

CLIVAR AAMP – short, incomplete and personally biased update on application and capacity building

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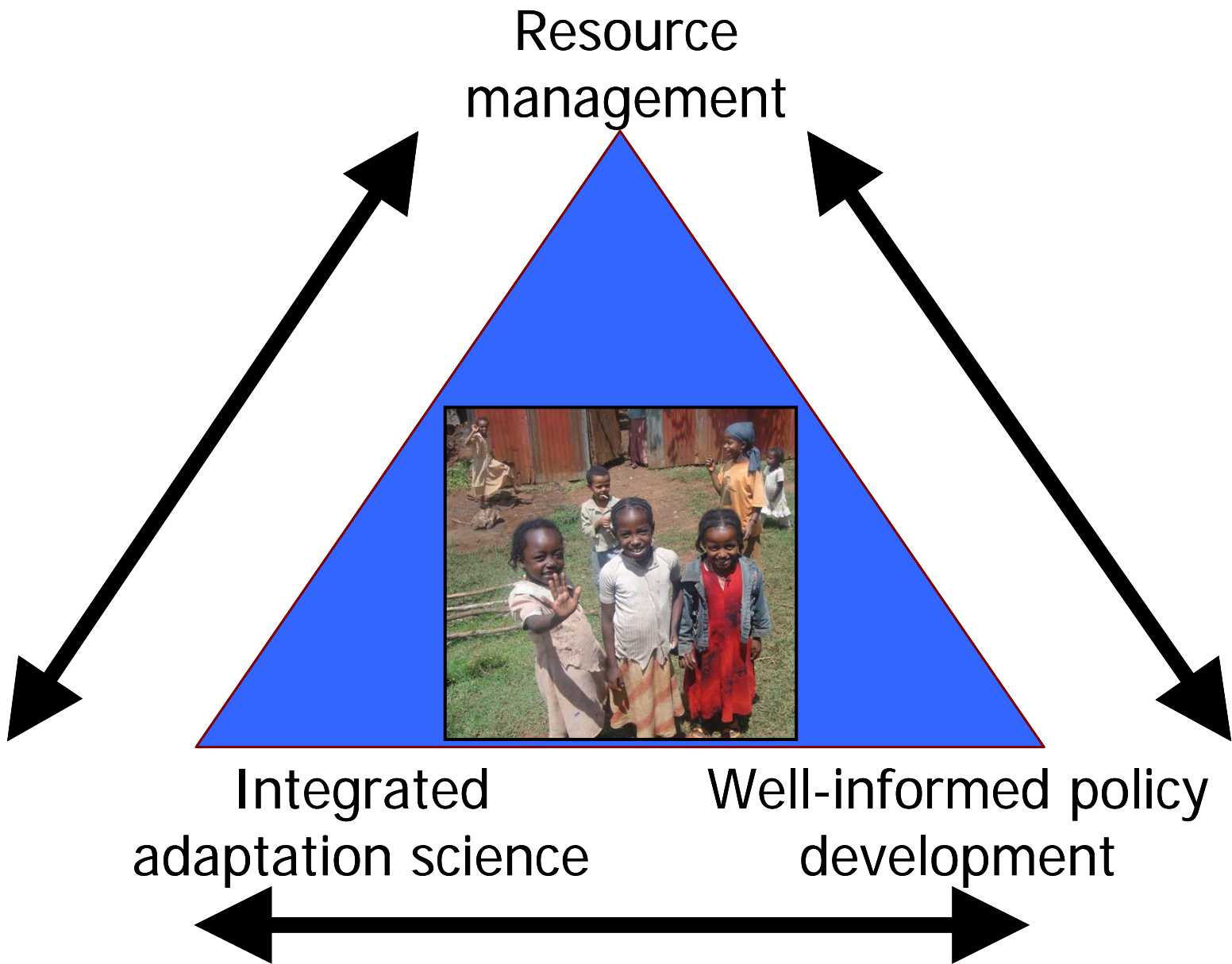
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CLIVAR AAMP – short, incomplete and personally biased update on application and capacity building

- Discussion on stakeholder engagement at the Monsoon Intraseasonal Variability Modelling Workshop
- Interdisciplinary education / teaching of climate science
- Some project activities relevant to AAMP's agenda with possible linkages to stakeholders
- Recommendations

Enabling & transformational technologies





Discussion on stakeholder engagement at the Monsoon Intraseasonal Variability Modelling Workshop, Busan, June 2010

- Mixed reaction from audience about the need for climate scientists to engage stakeholders showing huge diversity of approaches by regions / countries
- Engagement need to prioritise research efforts and best use existing research capacity
- Education of scientists and stakeholders needed
- Mix of skills and approaches via deliberate building of research teams (e.g. RISAs in the US)
- WCRP needs to help organise connectivity, possibly via support of a 'products and application' workshop

CCAFS update - <http://www.ccafs.cgiar.org/node/1>

- The Challenge Program on Climate Change, Agriculture and Food Security (CCAFS) is a new 10-year research initiative launched by the *Consultative Group on International Agricultural Research* (CGIAR) & the *Earth System Science Partnership* (ESSP).
- CCAFS seeks to overcome the threats to agriculture and food security in a changing climate, exploring new ways of helping vulnerable rural communities adjust to global changes in climate.

