the CCA learning objectives which were covered (possible use of mindmap)
- Program objectives - link to learning objectives
- Program approach: active participation of participants, mix of theory and practice, collaborative learning, case studies, individual learning, conversation methods, critical reflection, own experience, shared responses for learning
- Course Program-activities
- Learning diary and its use
- The participants contribute to the course by active contribution and through support in committee on reflection, animation and logistics and as formal representative (male &???? female)
- Collect participants case studies for reference

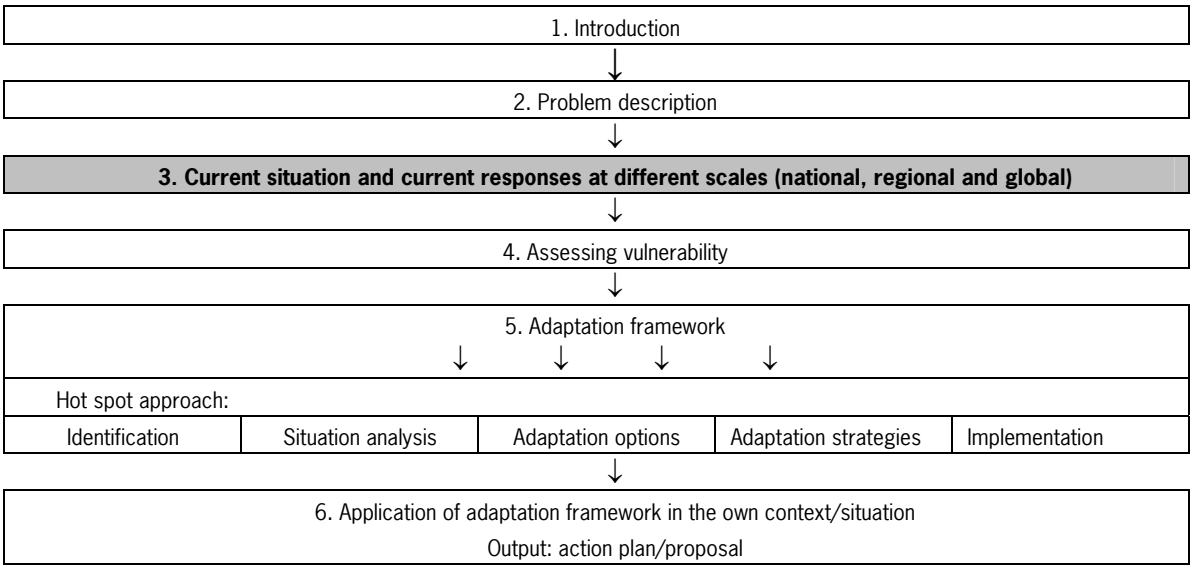
3 Current situation

In this chapter the following topics are dealt with:

Content

This part deals about the ongoing developments concerning adaptation to climate change from global to local level. Participants learn to find and use the data of IPCC Assessment reports and their National Adaptation Plan of Action to Climate Change (NAPA's). Links are made between CCA and the local sustainable development programmes related to development goals (for some parties the MDG). Participants are introduced to relevant tools and concepts like science-policy interface and the role of paradigms.

Overall course flow



3.1 IPCC presentation 4th Assessment reports (AR4)

Learning objective

- Participants know the most significant messages of the IPCC 4th Assessment reports (AR4) and where they can find them.
- Participants understand how the IPCC report was developed, why and what the function is of this document, especially for policy makers.

Session plan

Day 2			
Time	**Topic**	**Method, activity**	**Material, comments, etc.**
09.20	IPCC AR4 presentation	Guidelines to the IPCC reports what is in each report and where can I find it. Explain that IPCC is a syntheses product reviewing scientific literature	Ppt. 301: IPCC processes Jan Verhagen
9.50	Assignment with IPPC report	Work in a hands-on activity	Computers with proper documents on Cd-rom
10.30	Coffee		

Content

The aim and set-up of the IPCC organization is explained and the procedure to come to the set of research documents: IPCC Assessment reports. Most of the politics in the summary for policy makers. Others like UNFCCC uses the outcome for the conventions. During the exercise participants try to detect relevant information from the reports relevant for their case study.

Notes for facilitator

- Link to introduction on global climate impacts on day 1.
- Make programmes available on the computer
- General remark: group work should be clear and focused meeting the learning objectives.

Further reading

UNITAR with the Consortium for North-South Dialogue on Climate Change Who needs what to implement the Kyoto protocol? An assessment in 33 Developing Countries, 2001.

IPCC Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of WorkingGroup I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. IPCC AR4, 2007

Assignment on IPCC report
(documents are available on the computer)

Working Group 1: Chapter 11 deals with regional climate projection on sea level rise.
Working Group 2: Structure is explained: partly sectoral and partly regional.
Working Group 3: Deals on mitigation probably less relevant but there is a very interesting chapter on linkages with sustainable development

Question:
- Who has worked with IPCC documents before?
- Who read some chapters?
- Now is your opportunity: 30 minutes to read about IPCC

Assignment:
- Work in the couples (yesterday's teams)
- Relate it to your own questions about climate change
- This is a bit about you being at your office: you have a question, you start looking.

After a 15-20 minutes:
- What are points to share: what did you find? What did you learn?
- Write down some of the answers/chapters looked at on flip chart
- You get an information overload, but this is real: you always have this
- How can you search quickly? :
  - use CTRL-F to find words
  - or use the icon with the binoculars

3.2 NAPA's - Adaptation to climate change and sustainable development

Learning objective

- Participants have an idea of the NAPA's and know some strength and weaknesses of the NAPA.
- Participants know why the NAPA was developed, its purpose and the next steps to be taken in the NAPA-process.

Session plan

Day 2			
Time	**Topic**	**Method, activity**	**Material, comments, etc.**
10.45	The NAPA process (Jan Verhagen)	Give insight in the NAPA process Note: refer to pre-course assignment! NAPA Why, purpose process and next steps to be taken	Ppt. 302 NAPA process Desanker
11.15	NAPA's - Adaptation to Climate Change and NAPA Ethiopia Mr. Gebru Jember	Relevant regional information, NAPA's Discuss some NAPA's and emphasize strengths and weaknesses. The NAPA process aimed at identifying urgent and immediate needs. Link with participants' experience with NAPA	Ppt. 303 NAPA's and sustainable development, Gebru Jember
12.30	Lunch		

Content

The first session provide participants more insight on the aim and process of the National Adaptation plan of Action for Climate Change (NAPA) set-up for LDC under guidance of the UN Framework Convention on Climate Change (UNFCCC) like the COP's. NAPA is a planned adaptation mechanism and supposed to support local adaptations. Priority financing for these CC coping projects.
The 2nd session deals on Ethiopia: the aim, process and outcomes of the NAPA is presented and discussed. Who please a role, priority setting and financing of a first selection translated into projects for future implementation.

Notes for facilitator

- Focus on the NAPA process: first link climate change impacts with adaptation measures with development and second link at local level to priorities in development.
- Links to the previous session: how does the process of adaptation planning work? We will look at this in general first (this presentation), then at the case of Ethiopia and then link it to your own experiences.
- Link to paper on African Ministerial Conference on the Environment (AMCEN/UNEP).
- Comment: reflection questions to be written on Ppt/flip chart, before hand - think about how to group the people: individually, per country or sector.
- Consider including CCA, NAPA and sustainable development in a single subject.

Further reading

IPCC Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of WorkingGroup I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. IPCC AR4, 2007.

Ministry of Water Resources, National Meteorological Agency, Climate Change National Adaptation Programme (NAPA) of Ethiopia, Addis Ababa, 2007.

UNITAR, Handbook for UNFCCC Focal Points from Least Developed Countries, Climate Change and the Internet Global Access to Global Issues, UNDP/GEF, Geneva, 2002.

UNEP-AMCEN, African Ministerial Conference on the Environment Johannesburg Declaration on the Environment for Sustainable Development, 2008.

Guide to Group discussion on NAPA and CCA

- What is your own NAPA process?
- What is the status of your NAPA in your country?
- How aware are people about the NAPA?
- How can we involve all the relevant stakeholders in the process: it needs to be inclusive and it needs some momentum?

- Now we want to go back to your own situation: what does this information mean for your work? Reflect on this in pairs. Write down your comments.
- Optional questions: what are strengths and weaknesses of the NAPA. process?

3.3 CCA and sustainable development

Learning objective

- Participants understand CCA in the context of sustainable development. CCA is not a goal in itself but something to take into account when planning for sustainable development.
- Participants have written one A4 reflect on the link between CCA and sustainable development in their country (and how is it reflected in the NAPA). This is to use what they just learned and to analyze their own context.

Session plan

Day 2			
Time	**Topic**	**Method/activity**	**Material, comments, etc.**
13.30	CCA and sustainable development	Climate change adaptation and sustainable development (interactive session) Reflect on the link between CCA and sustainable development in your country	Ppt. 303 NAPA's and sustainable development, Gebru Jember
14.30 15.30	Assignment	Let pax write on their NAPA's linking CCA and sustainable development. Output: 1 A4 written/person (can be used in final work/action plan) Plenary: concluding remarks	

Content

Best adaptation is sustainable development. Similarities and differences between climate change adaptation and sustainable development lead to two equally valid approaches: 1. Starting from development priorities and integrate CC or 2. Work from a CC perspective and define adaptation strategies. Both have their benefits and lead to no-regret measures for development.
What is needed for an adaptation project? CCA measures are longer term options dealing with climate variability, extremes and uncertainty and often requires new knowledge and skills to be field tested first.
Which approaches: Separate or integrating in existing projects and policies; top down and bottom up approach and where to meet.
Climate proofing of current policies/ projects: how vulnerable are they for climate change → sensitive to climate change, variability and extremes.

Notes for facilitator

- Mention that the animation group should do energizers whenever we feel our after lunch dip.
- We are stepping in new grounds: this is a complex issue - it is political, it has to do with the stakes dealing with compensation. You can look at this from a sustainable development perspective and from a climate change perspective.
- On ongoing projects climate change impacts may not yet been considered in the design: e.g. building a dam, road - plans may need to be adapted.
- Though we do not know everything and we still want to make plans: so scenario planning is needed.

Further reading

Klein, R.J.T., S. Huq, F. Denton, T.E. Downing, R.G. Richels, J.B. Robinson, F.L. Toth: Inter-relationships between adaptation and mitigation. *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth AssessmentReport of the Intergovernmental Panel on Climate Change*, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 745-777.

Elfatih A. and B. Eltahir, *Approach Paper On Climate Change in Eastern Nile Countries*, Eastern Nile Technical Regional Office (ENTRO), 2009.

Marcel, K., B. Metz, J. Verhagen, S. van Rooijen *Integrating development and climate policies: national and international benefits.* Climate Policy synthesis article 8 103-118, Earthscan 2008.

Interactive session 2.3: Sustainable development and climate change adaptation

Questions for reflection:

- What is sustainable development?
- What are important concepts or issues related to sustainable development?
- Where do we start: at the agenda of climate change adaptation or at the agenda of sustainable development.
- What can we do differently in planning about climate change adaptation?
- Do organizations consult the meteorological data for future plans? (e.g. World Bank do).

This part of the session can be done interactively, for instance by getting people work in pairs, trio's to answer some of the questions.

Assignment 2.3: Sustainable development and climate change adaptation

- What questions do you have about climate change?
- What do you want to achieve by next week, what is the product, outcome?
- What is your issue? (take some time to think about what your issue is)
- What is the sustainable development perspective, what is the climate change adaptation perspective?
- How is it linked to the NAPA?
- What is the link between sustainable development and climate change perspective for your issue?

Share in plenary some examples of issues and their reflection so far and analyse them in terms of the link between sustainable development and climate change.

Ask some of the other participants how they analyse the contributed cases.

Group work and interaction should be clear and focused and directed towards meeting the learning objectives.

3.4 Research - policy interface

Learning objectives

- Participants explore the research - policy interface in climate change adaptation and the wider context of multi-stakeholder participation (MSP).
- Participants are aware of the key challenges of the research - policy interface.

Session plan

Day 2			
Time	**Topic**	**Method, activity**	**Material, comments, etc.**
15.45	Intro research - policy interface (JvG)	Social learning, knowledge and communication - positioning today's sessions in this framework Brainstorm about challenges in the research - policy interface	Ppt. 304 research - policy interface
17.00	Learning journal	Connecting to own case	

Content

Policymakers are aware of the necessity but lack information and capacity to adapt existing new policies and policy development to climate change. Moreover formulating integrated policies and targeting the development priorities requires a climate inclusive approach in the non climate policy arena. The interaction between policy and strategy development, and the knowledge base is critical to develop climate proof policies. For the researchers is the challenge to make their research and knowledge more applicable to the context of the policy makers. It is not just about delivering scientific knowledge on climate change but applicable knowledge, and the support to develop the capacities to act adequately.

Notes for facilitator

- This session is a brief reflection on the research - policy interface, exploring the challenges.
- Ask the participants to think about the challenges they see at the research - policy interface, from their experience.
- Try to link to the practical level and reality of the participants. There are challenges, but in some cases we can overcome the challenges. What can we do? How do we make the interface stronger? This is what we have to work on, to be aware of the issue. There are both positive and negatives examples.

Further reading

Corbera E, D. Conway, M. Goulden and K. Vincent. *Climate Change in Africa: Linking Science and Policy for Adaptation.*

Tyndall Centre for Climate Change Research, School of Development Studies & Overseas Development Group, University of East Anglia, 2006.

Watson, R.T. et al. *Environmental health implications of global climate change,* Journal of Environmental Monitoring, 7(9), 834 - 843, 2005.

Brainstorm: What are the key challenges in the research - policy interface?

Outcome brainstorm:

- Research results sometimes played down for political reasons.
- Policy makers are not looking for research findings.
- Planning time frame: policy is short, research is long.
- Communication sharing the results, for example: no communication.
- Knowledge gap. Policy makers miss the concept.
- Researchers write good research papers - but not policy relevant papers.
- Research has no capacity to work on policy relevant issues, it's not asked for. There is a policy, and that determines the research. Not the other way around.
- Most researchers don't know the policy process, or the policy debate.
- Problem on up-scaling the results.
- Research failed to consult the policy. Example: Biofuel policy (Ethiopia). Marginal land is to be used (in the policy). Actually the production is low there. So which land is to be used?
- Policy needs interdisciplinary answers.
- Education system does not produce innovators, rather people that produce knowledge.

What goes well/ what are successes?

Research on adaptation to climate change in the water sector goes well. Innovative was the team members composition. Some researchers from university, one from agriculture, one from water bureau, one from Ministry of Finance. They were supposed to sit together. They were given few research questions. "*We developed a research concept note etc and did the research. If we were only to give recommendations on climate change, it would be complicated. Now, since all people were involved in the project, they understand very well, and are interested in implementing*".

3.5 Mindsets and paradigms

Learning objectives

- Participants are more aware of their own paradigms and how this influences their decisions for CCA.
- Participants are aware of the paradigms that influence development in the world.

Session plan

Day 3			
Time	**Topic**	**Method, content**	**Material, comments, etc.**
09.20	Mindsets and paradigms Jouwert van Geene (JG)	How do you see reality, where to start	Ppt. 305 paradigms
09.45	Exercise (JG)	What does my own paradigm look like? How does that influence my behavior? Interview each other/do small test etc. Show short video - what paradigms can you distinguish?	Reflection questions on Ppt. Video 205
10.30	Coffee		

Content

Paradigms are an overarching framework of beliefs, assumptions and approaches that shape how individuals, organizations or societies behave and respond to problems and opportunities. They help us understand the world, but at the same time we find ourselves entrapped and constrained by our paradigm. When we affirm a reality, we deny another one. So whatever we do is based in some way on an underlying set of beliefs or assumptions about the world but often these are so internalized we are unaware of their guiding influence. When dealing with complex issues like climate change, we need to question our paradigm and look beyond the most obvious solutions. A linear way of thinking often doesn't work anymore. Improvement will often require not just trying to solve the problems within the boundaries of the paradigm that created them, but rather recognizing the need for an alternative paradigm and appraoch.

Notes for facilitator

- Show short video of The Inconvenient Truth: 2m55, to reflect on the questions what is driving us and what is driving the development in the world?
- Or, use the basket ball video and ask to focus on the white team: how often do they pass the ball (one pass is when it leaves the hands of a person and come in some other way in the hand of another person). Then ask who saw the monkey? This is to illustrate that when we focus on something we tent to not see other things. A way of seeing is always a way of not seeing.
- Refer to different reflection questions: are we doing it right, are we doing the right thing, and how do we know what is right? (single, double and triple loop learning).

Further reading

Woodhill, J., Vugt, S. van, Geene, J. van and Verhoosel, K. 2009. Facilitating Multi-stakeholder Processes - Complexity, Learning and the Dynamics of Social Change. A Practitioners Guide. Wageningen International.

Questions for discussion and reflection

- What is driving Al Gore's crusade on global warming?
- What is driving you and me?
- What is driving development in the world?
- How are these drivers conflicting?

