



Understanding Climate Science & Managing Uncertainty

Berlin, 12-15 March 2012



A training course organised by the
Inventory of Methods for Adaptation to Climate change Project (IMACC)



On behalf of



Federal Ministry for the
Environment, Nature Conservation
and Nuclear Safety

of the Federal Republic of Germany



Content

1. About the Training
2. Objective of the Training
3. Trainer Team
4. Target group
5. Participants
6. Training Program
7. Photo Documentation





1 About the Training

From 12 to 15 March 2012 more than 20 participants from IMACC partner countries **Indonesia**, the **Philippines**, **Mexico**, **Tunisia** and from **Germany** gathered in GIZ offices in Berlin to test **three new climate change training modules**:

- Understanding climate science
- Finding climate information
- Managing uncertainty

These modules will be integrated into the existing OECD Training “**Integrating Climate Change Adaptation to Development Planning**”:

Training materials are available on the [OECD website](#)

The new modules have been elaborated as an addition to the existing training that was developed by GIZ in close cooperation with the OECD on behalf of the Federal Ministry for Economic Cooperation and Development (BMZ).



2 Objective of the Training

The aim of the test-training was to enhance participants 'capacities in:

- understanding the basic concepts of climate science as a prerequisite for taking actions,
- finding and interpreting available climate information; and
- dealing constructively with uncertainties related to decisions in climate change adaptation

An additional purpose was to test run the newly developed training materials with members of the target audience to gather feedback and suggestions.



3 Trainer team

The training workshop was facilitated by:

- **Barbara FRÖDE-THIERFELDER**

Barbara has co-authored the CC Adaptation training and developed the supplementary modules presented here.

- **Michael HOPPE**

Michael is an experienced trainer, advisor in the IMACC project and in charge of training development and implementation.

Both have ample experience in climate change adaptation and are skilled trainers. The trainers were assisted by Timo Leiter from GIZ's IMACC project.



4 Target group

The course's target groups are:

- development practitioners in technical cooperation,
- technical staff in Government institutions at all levels (e.g. agriculture, water, NRM sector),
- representatives of NGOs and civil society and
- national and international development cooperation experts, especially in climate-relevant fields of work.



5 Participants

- A total of **20 participants** from partner countries gathered for the test-training in Berlin.
- Participants have a **vested interest in the topic** and a mandate in the field of climate change adaptation.
- Additional **expertise as a trainer** was also a very welcome asset for the joint meta-reflection on the new modules in order to further develop the training content and method.





6 Training Program

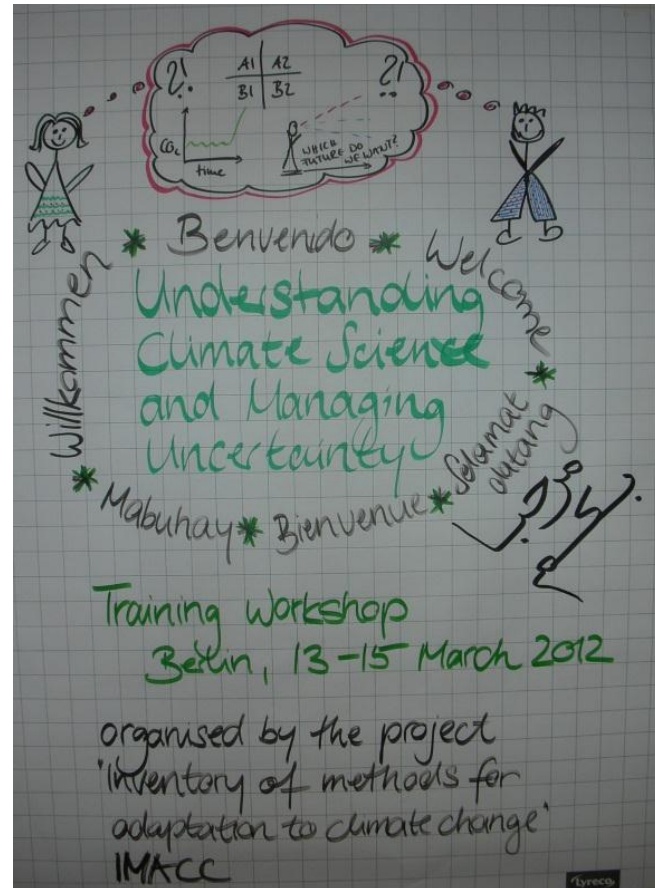
Mon 12 March	Tue 13 March	Wed 14 March	Thur 15 March	Fri 16 March
	9:00 am Welcome and introduction by GIZ Get to know each other	8:30 am Presentation on advanced climate science facts and expert questioning on with Jürgen Kropp, PIK	9:00 am Module C "Manage uncertainty in decision making" Introduction: distinguish different uncertainties, tools to deal with different questions	10:30 am Two parallel working groups on: <ul style="list-style-type: none"> • Climate information (room KIII) • Capacity building for adaptation (room K5.4)
	tea break Introduction to the training: , objectives, method, program Introduction to the overall CCA-training Climate change and adaptation: the basics Film "We know enough" (GIZ 2011) Action learning "Adaptation terminology" lunch	Module B "Find climate information": introduction to climate information sources on the web (incl. ci:grasp) Exercise on impact chains	Case work (fictitious case based on real life conditions of a developing country) on managing uncertainties by using scenarios	Lunch at 1 pm <div>END of formal programme</div> <div>Afternoon: Sightseeing and social events</div>
	Module 2A "Understand climate science": intro and exercises tea break	Exercises on how to use information from the ci:grasp platform	Presentation of results Reflection Feedback on Module C	
6:30 pm Pick-up at ibis Hotel for dinner	ctd Reflection (in brief) Feedback on Module 2A	ctd Reflection Feedback on Module B	Evaluation Closure	
7 pm Dinner /get-together in the restaurant "Momm-seneck" in Berlin			7 pm Dinner in the restaurant "Frannz" in Berlin	



7 Photo Documentation

Day 1 - 13 March

- **Training Workshop**
Berlin, 13-15 March
2012
- Organised by the
project „Inventory of
methods for adaptation
to climate change“
IMACC



Tue 13 March

9:00 am

Welcome and introduction by
GIZ
Get to know each other

tea break

Introduction to the training: ,
objectives, method, program
Introduction to the overall CCA-
training

