

Workshop on PROVIA suggested research priorities for the research/donor communities on vulnerability, impacts and adaptation to climate change

Co-sponsored by UNEP/PROVIA, IIED and UK DFID

Workshop Report

Workshop Organizers

United Nations Environment Programme/Programme of Research on Climate Change
Vulnerability Impacts and Adaptation (UNEP/PROVIA)
International Institution for Environment and Development (IIED)
UK Department for International Development (DFID)

11-12 April 2013
London, UK

Rapporteur: Stephanie Andrei

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In his welcome Dr Saleemul Huq thanked all the participants for their participation and requested for a brief introduction.

Then, he provided background of the workshop, its objectives, and briefed on the need for developing revised technical guidance on tools and research methodologies by PROVIA.

1. Background and objective of the workshop

PROVIA aims to provide direction and coherence at the international level for research on climate change vulnerability, impacts and adaptation (VIA) and to help improve communication between the research and policy communities. The aim of this workshop was to bring together stakeholders to discuss next steps on the suggested research priorities.

The objectives of the workshop include:

- i. To share the findings of the VIA research gap with main stakeholders and incorporate suggestions and comments into the final report.
- ii. To obtain feedback from prospective PROVIA clients on their own research priorities and on how they could use PROVIA's outcomes and networks.
- iii. To discuss next steps in supporting VIA research, including the facilitation of research funding for the identified VIA research priorities and to discuss the possibility for PROVIA to support the development of project documents and research action plans.

2. Supplementary information

In 1994 the Intergovernmental Panel on Climate Change published [Technical Guidelines for Assessing Climate Change Impacts and Adaptations](#). These guidelines outlined a series of generic steps to be followed when designing and conducting a climate change impact and adaptation assessment. The guidelines were complemented in 1996 by the [UNEP Handbook on Methods for Climate Change Impact Assessment and Adaptation Strategies](#). The IPCC Guidelines and the UNEP Handbook were applied in a range of country studies during the decade following their publication. They also inspired the publication of additional guidance, including the International Guidebook for Vulnerability and Adaptation Assessments carried out as part of the US Country Studies Program, and the [Adaptation Policy Frameworks for Climate Change: Developing Strategies, Policies and Measures](#), published by UNDP.

The past decade has seen a shift from centralised guidance for climate vulnerability, impact and adaptation assessment to the development of specific, often sectoral or place-based approaches. There has been a proliferation of assessment methods and tools, and it has become increasingly difficult for potential users to understand the utility, benefits, requirements and tradeoffs of those methods and tools. Stakeholders' demand for knowledge on vulnerability, impacts and adaptation needs to be matched with the supply from the research community of clear technical guidance that takes into

account both the academic developments of the past twenty years as well as user needs at local, national and international levels.

Dr. Saleemul Huq also informed the participants about two upcoming events:

- i) PROVIA SCC meeting on 4-5 June, at United Nations University, in Bonn, and
- ii) ii) Workshop on monitoring and evaluation of adaptation measures

3. PROVIA Research Priorities

Dr. Cynthia Rosenzweig and Dr. Radley Horton, who have led VIA research priorities, gave an overview of the activity.

The research priorities analysis is a key PROVIA initiative, conducted in consultation with VIA experts and policymakers, both from developed and developing countries. PROVIA Research Priorities include new and emerging VIA topics, the importance of which is now coming into focus, and topics that have long been recognized as important but for which research is still required. A common theme is the importance of building capacity for adaptation research and assessment in developing countries.

During the presentation, Dr. Huq highlighted PROVIA's goal:

PROVIA should act as a catalyzer for bringing the scientific evidence and the science of impacts, vulnerability and adaptation to decision makers from different sectors, contributing at all levels. It aims to include a very broad set of disciplines and points of view encompassing social scientists, physical scientists, scientific researchers, etc.

Then, suggested few ideas at the discussion:

- PROVIA could hold meetings and collaborative workshops (fairly low cost methods for bringing different communities together). For example:
 - i. *Using WMO products in adaptation.*
 - ii. *PROVIA and WHO organizing a health related workshop in VIA.*
- PROVIA aims to bridge the communication gaps between the scientific community and decision makers by:
 - i. Aiming to reach decision makers at different levels (policy makers to farmers)
 - ii. Communicating message to the larger audience

Dr. Cynthia Rosenzweig's further emphasis:

The need to have a scientific foundation for decision making: **“Science in place and science in time”** → providing VIA research for decision makers to manifest adaptation policies.