4 Assessing vulnerability

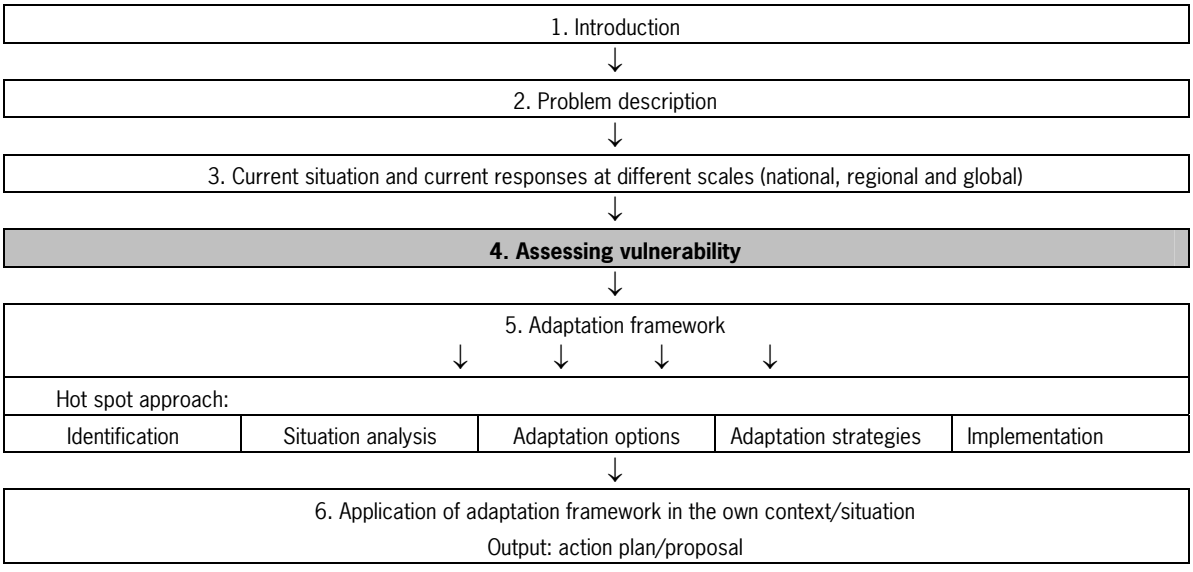
In this chapter the following topics are dealt with:

Content

Vulnerability to climate change depends on the exposure, the sensibility of the community or area and their adaptive capacity. Social, ecologic and economic developments have direct influence on communities' vulnerable. As climate change continues over a longer period and systems are complex, variability and uncertainty can not be neglected.

In the training hotspots will be identified first as important issues known to the participant with noticeable risk of climate impact. To support a sustainable development tools for a participatory environmental impact assessment will be presented and applied.

Overall course flow



4.1 Identification of climate change hotspots

Learning objectives

- Participants understand the first phase of hotspot approach.
- Participants are able to identify hotpots from different perspective/entry points.
- Participants are able to prioritize on hotspots.
- Participants can translate identification phase to own context.

Session plan

Day 3			
Time	**Topic**	**Method, content**	**Material, comments, etc.**
11.00	1) Identification hotspot (CTvS) Identification hotspots by Y-model PPP (CTvS)	Explain hotspot-approach with extra attention for phase 1: Identification (first scan, which is a preparation for day 4 deciding on hotspots). Group work: assignment 1 Group 1 starting from people Group 2 starting from planet/environment Group 3 starting from profit/markets - time scale?	Ppt. 401 Identification of CCA hotspots
12.00	Presenting group work	Carrousel Three rounds, receive constructive remarks and go back to your own group and integrate the comments.	Create place for flap-overs
12.30	Lunch		

Next day continued

Day 4			
Time	**Topic**	**Method/content**	**Material, comments, etc.**
13.30	Sharing tools on identifying hotspots	Get overview of different tools (**umbrella**) For the tools refer to what Wageningen has to offer ranging from identifying hotspots and **linking policies and research** to crop, landscape, water models that can be used to get insight in processes and management (adaptation) options. (gathering and analyzing (and prioritizing) for decision making. **What is my (research) questions**? (from own perspective and linking to broader science policy interface) Tools: LUPIS, Miterra, CO2FIX, farm systems analysis, crop models, scenarios	Ppt. 401 Tools for dealing with hotspots on Climate Change (forthcoming CTvS).
	Broader picture of these tools	What is the broader picture of these tools?	Reflection
15.30 16.30	Deciding on hotspots for further analysis	Group work: Assignment 2 What are criteria for attention Prioritization and Ranking - what hotspot is most vulnerable? Boundary decisions (not necessarily local, could be value chain) and actions Precautionary principle (if don't know consequence but expect risk, then take action)	Ppt. 401 Deciding on your CCA hotspots (JvG) Look at possible coalitions between participants. Select a few cases for the rest of the training.

Content

Prioritizing of issues is important in science and research. Climate change hotspots are identified and prioritized following clear steps with certain criteria. Relevant tools range from identifying hotspots and linking policies and research, to crop, landscape, water models that can be used to get insight in processes and management adaptation options as well as gathering, analyzing and prioritizing options for decision making. Next is to formulate your (research) question: from own perspective and linking to broader science policy interface.

This procedure will be presented through group work following a learning by doing approach. First participants identify though a *quick scan* potential hotspots from their own working environment. In a next *decision* session hotspots are further analyzed and the hottest are selected for further use in the course marked as *hotspot approach*.

Notes for facilitation

- Take care that all routines are well facilitated and get enough but not too much time: time management person!
- For the selection of final reference cases: look at possible coalitions between participants and select a few cases for the rest of the training.
- For the 2010 course the Ppt and the underlying publication need to be finalized.

Further reading

Verburg, Arets et al., Climate change in East Africa: Towards a methodological framework on adaptation and mitigation strategies of natural resources, Alterra, 2010, forthcoming).

Group work assignment on hotspots

Assignment 1: Quick scan on PPP
Six groups with focus environment, people or market

Six groups with focus on environment, people or market
-Focus on Ethiopia
-Quick scan activity -to map elements above
-Write down what is groups' mapping of the hotspots
-We'll bring the results together

Assignment 2 : Deciding on your hotspot (45 min)

Work in four groups

1. Natural Resources Management
2. Farming systems (crops)
3. Livelihoods (communities, health)
4. Livestock

Decide as a group on <u>one</u> hotspot that you will work on in some exercises in the training (analysis and planning).

Describe (on 1 flipchart):

- What/where is the hotspot?
- What is the key issue that needs to be addressed in the hotspot?
- Who are involved in this hotspot (stakeholders)?
- What may be the key (social, technical, political etc) challenges faced when addressing the hotspot?

4.2 Dealing with uncertainty

Learning objectives

- Participants understand the dimensions of uncertainty and know how to deal with it.

Session plan

Day 3			
Time	**Topic**	**Method/content**	**Material, comments, etc.**
13.30	Dealing with Uncertainty (3.2) Dr. Lulseged Tamene	Dealing with uncertainty - uncertainty is here to stay! Uncertainty usually results in delayed decision making/action how to prevent to this. How to get away from managing for the average climate and go to managing climate variability. How to quantify uncertainty	Ppt. 402 Uncertainty in Climate Change Article of BCO: Uncertainty in analyzing climate change: policy implications
14.30	Assignment	Experience uncertainty yourself Role play (people get continually new information, they have to perform a task) Good reflection Uncertainty is here to stay, accepting there will always be uncertainty	Ppt. 402 Uncertainty exercise Coloured cards Connect with local resource person
15.30	Coffee		

Content

Uncertainty causes hesitation to go forward and gives rise to reflection. Related to climate change adaptation three elements are to be considered: (1) the climate is changing but how and how long, (2) we lack understanding of the interdependencies in the climate system, data and how to interpret and implications in the sectors and (3) the instruments/ models we use to estimate climate change have limited accuracy. Development of scenarios like SRES of IPCC, helps conditional forecasting at mid term and longer term including variability. Parallel to climate change effects other global and regional changes may occur and contribute to series of possible futures (see also complexity). Climate change impacts requires action in spite of the uncertainties and is justified if applying environmental monitoring and risk management.
For more information on scenario development see 4.3.

Notes for facilitator

Suggestions for improvements Ppt's are on the second slide.
Further reading or plenary lecture the CBO 2005 article and the reader can be used.
General guidelines: we need to be more clear to the lecturers, and discuss more in advance.

Further reading

CBO, *Uncertainty in Analyzing Climate Change:Policy Implications,* The Congress of the United States, Congressional Budget Office, January 2005.

Role play: The Colours Trade Game
Objective: to experience uncertainty and to reflect on what this means for strategizing in daily life.
Goal: to earn as many points as possible through trading coloured cards.
The winner after three rounds of trading will get 100 birr!

Starting situation:
- Every one gets twelve different coloured cards
- blue = each worth 1 point
- yellow = each worth 1 point
- orange = each worth 1 point
- green = no value (0 points).

Trading round 1:
- Try to get as many points as possible (you now have twelve points)
- If you have five cards of the same colour, the value of it will double: e.g. five blue cards = 10 points
- You have three minutes to trade cards with others.

Trading round 2:
- Try to get as many points as possible
- Having five cards does not give you any benefit this round: no extra points
- Blue and yellow cards are in fashion this round: 2 point
- Orange cards: 1 point each
- You have three minutes to trade cards with others.

Trading round 3:
- Government makes collaboration in trading compulsory: 2-3 people have to collaborate before they can trade: try to get as many points as possible as a group
- Blue and yellow cards no longer in fashion this round: 1 point again
- Orange is in fashion: 2 points each
- Orange cards: 1 point each
- Having ten cards does now give you double points
- Green: no point

You have three minutes to trade cards with others.

Who has won? The anticipators!
- Green: 2 points
- Orange: 1 point
- Blue: 1 point
- Yellow: 1 point**What did you learn from this exercise for your dealing with uncertainty?**

4.3 Costs and benefits of adaptation projects

Learning objectives

- Participants know different financing structures to finance adaptation.

Session plan

Day 3			
Time	**Topic**	**Method/content**	**Material, comments, etc.**
15.30	Costs and benefits of adaptation projects Jan Verhagen/ Mr. Gebru Jember	Financing adaptation is important and which fund pays for what: sustainable development and/or climate change adaptation.	Ppt. 403 Gebru- financing for climate change Use Lupis as example
16.30 17.00	Assignment (JG/CTvS)	who pays for adaptation and for development. How to organize this? Analyze by using tools	Optional presentation for action plan

Content

Financing for CCA costs is one of the five key building blocks required (shared vision, mitigation, adaptation, technology and financial resources) for a strengthened future response to climate change to enable the full, effective and sustained implementation. NAPA's provide the input for costs and benefits. Financial mechanisms and sources (like from mitigation) are integrated in the Bali road map for negotiations. There are 3 broad categories for adaptation activities: to 'climate proof' of socio-economic activities, to expand adaptive capacity and to overcome specific impacts of climate change.

Notes for facilitator

- Find suggestions for the Ppt. presentation on the second slide
- Improve title or content: Financing of CCA or Costs and Benefits
  - Assignment: finally to be applied in the Action Plan
  - Will there be sufficient time for an assignment?

Further reading

Stern Review, *The Economics of Climate Change*, 2006.
Nkomo, J.C., A.O.Nyong and K.Kulindwa, *The Impacts of Climate Change in Africa*, 2006.
Verburg, R. L. Chen and Y.Cissé, *Evaluation methodology of Land Use Policies and Climate Change*, Lupis flyer LEI Wageningen UR, 2008.

4.4 Vulnerability

Learning objectives

- Participants understand the different dimensions of vulnerability.

Session plan

Day 4			
Time	**Topic**	**Method/content**	**Material, comments, etc.**
09.20	Vulnerability Dr. Lulseged	Explain how vulnerability and adaptive capacity is used by the IPCC in CC research. Vulnerability has a different meanings in other contexts (physical, social, economic) and scales (national, regional, local). Ranking – what hotspot is most vulnerable?	Ppt 404 Vulnerability to climate Change
10.15 11.30	Group work and Coffee	Groups discussions on definition adaptive capacity (IPCC) – what are the research questions on CCA in agriculture and NRM related to vulnerability and adaptive capacity	Paper: Vulnerability to Climate Change: a quantitative approach (Eric, Jan and Rene, foreseen 2010)

Content

Vulnerability as used in climate change impacts includes three elements: the exposure to natural events, the sensitivity of a community or system to such external forces and their capacity to cope with it. This coping can mean 'surviving single events' and than is characterized by the resilience of the system. If a system has to deal repeatedly with an increasing number of similar events this maybe give rise to a change process in the system due to its 'adaptive capacity'. Other factors may influence the impact of climate change. Vulnerability scanning, risk assessment and climate vulnerability index are practical tools.

Notes for facilitator

- Suggestions for Ppt presentation are on slide 2
- Group work: use paper on vulnerability
- Workshop instructions are required
- Check NAPA guidelines for vulnerability steps
- General observation for facilitators we need to ensure that the Ppt's are available beforehand and on the computer!

Further reading

Kelly P.M. and W. N. Adger, *Theory and Practices in assessing Vulnerability to Climate Change and facilitating adaptation*, Climatic Change 47: 325-352, Kluwer, 2000.
Verburg, Arets et al., *Climate change in East Africa: Towards a methodological framework on adaptation and mitigation strategies of natural resources*, Alterra, Wageningen UR, 2010 (forthcoming).

4.5 Environmental impact assessment - EIA

Learning objective

- Participants understand and are able to implement an EIA.

Session plan

Day 4			
Time	**Topic**	**Method/content**	**Material, comments, etc.**
11.30	Environmental Impact assessment - EIA Dr Asherachew Abate	Session plan: -EIA as a tool to bring about environmental sustainability. -Steps in EIA: the steps in conducting EIA will be explained with linkages to climate changes and adaptation mechanisms. -After the presentation, it would be crucial to have a discussion session (possibly group discussion).	Ppt. 405 Practical EIA for CCA Ppt. 405 EIA climate change
12:30	Lunch		

Content

Climate change influences directly our environment and may bring environmental services at risk. Methodologies of EIA have the possibility to include Climate change impacts and adaptation. A holistic (landscape) approach will be needed through clear stages.
environmental Impact assessment is oriented towards sustainability and requires a participatory approach.
-Steps in EIA: The steps in conducting project EIA will be explained with linkages to climate changes and adaptation mechanisms.

Notes for facilitator

- To be presented before: the challenges of climate change to East African environmental sustainability
- Finalize the Ppt presentation
- It is important to have the group discussion and finalize with a (simple) exercise

Further reading

Action Aid, Participatory vulnerability analysis, brochure 2005.
Compiled by Jennifer Rietbergen-McCracken Deepa Narayan, *Participation and Social Assessment: Tools and Techniques*, Worldbank**,** 1998

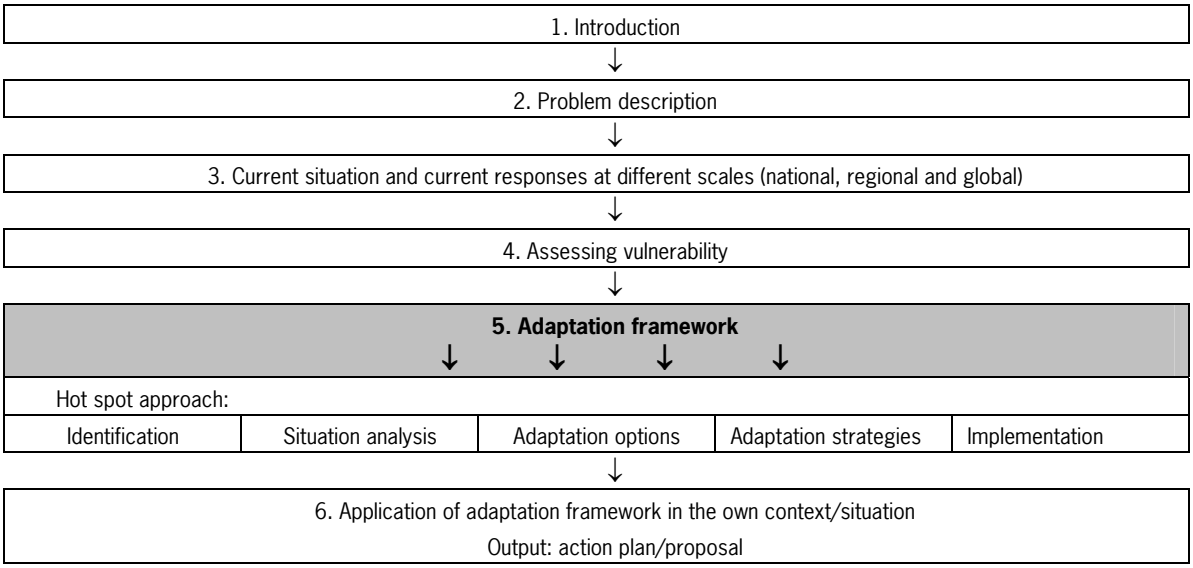
5 Adaptation framework

In this chapter the following topics are dealt with:

Content

The complete adaptation cycle is shared with the participants through the hotspot approach. The various steps are presented, discussed and specific concepts and tool are highlighted. Participants can reflect on the process from their own case. The field trip brings its own reality and adds to the options for follow-up measures.