Climate change and adaptation:
the basics

Film "We know enough" (GIZ
2011)

Action learning "Adaptation
terminology

lunch

Module 2A "Understand cli-
mate science": intro and exer-
cises

tea break

ctd

Reflection (in brief)

Feedback on Module 2A



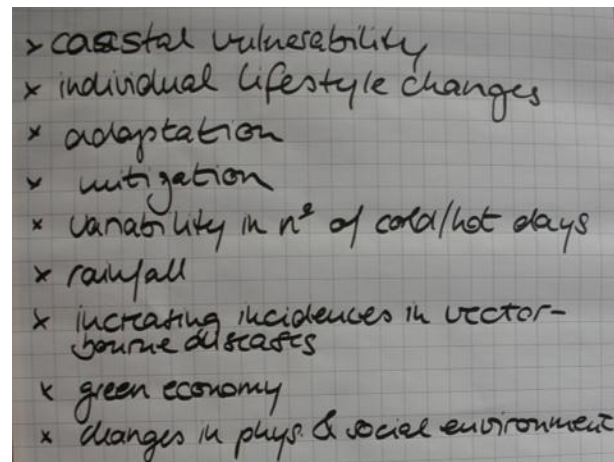
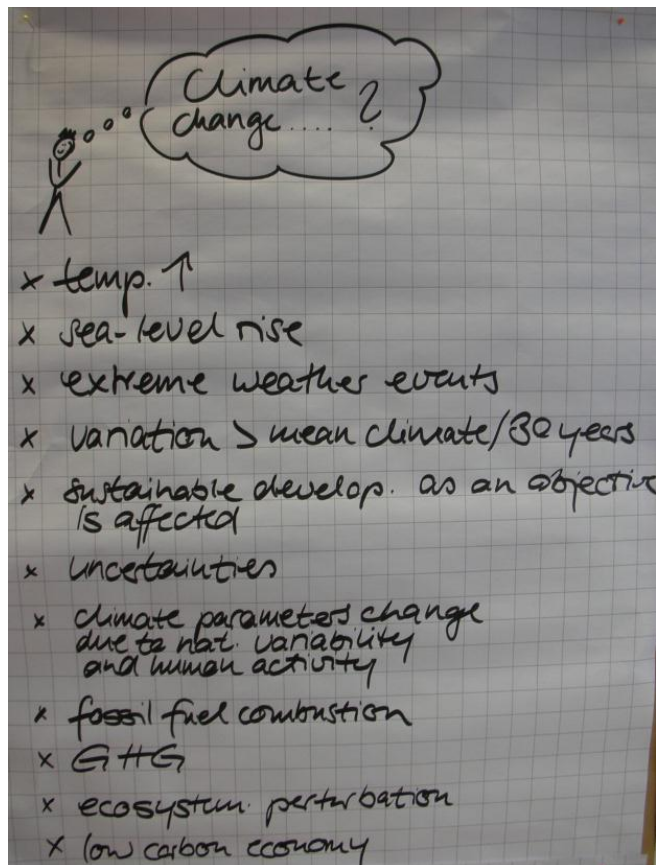
Introduction to Climate change and adaptation

- The training started with a recap of the issue of climate change.
- The pin board shows its **causes** on the lower left in yellow and the associated **consequences** to its right. This is linked to the **two response categories** mitigation and adaptation.





What do you associate with climate change?