She briefed PROVIA's activities in bringing science in VIA research:

- During the past few years:
 - o PROVIA has commissioned the [PROVIA Research Agenda](#).
 - o There has been a separate analysis conducted by Richard Klein on the various methods and tools for adaptation.
 - o PROVIA has supported an international conference of adaptation scientists and policy makers that started in 2010 in Australia and continued in 2012 at the University of Arizona, while the third conference will be held in Brazil in 2014.

- PROVIA is in some respects complementary to IPCC WG2, although PROVIA is not everything for everybody.

- The adaptation side has to be co-generated between the scientific community and those who are implementing. PROVIA's aim is to capture that knowledge and share it.
 - o Goal at the moment: to capture the learning and the challenges that are coming up and explore how those challenges are developing and changing in time.

4. Process for Research Priorities

Following the discussion, Dr. Cynthia Rosenzweig and Dr. Radley Horton explained the process for developing a list of VIA research priorities.

To develop the Research Priorities, input was gathered from expert and policymaker communities through separate solicitation pathways. The expert prioritization of research topics began with a gap analysis based on existing literature from a range of sources including recent IPCC Working Group II Reports, peer-reviewed articles, books, reports, and white papers. Based on input from PROVIA's Interim Scientific Steering Committee (SSC), a draft of the PROVIA Research Priorities was then distributed as an electronic survey for input from the VIA research community.

A research prioritization process with policymakers was developed in parallel with the expert community process. Three meetings were held with over 50 policymakers representing both developed and developing countries. The input from the policymaker and expert processes, based on continuing feedback from both communities, was then combined to produce the PROVIA Research Priorities, which consists of 33 priority topics.

The PROVIA Research Priorities will be presented as a full report in 2013.

Dr. Cynthia further explained the processes involved in research gap analysis:

- There was a large group of policy makers involved in this process: UNFCCC, UNEP, research community, funding agencies, members of government as well as sector and agency specialists that are tasked with adaptation strategies.
- Experts identified a number of research priorities (172 research topics) which were then brought to the SSC through a foresight panel analysis → this ultimately led to a prioritized topic list.
- Following this, an electronic consultation through UNEP in Nairobi was conducted and 152 responses were received worldwide.
- From the policy perspective, there were three focus groups held with approximately 60 participants each: 1st was in Washington, USA, 2nd was in London, UK, and 3rd in Bonn, Germany.
- Prioritization process: policy makers were asked to indicate ‘high/medium/low’ in terms of salience of the topics and were also provided with additional space for comments etc.
-

5. Challenges for presenting research priorities: an open discussion

- There is a need to engage researchers outside the IPCC domain.
- In framing, PROVIA should explain that the research priorities sections are **not mutually exclusive**:
 - o Present PROVIA as an honest broker of information that is relevant to stakeholders for adaptation policies.
- Adaptation has no a priori knowledge base → must be learnt through practice:
 - o There is a big challenge in attempting to capture this process, which is difficult to develop and implement.
- Having a consistent framework from the beginning is very important, however this is difficult considering the current state of the research.
- In addressing socio-economic challenges: in addition to the lack of quantitative evidence, there are other challenges to get around this → they present scientific challenges of a different nature.
- Building capacity to bridge the gap between researchers and policy makers in a way that does not create competition.
- Research priorities are very exposed to “fashions” in science and policy → there needs to be a logical framework.
- Considering that climate adaptation is not the main business for people that will be working in this field, there is a wider need to identify win-win situations.

- From a private perspective, there are negative tensions since they consider that the climate agenda is dominating the issue at the moment and not research on resources.