Overall course flow



5.1 Agenda setting

Learning objective

- Participants are able to prioritize hotspots and define the boundary
- Participants know how the agenda setting in policy processes works

Session plan

Day 4			
Time	**Topic**	**Method/content**	**Material, comments, etc.**
16.30 17.00	Agenda setting (JG)	Policy stakeholder process and agenda setting Probable impact	Material: Ppt. 501 Agenda setting

Content

The policy agenda is the list of societal subjects or problems to which policy makers or people that influence them pay some serious attention. Agenda-setting is the process that focuses the attention to a limited number of items on the list. It is a pre-decisional, pre-political stage in the policy process (Amis, 2007).
In the case of climate change one can wonder who put this on the agenda. Was it the state who initiated the debate or did it come from society? Or does it come from the international community. There are many lobby organizations involved as well.

Notes for facilitation

Reflect:

- How do hotspots get on the agenda?
- How was climate change put on the agenda in our countries?

- What is the implication for different actors?

Reflect;

- Which climate change hotspots or issues have the highest chance of successfully being brought on the policy agenda? Why?
- To what extent will the formulation of and decisions on policies, strategies etc be rational?

Further reading

Cash, D. W., W. Adger, F. Berkes, P. Garden, L. Lebel, P. Olsson, L. Pritchard and O. Young. 2006. *Scale and cross-scale dynamics: governance and information in a multilevel world.* Ecology and Society 11(2): 8. [online] http://www.ecologyandsociety.org/vol11/iss2/art8/
Geene, J. van. 2007. *Rationality in Policy Making; a reality check*. Unpublished paper, University of Birmingham.
Bockel, L., Smit, B., 2009. *Climate Change and Agriculture Policies. How to mainstream climate change adaptation and mitigation into agriculture policies?* FAO.

5.2 Situation analysis and analysis tools

Learning objective

- Participants know a number of situation analysis tools (stakeholder, institutional, etc.) and are able to apply them in their own context.

Session plan

Day 5			
time	**Topic**	**Content/method**	**Material, remarks**
09.20	Situation analysis Jouwert v Geene	Short introduction – what can you do and what tools are there	Ppt. 502 Situation analysis
9.45	Group work (JG)	In subgroups: – Stakeholder analysis – Institutional analysis – Power analysis – Complexity analysis (Cynefin)	**Papers**: Problem tree DFID ICCO PME Tearfund PCM manual Handouts tools
10.45	Coffee		
11.00	Sharing results	Presenting findings of analysis (carousel)	

Content

Before working on adaptation there is a need for a situation analysis. A situation analysis is the process of understanding the status, conditions, trends and key issues affecting people, ecosystems and institutions in a given geographic context at any level (local, national, regional, international). Looking at the key problems, the stakeholders involved, the biophysical setting but also the institutions involved and the complexity level of the problem.

It is important to explore how change has occurred, why different things are the way they are, and why groups and individuals hold their particular perspectives. Trends, key local information and historical changes, as well as a greater understanding of why the community may be reticent, even hostile to 'opportunities for consultation', can be gleaned from examining all relevant (written and verbal) information sources.

Notes for the facilitator

- It is important to first finish all the information on situation analysis and then explain the assignment.
- The participants work in four different groups with different tools on situation analysis. They might need a bit different time allotment to finish their analysis.
- Suggested tools to work with are: problem tree analysis, power analysis, institutional analysis and a complexity analysis.
- Tools are from development perspective. But climate change adaptation will be included, either in focus of the analysis (formulation of the issue/case) and in the content (causes for the problems) and data.

Further reading

Dearden, P., S. Jones, R. Sartorius, R. et al. 2002. *Tools for Development. A handbook for those engaged in development activity*. DFID

Rachel Blackman, R., 2003. *Project cycle management*. Tearfund More situation analysis tool can be found at: http://portals.wi.wur.nl/MSP

Conclusion on the use of the tools presented

- No single tool is comprehensive enough
- you need several tools for a better picture
- Participation/linkages of different perspectives
- Yes, it takes time and resources
- Very subjective/descriptive, which is a limitation
- You need to add quantitative analysis as well
- Don't rely on what people say only, you need to back it up with information/data from other sources

5.3 Scenario analysis

Learning objective

- Participants know how to analyze different scenarios at different levels of uncertainty, and what does that mean for the adaptive strategies.

Session plan

Day 5			
time	**Topic**	**Content/method**	**Material, remarks**
13.30	Scenario analysis Lulseged Tamene	What could happen at different levels of uncertainty and what does that mean for the adaptive strategies. Impact analysis (what is possible change and what could be the possible impact)	Ppt. 503 Climate change complex scenario Paper Alcamo scenarios eea

Content

A scenario analysis is a process of analyzing possible future events by consolidating alternative possible outcomes. It is virtually certain that Earth's climate is changing, with most of the warming over the last 50 years 'very likely' to be attributable to the increase in atmospheric greenhouse gas concentrations (IPCC- AR4, 2007). However, there is less confidence about exactly how the climate will change in the future, and lesser confidence still about the adjustments it will induce to natural and human systems. Thus, policy formulation for climate change poses a great challenge because it presents a problem of decision making under uncertainty (Webster, 2005). That is - the various scenario analyses performed in relation to climate change processes, its impacts and possible mitigation measures have associated uncertainties.

Notes for the facilitator

- Keep it practical, include assignment/interaction. Use practical models and let participants experience the process and steps to go through, e.g. downscaling of GCM outputs to CC impact assessment
- Lecturer should explain basic idea of scenarios (separate of climate change), inform about the SERS (IPCC, emission scenarios) and link it to figure showing that the actual emissions are above the scenario levels
- Document of Alcamo is a good basis.
- Consider whether downscaling should come here or at the beginning (climate knowledge). Downscaling of models (GCM to regional or national level, and tools to do that, because the output of the downscaling is useful for the hotspot analysis/ the vulnerability analysis, etc.
- Questions about scenarios: What are scenarios and scenario outputs? Are scenarios always about climate change? Difference between climate change scenarios, models and forecast (projections), ways of separating climate change scenarios from hazard. Which climate change scenario is best for our country (most realistic)?

Further reading

Joseph Alcamo, J., 2001. Scenarios as tools for international environmental assessments. EEA, Copenhagen.
Christensen, J.H., B. Hewitson, A. Busuioc, A. Chen, X. Gao, I. Held, R. Jones, R.K. Kolli, W.-T. Kwon, R. Laprise, V. Magaña Rueda, L. Mearns, C.G. Menéndez, J. Räisänen, A.Rinke, A. Sarr and P. Whetton, 2007. Regional Climate Projections. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

5.4 Complexity

Learning objective

- Participants understand what complexity thinking means in relation to climate change.
- Participants know the advantages and disadvantages of working with simplified model to better understand climate change.

Session plan

Day 5			
time	**Topic**	**Method/Content**	**Material, remarks**
16.30	Complexity Jouwert v Geene and Dr. Lulseged	Activity with complexity (experiencing) - the situation is complex but still you can do something	Ppt. 503 CC and complexity scenario

Content

The challenges climate change is not a simple business, it is unpredictable and surprising. Still too often our strategies for undertaking change are linear. They incorrectly assume simple and predictable cause and effect relations.

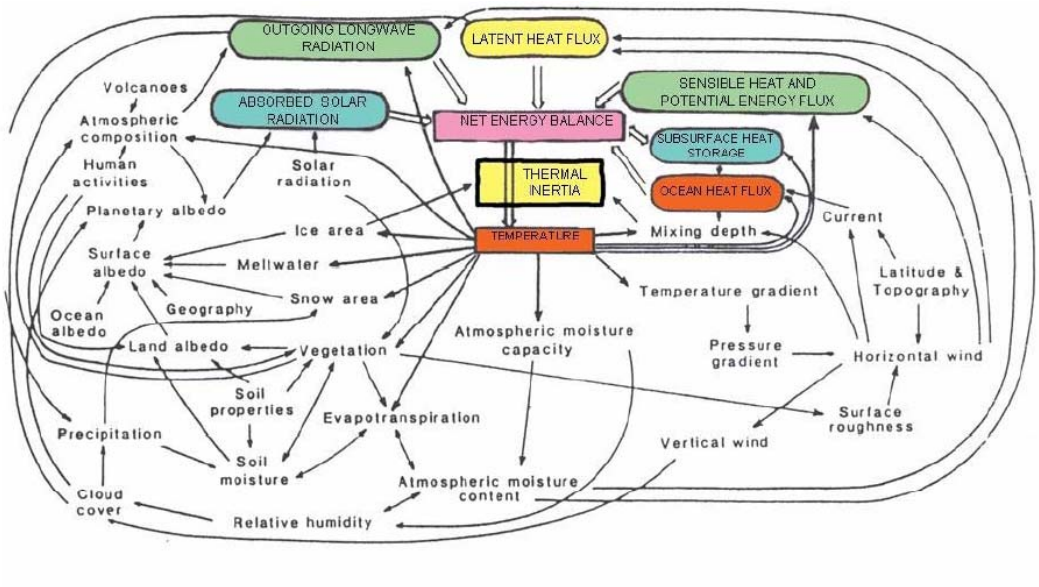
So we often tent to simplify the reality. For climate change we use sophisticated model to deal with this complexity, but still it doesn't capture the reality itself. What we have is just a simple 'box' that represents how we think the climate works. It's our best guess or approximation - as good and as simple as the model creator makes it.

The complexity of climate models has increased over the last few decades. But the absence of whole-Earth, system-scale experiments (with full complexity of interacting processes and feedbacks) restricts the ability to fully verify or falsify our climate change hypotheses (Schellnhuber et al., 2004).

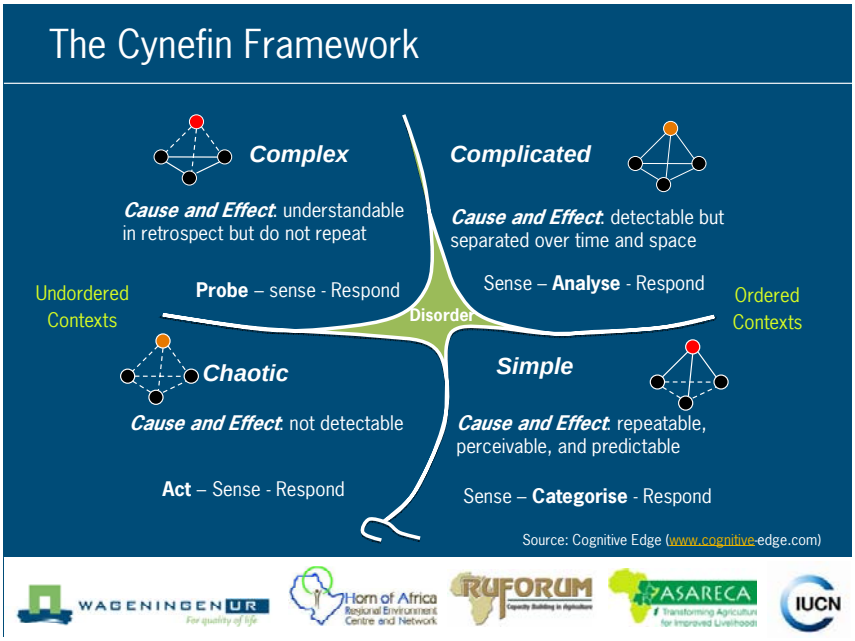
So knowing that climate change is a complex issue, how to be strategic in the face of complexity? And what does 'complexity thinking' imply for climate change adaptation planning and policy processes?

Notes for facilitator

- Remind participants that it is not about using a trick, but thinking out of the box, sense making of a new and/or changing context, don't only look for final solution but start and go along the way.
- Possibilities: take position in the room, step through paper, etc. analyze the situation and take action for specific goal, refer to Cynefin framework.
- Questions on complexity: How to make complexity more workable.
- Difficulty in handling high resolution data over a bigger area - limitations of computer calculation ability. Example: vegetation greenness could not be combined with rainfall (some things cannot be aggregated easily - and that creates its own complexity).
- Complex models if they cannot be operational, then need to be simpler, or to account for limited parameters or area, or reduce the number of equations.
- Downscaling to smaller scale can be done.



Flow diagram for climate modeling, showing feedback loops. From Robock (1985).



Problem solving domains. From Kurtz and Snowden (2003).

Further reading

More information on complexity thinking: http://www.cognitive-edge.com/articlesbydavesnowden.php

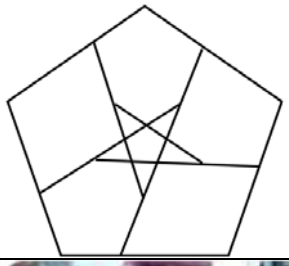
Exercises on complexity:

1. Chaotic Patterns

- Have one participant go out of the room.
- All other participants will now think of two other persons in the room. Person A will be the 'friend' and person B will be the 'enemy'.
- The instruction is first for all participants move around the room and to be as close to the friend and as far as possible from the enemy. After this, all participants need to try to be right in the middle between their friend and enemy.
- Ask the participant who left the room, to observe the process: what does s/he think is happening? Total chaos?
- Reflect on the exercise: explain that often what looks like chaos (people moving in a room, or actors behaving in unpredictable ways) is actually sometimes stimulated by some simple underlying rules. However, to find these rules under the patterns is not easy. Where do participants see complex patterns of behaviour in real life? How do you deal with this?

2. Complicated tasks

Prepare some difficult 'brain crackers': have people work in small groups to crack them.

	Connect the 9 dots with 4 connecting straight lines
	give the five pieces of the puzzle (without the star) and have participants make a 'star' out of the 5 pieces (so the star should be the empty space in the middle…
	Step through the paper: give people a large piece of paper and ask them to 'step through it' (see http://www.pork.org/Producers/YouthPQAPlus/GPP1/1grp.pdf) for the explanation on how to do this…)

Reflect on the exercise:

- - What was difficult on the exercises? When is it easier? What do you do when you encounter complex tasks? How can we relate this to the Cynefin Framework? What does this tell us about real life?

5.5 Field trip

Learning objective

- Participants are able to reflect on the specific case in the field, and understand how the theory and concepts of CCA are grounded in reality
- Participants have strengthened their network and team work

Session plan

Day 6			
Time	**Topic**	**Method/content**	**Material, comments, etc.**
	Dividing tasks and responsibilities	Objective: CCA reality and teambuilding In morning: joint field trip activity with the Wageningen UR-vice president Martin Kropff.	Field Trip was organized by HoA-REC
8.00	Departure	The case example area will be **Lake Chelekleca**, at Debre Zeit (50 Km from Addis Ababa).	
9. 00 13.00	Visit a case	Field visit (by local expert) – Visit a case – Presentation on case – Short interviews/interaction – Gathering data	Rector Martin Kropff from Wageningen UR was also there

Content

Day six there was a field trip. We want to look at a case where changes in land use, and climate change is involved. We want to provide a platform to share what can happen in our own countries. There is an initiative from HoAREC to do a land use planning map of the area in collaboration with the city administration and others as well. So it would be nice to talk about this broader collaboration and initiatives than to focus on the single climate change issue. See Annex 3 for the field trip report).

Notes for facilitator

- Program fieldtrip: important to have good information well in advance, (location of the site, link to climate information available for this area, link to hotspots identified, etc)
- Objective of fieldtrip to be explained in detail to organizers and objectives to be included in fieldtrip program
- Gather some important information that can be linked to the topics of the course. Nice to collect more information, but then it needs more time to process and more time to reflect.
- The trip enabled participants to look at the complexity of dealing with climate change viewing from the ecosystem and other anthropogenic factors



5.6 Policy process (mainstreaming)

Learning objective

- Participants understand the theory of policy processes and complexity of policy making in reality
- Participants are able to assess if policies are climate proof

Session plan

Day 5			
Time	**Topic**	**Method/content**	**Material, comments, etc.**
15.00	Policy process (mainstreaming) Mr. Wondowossen Sintayehu	Are current policies climate proof? Refer to coping mechanisms ***Note***: Keep it practical! Include assignment/interaction	Ppt. 506 (to be further developed)

Content

Still much effort is needed to fully integrate climate change adaptation into agriculture and natural resource sector plans and economic development policies and strategies.
Are our policies climate proof? We need to locally cope with global change.
There are various international agreements, now being part of national laws (e.g. FDRE constitution articles).
It all start with the awareness raising before integrating it in the policies.
Another challenge lies in the implementation and enforcement of the law. Lack of implementation can be due to lack of understanding of roles and mandates of different groups; who is accountable to whom. When looking at environmental pollution control, you need to install a sound technology and environmental standards (law) on emissions. Polluter pays principle. But how should global pollution be accounted for, adaptation and mitigation are not national level issues.
The NAPA does not necessarily tell us something on mainstreaming. Actual implementation of policies and including climate change adaptation, there is still a lot of work to be done.