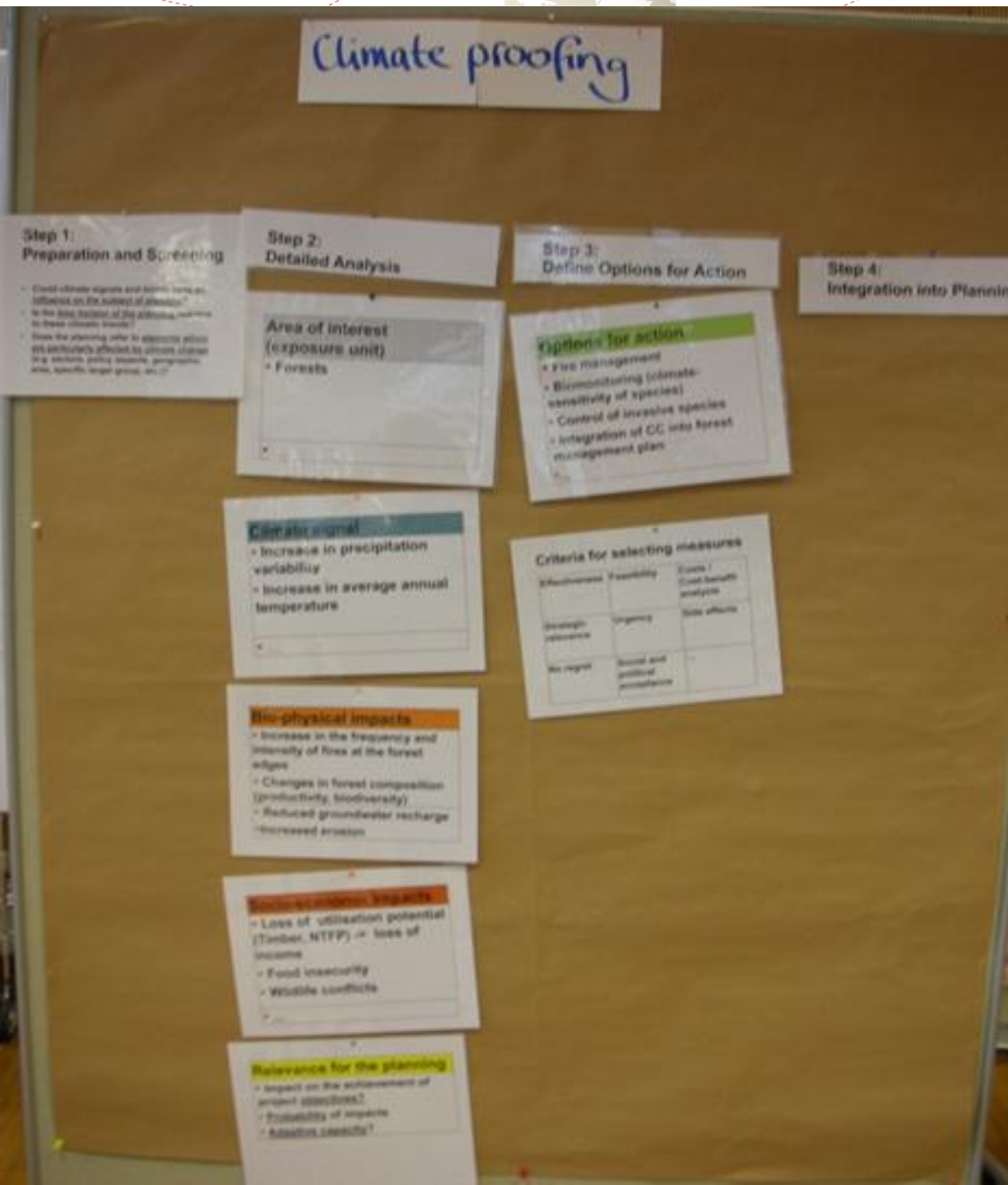




Four steps of Climate Proofing

Based on the

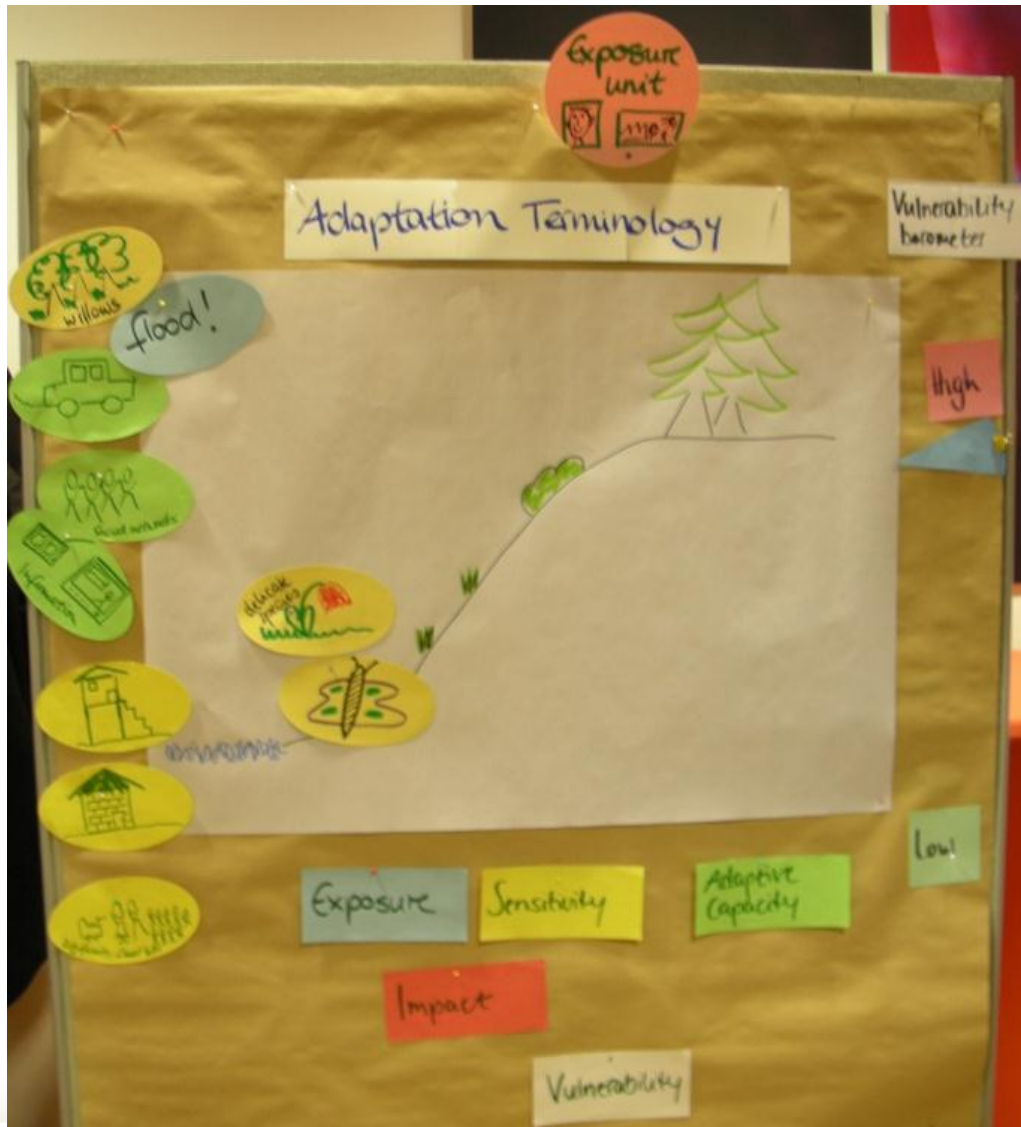
- OECD guidance „[Integrating climate change adaptation into development co-operation](#)“ and
- GIZ's [Climate Proofing for Development](#) concept