6. Responses to the questions raised by the participants

- What was the objective of the first phase? Was it to prioritize areas or to build consensus on those areas?
 - o The objective was to ensure framing of the issues in VIA research.
- To what extent was the involvement of developing countries?
 - o Significant participation of experts and policy makers from developing countries. Rigorous consultation and inputs from policy makers from developing countries.
- How was the expert community selected?
 - o Climate experts from UNEP database, survey was sent out to all the experts (about 800) VIA expert database from PROVIA, Climate-L and SSC members.
- What was the major information you extracted from the priorities?
 - o All the information received was inserted within the research framework. But we could not put some VIA topics that are already covered by key topics inserted into the framework. The final list of research priorities is not a ranking.
- What are the big strategic and fundamental gaps? For example, whether research on food systems is properly utilizing climate studies?
 - o Analyzing gaps in VIA research does not go down to that level, those specific questions of climate information in studies is handled here. Scaling and context is often mentioned but not always addressed in detail. Some of these issues came up in the Emerging Topics Section.
- The framing does not build the social, political or business case but it does allow you to address these issues in the research framework. How does it help address emerging issues?
 - o While this was not in the main focus, some of those issues were address in the guidance method. PROVIA is not doing assessment. PROVIA aimed to point out few issues that are areas where climate information can evolve rapidly.
 - o Also, exploring how PROVIA can engage more directly through workshops.
- Did you not talk to the private sector? Do you have any plans to do this?
 - o Yes, in future phases.
- How many topics were thrown out versus combined?

- In the first stage, there was a lot more to cut however by the list of 54, less than half got cut while other were combined or inserted into the Emerging Issues section.
- What kind of need is PROVIA trying to address?
 - There is a need in the VIA environment to have a scientifically independent body that through rigorous process in a legitimate organization and identify where gaps exist without any political or ideological fashion and influence attached to it.
- How do you frame/categorize the term to capture the knowledge?
 - PROVIA can help the research community by focusing on the key research topics they need to address.
- How do you guide users to select the tools they want?
 - A longer term plan needs to be developed to see which are working the best – Tool organization.
- How is PROVIA different from the IPCC?
 - PROVIA is proactively providing research materials whereas the IPCC will use the research to evaluate.
- Is resilience mentioned in the document? Is it a key word?
 - Resilience is not in our tradition → becoming more of a word for practical oriented (i.e. the health sector uses the word “climate resilience” a lot)
 - In New York City, following Hurricane Sandy, resilience was discussed to frame and communicate what they are doing to their constituents.

7. Suggestions from the open discussion:

- Two groups are the main users of the report: **1) Donors for research, and; 2) Funders of development.**
- Be more practical in terms of providing research, more flexible: demand driven research at global and regional levels.
- Health sector attracts a lot of funding and provides best practices methodologies in the field, suggested incorporating health issues as per relevant within the structure of PROVIA suggested research priorities and expanding the identified research priorities in the health section.
- Identify research topics that can be worked through with donors.
- Explore ways for doing research using Adaptation Fund and Green Climate Fund: Does the Adaptation Fund have a VIA research component? If so, where is PROVIA in the Adaptation Fund? And how it is relevant to PROVIA? Another avenue would be National Research Council – Is there and how PROVIA’s works relevant to NRC?
- For the Priorities, PROVIA should further explore what works and what doesn’t for policy.

- PROVIA should intervene by investing in the knowledge side: making a good case to a donor to allocate a small fund for gathering information and evidence. Laying a good knowledge foundation and avoiding doing something for adaptation without information/evidence.
- How can PROVIA bring together a very diverse VIA community that is now so important for policy? PROVIA should bring more participation of VIA community.
- PROVIA should assess the list of research priorities that can be worked through with partners.
- Identifying the difference between adaptation practices and evaluating and supporting them, and also presenting where the effective adaptation outcomes are.
- Maybe it would be effective for PROVIA to identify “do-ables” in the short term.
- What are the climate indicators and how can we update the guidance?
- How do you encourage the flow of funds and evidence?
 - o Tracking funding from national to global (telescoping of funding)
 - o Green Fund Advisory Board (Jeffrey Sachs)
 - o As the money begins to flow and continues making the case for good scientific research is good:
 - On the one hand, we can make the case to donors that want effective implementation (research and implementation of scales). For donors, unless you invest in the knowledge side, you cannot make further investments.
 - On the other hand, there is a case for better quality indicators and measures.
- How these research priorities complement WG2 process or AR5 findings? And how it can complement to AR6? Is PROVIA preparing to support for IPCC AR6 process?
- How can we avoid becoming a shopping list for donors rather than a coordination plan?
- How can we respond to the Adaptation Committee?
- How do you influence the donors and mobilize resources? (How you mobilize resources it might influence how we will go forward with PROVIA research)
- Is there something we can do that will help your agenda? Where are the commonalities of this agenda?
- How has the current climate affected adaptation strategies in the past?
- If we use a timeframe of 5 years, how will we assess what did we do wrong the first time around? Which options should we consider?
- How will adaption be financed in the coming years?
- Through the process of speaking with different stakeholders, have there have been any discussions on the **modalities of financing**?
- **What are the barriers and bridges to the adaptation and implementation?**