Notes for facilitator

- Questions to raise include: What are challenges and opportunities in mainstreaming climate change in policy making?
- There is no guide for policy mainstreaming in Ethiopia, neither international
- After group work ask what would be their policy message. Also ask: was it helpful to have this discussion around your own hotspots, and why?
- Meeting policy people during seminar – what is your message for them.
- Reference can be made that later in the process we take it one step further, and making it specific for your own situation, and how you bring knowledge to policy makers.

Further reading

Kok, M.T.J., Coninck, H.C. de, 2007. *Widening the scope of policies to address climate change: directions for mainstreaming.* Elzevier ENVSCI-593.

Group assignment

Objective: Relate climate change policy mainstreaming to our hot spots

Assignment in your group:

- What are relevant policies related to your hotspot? Consider different levels and sectors.
- To what extent is Climate Change taken into account in these policies?
- How could you approach influencing the change of policies?

Insights after the discussions:

- About different policies and legal frameworks of Ethiopia as a case
- The challenges in law enforcement
- The out stream/ side stream of environmental concern in Ethiopian development agenda - e.g. Energy policy and related issues esp. in relation to climate change
- Afterward plenary discussions about other countries experiences
- Group discussions and plenary reflections on evaluating climate change from policy perspectives

Additional information

Key principles for policy on environmental law:

1. Inter-generational equity is important: resources may be used, but not at the cost of the next generation
2. Precautionary principle (related to uncertainty - not to be used for postponing measures)
3. Polluter pays principle. (slide - question on pp?/ applied of GHG in Ethiopia)

If industries don't comply to environmental law can they be taken to court? Is the greater public aware of that? In Uganda, most policies do not cover that. Policies remain at national level - role at lower level are not clear. By-laws should be created to implement the policy.
There are many critical issues. There is civil and criminal law. There is no practice to take industries to court. For the civil aspect - there is no vested interest required. So anybody can take court action for damage by a third person to the environment. Not actively lobbied for. I know environmental law alliance from Uganda. They are very active, and taking matters to court .Ethiopia doesn't have that experience. Only 1 case where an NGO representing a community, where a river through their area (in Addis) was polluted by an industry.
An other example is the forest cover is quickly lost. With or without participatory management, people continue to exploit the forest. By law people are not allowed to do that. But in practice the law is not enforced. Lack of management guideline, to manage it sustainably.

In Kenya there is the NEMA (national body to oversee implementation). They are quite strong. They closed down some factories. The slaughterhouse in Nairobi was closed, until the standards were met (despite the fact that whole Nairobi depended upon that, for the meat).

5.7 Lobby, advocacy, communication

Learning objective

- Participants are able to present their message to the public
- Participants have improves their communication and presentation skills

Session plan

Day 8			
Time	**Topic**	**Method/content**	**Material, comments, etc.**
13.30	Lobby, advocacy and communication JG	Introduction and brainstorm Position of lobby and advocacy in context	Ppt. 507 Lobby, communication and elevator pitch
14.00	Practical assignment for seminar (coincide with preparation seminar 6.2)	Practicing communication and advocacy - Pax prepare paper/speech/debate/presentation, etc. - Elevator pitch - what do you want to do after the course	
15.00	Feedback	Feedback on skills and attitude	

Content

Advocacy is influencing decision makers, or people with power. This can be direct advocacy: aimed at decision makers, or indirect advocacy: aimed at hidden powers or people around decision maker (wife, driver, civil servant). There are a broad range of possible strategies: demonstrations, lawsuits, pressure through media, but also lobby.
Important is to have a very clear message to your target group. Effective communication only occurs if the receiver understands the exact information or idea that the sender intended to transmit.

Notes for facilitator

- Objective of this session: to prepare a short personal presentation for networking during the seminar and to develop personal presentation skills
- Important that the participants think about what is their message, to whom, and how to communicate this
- Don't talk too much about communication but practice and let participants experience
- Practice with the elevator pitch

Further reading

Robinson, M., 2006. *Budget Analysis and Policy Advocacy: The Role of Nongovernmental Public Action*. Institute of Development Studies

Assignment Elevator Pitch

Groups of three people
Make an Elevator Pitch (15 min.)
– Take the potential person you want to talk to (during the seminar)
– Write your individual pitch

Practice your Pitch in your group (15 min.)
– Pitch 1 (20 sec. - 1 min.), the others give feedback
– Pitch 2 (20 sec. - 1 min.), the others give feedback
– Etc.
Choose one Pitch and make it complete (10 min.)
Present the Pitch in front of the whole group

5.8 Coping mechanisms and adaptation options

Learning objective

- Participants are able to use the CCA lens to plan and implement sustainable development (projects)
- Participants are able to develop different CCA options using different tools and methods
- Participants are able to assess the appropriateness of the (indigenous) CCA options within different scenario's
- Participants are able to relate CCA option development to existing projects and policies and disaster risk reduction.
- Participants know how to make decisions in a context of uncertainty and risk

Session plan

Day 7			
Time	**Topic**	**Method/content**	**Material, comments**
09.00	Recap excursion	Participants give seven min. presentation - repeat most important messages of yesterday (content) Trainers facilitate reflective discussion	
09.20	Indigenous knowledge and current adaptation options Dr. Habtemariam	What are current coping strategies/existing projects (examples). What indigenous knowledge is available - sharing of knowledge - (the advantage and disadvantage of using indigenous knowledge)	Ptt. 508 Coping mechanisms
10.05	New adaptation options Dr Woldeamlak	Making use of scientific (technical) knowledge, new technologies, creativity, out of the box thinking, etc. Current thinking: Come to most appropriate adaptation options – Horticulture – Life stock – Water management Note: make sure there is good balance between content coverage (width) and content depth	
10.45	Coffee		
11.00	Group work	Questions about presentations, discussion Assignment: reflect on the cases (from Friday) and discuss what are current and possible coping/ adaptation strategies	
13.30	Analysis of coping strategies Dr Woldeamlak	Relate adaptation options to existing projects and policies and sustainable development – cases Participants can ask questions • Cost • Political implication • M and E research Possibly use example: IUCN uses CRiSTAL. Can we use it here? - only if open source. This tool could also be at the end of the course	
15.00	Disaster Risk reduction and CCA JG	Presentation on similarities and differences between DRR and CCA. Reflection with group on implications for our work.	PPT 508 CCA and DRR

Content
Coping mechanisms include early warning systems, soil and water conservation techniques, agro-forestry, diversification of crop and livestock species, mobility, reciprocity, changing planting and harvesting dates etc. Some of indigenous coping mechanisms have been applied for generations. Good practices of indigenous coping mechanisms and adaptation options are shared. Indigenous knowledge is increasingly recognized as a key to adaptation, though it also has downsides.

Adaptation options can be developed using different methods, tools and methods such as CRiSTAL, LUPIS, PRA and can also borrow from the disaster risk reduction discourses and experiences.

Notes for facilitator
Due to practical reasons we were forced to make changes in the programme. This part is a combination of sessions on adaptation options:
- Indigenous knowledge and current adaptation options
- New adaptation options
- Climate Change Adaptation and Disaster Risk Reduction
- Group work: coping mechanisms and adaptation options
- Reflection on group work and introduction to Strategies

Further reading
Nicol, A and Robinson, NK, 2008. *Getting adaptation right.* Opinion 118, Overseas Development Institute.
IFPRI, 2008. *How can African Agriculture Adapt to Climate Change? Insights from Ethiopia and South Africa. 20 briefs*. International Food Policy Research Institute Publications.
Mitchell, T and Aalst, M. van, 2008. *Convergence of Disaster Risk Reduction and Climate Change Adaptation: A Review for DFID*. DFID.
USAID, 2007. Adapting to climate variability and change: a guidance manual for development planning. USAID.
Venton, P. and Trobe, S. la. 2008. *Linking climate change adaptation and disaster risk reduction.* Tearfund.

Reflection on Disaster Risk Reduction

- A lot of experience has been gained with DRR, it has widely been applied - there may be something in there.
- CCA is political subject. Still, people are waiting. With DRR people are moving and implementing
- What does it mean for research and policy: some policies for DRR we can try and bring into CCA when appropriate
- As with CCA, in DRR the mandates within government are sometimes spread and uncoordinated
- We should not make people depending to aid (bad experience DRR agencies have, having people waiting for them to come and solve the problem)

Assignment: coping mechanisms and adaptation options

– Have participants continue working on the cases from the hotspot analysis

– What are the existing (indigenous) coping mechanisms available for the challenges in this hotspot? How sustainable are they?

– What are other adaptation options? How can we develop them? Consider feasibility: environmental, social and economic perspectives

Plenary exercise:
Tools for developing climate change adaptation options
Brainstorm and analysis

– As a whole group, brainstorm the different tools, methods, models, approaches people know of or have used in developing climate change adaptation options.

- Have materials prepared for models and tools such as: PRA, LUPIS, CRiSTAL.
  - Objective of tool/model
  - Steps/process of use tool or model
  - Where to get more information on the tool

– Some tools/models can be presented by the facilitators, while others can also be presented by participants (ask participants in advance if they know of tools/models, let them bring materials)

– After short presentation of a tool/model (objective, steps etc), discuss in plenary
  - What can be advantages/disadvantages of the tool/model?
  - Where can we apply it?

5.9 Conflict management and competing claims

Learning objective

– Participants know different types of conflicts with regards to competing claims.
– Participants know and have practiced different types of conflict management.

Session plan

Day 7			
Time	**Topic**	**Method/content**	**Material, comments**
14.30	Conflict management and competing claims JG & CTvS → day 8 10.45-12.00!!	Collect examples of conflicts and competing claims and group them (by typology/level/etc.) Different theories on conflict management Different types of conflict (relate to own cases) Process of conflict management	To be developed
15.45	Group work	Managing conflicts and competing claims – apply to own cases	

Content

The process of negotiations for mid- and long term planning confronts the stakeholders with the targets the want to reach and the means they want to make available. Especially where climate change impacts include complexity and uncertainty. It is very important to distinguish the robust measures and sustainable developments allowing for small experiments and flexible solutions

Notes for Facilitator

Time in the course has been used to reflection to strategies. Session still further to be developed

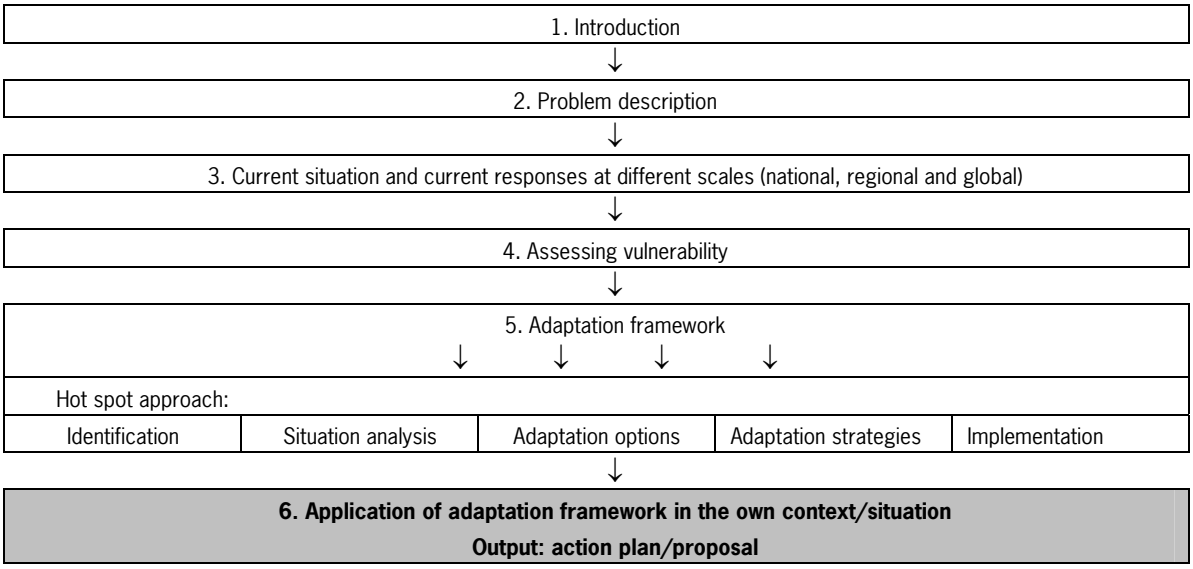
6 Application of adaptation

In this chapter the following topics are dealt with:

Content

This last step in the course deals with the application of the adaptive framework and implement their acquired knowledge in the reality of sustainable development and being ready to learn from practice as well. The participants participate in an exchange with the people from the field at policy, research and practical level. Practical issues on negotiations, funding and monitoring and evaluation guide them in mainstreaming CCA in through the application of their personal and groups action plan.

Overall course flow



6.1 Definition of adaptation in the framework of sustainable development

Learning objective

- Participants have a clear understanding of the meaning of adaptation in the framework of sustainable development
- Participants understand the continuous learning and adaptation cycle and can apply this to CCA

Session plan

Day 9			
Time	**Topic**	**Method/content**	**Material, comments**
9.20	Definition of adaptation	Definition of adaptation	Ppt. defenition of CC adaptation (Ptt. 203)
	Adaptive learning management of change Catharien Terwisscha/Jouwert van Geene	Continuous learning and adaptation cycle and applying this to CCA Exercise: Perfect square (as introduction) Few slides: (single, double, triple loop learning) (control vs adaptive regime) (example dikes) (policy cycle combined with learning) Assignment: translate this to your own situation	Ptt. 605 On climate change, knowledge and coping Blind folds??

Content

An interactive session to create common understanding and awareness about climate change coping through adaptation and adaptive learning.

Notes for facilitator

This session was added since there was a broadly felt need by the participants to get clarity about the boundaries of climate change adaptation. Other elements can be added.

Exercise: Definition of climate change adaptation:

Participants work in small groups (2-3 people) to develop a definition of climate change adaptation.
Instruction:

- What are elements of a definition of climate change adaptation? (look at IPCC definition and others from presentations?
- What are the boundaries, what is it NOT?

As a plenary, ask input from all groups to develop a common definition. Take time to reflect on elements that are included and excluded and why.

Example outcome: climate change adaptation …

- Entails longer term programmes, activities, policies undertaken to address the negative and positive impacts associated with climate change within the broader setting of sustainable development taking into consideration the social, environmental and economical perspectives.
- It addresses issues of vulnerability, uncertainty and complexity, which are dynamic and appear at different scales.
- It needs capacity to become resilient and it aims for changes in values and beliefs, understanding, behaviour and practices, institutions and structures using a learning approach

6.2 Seminar - Adaptation strategies and policy messages

Learning objective

– Participants know how to communicate their message to society and to the policymakers
– Participants are aware of the dynamic interaction with stakeholders and the different perspectives they have.

Session plan

Day 8			
Time	**Topic**	**Method/content**	**Material, comments**
14.00	Practical assignment for seminar	Practicing communication and advocacy - Pax prepare paper/speech/debate/presentation, etc.	
15.00	Feedback	Feedback on skills and attitude	
15.30	Prepare for seminar	Last preparations for seminar	

Day 9			
Time	**Topic**	**Method/content**	**Material, comments**
14.00	**Seminar** Organized by local partner HoA-REC	Objectives seminar: – short presentations of cases by participants and resource people on the **research policy interface** – networking Learning objectives for pax: – practice lobby and advocacy – internalize lessons learned (possible ideas: presentations, discussion in subgroups, debate, etc.)	Media message of seminar Chose facilitator/presenter for the seminar **To be invite:** key policy makers**,** Journalist/media Colleagues from universities/research Climate appeal Africa international)
14.00	Welcome		
14.15	Presentations	1) Hayo Haanstra – **the Dutch case**	
15.30	Interactive session	2) Present: Fina Opio (ASARECA), Excellent Hachileka (IUCN-ASERO), Wellington Ekaya (RUFORUM) – ask them to prepare 15 min. presentation on the **role of research institutes, NGO's and universities on CCA in East Africa**	
16.00	Plenary debate		
17.00	Networking and lobby (Drinks and snacks)	3) Messages of participants	

Day 10			
Time	**Topic**	**Method/content**	**Material, comments**
09.00	Recap seminar	Reflection on seminar – learning elements: presentations, elevator pitch, networking (skills) – coalitions, communication strategy, message – content: new lessons learned – link to action plan	

Content

1. Preparing the seminar

During the seminar the participants have different roles:

– Participant get the opportunity to network with the policy makers during the seminar. They prepare a personal poster to be able to easily present themselves and give seminar guests the opportunity to have an overview of who is participating in the course.

– Participants (group)work on cases (hotspots), about which they prepare short policy messages.
– Some participants organize and take part in a debate
– Some participants give logistical support

The different parts need to be prepared (see instructions) and closely coordinated.