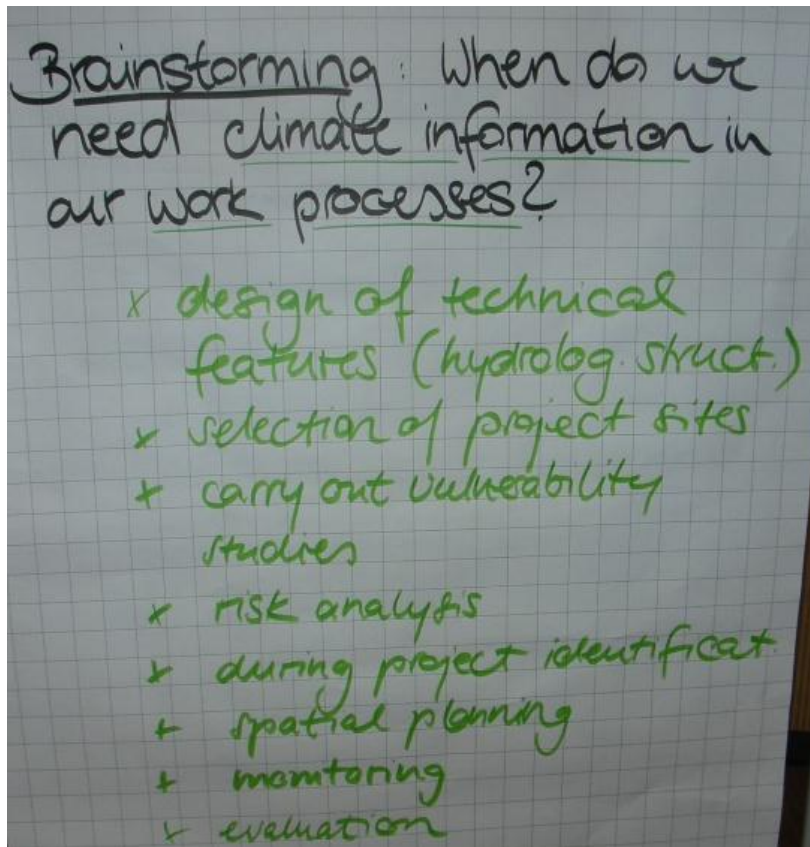
Adaptation Terminology

- The terminology of adaptation was introduced using this illustration.
- Different situations where pictured and their associated **vulnerability** indicated using the “**vulnerability barometer**” on the right.
- For example, a stilt house has a lower sensitivity than a mud hut on ground level which, all other factors being equal, is more vulnerable to flooding.





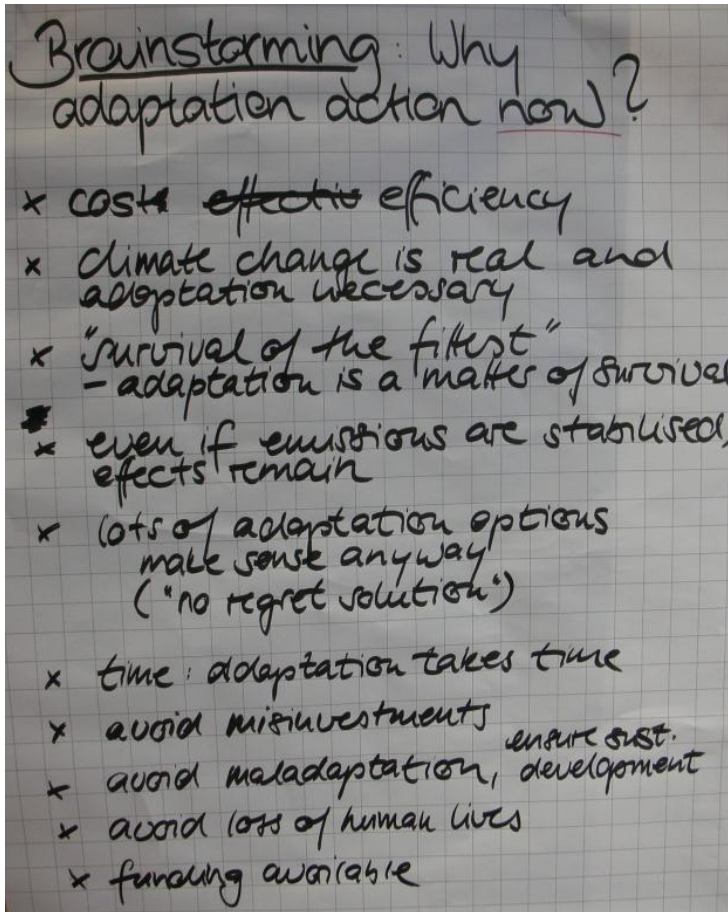
When do we need Climate Information?



- Participants brainstormed when climate information is necessary for adaptation actions.
- Numerous purposes of climate information were identified ranging from technical design standards over vulnerability studies to monitoring and evaluation



Why is adaptation necessary now?



- A brainstorming was then conducted to find **arguments to begin with adaptation now** (rather than waiting).
- It was concluded that adaptation is necessary because even if greenhouse gases could be reduced immediately, the climate would still continue warming to some extent due to the inertia in the climate system.
- Taking action now can also be cheaper than taking action later (economic argument for adaptation).



Feedback of day 1 (13 March)

Workshop day 1 - review

What went well?

- x active participation
- x networking
- x shared experience
- x module introduction
- x mix of methods
- x taking time for discussion
- x adaptation terminology action learning

What should be done differently?

- x definition of workshop objectives
- x encourage all to participate
- x review role play "~~was~~ dealing with sceptics", review instructions on ppt
- x leave space for exchange
- x un-pack programme
- x review expert questioning
- x reduce imp on OECD training



Programme of Day 2

14 March

- Expert presentation on **new emission scenarios** by Prof. Jürgen Kropp from the Potsdam Institute for Climate Impact Research (PIK)
- Module B “**Finding climate information**”

Wed 14 March
8:30 am Presentation on advanced climate science facts and expert questioning on with Jürgen Kropp, PIK
Module B “Find climate information”: introduction to climate information sources on the web (incl. ci:grasp) Exercise on impact chains
Exercises on how to use information from the ci:grasp platform
ctd Reflection Feedback on Module B



Questions to the expert: Prof. Dr. Jürgen Kropp

Questions to Jürgen Kropp:

- * Feedback loop
- * New generation of emission scenarios (pathways) RCP
 - ↳ motivation to change
 - ↳ how to reconcile
 - c) resolution A1.5
 - ↳ + vs. - forcing (difficult to // communicating)
- * What is the answer to climate C
Stephens
- * PMU → own models?
- * Example of PMU research translated into action

- * example of decision making frameworks
 - ↳ Which role of climate science in dec. making for CCA
- * strategies to deal with uncertainty
- * How to translate climate info. to the layman
 - scientific
 - diff. persp. by sci. + dec. m.
- * shd. we rely on trends, even if not stat. significant
- * South med.: → resilient
Future conditions: able to adapt
- * N-African: short term solutions
- * Suggestion on most reliable models
- * Which model to choose - e.g. on cropsp?
 - ↳ single doc./explanation to help selecting?