8. Opportunities for Future Collaborations

This discussion resulted in ideas for collaboration on the Research Priorities. *Dr. Huq requested their intake of the research priorities for possible collaborations.*

Collaboration with the WHO

WHO has mandate from the Member States to focus global research priorities to protect human health from climate change. Health sector is pre-matured in methodology where PROVIA could assist and expanding further health priorities from the list. PROVIA should incorporate health component in its agenda.

- Incorporate health with various priorities within the structure
- Exploring funding opportunities and best practices in adaptation to protect human health from climate change.
- Look at sets of methodologies in the health sector that might be used as examples for adaptation.
- WHO can contribute to efforts on building capacity for research: serve as a mediator for initiating collaborations.
- Every two years, WHO organizes global conference on climate change and health. Next will be Basel meeting in August: NIHS will present research and the WHO will present preliminary report. PROVIA may present its research priorities.

Collaboration with WMO

- WMO acts at the **supply side of research**. PROVIA is analogue to WCRP.
- [Global Framework for Climate Services](#) (GFCS) is to "enable better management of the risks of climate variability and change and adaptation to climate change, through the development and incorporation of science-based climate information and prediction into planning, policy and practice on the global, regional and national scale".
 - o E-discussion from has put positive language in the resolution document to get approval by WMO EC. Once the proposal to include PROVIA in the World Climate Programme is approved, it is suggested PROVIA SSC chair to become member of WMO Steering Committee and vice-versa, and the chair should attend WMO's SSC meeting.
 - o To develop services and set priorities for climate research: user interface platform.
 - o Suggest participation from PROVIA in Intergovernmental Board meeting in July.
- [International Group of Funding Agencies for Global Change Research](#) (IGFAGCR): consortium of funders: was established in the early 1990's to foster global environmental change research. IGFA serves as a forum through which

- national agencies that fund research on global environmental change identify issues of mutual interest and ways to address these through national and, when appropriate, through coordinated international actions.
- Resulted in the priorities of research in terms of predictions and better observations
 - [Coordinated Regional Climate Downscaling Experiment](#) (CORDEX): takes information provided by global models and tries to find regional predictions of climate
 - EC is hosting a conference at the beginning of November for CORDEX
 - [Earth System Grid Federation](#) (ESGF): Maximal speed to data transfer is arranged: we need to do the same for regional projections (this will be ideal for PROVIA)
 - [Future Earth](#): Future Earth is a new 10-year international research initiative that will develop the knowledge for responding effectively to the risks and opportunities of global environmental change and for supporting transformation towards global sustainability in the coming decades. Future Earth will mobilize thousands of scientists while strengthening partnerships with policy-makers and other stakeholders to provide sustainability options and solutions in the wake of Rio+20
 - Was proposed to help science to be more useful for sustainable development
 - But now future earth needs help from scientists
 - (The WMO is not a full member but an observer)
 - [CLIVAR](#) plays a tremendous role in setting the resource priorities
 - [Belmont Forum](#): Participants in the Belmont Conference agreed on the need for an improved forum for (1) strengthening engagement between the research funding agencies and the academic research community as represented by [ICSU](#) and (2) improving coordination of early phase engagement on GCR strategies and priorities in order to improve co-design, co-alignment, and co-funding of major research programs. They agreed that the Belmont Group, augmented by members from key emerging economies, would provide an ideal structure for this purpose, because its small and specific membership could promote frank discussion and rapid decision-making about the planning, support and implementation of GCR. To this end, the Group established the Belmont Forum and agreed that this Forum should meet at least annually and more frequently at the outset.
 - Major international funders: coasts and water
 - [International Polar Initiative](#)
 - **Climate impacts:** Two major programs:
 - 1) AGWEB: impacts of climate on agriculture: uses crop growth models
 - 2) Eco-system services and services for climate impact and groundwater in Africa: what drives groundwater use in Africa and how climate change is having a use. Cooperation on climate change and conflict with Dutch government: impact of climate on conflict