2. The Seminar

The seminar brought together some 45 participants from different disciplines and organizations. Unfortunately, high level representation from government could not make it to the seminar, but representatives from the Dutch Embassy and ministry of Agriculture, several NGOs and research institutes, including the regional partners of the course (RUFORUM, ASARECA and IUCN) were present.

The seminar included presentations from Hayo Haanstra (LNV), Fina Opio (ASARECA), Wellington Ekaya (RUFORUM) and Excellent Hachileka (IUCN). These were followed by policy statements from participants about particular hotspots. After this, there was time for networking during an extended coffee break. Finally there was a debate by participants and policy makers around the different policy statements led by course participants. Notes from the seminar can be found in the Annex.

3. Reflection on the Seminar

After the seminar (next day) some time was spent to reflect on the process and outcomes.

Notes to the facilitator

– About the personal poster:
  – Explain objective of the seminar first, before introducing the poster
  – Poster can already be prepared in 1st week
  – Possibly link the creation of a poster to introductions in week 1.
– The objective and process (programme) of the seminar has to be very clear to the participants.
– Emphasize the interactive nature of the seminar, as to create engagement with policy makers (no long presentations)
– Ensure broad participation in the seminar - invite more policy makers!

Instruction: preparing a personal poster

Elements to be included in the poster:

– - your name, position, country
– - organization name, sector
– - goal of organization
– - the issue I'm working on (and relation to CCA)
– - what we/I can do contribute to CCA
– - I would like…

Things to do before the seminar

– Print logos asareca, ruforum, iucn (in Colour)
– Make + print participant list (course)
– Make + print invited guest list
– Notepads + pens + seminar folder for guests (20?)
– Arrange the seminar room (tidy up the space!)

Preparing Policy Messages during seminar

Objective is:
- To translate the concepts and ideas on coping, adapting and strategising into the practice of our hotspots
- To develop key messages for the seminar

Steps for preparation:
- look at the adaptation options in the hotspot (developed earlier)
- Develop a broad strategy for the hotspot:
  - What is the desired future for the hotspot (your vision!)?
  - What stands in our way (barriers)?
  - How can we take away the constraints using building blocks that we have?
- Key message to policy makers: What is interesting about this subject to share with policy makers?

Prepare for the seminar:
- 2-3 minutes presentation (2-4 ppt slides) to share the topic: the message you have (hotspot, particular interest or perspective, relation with research-policy interface)
- Time for networking to talk about the topic: develop some statements and focus questions
- Plenary debate: 1 or 2 statements or focus questions about the topic, to which policy makers and participants can react.

Example messages from the seminar:

Group 1 - Crops/Wafula 'we have an issue of concern which we like to share with you'. Early maturing varieties, strengthening research-extension-farmer linkages, technologies (water harvesting). Most important questions: do we have sufficient information on climate change adaptation for crop production? We need to encourage climate change in the policy agenda.

Group 2 - Coffee and forests/Tadesse. Message: can conservation and livelihood be sustainable: YES! For implementation of a land use plan a biosphere reserve concept may be used. Shifting of the eco-region for coffee up the hill is possible.

Group 3 - Food security/Hussain. Central Rift Valley. Mainstreaming of climate change adaptation as a critical issue in sustainable development. Activities, research, technology, linkages.

Group 4 - Pastoralists/Bayou. 60% of the land, 20 million people. Message: integrated approach needed of both mobility and settlement, in order to improve livelihoods of people.

6.3 Practicing negotiation

Learning objective

- Participants understand the role of negotiation in CCA both at international, national and local levels (scales aspect)
- Participants are able to effectively us spaces of negotiation to lobby for their specific intentions (skills)

Session plan

Day 10			
Time	**Topic**	**Method/content**	**Material, comments**
10.45 12.00	Practicing negotiation CTvS	Role play Catharien (understanding different positions of countries like CHINA, US, EU, least developed countries) - note: use scientific knowledge on 'knowledge arrangements' Discussion: the role of negotiation in CCA both at international, national and local levels (scales aspect)	Implementation oriented - role play Handout: ESS33306 simulation UNFCCC negotiations

Content

Simulating a climate change negotiation with real cases from China, USA, EU and some least developing countries. Reflecting on process and results and relate it to the context of the participants.

Notes for facilitator

- Exercise creates lots of energy and is fun to do.
- Having a 'real negotiator' (Hayo Haanstra) helped a lot to set the scene. He played an important role, as chairman, based on his experience with negotiations.

Negotiations role play
(see handout day 10)

Outline simulation UNFCCC negotiations (in ESS33306)

Method:
- Simulate UNFCCC negotiations on possible funding mechanisms

Objectives:
- provide insight in UNFCCC mechanisms
- provide insight in positions major UNFCCC parties
- provide insight in negotiation trick & treats

Participants:
- 24 students,
- 1 negotiators - member of Dutch UNFCCC team,
- 2 teachers

You are representing party - a (group) of country(ies) - at the **Ad-hoc Working Group on Long-term Cooperative Action (AWGLCA)**. This group was established following de Bali UNFCCC convention (dec. 2007) to elaborate on the Bali Action Plan. We will limit ourselves to negotiations on ways how to support, i.e. how to Fund developing countries with mitigation and adaptation policies. We simulate four parties to these negotiations the EU, China, USA and the Least Developed Countries (LDC). These represent widely contrasting views and stakes on the climate problem:
– EU: strongly committed to ambitious and binding emission reduction targets. Wish to assist other countries to adapt.
– China: though by now worlds largest emitter (in absolute terms; not per capita), it is very reluctant to commit to emission reduction targets. Funding should be additional to current funding. Technology transfer is important.
– LDC's: does not feel responsible for climate problem but does feel to be its victim; receiver of funds to support mitigation and adaptation; mitigation if any especially in land use/deforestation. Special attention to least developed countries - and funding should be additional.
– USA: until recently denied climate problem (at least at federal level) and was strongly opposed to binding emission reduction targets; reluctant to support LDC's; since Obama big position shift ?! Funding negotiable, but developing countries should take up reduction commitments.

We will simulate the negotiation process focusing in two brief rounds

6.4 Funding, monitoring and evaluation

Learning objective
- Participants know some funding mechanism for CCA
- Participants know how to monitor there CCA process

Session plan

Day 10			
Time	**Topic**	**Method/content**	**Material, comments**
12.00	Funding mechanisms, Monitoring and evaluation JG	Funding mechanisms + Design monitoring plan for hotspot - relate to case (output, outcome, impact)	Ppt. 504 Proposal writing and M&E
12.30	Lunch		

Content
Introduction of frameworks and concepts on developing CCA proposals and funding mechanisms. Introduction on frameworks and concepts on M&E of climate change adaptation efforts.

Notes for facilitator
- Due to practical reasons this session was not realized.

Further reading
- Project proposal manuals: Tearfund, ICCO, Civicus

6.5 Personal action plans - coalitions and outputs

Learning objective
- Practice writing skills
- Participants can apply the hotspot approach to their own context
- Participants are able to transfer the lessons learned from this training into a personal action plan
- Participants are able to formulate and present proposals for climate change adaptation

Session plan

Day 10			
Time	**Topic**	**Method/content**	**Material, comments**
13.30	Personal Action plans/output	Working on personal action plan/ product/output/proposal/policy brief, etc Contact your network if needed, etc. Learning diary and action plan are two different things – but linked (link back to earlier objectives of participants)	Ppt. 605 on preparation of action plans
15.30	Prepare presentation	Working on personal action plan with buddy/coalition, coaching each other Prepare presentation	
17.00	Learning journal	Lessons learned	

Day 11			
Time	**Topic**	**Method/content**	**Material, comments**
09.20	Presenting product/output	Each participant will give a brief presentation of his/her action plan; proposal; policy brief, etc. Possibly: use intervision method; Participants get specific feedback on their question	Parallel groups
12.30	Lunch		CD!
14.00	Ways forward	Planning next steps, relating to bigger context of the programme, ongoing research, hotspot analysis, etc.	Document follow up steps

Content

This builds on the products/learning objectives that participants have set themselves in the first week, as well as on the learning journals. Participants can work individually or in small teams (if they have joint actions) to prepare action plans which will be presented on day 11. After the presentation of action plans, in a plenary joint ways forward are decided on.

Notes for facilitator
- During the presentations peer participants give feedback on a small note and verbal e.g. four per presentation
- Encourage participants to develop some joint actions on top of the personal action plans.
- It is important to have the output of the course as concrete as possible for follow-up with the rest of the programme. Would be good to get research questions and practical cases to continue working on.

Personal action plans:

- Work on the concrete output that you intended to produce by tomorrow.
  - Work on a computer or on paper
  - Hand in a copy of the work in progress at the end of the day (if on paper, we will make a copy)
- Make an action plan about what you will do after the training:
  - What is the long term objective, perspective?
  - What are the first concrete steps and when (3 months)?
  - Who will be involved?
- Prepare a 5 minute presentation
  - What is the issue you work on?
  - What is the product you have produced?
  - What is the action plan?

Joint action plans:

- What can be common interests for the future?
  - Research
  - Education
  - Projects
- Who sees a convergence of interest, that can lead to concrete coalitions or collaboration?
- Work together and decide:
  - What is your long term intention?
  - Concrete steps and outputs
  - Who, what

Action Plans

Several groups were formed among the following subjects: Downscaling CC, vulnerability and adaptation, seconday school education, climate change mainstreaming in forsry, fundraising, approaching policy makers, networking and awareness raising, next training course 2010, Capacity development CC at national level, follow-up action plans, contribute to 'climatechange' website and as example :

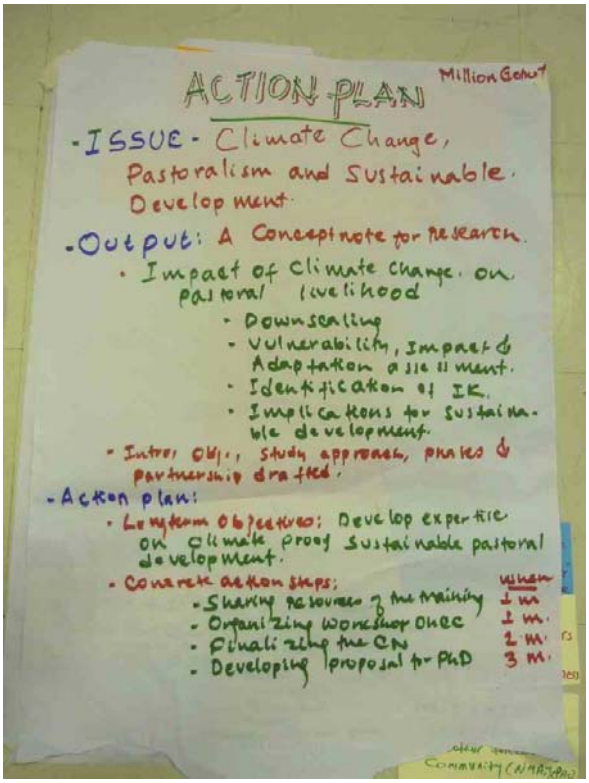
Curriculum

A group of mainly Ethiopian people involved in curriculum review and development has already met on this issue. They discussed ways of reviewing existing curriculum, integrating climate change adaptation in existing curriculum, and developing new curriculum and courses on climate change adaptation in the context of sustainable development. Interested are, among others, Azeb, Wayesse, Hailu, Linnet, Kinfe, Catharien and Mekuria

Contact person: Mekuria Argaw

Action: Mekuria will inform everybody on the ideas and plans sofar, and he will communicate on the way how to continue.

Action: Catharien will inform RUFORUM about this action item, so that they can link



6.6 Evaluation and closure

Learning objective

- to evaluate the course at different moments
- to improve the course for next year

Session plan

Day 11			
Time	**Topic**	**Method/content**	**Material, comments**
16.00	Evaluation	Formal written evaluation (excel sheet, survey monkey did not work) Informal qualitative evaluation/Oral evaluation (facts, feelings, analysis/interpretation, future action)	Evaluation forms (digitally in excel/survey monkey
17.00	Official closure Drinks and snacks Departure	Certificates Saying goodbye	Certificates (signed by directors)

Notes for facilitator

The course has been evaluated at different moments during the course.

- First of all there were the daily reflections and summaries, mainly to evaluate whether the learning objectives were met
- After the first week there was e mid-course evaluation. Start question: what do you like to evaluate (make sure they don't directly start with a complain, then they set the tone..). Other method: stand on the line. Most often people stood in the middle. Not all learning objectives were checked. General feedback: yes, we are on the right track. Yes, we'll reach our learning objectives at the end of next week
- Final evaluation at the end of the course, both written and verbal.

Facilitation team also had a separate session (the day after course end) to evaluate the course to gain lessons for next time.

Some lessons about the course (from the different evaluations)

- It is good to send more information on climate change adaptation (e.g. IPCC documents, movie 'inconvenient Truth) to participants in advance as to get a balanced entry level of knowledge.
- The pre-course is important to focus people, but it should also be clear on how to use the products of participants during the course (because some people then expect to present their cases in plenary)
- Ideally a number of real-life cases (Hotspots) would run throughout the course
- It is good to build on a variety of sources for resource people (academics, NGOs, UN-organizations, regional climate centres, government) so different perspectives are given.

Annex 1: Learning objectives per day

	Monday	Tuesday	Wednesday	Thursday	Friday	Sat/Sun
Week 1 15-21 June	Context Key note speakers Climate Change and implications Getting to know each other Learning diaries	Concepts Theoretical understanding Climate Change Adaptation + relate to agric + NRM NAPA's IPCC Learning diaries	paradigms Hot Spot approach 1) Identification of hot spots; Analysis of Ethiopia **Y-**model Uncertainty sustainable development	Vulnerability Framework (impacts and risk management) Environmental Impact Assessment & competing claims. Prioritisation of hotspots & boundary	2) Situation analysis Stakeholder processes Institutional Analysis Policy process (mainstreaming)	Excursion/Field Work
Learning objectives	Participants have a basic level of understanding on CCA at different levels Pax have been introduced to a concrete case at national level/to each others case Pax have an overview of the course program and set-up/learning framework Pax know each others field of expertise and start building a network Pax know the hotspot approach and how it relates to the course Pax know some innovative practices for adaptation	Participants can explain the different concepts: CC, adaptation, vulnerability, uncertainty Pax know the most significant messages of the IPCC reports and where they can find them Pax have an idea of the NAPA's + where to find them and know some strength and weaknesses Pax explore the research – policy interface in CCA and the wider context of MSP and communication Pax can translate concepts to own case	Pax understand how different paradigms influence the identification of hotspots and CCA Participants understand the first phase of hotspot approach Pax are able to identify hotpots from different perspective/entry points (PPP) Pax have increased knowledge on climate proof sustainable development Pax can translate identification phase to own context	Participants understand the different dimensions of vulnerability Pax are able to do an EIA Pax understand the CRiSTAL tool (IUCN) Pax are able to prioritize hotspots and define the boundary Pax can translate all to own context	Pax know a number of situation analysis tools (stakeholder, institutional, etc.) and are able to apply them in their own context. Pax understand the theory of policy processes and complexity of policy making in reality Pax are able to assess if policies are climate proof	Pax are able to use the hotspot approach to analyze and reflect on the specific case in the field Pax understand how the theory and concepts of CCA are grounded in reality Pax have strengthened their network and team work

	Monday	Tuesday	Wednesday	Thursday	Friday	Sat/Sun
Week 2 22-28 June	3. Adaptation options Indigenous knowledge and coping strategies Conflict management & competing claims	4. Strategies Lobby/ Advocacy, communication	5. Implementation – adaptive management (with case) **Seminar/ Presentation** (embassy, government, NGOs, media) – NL case, Ethiopia case, ICRAF	Translating Hotspot approach to own context Personal Action plans & Proposals & funding mechanisms Negotiation	Presenting product/output (proposal/policy brief, etc.) Ways forward – planning next steps Evaluation	departure
Learning objectives	Pax are able to use the CCA lens to plan and implement sustainable development (projects) Pax are able to develop different CCA options Pax are able to assess the appropriateness of the CCA options within different scenario's Pax are able to relate CCA option development to existing projects and policies Pax are able to balance/link a top down vs Bottom up approach in CCA. Pax know how to make decisions in a context of uncertainty and risk	Pax understand the role and use of (scientific) knowledge in policy making for CCA Pax know how to translate adaptation options into strategies at different levels in different domains Pax are able to present their message to the public	Pax know how to monitor there CCA process Pax understand the continuous learning and adaptation cycle and can apply this to CCA Pax know how to communicate their message to society and to the policymakers Pax are aware of the dynamic interaction with stakeholders and the different perspective they have	Pax can apply the hotspot approach to their own context Pax are able to transfer the lessons learned from this training into a personal action plan Pax are able to formulate and present proposals for climate change adaptation Pax understand the role of negotiation in CCA both at international, national and local levels (scales aspact) Pax are able to effectively us spaces of negotiation to lobby for their specific intentions (skills)	Pax are open for change and accept uncertainty and complexity (attitude) Pax have increased understanding of their action plans and the challenges they will face Pax have created a network of alumni and agreed on next steps	