Climate change science & the new emission scenarios (RCPs)

Prof. Dr. Jürgen P. Kropp

Potsdam Institute for Climate Impact Research

Research Domain II - Climate Impacts and
Vulnerabilities

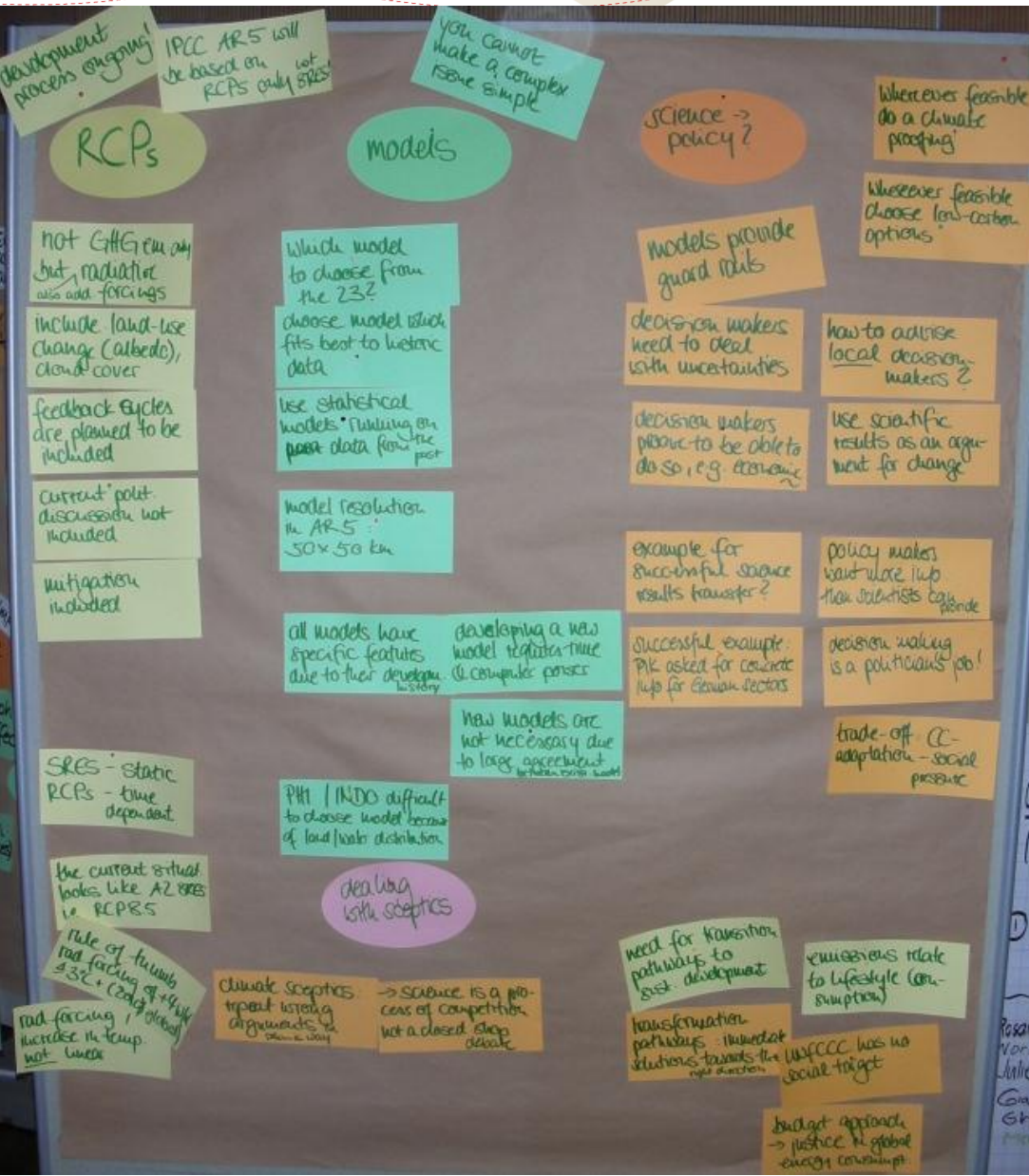
Head: Research Area: Climate Change and
Development (CCD)





Lecture of Prof. Kropp visualized

- Day 2 started with a lecture by Prof. Jürgen Kropp about **climate science** and, in particular, the new emission scenarios called **RCPs (Representative Concentration Pathways)**.
- This picture illustrates the main points of his lecture.





Lessons Learned Module B

Lessons Learnt from Module B "find climate info"

- x Value of 'no regret' options for adaptation - as knowledge on climate change will always be limited
- x how to define a 'ACC project'?
 - example from PH1
 - ~~use of~~ climate information is considered: risks, impacts, opportunities
- x CC requires changes in ongoing processes e.g. urban planning - not only additional projects
→ mainstreaming ACC
- x governments may not do enough → participation of civil society needed
- x climate data alone is not enough base for decisions
→ do ground proofing
- x illustrations from ci:grasp are useful for generating action

LL Mod B - 2

- x maps useful to deal with sceptics (reference)
- x data needs to be gathered and presented
- x climate change impacts are obvious but action on adaptation seems difficult
→ need for more N-S-cooperation
- x regional resolution information necessary in ci:grasp, also include existing information from country level
- x ci:grasp is user friendly
- x new era of scenarios (RCPs)
- + ci:grasp is a powerful tool, helps you focus on necessary aspects
- x open question: trade-off between detailed info elaboration and starting with action



Feedback of Day 2 & Co-Management Committee

feedback Week 14

- x expert contribution helpful
- x exercises make complicated issue tangible, create understanding (impact chain, ci: grasp)
- x impact chain exercise are similar to real negotiations at nat. & local level
- x impact chain exercise: give more time: go from a simple one to more complex ones
- x practical examples on tinkering impact modelling
- x day's activities are complementary
- x impact chains: discuss limitations and boundary conditions
- x show other cc information tools in ppt
- x ci: grasp last task: less directions - more free work to benefit from railers' support
- x impact chain: 1 line only but add adapt. options

Co-Management Committee 14.03.

😊 What went well?

- x discussion
- x good structure with pres. in the morning & exercise in the afternoon
- x practical exercise
- x exchange of experiences
- x level of exercises OK
- x learn about arguments for dealing with sceptics
- x make expert pres. a standard feature

😬 What could be done differently & how?