- ACR: large global adaptation research program that tries to look at the vulnerability from a livelihoods perspective → Three ecosystems: 1) Coastal; 2) Semi-arid & densely populated river systems, and; 3) Urban-Rural

Collaboration with the EC

- Resolution and advisory group to report to the EC
- Conference in Brussels
- [Joint Programme Initiative on Climate](#): supporting societal information on climate and knowledge: 13 countries involved
- European Adaptation Strategy ([White Paper on Adaptation](#)): Thinks about what Europe should do in terms of climate change and the economic impacts: what will happen in Northern Africa?
- [Horizon 2020](#)

Government of Thailand

- Government of Thailand has recently stepped up to support adaptation research through PROVIA

Collaboration with CDKN

- At the CDKN we have 13 countries that have made a substantial advancement on the delivery on climate adaptation, etc.
- We would be willing to share to show how transformation has been occurring
- In terms of research, we have a number of grey literature on adaptation practices that includes inside stories as well as policy briefs
- Also emerging work on triple wins

Collaboration with GIZ

- [Vulnerability assessment in Germany](#)
- Partner countries and in the framework of (Bolivia and Mozambique: measure vulnerability as a baseline and do the exercise again in two years to see the impact of adaptation practices)

United Nations Framework Convention on Climate Change

- PROVIA's possible contribution to UNFCCC processes, such as Adaptation Committee, Monitoring and Evaluation, National Adaptation Plans, NWP. .
- PROVIA participated to UNFCCC Adaptation Committee Meeting between 5 and 8 March 2013, organized by UNFCCC. PROVIA SSC suggested PROVIA Secretariat to ensure someone from the Committee should be an observer or an expert to UNFCCC Adaptation Committee.
- National Adaptation Plans: PROVIA attended to the review meeting of the UNFCCC draft technical guidelines for preparing National Adaptation Plans in

Bonn, 29 to 31 October 2012. UNFCCC Secretariat is preparing technical guidance to support NAP preparation. PROVIA could develop a summary document (appr. 20 pages) that outlines how the PROVIA Guidance could complement the UNFCCC Guidance.

- Nairobi Work Programme: Contributing PROVIA's products and sharing knowledge through NWP.

Adaptation Fund:

- Two topics would be interest for Adaptation Fund.
 - o **A 2.1:** Identify factors that support or hinder vulnerability reduction and adaptation.
 - o **A 4.3:** Advance research on lessons learned from developing country experiences, as well as local and traditional knowledge.

9. Next Steps

1) *Timelines and Guides*

Notes:

- o Database for upcoming dates to look out for (**Stephanie Andrei**)

2) *Devise Clear, Concise Deliverables/Framing*

Notes:

- o Thinking about easy-to-digest research priorities for donors.
- o Framing this as preparing for IPCC AR6 → an **umbrella** to sell to funders.
- o Unpacking each research priority geographically, also considering cross-cutting issues.
- o Mapping existing research activities in VIA then cross-checking with a list of research priorities developed by PROVIA.
- o VIA research priorities developed by PROVIA vs. stakeholders priorities.
- o Monitoring and indicators on adaptation has not received much attention compared to mitigation.

3) *Follow-up Workshops*

Notes:

- o Convene an expert workshop on adaptation to include the scientific community.
- o Coordinating conference in Brussels with the European Commission (**Frank Raes**).
- o Follow-up on CORDEX conference in November hosted by the European Commission (**Vladimir Ryabinin**).
- o SSC Workshops:
 - 4th Meeting (internal): 4-5 June in Bonn, Germany.

- **Aim for a new plan of action.**
- Skype with Robert Kay.
- 5th Meeting
 - Invite UNFCCC.
 - Cynthia and Richard to present.