Annex 2: Daily programme for facilitators

Day 1 - Monday 15 June 2009

Day 1 Topic: Context setting, Key note speakers Climate Change and Getting to know each other

Day 1 Learning objectives

- Participants have a basic level of understanding on CCA at different levels [what does this mean – think through carefully!]
- Pax have been introduced to a concrete case at national level
- Pax have an overview of the course program and set-up/learning framework
- Pax know each others field of expertise and start building a network

Time	Session	Content/Method	Comments, materials, actions
09.00	Registration	Registration/ Photos Camera	
09.30	Welcome and opening - check in - Mekuria and Jan Verhagen	General welcome to the course - intro of facilitators Overall program and objectives of the training (Jan Verhagen)	Check coffee table
10.00	Official opening Dr Araya Asfaw director of HoAREC	Brief opening address (10-15 minutes) to welcome the participants and introduce AAU/HoA-REC to set the context of the course and do the opening.	
10.30	COFFEE/TEA + snack		
11.00	Getting to know each other (JG)	Name, organization, country, expertise and knowledge on CCA, etc.	Shields
11.45	Key-note 1 Prof Odinga (University of Nairobi) and Jan Verhagen (Wageningen UR)	Outline of CCA at regional and global level - Climate change and impacts at regional and global level (macro level, big picture) - climate change, climate and extreme events - Indicating process (time frame) and parties involved (UNFCCC, NAPA's, COP Copenhagen) (IPCC, AR4) Bali workplan. Discussion and interaction	Ppt. NB: Link to key-note 2 and lecture NAPAs on day 2 NB: Lecture and assignment on AR4 on day 2 FG to follow up (Done)
12.30	LUNCH		
13.30	Key-note 2 Mr. Gebru Jember NMA (National Meteorological Agency)	Presentation on PP local expert: CCA at national level • Climate change and impacts at national level • Difference between climate variability and climate change • Examples of adaptation to climate change at national level (concrete case) Indicating process (time frame), parties involved (ministries, NGOs, business etc)	Would be good to get the local NAPA team involved. (CTvS to follow up)
14.30	Learning Objectives: main key learning point Overview of program & course approach (WUR) (COFFEE/TEA included)	Intro to: • Ask pax. to write on cards the learning objectives (learning journal): choose one! • Cluster learning objectives around the CCA learning objectives which were covered (possibly mindmap) • Program objectives – link to learning objectives • Program approach: active participation of participants, mix of theory & practice, collaborative learning, case studies, individual learning, conversation methods, critical reflection, own experience, shared	CCA learning objectives Handout program Binder with course material Learning Journal

Day 1 Topic: Context setting, Key note speakers Climate Change and Getting to know each other

Day 1 Learning objectives

- Participants have a basic level of understanding on CCA at different levels [what does this mean – think through carefully!]
- Pax have been introduced to a concrete case at national level
- Pax have an overview of the course program and set-up/learning framework
- Pax know each others field of expertise and start building a network

Time	Session	Content/Method	Comments, materials, actions
		response. for learning • Program • Learning diary **Note: pax have been asked to bring own case**	
	Coffee		
16.00	Introduction to key concepts and conceptual framework Jan Verhagen/CTvS	Intro to hotspot approach. Vulnerability Sustainable development Hotspots approach: Focus from different angle possible – environmental, social, economic Different levels/scales to be combined/linked Introduction to definitions	NB: Lecture Sustainable Development and Climate Change on day 2 Document with definitions (CTvS)
17.00	Wrap Up (MA/JG) – journal/reflection	Explain learning journal	
17.30	Drinks and snacks	Welcome drinks Fasika restaurant/training hall	
			Prepare fields-trip with HoA-REC + seminar!! Scientific data available? Local stakeholder for interviews? Etc.

Day 2 – Tuesday 16 June 2009

Day 2 Topic: Concepts, Theoretical understanding, Climate Change Adaptation, NAPA's, Vulnerability

Day 2 Learning objectives

- Participants can explain the different concepts: CC, adaptation, vulnerability, uncertainty
- Pax know the most significant messages of the IPCC reports and where they can find them
- Pax have an idea of the NAPA's and know some strength and weaknesses
- Pax explore the research – policy interface in CCA and the wider context of MSP and communication
- Pax can translate concepts to own case

Time	Topic	Content/Method	Comments, materials, actions
09.00	Recap yesterday	Participants give 7 min presentation - repeat most important messages of yesterday (content) Trainers facilitate reflective discussion	
09.20	IPCC AR4 presentation Jan Verhagen (JV)	Guidelines to the IPCC reports what is in each report and where can I find it. Explain that IPCC is a syntheses product reviewing scientific literature. Most of the politics in the summary for policy makers	Link to global intro on day 1 Documents on CDrom
9.50	Assignment with IPPC report CTvS	Working Group 1: Chapter 11: regional climate projection Something on sea level rise. Working group 2: explain structure: partly sectoral and partly regional. Working Group 3 is on mitigation probably less relevant but there is a very interesting chapter on linkages with sustainable development	For hands-on activity we need docs on computers
10.30	Coffee		
10.45	Presentation NAPA (JV)	To get more insight in the NAPA process **Note**: refer to pre-course assignment!	Link to paper AMCEN
11.15	NAPA's - Adaptation to Climate Change and Sustainable Development Mr. Gebru Jember (CTvS)	Explain process and the link to UNFCCC. Relevant regional information, NAPAs – discuss some NAPAs and emphasize strengths and weaknesses. The NAPA process aimed at identifying urgent and immediate needs. Some of these are translated into projects. The implementation of the NAPAs is the next step. Including discussion: participants' experience with NAPA	(CTvS to follow up)
12.30	LUNCH		
13.30	CCA and sustainable development Mr. Gebru Jember	Climate change adaptation and **sustainable development. (interactive session)** • Similarities and differences between climate change adaptation and sustainable development. Two options are important 1 starting from development priorities and integrate CC or do we 2 work from a CC perspective and define adaptation strategies. Both are viable options. And have benefits. • 'Best adaptation is sustainable development' but climate change adaptation requires new knowledge and skill especially in deciding what to do. Timing,	(CTvS to follow up)

Day 2 Topic: Concepts, Theoretical understanding, Climate Change Adaptation, NAPA's, Vulnerability

Day 2 Learning objectives

- Participants can explain the different concepts: CC, adaptation, vulnerability, uncertainty
- Pax know the most significant messages of the IPCC reports and where they can find them
- Pax have an idea of the NAPA's and know some strength and weaknesses
- Pax explore the research – policy interface in CCA and the wider context of MSP and communication
- Pax can translate concepts to own case

Time	Topic	Content/Method	Comments, materials, actions
		variability, extremes and uncertainty could come in here. • What is needed for an adaptation project. • Separate adaptation projects/policy or integrating in existing projects and policies? (probably both) • Top down vs Bottom up approach and how to bring the two together! • Analysis of current policies (how vulnerable are they for climate change) are they climate proof?) →sensitive to climate change, variability and extremes. Let pax write something about the NAPA's	
14.30	Assignment CTvS	Reflect on the link between CCA and sustainable development in your country (and how is it reflected in the NAPA)? Output: 1 A4 written/person (can be used in lather work/action plan) (plenary: concluding remarks)	
15.30	Coffee		
15.45	Intro research - policy interface (JG)	social learning, (knowledge and communication) – positioning today's sessions in this framework – brainstorm about challenges in the research – policy interface energizer/role play	Ppt.
17.00	Learning journal	Connecting to own case	
17.30	Closing of the day		
	Tentative: Prepare posters	Prepare creative posters for organizational market	
			Visit Landbouw Raad Talk with Geert Westerbrink – to be arranged

Day 3 – Wednesday 17 June 2009

Topic: Hot Spot approach - Identification of hot spots, Analysis of Ethiopia, **Y**-model (People - Planet - Profit), Prioritisation of hotspots **Learning objectives** • Participants understand the first phase of hotspot approach • Pax are able to identify hotpots from different perspective/entry points • Pax are able to prioritize on hotspots • Pax can translate identification phase to own context • Pax understand the dimensions of Uncertainty and how to deal with it • Pax know different financing structures to Finance adaptation			
Time	**Topic**	**Content/Method**	**Comments, materials, actions**
09.00	Recap	Participants give 7 min presentation - repeat most important messages of yesterday (content) Trainers facilitate reflective discussion	
09.20	Mindsets and paradigms Jouwert van Geene (JG)	How do you see reality, where to start,	Ppt.
09.45	Exercise (JG)	What does my own paradigm look like? How does that influence my behavior? – interview each other/to small test/etc. Show fragment of Inconvenient truth – what paradigms can you distinguish?	
10.30	coffee	Forming groups over coffee break	
11.00	1) identification hotspot (CTvS) Group work (CTvS)	Explain hotspot-approach with extra attention for phase 1: identification (first scan, preparation for day 4) Use Y-model for identification: Group 1 starting from people Group 2 starting from planet/environment Group 3 starting from profit/markets - time scale?	
12.00	Presenting group work	Carrousel (possibly: 3 rounds, receive constructive remarks and go back to your own group)? Prioritizing hotspots – [how?] What are the criteria?	
12.30	lunch		
13.30	Uncertainty Dr. Abebe Yeshanew (NMA) / Dr. Lulseged Tamene	Dealing uncertainty and complexity – uncertainty is here to stay! Uncertainty usually results in delayed decision making/action how to prevent to this. How to get away from managing for the average climate and go to managing climate variability. How to quantify uncertainty	CTvS to follow up
14.30	Assignment Summary (CTvS) – link	Experience uncertainty Optional: role play (people get continually new information, they have to perform a task)	

Topic: Hot Spot approach - Identification of hot spots, Analysis of Ethiopia, **Y**-model (People - Planet - Profit), Prioritisation of hotspots **Learning objectives** • Participants understand the first phase of hotspot approach • Pax are able to identify hotpots from different perspective/entry points • Pax are able to prioritize on hotspots • Pax can translate identification phase to own context • Pax understand the dimensions of Uncertainty and how to deal with it • Pax know different financing structures to Finance adaptation			
Time	**Topic**	**Content/Method**	**Comments, materials, actions**
	with local resource person	Good reflection Uncertainty is here to stay, accepting there will always be uncertainty	
15.30	Coffee		
15.30	Costs and benefits of adaptation projects Jan Verhagen/ Mr. Gebru Jember	Financing adaptation is important 3rd assessment it wasn't an issue, now it is in IPCC (the link between sustainable development and climate change adaptation). It implies different financing structures (who pays for adaptation). **Note: Include example**	Check Jan – Lupis? CTvS to follo up
16.30	Assignment (JG/CTvS)	who pays for adaptation – how to organize this Analyze by using tools (possibly use this for action plan)	To be discussed Monday /Tuesday within faculty
17.00	Learning journal	Connecting to own case	
20.30	Tentative: Organizational market	Informal market with presentation about the organizations where participants work	

Day 4 – Thursday 18 June 2009

Topic: Vulnerability, Environmental Impact Analysis/Socio analysis **Learning objectives** • Pax understand the different dimensions of vulnerability • Participants acquainted with tools for situation analysis • Participants are able to do a EIA • Pax are able to prioritize hotspots and define the boundary • Pax can translate all to own context			
Time	**Topic**	**Content/Method**	**Comments, materials, actions**
09.00	Recap	Participants give seven min presentation - repeat most important messages of yesterday (content) Trainers facilitate reflective discussion	
09.20	Vulnerability Catharien Terwisscha / Dr Abebe Yeshanew/	Explain how vulnerability and adaptive capacity is used by the IPCC in CC research. Vulnerability in other contexts has a different meaning. Aspects of vulnerability (physical, social, economic) explain difference between sensitivity and vulnerability. Methodology for vulnerability scanning How to reduce vulnerability Ranking – what hotspot is most vulnerable?	Paper on vulnerability NAPA guidelines check for vulnerability steps Participatory vulnerability assessment? CTvS to follow up with speaker
10.15	Group work and Coffee CTvS	Groups discussions on definition adaptive capacity (IPCC) – what are the research questions on CCA in agric and NRM related to vulnerability and adaptive capacity **Note: use paper on vulnerability (Eric, Jan en Rene)**	
11.30	Environmental Impact assessment – EIA Dr Asferachew Abate	Environmental services at risk? Methodologies of EIA and possibilities to include CCA. Link with e.g. landscape approach (holistic approach)	Jouwert to follow up with speaker
12.30	Lunch		
13.30	Sharing tools on identifying hotspots (CTvS)	Get overview of different tools (**umbrella**) For the tools refer to what Wageningen has to offer ranging from identifying hotspots and **linking policies and research** to crop, landscape, water models that can be used to get insight in processes and management (adaptation) options. (gathering and analyzing (and prioritizing) for decision making. **What is my (research) questions**? (from own perspective and linking to broader science policy interface) Tools: LUPIS, Miterra, CO2FIX, farm systems analysis, crop models, scenarios (Eric wrote down most of the models in his note).	
	broader picture of these tools - CTvS	What is the broader picture of these tools	
15.30	Deciding on hotspots for further analysis	– few cases for the rest of the training - What are criteria for attention	Look at possible coalitions between

Topic: Vulnerability, Environmental Impact Analysis/Socio analysis **Learning objectives** • Pax understand the different dimensions of vulnerability • Participants acquainted with tools for situation analysis • Participants are able to do a EIA • Pax are able to prioritize hotspots and define the boundary • Pax can translate all to own context			
Time	**Topic**	**Content/Method**	**Comments, materials, actions**
	JG and CTvS	Prioritization and Ranking - what hotspot is most vulnerable? Boundary decisions (not necessarily local, could be value chain) and actions Precautionary principle (if don't know consequence but expect risk, then take action)	participants
16.30	Agenda setting (JG)	Policy stakeholder process & agenda setting Probable impact	Ppt.
17.00	Learning journal		

Day 5 – Friday 19 June 2009

Topic: Situation analysis of hotspot (phase 2) **Learning objectives** • Pax know a number of situation analysis tools (stakeholder, institutional, etc.) and are able to apply them in their own context. • Pax understand the theory of policy processes and complexity of policy making in reality • Pax are able to assess if policies are climate proof			
Time	**Topic**	**Content/Method**	**Comments, materials, actions**
09.00	Recap	Participants give seven min presentation - repeat most important messages of yesterday (content) Trainers facilitate reflective discussion	
09.20	Situation analysis Jouwert v Geene	Short introduction – what can you do and what tools are there	
9.45	Group work (JG)	In subgroups: • Stakeholder analysis • Institutional analysis • Power analysis • Complexity analysis (Cynefin) (carousel)	
10.45	Coffee and Sharing results	Presenting findings of analysis	
11.30	Technical analysis Local resource person to be determined – HoA-REC/	Technical situation analysis – modelling, etc. Show outputs from modelling (maps, graphs, etc.) Relationship hotspots - modelling	CTvS follow up with speaker
12.30	Lunch		
13.30	Scenario analysis Dr. Woldeamlak Bewket	What could happen at different levels of uncertainty, and what does that mean for the adaptive strategies. Impact analysis (what is possible change and what could be the possible impact) ***Note***: keep it practical! Include assignment/interaction	CTvS
15.00	Policy process (mainstreaming) Mr. Wondowossen Sintayehu,	Are current policies climate proof? ***Note***: keep it practical! Include assignment/interaction	JG (done)
16.30	Complexity Jouwert v Geene	Activity with complexity (experiencing) – the situation is complex but still you can do something It is not about using a trick, thinking out of the box Sense making of context, don't only look for final solution but start and go along the way (possibilities: take position in the room, step through paper, etc. analyze the situation and take action for specific goal) refer to Cynefin	
17.00	Learning journal	Apply to own case	Evaluation first week

Day 6 – Saturday 20 June 2009

Topic: Excursion **Learning objectives** • Pax are able to use the hotspot approach to analyze and reflect on the specific case in the field • Pax understand how the theory and concepts of CCA are grounded in reality • Pax have strengthened their network and team work			
Time	**Topic**	**Content/Method**	**Comments, materials, actions**
	Dividing tasks and responsibilities	Objective: CCA reality and teambuilding In morning: joint field trip activity with the Wageningen UR vice president Martin Kropf. The field trip must be close to Addis (max 30 minute drive)	Field Trip to be organized by - HoA - REC
8.00	Departure	The case example area will tentatively be **Lake Chelekleca**, at Debre Zeit 50 Km from Addis Ababa. I have to find more information on impacts of climate change on the lake. If it doesn't serve our purpose very well, we will change it and will let you know the same.	
9.30	Visit a case	Field visit (by local expert)	
	Presentation on case		
	Short interviews/interaction	Interviews with local stakeholders	Give scientific data
	Gathering data	Quick analysis of case, Reflect on case and draw conclusions (use of alternative methods)	
16.00	Departure		
	Learning journal - Connecting to own case	Wrap up field work	