- x give more time (+2h) for ci: grasp ex.
- x give more time for exchange
- x more time for the introduction to ci: grasp
- x discuss more on impact chain
- x different visualisation (bigger sheets) of impact chains



Programme of Day 3

15 March

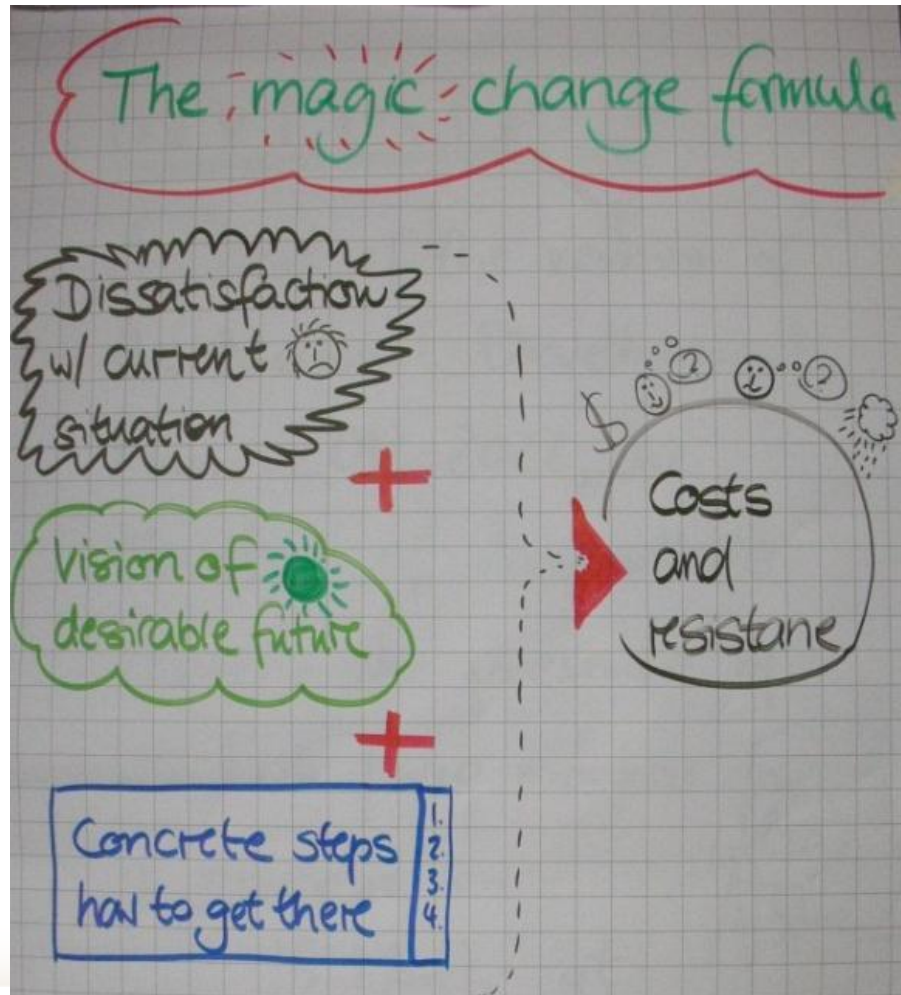
Module C

„Manage uncertainty in
decision making“

Thur 15 March
9:00 am Module C "Manage uncertainty in decision making" Introduction: distinguish different uncertainties, tools to deal with different questions
Case work (fictitious case based on real life conditions of a developing country) on managing uncertainties by using scenarios
Presentation of results Reflection Feedback on Module C
Evaluation Closure
7 pm Dinner in the restaurant "Frannz" in Berlin



The Magic Change Formula





Motivating Communication on Adaptation

Motivating Communication

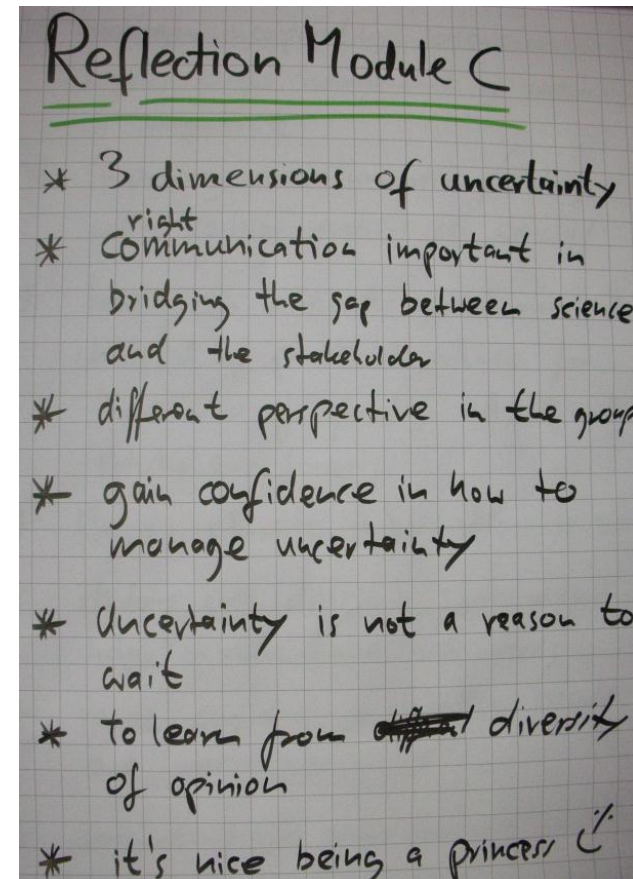
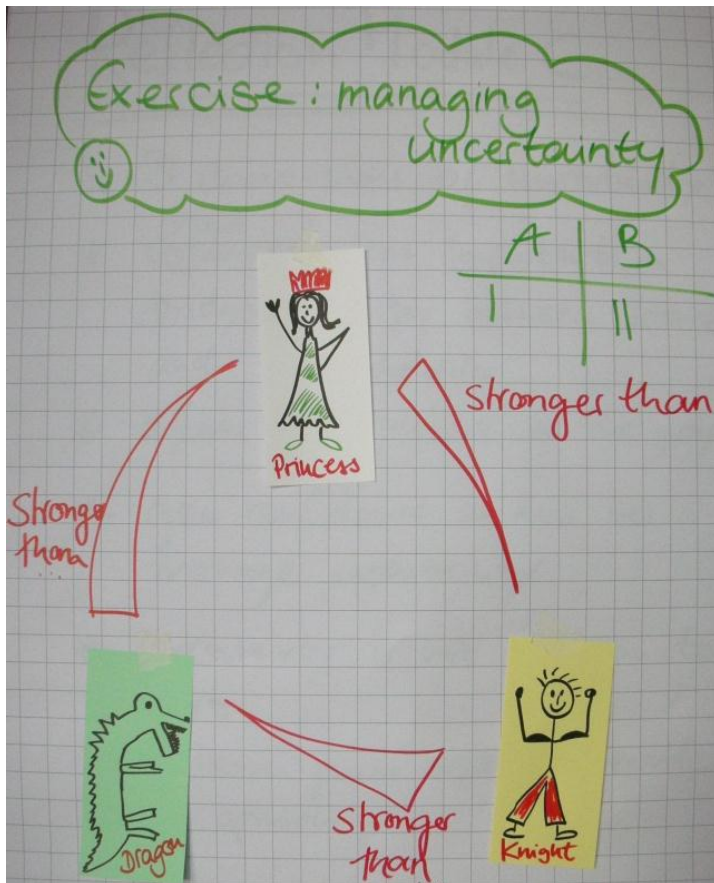
- * talk about funds and benefits
- * have your audience's agenda in mind
- * consequences of non-action / perspective (political, reputation)
- * ~~being~~ being convinced yourself
- * look for win-win solutions
- * sound information/data base / transparent / credible
- * providing options space
- * framing: international agreement (+ nat. strategies)
- * KISS + clear
- * visualization + success stories
- * illustration with example Lyreco