The CGIAR is a strategic alliance of members, partners and international agricultural centers that mobilizes science to benefit the poor. <http://www.cgiar.org/>

ESSP is a joint initiative of

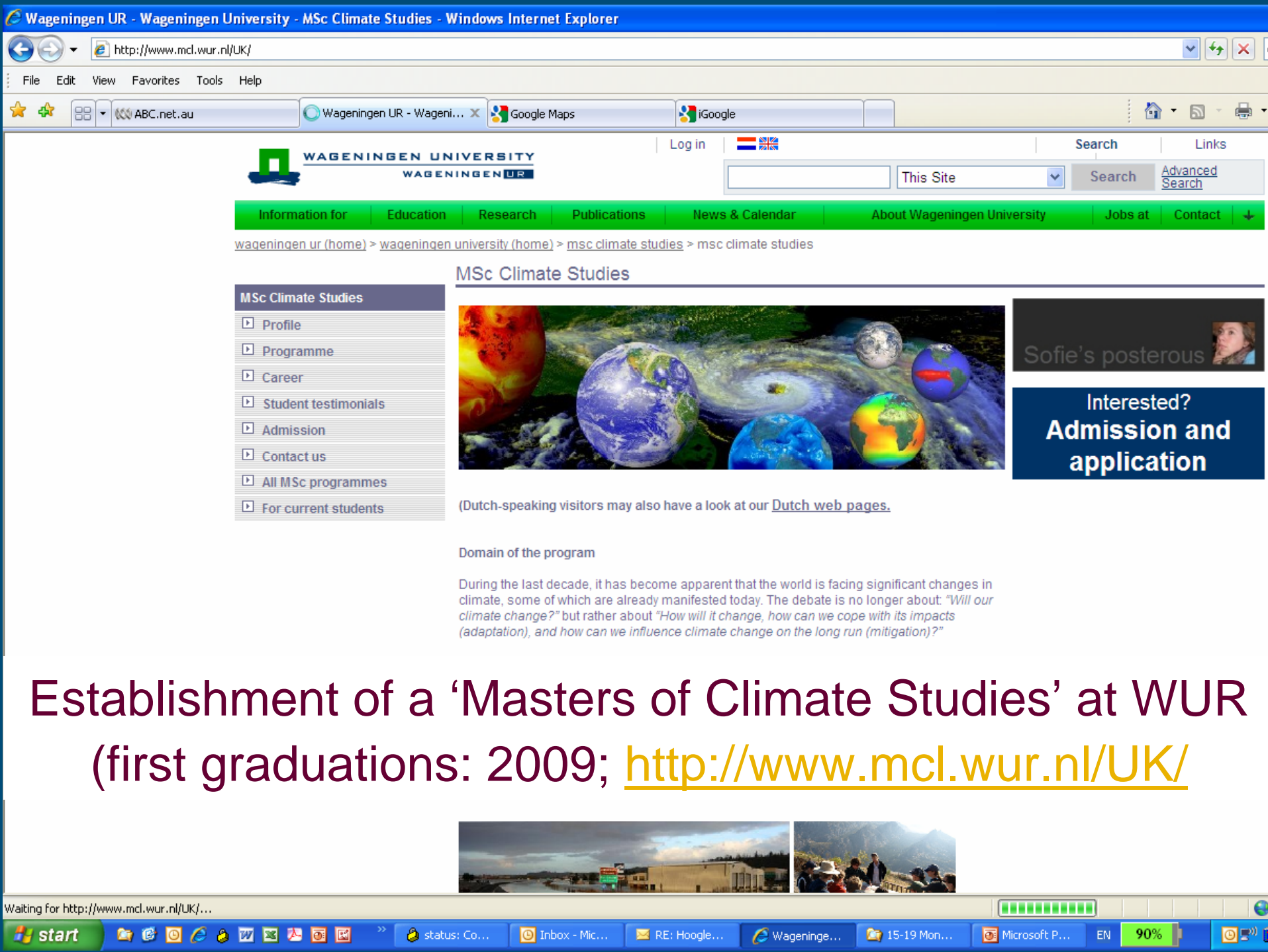


<http://www.essp.org/>

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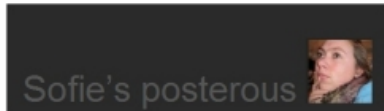
Developing adaptation pathways & identifying mitigation options for agricultural and food systems in the face of climate change