4) *Organization Follow-ups*

Notes:

- Collaborate and identify a clear list of items that are demanded and fall within our research priorities.
- Demonstrating the connections with partner agencies early will help us be on top of things.
- Finding commonalities of interest going forward either bilaterally or collectively where we can share what we are thinking of moving forward particularly funders.
- Follow-up on collaboration opportunities:
 - WHO, WMO, EC, Government of Thailand, CDKN, GIZ, National Adaptation Research Committees.

5) *Working Papers*

Notes:

- Co-author a scientific paper on the PROVIA Research Priorities
- Co-author a paper on the scientific methods that might be available for monitoring and adaptation.
- Chairs Report on initial priorities (**Janak Pathak and Saleemul Huq**).
- SUBSTA (**Rocio Lichte**) → Aim to have written submission including research on dialogues.
 - Theme is “Ecosystems”
 - Introduction + Follow-up (**Radley Horton**).

6) *Tracking System*

Notes:

- Tracking the process and identifying the progress and priorities in VIA research. What is PROVIA is going to do in five years? How would PROVIA do the tracking of research priorities in five years?
- Stage of consolidation: this is where you need organization.
 - Identify issues that scientists can do: scientists need facilitation of their work: they need to be supported for their work.
 - We help scientists to compare what they do and share it with the rest of the world.
 - Communicating the research agenda to regional and national levels, then developing framework, for example, water experts on water related research priorities.
 - Involving donor at the beginning of research project design phase.

- Monitoring, prediction and projection: in relation to WMO.
- Communicating the research priorities to UNFCCC, AR6 (IPCC), UNEP, WMO and UNESCO.
- Regional Divisions:
 - Part of the agreement in the regions would be the tracking functions to fill out the matrix by region
 - Devolve some ideas to the regional level/scale: looking at maybe three regional meetings in the future
 - Regionalization of activities can be sold to regional donors
- Monitor monetary and non-monetary impacts
- Compile:
 - 1) Adaptation practices (learning by doing)
 - 2) Parallel process that will look at comparisons between countries

7) *Resource Mobilization*

Notes:

- Future leveraging of funds.
- Resource mobilization targets:
 - EC, DFID, DEC, DEFRA, CIDA, Denmark, Swedish
- DFID opportunity: PROVIA informs their decision on what they want to do in the future.

Structuring resource mobilization: unpacking each of the research priorities (coding them individually, regionally and sector priority).

Annex 1: Workshop Agenda

Workshop on prioritizing and planning research on vulnerability, impacts and adaptation to climate change

11 and 12 April 2013
London, UK

Co-sponsored by UNEP/PROVIA, IIED and UK DFID

(TENTATIVE) AGENDA

Thursday 11 April 2013 (optional), IIED Office	
09:00 am – 10:00 am	Registration and Introduction
10:00 am – 10:15 am	Coffee Break

10:15 am – 11:30 am	Update on PROVIA Activities (Dr Saleemul Huq) -followed by a Question and Answer Session
11:30 am – 12:30 pm	Discussion: Resource Mobilization for PROVIA and VIA Research (led by Dr Robert Kay)
12:30 pm – 13:30 pm	Lunch Break
13:30 pm – 16:30 pm	Discussion: Planning Next Steps for PROVIA's Research Gap Analysis (including Coffee Break)
Friday 12 April 2013, Welcome Trust/UKCDS (Gibbs Building)	
09:00 am – 10:00 am	Participant Introductions
10:00 am – 10:15 am	Coffee Break
10:15 am – 11:00 am	Outcomes of PROVIA Research Gap Analysis (Dr Cynthia Rosenzweig and Dr Radley Horton)
11:00 am – 12:30 pm	Discussion: Workshop report feedback
12:30 pm – 13:30 pm	Lunch
13:30 pm – 15:30 pm	Roundtable discussion: Participants' own priorities and the potential for developing project documents with research action plans
15:30 pm – 15:45 pm	Coffee Break
15:45 pm – 17:00 pm	Discussion: Way Forward
17:00 pm – 17:30 pm	Closing

Annex 2: Participants (in alphabetical order)