- * practical action / steps
- * cultural / social characteristics in dealing with forward planning, uncertainty
- * positive attitude
- * talk about CC can affect people's lives → attach solutions
- * look into windows of opportunity
- * show that adaptation means being on the right dev. track



Exercise: Princes and Dragon

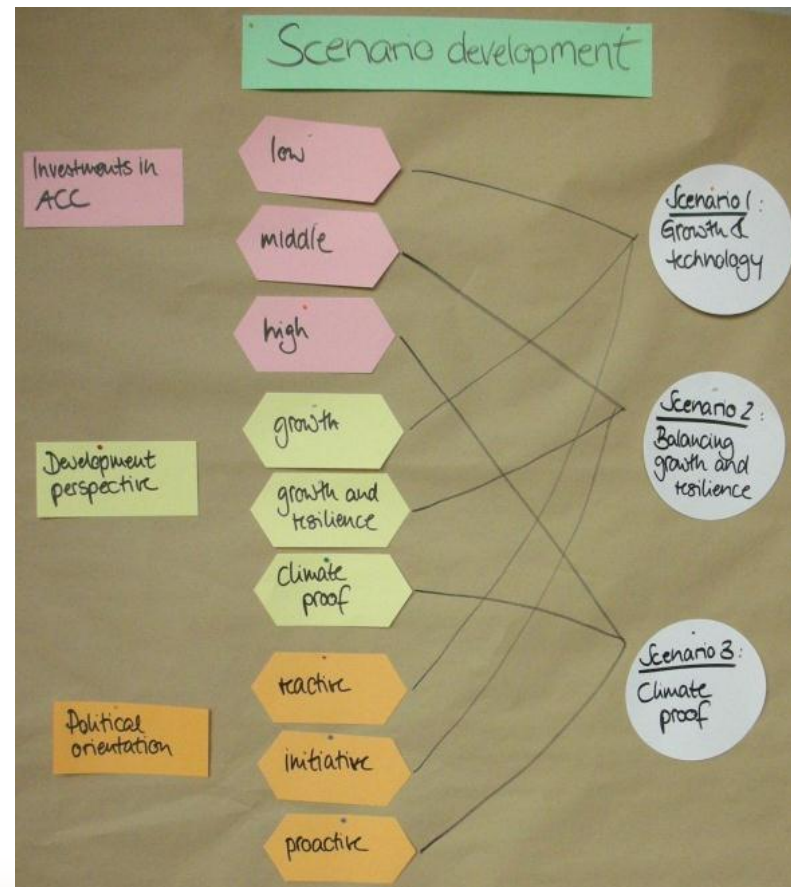
Reflection Module C





Feedback on Module C & Scenario Development

<u>Feedback on Module C</u>	
Content	Method
<ul style="list-style-type: none">- Be more precise on criteria for rating the scenarios- include examples on real life scenario processes (for ACC)(present after exercise) & nice to have: presentation by other countries or other sectors (e.g. JRR)	<ul style="list-style-type: none">- Zanadu good! (include long term dev)- Scenario dev. could be included- could probably include standardized rating tool for scenarios- debriefing / guidance on which points/aspects to consider in deciding on the scenarios- not too much to read, Zanadu well elaborated- Trainers could give more guidance on exercise





Results of group work: Zanadu Blue Group & Green Group

	Investment costs for Government	Risk: potential damage by CC	Acceptance of measures to br agric populat.	Time
Scen. 1	L <small>Investment only on Technology</small>	M	H	L
Scen. 2	M	M	M	M
Scen. 3	H	L	H	H

Recommendation:

- 1) Scen. 1
For acceptance of population
- 2) Scen. 3
Low risk to CC impacts
Adaptation for long term.

	Investment costs	Risk: potential damage of CC impacts	Acceptance of measures in agric population	food security employment
Scen. 1	High investment costs - Technology - human resource - low reduction	High GMO, little resilient not diversified not flood prevention erosion	Medium less reduction for commercial farms - agric credits - potential conflicts	Medium - less and urban population - focus on cotton & oil - (this but no food)
Scen. 2	Medium investment costs - low cost technologies - low carbon - co-funding with donors - soil water conservation + mangrove	Low Risk - resilient population - improved infrastructure / prepared - alternative income	High - special programs for cotton - advice farmers - access improved varieties - small farmers get incentive rules - become alternative	High - focus on food crops - alternative income
Scen. 3	Medium - reduce groundwater - flood prevention - low carbon (wide scale) - water mangrove - other	Very low Risk - flood prevention / disaster prep. - sustainable agr. - coastal protection mangroves - improved varieties	Medium - fish communities - higher water prices - more consultations - less incentives	High - focus on food crops - labor intensive practices - more sustainable