- Theme 1: Diagnosing vulnerability and analysing opportunities
- Theme 2: Unlocking the potential of macro-level policies
- Theme 3: Enhancing engagement and communication for decision-making
- **Theme 4: Adaptation pathways based on managing current climate risk (Theme leader: Jim Hansen, IRI)**
- Theme 5: Adaptation pathways under progressive climate change
- Theme 6: Poverty alleviation through climate change mitigation



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Domain of the program

During the last decade, it has become apparent that the world is facing significant changes in climate, some of which are already manifested today. The debate is no longer about "Will our climate change?" but rather about "How will it change, how can we cope with its impacts (adaptation), and how can we influence climate change on the long run (mitigation)?"

Establishment of a 'Masters of Climate Studies' at WUR
(first graduations: 2009; <http://www.mcl.wur.nl/UK/>)



Some relevant activities at WUR

Three project focusing on the impacts of climate variability and change on the Ganges / Brhamaputra Basin (jointly with India, Nepal and Bangladesh)

- EU FP6 Watch (www.eu-watch.org) - this an large IP with a global focus and two case regions: Indian subcontinent and Europe within india we use a range of RCMs to be linked to hydrological model to test the impact of climate change and land use change (irrigation) on the regional water cycle.

Some relevant activities at WUR

Three project focusing on the impacts of climate variability and change on the Ganges / Brhamaputra Basin (jointly with India, Nepal and Bangladesh)

- EU FP7 HighNoon (www.eu-highnoon.org) The aim of this project is to assess the impact of Himalayan glaciers retreat and possible changes of the Indian summer monsoon on the spatial and temporal distribution of water resources in Northern India and to provide recommendations for appropriate and efficient response strategies that strengthen the cause for adaptation to hydrological extreme events.

Some relevant activities at WUR

Three project focusing on the impacts of climate variability and change on the Ganges / Brhamaputra Basin (jointly with India, Nepal and Bangladesh)

- Strengthening the Resilience of the Water Sector in Khulna to Climate Change a project funded by the ADB. This project looks at the combined impact of changes in climate, river run-off and sea level rise on: Urban water supply (salinity) and Urban flooding.

Some relevant activities at KNMI (Netherlands)

- NATEX, a joint project between KNMI, NIOZ and University of Utrecht on oceanic and atmospheric teleconnections from the Indian Ocean (both modelling work and observational oceanographic work; links with the Indian Ocean Panel)
- Regional climate scenarios for Indonesia in collaboration with Indonesian institutes
- Recovering climate archives from Indonesia in collaboration with Indonesian institutes
- Contribution via EC-Earth to the CMIP5 global coupled climate model runs

Some relevant activities from Australia

- New APN project 'web-based discussion support agricultural-climate information for regional India'. New climate science initiatives will be fed into this project through a new dedicated web site for potential use by users in India through the 'internet kiosks' funded by the India Government (Roger Stone).
- Queensland Water Infrastructure (QWI) Project – aspects related to the MJO and seasonal forecasting provided into tactical management decisions to assess 'climate input value' to water supply and storage management' (Roger Stone).
- Recently completed 'Northern Australian Climate Knowledge' review project (Wheeler/Hendon?) of key industry needs in northern Australia: almost all decision were at the Intraseasonal time scales, not at seasonal (three or six month) timescales, hence strong need for further application of MJO-like work.

Some relevant activities from Australia

- Major review of climate drivers for the Murray Darling Basin, especially in relation to drought; includes recommendations made for further research. Key aspects:
 - need for pre-instrumental information on wet/dry cycles in Australia, especially the MDB;
 - more research on understanding interactions between the various climate drivers affecting the MDB (whether they be regional or global-scale);
 - need for improved understanding of interactions between climate processes and hydrological processes;
 - need for continued improvement in climate modelling, especially to offer a potential alternative for simulating seasonal to multi-decadal variations in a region such as the MDB
- NCCARF-related projects reviewing aspects related to 'climate extremes' e.g. heatwave and flood extremes, including their climate drivers.

Recommendations

- AAMP to consider if / how it wants to support the process of science – stakeholder interactions
- AAMP with the support of CLIVAR actively seek input into their science agenda from the broader ESSP community (e.g. land surface – atmosphere interactions)
- WCRP support a workshop and/or a session at a high-profile climate variability meeting on success and failures of stakeholder engagement
- CLIVAR to support the concept of ‘Adaptation Science’, i.e. an interdisciplinary approach that identifies threats, risks, uncertainties and opportunities that uses monsoon-related science to increase the adaptive capacity and performance of climate-sensitive systems.