Amir H. Delju (*World Meteorological Organization*)
Andrew Watkinson (*LWEC*)
Charlie McLaren (*UK Collaborative on Development Science*)
Cynthia Rosenzweig (*PROVIA/Columbia University/NASA*)
Daniel Gallagher (*Adaptation Fund Board Secretariat*)
Dr. Saleemul Huq (*PROVIA/IIED/*)
Frank Raes (*European Commission Joint Research Centre*)

Hanna Vivhko-Penther (*GIZ*)
Janak Pathak (*UNEP/PROVIA*)
Ken de Souza (*DFID*)
Mariam Otmani del Barrio (*WHO*)
Ned Garnett (*NERC*)
Nicola Ranger (*DFID/LSE*)
Cynthia Rosenzweig (*PROVIA/Columbia University/NASA*)
Radley Horton (*Columbia University*)
Robert Kay (*PROVIA Consultant*)
Rocio Lichte (*UNFCCC Secretariat*)
Roger Street (*DFID/LSE*)
Stephanie Andrei (*IIED/LSE*)
Veena Ravichandran (*CDKN/ODI*)
Vladmir Ryabinin (*WMO/World Climate Research Programme*)
Yvan Biot (*DFID*)

Annex 3: Apologies (in alphabetical order)

Alfred Grünwaldt (*IADB*)
Ana Bucher (*World Bank*)
Ana Pintó Fernández (*MAGRAMA*)
Anastasios Kentarchos (*EU-DG Research*)
Ancha Srinivasan (*ADB*)
Annakarin Norling (*SIDA*)
Anthony Okon Nyong (*AfDB*)
Ari Huhtala (*CDKN*)
Bente Herstad (*NORAD*)
Christoph Feldkötter (*GIZ*)
Cinzia Losenno (*ADB*)
David Woolnough (*DFID*)
Einar Telnes (*NORAD*)
Genevieve Maricle (*USAID*)
Gottfried Gemingen (*BMU*)
Hannah Collins (*ESRC*)
Jean-Luc François (*AFD*)
John Furlow (*USAID*)
José Ramón Picatoste Ruggeroni (*MAGRAMA*)
Linda Bystedt (*SIDA*)
Marcia Levaggi (*Adaptation Fund*)
Martin Krause (*UNDP*)
Nessim Ahmad (*ADB*)
Nick Dyer (*DFID/GCF*)
Nicole Wilke (*BMU*)
Pa Ousman Jarju (*UNFCCC LDC Group*)
Paul van Gardingen (*ESPA*)

Peter Dogse (*UNESCO*)
 Rod Hilton (*AusAID*)
 Rosario Bento Pais (*EU-DG Research*)
 Ruth Hughes (*NERC*)
 Sam Bickersteth (*CDKN*)
 Sara Stenhammar (*SIDA*)
 Sean Batten (*AusAID*)
 Tove Goldmann (*SIDA*)
 Vera Scholz (*GIZ*)
 Wolfram Schrimpf (*EU-DG Research*)
 Youssef Nassef (*UNFCCC*)

Annex 4: List of Abbreviations

AF	Adaptation Fund
ADB	Asian Development Bank
AfDB	African Development Bank
AFD	<i>Agence Française de Développement</i>
AusAID	Australian Agency for International Development
BMU	Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit
CDKN	Climate & Development Knowledge Network
DFID	Department for International Development
EC JRC	European Commission, Joint Research Centre
ESRC	Economic and Social Research Council
GCF	Green Climate Fund
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IIED	International Institute for Environment and Development
IPCC	Intergovernmental Panel on Climate Change
LSE	London School of Economics
LWEC	Living with Environmental Change
MAGRAMA	Ministerio de Agricultura, Alimentación y Medio Ambiente
NASA	National Aeronautics and Space Administration
NERC	Natural Environment Research Council
NORAD	Norwegian Agency for Development Cooperation
ODI	Overseas Development Institute
PROVIA	Programme of Research on Climate Change Vulnerability, Impacts and Adaptation
SIDA	Swedish International Development Cooperation Agency
SSC	Scientific Steering Committee (PROVIA)
UKCDS	United Kingdom Collaborative on Development Sciences
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development

VIA Vulnerability, impacts and adaptation
WCRP World Climate Research Programme
WHO World Health Organization
WMO World Meteorological Organization