Preferential Scenario



Results of Group work: Zanadu Red Group

	Investment costs	Risk: potential damage by CC	Acceptance of measures in agric. populat.	Contribution to the objectives
Scen. 1	⊕	⊖	○	Obj 1 ⊕ Obj 2 ⊖ ○ ⊕
Scen. 2	⊖	○	⊕	Obj 1 ⊕ Obj 2 ⊕ 2 ⊕
Scen. 3	⊖	⊕	⊕	Obj 1 ⊕ Obj 2 ⊕ 3 ⊕

Recommendation

Scénario 3

Arguments

- NDP GDP - target can be achieved even considering CC
- cost-efficient
- Balanced also in terms of finance
- Strong international Partnership → funding
- less risk of conflicts
- politically negotiated / feasible

Steps

- Establish dialogue with Partners and parliament
- launch elaboration of National adaptation Strategy in agriculture
- launch extension program to gain full support of farmers

BALANCE



Reflection on Module C

- * ~~manage~~ incorporating socio-economic aspects in the management of uncertainty is important
- * improving communication / dialogue with decision makers is crucial
- * hints on motivating communication helpful as practical advice for those who frequently attend multi-stakeholder fora
- * sharing climate information is vital
- * dialogue with different stakeholders helps to understand user needs
- * more confident in handling models and uncertainty
- * important to understand sources of uncertainty

- * provide options instead of exact recommendations
- * "I will be different when I am back"
- * training methodology can be used in trainings in my own institution



Co-Management Committee

Co-Management - Committee :

* 2-3 participants who assist the trainers in running and reviewing the training modules, including recap and introduction to the following day

Help to manage your course!

	DAY I	DAY II	DAY III
Co-Managers	Jean Amindito Morion	Ricardo Sihem Faten	JULIE Jean Nora Rosalina

Co-management Committee 1503

annek.lutz@giz.de

What went well?

- x good cooperation
- x Allow for contributions in other languages than English
- x Princess game is a big success!
↳ helpful to ~~add~~ link to the subject of "managing uncertainty"
- x Minister & adviser remained neutral
- x Zanadu case is good (also fictitious because with country you are already biased)

What could be done differently?

- x Encourage 'timid' participants
- x Remind/inform about brainstorming rules
- x More time for case work (2h in total)
↳ to allow for discussions
- x Try out another tool
- x Add statistical glossary in handout 2A



Overall training evaluation: Mood Barometer





16 March

Fri 16 March

10:30 am

Two parallel working groups on:

- **Climate information**
(room KIII)
- **Capacity building for adaptation** (room K5.4)

Lunch at 1 pm

END of formal programme

**Afternoon:
Sightseeing and social events**



Outcomes Climate Info and Data Meeting





Outcomes Training Needs Session

Capacity Building/
Training

- ✓ - Putting modules in context
other modules, ToT, materials
- Brainstorming: you next steps
- Brainstorming:
- Intl. Exchange training needs,
applications / experiences
- how? → online platform
- how broad? / with whom
- what?
- ✓ - Capacity building needs
assessment / incl. role of
training
- ✓ - Trainers / Participants / target group

to do	who / when / how
Share link to download material	IoM / team INACC through platform
Share experiences with capacity assessment	PHIL
find out more about approach to build trainer capacity in-country	IoM

Brainstorming

Translate
into Indonesian

minimum /
quality criteria
for trainings

for local level /
close to
implementation

develop simple
tick-off list to
avoid "things going"

Capacity
Assessment

- what is already offered
- what is needed
by whom?
- functions
approach
- not only
focussing on training

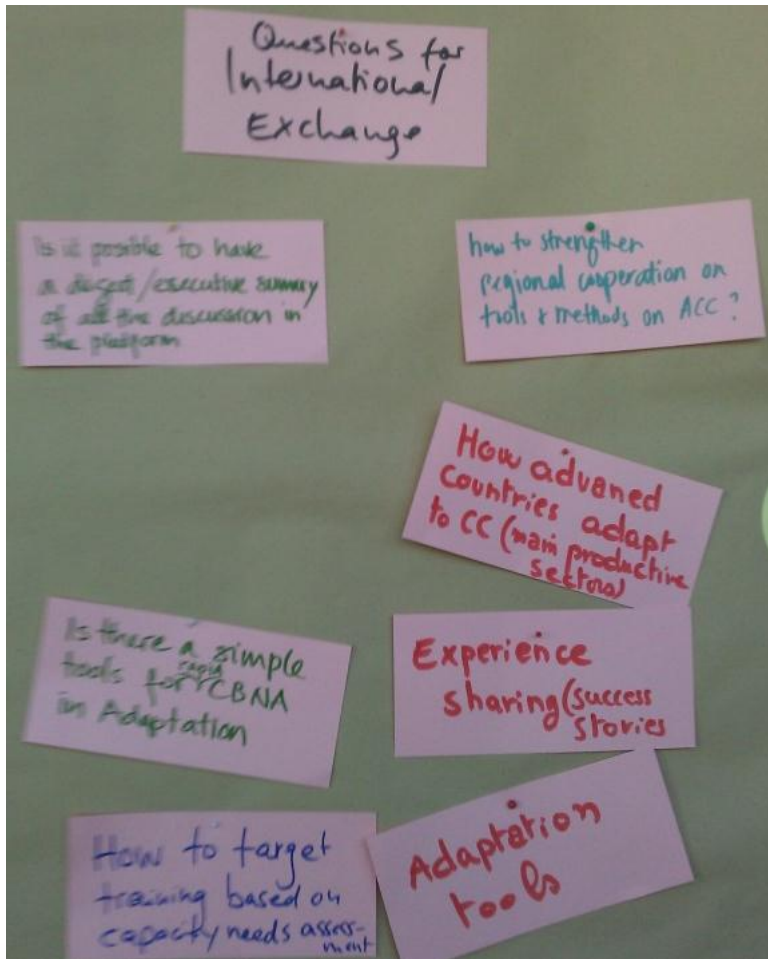
Background/
take home messages

"Old" modules
available ~~as ppt~~
in French / Spanish

Training modules
available as ppt



Outcomes Training Needs Session Continued





Training Pictures