Sunday: day off

Day 7 – Monday 22 June 2009

Topic: Adaptation options **Learning objectives** • Pax are able to use the CCA lens to plan and implement sustainable development (projects) • Pax are able to develop different CCA options • Pax are able to assess the appropriateness of the CCA options within different scenario's • Pax are able to relate CCA option development to existing projects and policies • Pax are able to balance/link a top down vs Bottom up approach in CCA. ??? • Pax know how to make decisions in a context of uncertainty and risk???			
Time	**Topic**	**Content/Method**	**Comments, materials, actions**
09.00	Recap excursion	Participants give seven min presentation - repeat most important messages of yesterday (content) Trainers facilitate reflective discussion	
09.20	Indigenous knowledge and current adaptation options Dr Habtemariam	What are current coping strategies/existing projects (examples). What indigenous knowledge is available - sharing of knowledge - (the advantage and disadvantage of using indigenous knowledge)	JG (done)
10.05	New adaptation options Local resource person to be determined – HoA-REC	Making use of scientific (technical) knowledge, new Technologies, creativity, out of the box thinking, etc. Current thinking: Come to most appropriate adaptation options - Horticulture - Life stock - Water management Note: make sure there is good balance between content coverage (width) and content depth	JG
10.45	Coffee		
11.00	Group work	Questions about presentations, discussion Assignment: reflect on the cases (from Friday) and discuss what are current and possible coping/adaptation strategies	
12.30	Lunch		
13.30	Analysis of coping strategies Local resource person to be determined – HoA-REC	Relate adaptation options to existing projects and policies and sustainable development – cases Participants can ask questions • Cost • Political implication • M&E research Possibly use example: IUCN uses CRiSTAL. Can we use it here? – only if open source.	CTvS
14.30	Conflict management & competing claims JG & CTvS	Collect examples of conflicts and competing claims and group them (by typology/level/etc.) Different theories on conflict management Different types of conflict (relate to own cases) Process of conflict management	
15.45	Group work	Managing conflicts and competing claims – apply to own cases	

Topic: Adaptation options **Learning objectives** • Pax are able to use the CCA lens to plan and implement sustainable development (projects) • Pax are able to develop different CCA options • Pax are able to assess the appropriateness of the CCA options within different scenario's • Pax are able to relate CCA option development to existing projects and policies • Pax are able to balance/link a top down vs Bottom up approach in CCA. ??? • Pax know how to make decisions in a context of uncertainty and risk???			
Time	**Topic**	**Content/Method**	**Comments, materials, actions**
17.00	Learning journal	Connecting to own case	

Day 8 – Tuesday 23 June 2009

Topic: Strategies, lobby and advocacy **Learning objectives** • Pax understand the role and use of (scientific) knowledge in policy making for CCA • Pax know how to translate adaptation options into strategies at different levels in different domains • Pax are able to present their message to the public			
Time	**Topic**	**Content/Method**	**Comments, materials, actions**
09.00	Recap	Participants give seven min presentation - repeat most important messages of yesterday (content) Trainers facilitate reflective discussion	
09.20	Strategies (phase 4) Local resource person to be determined – HoA-REC	Translate adaptation options into strategies at different levels in different domains (projects/plans/etc.) • Institutional change • Political • Capacities • Process • Funding mechanisms • Management approach • Technical solutions (mitigation)	CTvS
10.30	Coffee		
10.45	use of (scientific) knowledge in policy making for CCA Local resource person to be determined – HoA-REC	Interface research - policy	JG
11.45	Discussion JG	Discussion on research policy interface	Possibly: use new model on innovation (Woodhill) + research and policy cycle
12.30	lunch		
13.30	Lobby, advocacy and communication JG	Introduction and brainstorm Position of lobby and advocacy in context (what is your message, to whom, and how to communicate this)	
14.00	Practical assignment for seminar	Practicing communication and advocacy - Pax prepare paper/speech/debate/presentation, etc. - Elevator pitch – what do you want to do after the course	
15.00	Feedback	Feedback on skills and attitude	
15.30	Prepare for seminar	Last preparations for seminar	
17.00	Learning journal - Connecting to own case		

Day 9 – Wednesday 24 June 2009

Topic: implementation + **Seminar** **Learning objectives** • Pax understand the continuous learning and adaptation cycle and can apply this to CCA • Pax know how to communicate their message to society and to the policymakers • Pax are aware of the dynamic interaction with stakeholders and the different perspective they have			
Time	**Topic**	**Content/Method**	**Comments, materials, actions**
09.00	Recap	Participants give seven min presentation - repeat most important messages of yesterday (content) Trainers facilitate reflective discussion	
9.20	Adaptive learning management of change Catharien Terwisscha/Jouwert van Geene	Continuous learning and adaptation cycle and applying this to CCA Exercise: Perfect square (as introduction) Few slides: (single, double, triple loop learning) (control vs adaptive regime) (example dikes) (policy cycle combined with learning) Assignment: translate this to your own situation	Blind folds
10.30	Coffee		
10.45	Implementation of strategies (phase 5) Local resource person/DLG	Case DLG or possible other case (e.g. participants, input Hayo, CRiStel tool). Elements: - Implementation - M&E - Learning/adaptive management	
12.00	Last preparations for seminar		
	Lunch		
14.00 14.00 14.15 15.30 16.00 17.00	**Seminar** Seminar to be organized by– HoA-REC: inviting key policy makers Welcome Presentations Interactive session Plenary debate Networking and lobby (Drinks and snacks)	Objectives seminar: – short presentations of cases by participants and resource people on the research policy interface – networking – Learning objectives for pax: – practice lobby and advocacy – internalize lessons learned – (possible ideas: presentations, discussion in subgroups, debate, etc.) 1) Hayo Haanstra – **the Dutch case** 2) Present: Fina Opio (ASARECA), Excellent Hachileka (IUCN-ASERO), Wellington Ekaya (RUFORUM) – ask them to prepare 15 min. presentation on the **role of research institutes, NGO's and universities on CCA in East Africa** 3) Messages of participants	Media message of seminar Chose facilitator/presenter for the seminar **To be invite:** Geert Westerbrink Ask Janny Poley Dairy SNV (JP) Policy makers Journalist/media Colleagues from universities/research Climate appeal Africa (international)
		Meeting Mekuria, Hayo, Jouwert, Fina, Excellent, Ekaya, Catharien – Way Forward, Partnerships	
	Social evening/dinner		

Day 10 – Thursday 25 June 2009

Topic: Developing output + negotiation **Learning objectives** • Practice writing skills • Pax can apply the hotspot approach to their own context • Pax are able to transfer the lessons learned from this training into a personal action plan • Pax are able to formulate and present proposals for climate change adaptation • Pax understand the role of negotiation in CCA both at international, national and local levels (scales aspect) • Pax are able to effectively us spaces of negotiation to lobby for their specific intentions (skills) • Pax know how to monitor there CCA process			
Time	**Topic**	**Content/Method**	**Comments, materials, actions**
09.00	Recap seminar JG	– Reflection on seminar – learning elements: presentation, elevator pitch (skills) – coalitions, communication strategy, message – content: new lessons learned – link to action plan	
09.45	Proposals and funding mechanisms	Funding mechanisms (Hayo?) (eerdere input: Jan) Writing good proposals (JG)	Information on funding
10.30	Coffee		
10.45	Practicing negotiation CTvS	Role play Catharien (understanding different positions of countries like CHINA, US, EU, least developed countries) – note: use scientific knowledge on 'knowledge arrangements' Discussion: the role of negotiation in CCA both at international, national and local levels (scales aspect	Implementation oriented
12.00	Monitoring & evaluation JG	Design monitoring plan for hotspot – relate to case (output, outcome, impact)	
12.30	Lunch		
13.30	Personal Action plans/output	Working on personal action plan/ product/output/proposal/policy brief, etc Contact your network if needed, etc. Learning diary and action plan are two different things – but linked (link back to earlier objectives of participants)	
15.30	Prepare presentation	Working on personal action plan with buddy/coalition, coaching each other Prepare presentation	
17.00	Learning journal	Lessons learned	

Day 11 – Friday 26 June 2009

Topic: Presenting personal products (proposal/output/policy brief) and evaluation **Learning objectives** • Pax are open for change and accept uncertainty and complexity (attitude) • Pax have increased understanding of their action plans and the challenges they will face • Pax have created a network of alumni and agreed on next steps			
Time	**Topic**	**Content/Method**	**Comments, materials, actions**
09.00	Recap – last!!	Participants give seven min presentation - repeat most important messages of yesterday (content) Trainers facilitate reflective discussion	Collect presentations
09.20	Presenting product/output	Each participant will give a brief presentation of his/her action plan; proposal; policy brief, etc. Possibly: use intervision method; Pax get specific feedback on their question	Parallel groups
12.30	lunch		CD!
14.00	Ways forward	Planning next steps, relating to bigger context of the programme, ongoing research, hotspot analysis, etc.	Document follow up steps
16.00	Evaluation	Formal written evaluation Informal qualitative evaluation Oral evaluation (facts, feelings, analysis/interpretation, future action)	Evaluation forms (digitally?) Postcards
17.00	Official closure Drinks and snacks Departure	Certificates Saying goodbye	Hayo? HOAREC

Annex 3: Participants list and resource persons

1.	Dr. Evelyn Komutunga	NARO	Uganda
2.	Mr. Benson M. Wafula	KARI	Kenya
3.	Dr. Linnet S. Gohole	Moi University,	Kenya
4.	Mr. Leonard P. Mayeta	Ministry Of Natural Resources and Tourism	Tanzania
5.	Mr. Paul Buyerah Musamali	National Forestry Authority	Uganda
6.	Mr. Joshua Zake	Evironmental Alert	Uganda
7.	Dr. Girma Mamo	EIAR	Ethiopia
8.	Ms. Azeb Assefa	Mekellele University	Ethiopia
9.	Mr. Weyessa Garedew:	Jimma university	Ethiopia
10	Dr. Zebene Asfaw	Hawassa university	Ethiopia
11	Dr Bayou Aberra	ACF	Ethiopia
12	Mr. Biruk Asfaw	Save the Children	Ethiopia
13	Dr Tadesse W/Mariam	ECFF	Ethiopia
14	Mr. Dereje G/Michael	ISD	Ethiopia
15	Mr.Hussein Bekele	SEDA	Ethiopia
16	Mr. Million Getnet	Haramaya University	Ethiopia
17	Mr. Kinfe Gebreegziabher	Mekelle University	Ethiopia
18	Ms. Mahlet Eyassu	FFE	Ethiopia
19	Mr. Hailu Simegn	HoA-REC- Globe	Ethiopia
20	Mr. Eprhem Bekele	HoA-REC	Ethiopia
21	Mr. Belayneh Ayalew	AAU	Ethiopia
22	Dr. Abebe Yishanew	NMA	Ethiopia
23	Dr.Prabu Chidambaram	Ambo University	Ethiopia
24	Mr. Ephrem Mamo	AMU	Ethiopia
25	Dr. Mekuria Lakew	AAU- Biology Department	Ethiopia
26	Mr. Fikadu Getachew	AMU	Ethiopia

Resourse persons:

Jouwert van Geene	Wageningen UR	the Netherlands
Catharien Terwisscha van Scheltinga	Wageningen UR	the Netherlands
Dr Jan Verhagen	Wageningen UR	the Netherlands
Dr Richard Odinga	Nairobi University	Kenya
Hayo Haanstra	Ministry of Agriculture	the Netherlands
Excellent Hachileka	IUCN	Zambia
Fina Opio	ASARECA	Uganda
Wellington Ekaya	RUFORUM	Uganda
Dr. Asferachew Abate	Ethiopian association of impact assessment	Ethiopia
Dr. Araya Asfaw	Director, hoa-rec	Ethiopia
Dr. Woldeamlak Bewket	Lecturer, aau, department of geography and environmental studies	Ethiopia
Dr. Habtemariam	School of sustainable land use	Ethiopia
Mr. Gebru Jember	National meteorological agency (nma)	Ethiopia
Prof. Richard Odinga	University of Nairobi	Ethiopia
Dr. Lulseged Tamene	Lecturer, aau, department of geography and environmental studies	Ethiopia
Dr. Abebe Yeshanew	National meteorological agency (nma)	Ethiopia
Wondowesen Sinatayehu	Environmental protection authority, lawyer	Ethiopia

Annex 4: Brief report on field excursion to Lake Chelelkleka

The field visit was organized to expose participants to a case example whereby they can integrate what was being discussed in class room sessions with some practical examples in the field by interviewing people and discussing amongst themselves so that they can also do some team building exercise.

Background on Lake Chelekleka

Lake Chelekleka is found in close proximity to Debre Zeit Town at about 50 km distance from Addis Abeba. It is a shallow and seasonally inundated land resulting from flood that flows from the surrounding cultivated slopes and hills. Normally water fills up the muddy depression during the rainy season and persists well into the dry season (up to May). There are two highland ranges mountains such as Teltele and Sofa on the north eastern side of the swamp which drain water from the surrounding catchments.

Lake Chelekleka is an important bird habitat, particularly favourable for migratory ducks and it is registered as one of the IBAs (Important Bird Areas) in Ethiopia. A total of about 45 water-bird species with total count of 15,206 individuals were recorded (e.g., Knob-billed Duck, Marsh Sandpiper, Egyptian Goose, Northern Shoveler, Spur-winged Goose, Little Stint, Sacred Ibis and Little Grebe).

The land use in the surrounding areas is changing rapidly. Some of the vegetation covered mountains are now become built up areas for resorts and other recreational facilities. The area around the lake is intensively used for cultivation. As the water retreats, farmers cultivate vegetables on the rich alluvial soils left behind on its northern and eastern sides. Sometimes there is cultivation throughout the year. The size of the inundated area varies dramatically from year to year and recently the area has been significantly reduced by the inflow of sediment and conversion of the land into cultivation. There is a high competition from the different stakeholder both for the land and water.

The increasing expansion of medium-sized industries all around the wetland increased water abstraction and release of harmful wastes to the lake from the industries. In addition, siltation has been increasing due to change in the land use (construction, cultivation, etc.). Because of the expansion of big commercial farms in the surrounding areas and extraction of large amount of water for irrigated cultivations is the main threat for the drying the lake.

The Field Exercise

The field visit was started with an introduction and brief discussion with Prof. Martin Kropf, Vice rector of the Wageningen University and his team, who came for a bilateral agreement with several Ethiopian Universities. The first secretary of the Royal Netherlands Embassy, Mrs. Janny Poley has also joined the visit. This has given the HoAREC an opportunity to discuss the broader collaborative works that the it is carrying out with the Wageningen University. Exchange of experience from the participants and also a brief question and answer session took place during the visit. After seeing off the guests, the visit continued by the trainees to work on their group exercise for about three hours. The five different groups were given the following topics generally

to gather information from the site and suggest possible recommendations for research and future intervention. The topics were:

1. Climate change and sustainable development-what is the issue?
2. Vulnerability
3. Coping mechanisms
4. Stakeholders
5. Institutions

The methods suggested to be sued for the exercise were informal interview with local people and observation, discussion and expert judgement by themselves. Trainees were required to come up with a brief report and present it in one of the sessions.

Summary of the group reports:

Group 1: Climate change and sustainable development-what the issues are?

The issues:

a. Water availability in the lake

According to the local people, the number of months in which the lake holds water has decreased. Usually, the lake stores water from July to May. However, since recently the lake dries up earlier than before. Hence, the dry months are 4-5 as opposed to the previous 1-2. Furthermore, even in wet months, the volume of water decreasing from year to year. The ground water availability from boreholes is also decreasing in same months when the water in the lake decreases or dries. This shows the linkage of the lake and ground water in the area. This trend clearly puts a challenge on the small scale irrigation farms flourishing around the lake.

b. Land use pattern

The group has observed that the surrounding areas of the lake are used as settlement for urban expansion, private lodges, industries, small scale irrigation farmers. The watershed is also highly deforested including the adjacent hills which capture water for the lake. It shows that the rapid expansion of built up areas and farms is happen without any buffer zone planning between the wetlands, the irrigation fields and the human settlements around the lake.

c. Climate Change and Sustainable Development

The major livelihood means and investment activities of the area are dependent on the natural resource base (water, forest, soil, landscape etc). Particularly agriculture and tourism activities make the major development options, opportunities and actual engagements of the larger public and private businessmen. Hence, any sustainable development scheme in the area is clearly the function of climatic and other associated factors. Obviously, they are not climate proof businesses. This indicates the need for thorough analysis and understanding of the climate variability and change conditions if one has to think of sustainable development. Among some of the climate change indicators include declining ground water, declining of the wetland size and bird hotspots. These are also connected with the emerging urban businesses (tourism lodges construction) and expansion of human settlements. All these are important factor for the sustainable development of the area.

d. Questions for researchers

What is the linkage of land use pattern, climate change adaptation and sustainable development options in the area in terms of its magnitude and impact? What is the future trend of land use pattern along with assessing

the available resource poetical and livelihood options? What kind of land use patterns and adaptation activities are appropriate to harmonize development and conservation in the area?
Regarding the research approach, it would be appropriate to pursue reduction model by prioritizing most significant issues by consulting with stakeholders. The group believes that multi stakeholder analysis has to be made to identify stakeholders and institutions that contribute in making valuable research.

Conclusions
- The lake dries much earlier than before
- There is linkage between surface water reduction in the lake and the ground water
- The buffer zone is diminishing of fast
- New construction are flourishing around the surrounding areas putting the lake at risk

Recommendations
- Sustainable development should be climate change oriented
- Climate change should be seriously taken
- Development endeavours have to consider climate change in the future

Group 2: Vulnerability
The group tired to look into the adaptive capacity after making situation analysis in relation to vulnerability. The factors identified as linked to vulnerability in the area are land use change, high water abstraction, siltation from the surrounding cultivated lands, pollution from the surrounding industries. In the effort to look into the sensitivity analysis, the area is identified to be sensitive to water scarcity. There is misunderstanding by the farm owners around the lake that there is no connection between the surface water and the ground water. The adaptive capacity analysis showed that there is very limited capacity to respond to the change with limited options of shifting the main livelihood systems in the area. The coping capacity is minimal.

Conclusion
- The area is highly vulnerable to climate change.

Recommendation
- Establish a buffer zone for the lake

Group 3: coping mechanisms
The group looked coping mechanisms in the perspective of the main service of the lake to the surrounding communities as source of water and grazing land for livestock. The assessment was made by physical observation of the surrounding areas and by conducting informal interview with the local farmers. The result of the assessment showed that local farmers drive their livestock to the other lakes in the surrounding areas and/or some of them use the cattle trough that is prepared by the organic farm in the vicinity. Some of the other farmers use the ground water where there is shallow well around them. For the grazing, during the dry season, most of them use tie and feed method.

Conclusion
- The benefit of the lake to the local people is only for watering and grazing of their livestock
- The coping options are limited.

Recommendations
- Sound plan and implementation for land use
- Buffer zone to prevent further degradation
- Eco-tourism

Research issues

- Human impact on the lake
- Water abstraction (allocation of quotas)
- Effect of industries
- Impacts on ecosystems

Group 4: Stakeholders

The major stakeholders of the area indentified by the group include the local farmers, the defence college, resort hotel owners, input suppliers and traditional leaders, e.g., Tulema Abageda. The relationship among these stakeholders is not clear. For example, land rent from local farmers by investors is not clear. The relationship with rural development actors is also very weak. The collaboration among the stakeholders is generally a business relationship. There is a need for better collaboration to prepare a better land use plan for sustainable use of resources in the lake area.

Conclusion

- There is no or weak collaboration among stakeholders
- Relationship among the stakeholders is not clear

Recommendations

- Improved collaboration among the stakeholders
- Create a multi-stakeholder forum
- Start awareness creation on environmental literacy and climate literacy

Group 5: Institutions

The group tried to identify if there are any land use policies and local regulations that govern the use of the land and water around the lake. However, there are no land use plans and no policy. All actors around the lake are putting up different interventions as they wish. Some of these are hotels, cultivations, housing and horticultural activities. Some of the tourism activities need to be strengthen. The identified key actors are investors, local communities, municipal council (since it is also a residential area), EWNHS, FFE, EIAR and CBOs.

Conclusion

- There are too many actors
- No working institutions that govern local land and water use

Recommendation

- Afforestation in teh hill catchment areas
- Land use and water use policy preparation and implementation

Annex 5: Notes Seminar Climate Change Adaptation

Bridging the research and policy divide: climate change adaptation in agriculture and natural resources management. Addis Ababa University, Science Faculty, 24 June 2009.

1. Welcome (Mekuria Argaw)
Welcome to outside guests (Dr Zadou EIAR, Director IDS, NMA, Asst. meteorologist, Dr Hamid Environmental Science Program). Introduction of participants, introduction regional and international guests.
Introduction of the course and the seminar, and the objective of the seminar: The seminar provides a space for dialogue between practitioners, researchers and policy makers to exchange ideas about the link between research and policy in climate change adaptation.

2. Presentation about the Netherlands (Hayo Haanstra)
Example of Greenland – where some people are wishing the ice to melt, so they can start mining the natural resources. An interesting perspective – that shows that climate change can come with opportunities as well.
Photos of the Netherlands, setting the scene: Pressure on agriculture. The example of the Netherlands is shown not as a blueprint, but as an example.
Slide on experiences/crucial elements in developing research together: interest, demand and supply, timing, transparency, scale, diversity, flexibility, simplicity, presentation.
Slide (14) on Delta Programme – where water management for the next 100 years.
KNMI/Delta Commission scenarios – have lead to a choice based on certainty.
In scientific terms it may be stated that the work of the Delta Commission is not peer reviewed.

3. The role of research institutes, NGOs and universities
Fina Opio, ASARECA; Excellent Hachileka, IUCN; Wellington Ekaya, RUFORUM
Wellington Ekaya – University programs. Adaptation and coping. Adaptation is about minimizing risk and increasing the capacity. In university programs, there is a lack of coordination (slide: challenges).
Fina Opio – Examples of project in which ASARECA is involved. Managing uncertainty (ICRISAT 2007-2010). There is a need for action.
Excellent Hachileka – IUCN. Pictures of climate change adaptation programmes from NGOs.

4. Presentation: messages from course participants
Group 1 – Crops/Wafula 'we have an issue of concern which we like to share with you'. Early maturing varieties, strengthening research-extension-farmer linkages, technologies (water harvesting). Most important questions: do we have sufficient information on climate change adaptation for crop production? We need to encourage climate change in the policy agenda.
Group 2 – Coffee and forests/Tadesse. Message: can conservation and livelihood be sustainable: YES! For implementation of a land use plan a biosphere reserve concept may be used. Shifting of the eco-region for coffee up the hill is possible.
Group 3 – Food security/Hussain. Central Rift Valley. Mainstreaming of climate change adaptation as a critical issue in sustainable development. Activities, research, technology, linkages.
Group 4 – Pastoralists/Bayou. 60% of the land, 20 million people. Message: integrated approach needed of both mobility and settlement, in order to improve livelihoods of people.

5. Coffee, tea and networking

6. Plenary forum discussion: bridging the research and policy divide
Chair (Azeb, Mekele University) welcomes all. Introduction of forum panelists. We will have questions of each group, for the panel.

Question (Zebene, Hawassa University).1 Focus NRM ok – but still a lot of agricultural focus. Loss of natural resources and how it affects people. How do you think we could improve research and the linkage with agriculture? And 2. In the Bala case. Involving the community. Is there good research based on experience CBNRM (community based natural resources management) that links to policy – and where the policy outcome changed because of that?
Answer: (Ekaya, RUFORUM) the link with the outcome research to policy and how it has happened. I can give the example of pastoralism in East Africa, where a lot of research has been done, published in scientific corners, but policy makers do not know about it. It is in a form which is not easily consumed by policy makers. There is a weak capacity to convert research information into policy documents. We need knowledge about the policy making process and how do we play a role in this.
For CBNRM – there are many issues around it. Stakeholders have a say, and who benefits needs to be seen. I was involved as an ecologist. Policy is what we wish to have, but when it is law, than it matters. We should not forget that.

Question group 2 (NRM/ Tadesse): The agricultural system is relatively simple, as there is monocropping involved. NRM is more complex, as the natural ecosystem is complex. So there are few works on how forest area will respond to change. They may be more resilient, but the situation is compounded by the fact of population pressure. I support the question therefore, National ecosystems are the basis of our environment. CBNRM and the role of the communities is often undervalued.
Answer (Zewne, EIAR): the options are not well costed, which makes it difficult. And also long term vegetation change, we do not know much about it. We've been looking at other countries with high population pressure and forests. And we have patches of information. The climate change process is very gradual. Due to climate change the society and policies collapse. It needs policy change.
More agricultural species will not be useful until and unless we manage the forest. The forest provides many services, which due to failure of agriculture are depleted more quickly. We do have a lack of knowledge on climate change. We have to do more research.

Answer (Geert Westenbrink, Agricultural Councilor, Netherlands Embassy): Policy making is not a rational process. You need to look for policy windows, opportunities to change something, because then the policy makers are ready to do that. At the moment the agricultural growth programme is being drafted. You have to be quickly, and come in with your points in that process.
Secondly, politicians do not like problems, they want solutions. Otherwise they'll not put it on the agenda. So my advise to you is to formulate the solutions, not only the problems.

With regard to livelihood I like to say that we should stop working on long time varieties, and focus on 3 month varieties.

Question (Biruk, Safe the Children): could you give possible options for adaptation, based on your experience? And is settlement a viable option for pastoralists?
Answer (Excellent, IUCN): The increase/decrease of rainfall will be influencing the mobility of pastoralists. We need to go for improved livestock management, like cultivating pasture, or moving from cattle to camel.
Answer (Ekaya, RUFORUM): pastoralism in East Africa has always been sidelined, and not integrated into the main economy of the country. Selling or moving is not a choice by pastoralists, but enforced by the

environment or government. It is important to be building capacity of pastoralists to manage change (adaptation). The issue is how to do that – so that they can drive their own agenda.

Question (group 3, crops, Wafula): a main issue of concern is the decline in crop production due to impacts of climate change. High variability in rainfall, and shortening of the growing season, points us towards early maturing varieties and other options and strategies. Question 1 is: Is there sufficient information for policy makers to formulate policy on climate change for agriculture? And question 2 is: Does this get encorporated in the national policy agenda?
Answer (Linnet, MOI University Kenya): we have insufficient information. And we have to package it.

Answer (Fina Opio, ASARECA): there are different scenarios possible for climate change. We don't have sufficient information. For Eastern Kenya, for example, we do not get enough rain, but floods do occur. We have to generate information for different scenarios. Another example, from western Kenya. There we saw villages with children only. They told us, our mothers went away two days ago, with a donkey, to fetch water. Policy makers should be aware that they need to something. It would be good to see more policy makers here.

Reaction (Geert Westenbrink): You are not ready yet to meet the policy makers. All elements in the picture need to be presented. Don't specify your own research issue only. You should sketch the total picture and work on that.
Reaction (Joshua, Uganda): Maybe we do not have all information we need, but climate change is already happening. So maybe we should not wait. We need to do targeted documentation. We should not wait, otherwise the floods may have washed us away.

Reaction (Zewne, EIAR): There is information on seasonal climate shifts and climate variabilities and anomalies. Policy makers can formulate action based on that. There is an urgent need as people are affected by drought and flood. Climate change adaptation is not local only, but also global. We need partnerships. It is an urgent issue to come into the agenda of policy makers.

Ekaya (RUFORUM): For linking science to policy, an engagement is needed. We should be getting to know the policy process.

General discussion
Azeb (chair of the forum panel): the outcome of the discussion sofar highlights that research outcomes should be well formulated and simple; comprehensive enough; and having an eye for bureaucratic details, we should take a different entry point.
Zebene: we need to change our attitude to tackling this problem. We can't continue what we have been doing. The focus is very minimal. Soil is a key-factor. We need a combined approach of ecosystems and livelihood together. And this needs a different attitude. It is difficult to get funding. How should we improve this capacity in Ethiopia?
Azeb: within the limited funds we have, we'll start working on climate change adaptation.

Joshua: For adaptation, different sectors need to coordinate. We need to create synergies, ao we may be considering an ecosystem approach.
Geert: Sofar the main and most important entry point for climate change adaptation was the National Meteorological Agency, at the Ministry of Water. For implementation, should this continue, or should there be a role for the Ministry of Agriculture, as quite a large number of implementation projects fall under this ministry.

Second, it would be my advise that you try to draw together an agenda. You have to get this formal link, and you have to organize this a bit.

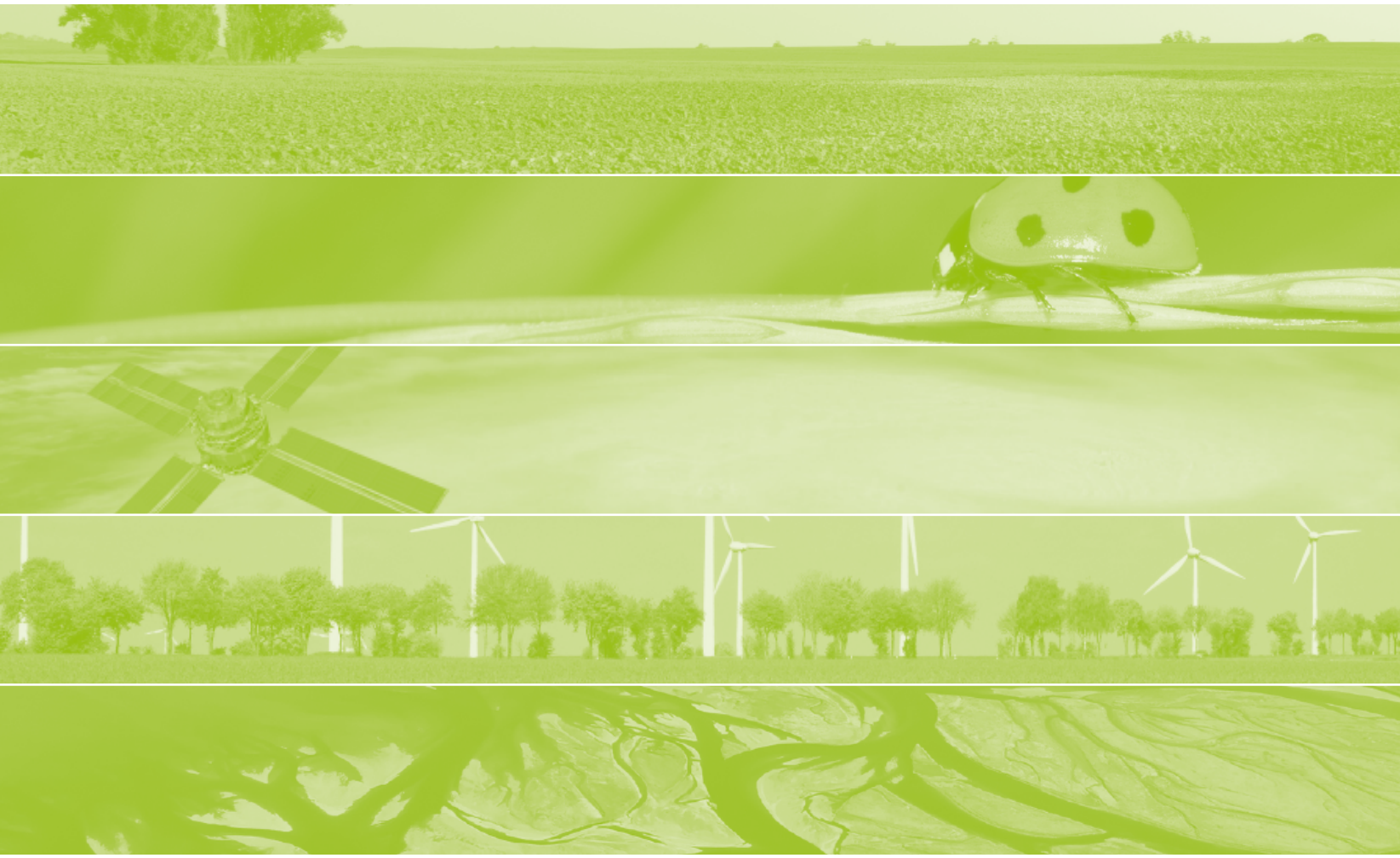
Zewne (EIAR): Soil acidity in the highlands aggravates the forest management issue. For climate change measures, it is most important to increase large scale forest plantation; and to take institutional and policy measures.
Tadesse (as a reaction to the point of Geert, about who is the appropriate institution/organization to implement adaptation): agriculture is the main stay of the country. Therefore agriculture should be the main entry point.
Geert: 80% of the people live in rural areas. For the research policy linkage we need a different form of communication. Therefore we need communication people in the research organizations.

(person from science faculty, UAA): Policy people like to solve problems, and researchers need time. This is a contesting issue, and a longer term process. This gap is the problem for developing countries. NGOs and pressure groups can take a role.
Kinfe: The gap between policy makers and research is also because research is not applied. Many research done in research centers is not linked with policy makers. Some research is not multi-disciplinary. What should we do to get research and policy makers nearer in order to deal with the issue of climate change adaptation?
Wafula: I have long years of experience as a researcher. People who lead our institutions most often have a direct link with policy – so do we fail there, at that level? I do not foresee that all scientists will be knocking the door of politicians. It is very difficult!

Everline: It is important that there are coordinated efforts. We should continue this process between these 6 organizations. Take the process further. We should take a next step, and develop a concept note, so the whole process can continue.
Azeb: in conclusion we can say that there are no simple solutions. Life is not simple, but we are trying and searching a mechanism. Thank you all very much for your participation in this forum.

7. Closure

Dr Mekuria thanks panelists, regional partners, Dutch policy makers both from the Embassy and from the Netherlands all for their contribution to this training. He also thanks the participants for their active contributions to this seminar.



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