

Minutes of the CLIVET Project Workshop cum PSC

Tuesday, Aug. 31, 2010

Dept. of Geography and Geology, University of Copenhagen, DENMARK

Program: See Appendix 1

Participants: See Appendix 2

Presentations can be downloaded from: http://www.geus.dk/program-areas/common/int_tz03-dk.html

The **objectives** of the meeting were to:

1. Inform on the status and progress of the various activities of the project
2. Welcome our new project partners
3. Agree on work plans of the Ph.D. students
4. Decide on implementing aspects of the project, particularly data collection and sharing

The meeting was opened by a welcome by GEUS Vice Director Bjørn K. Jensen. Subsequently Karen G. Villholth gave a short introduction and update on the project activities. A special welcome was conveyed to Prof. Bruce Hewitson from the University of Cape Town, who has agreed to act as the formal Supervisor for Sarah. Unfortunately, we have had regrets from the other two South African supervisors Prof. Denis Hughes from Rhodes University and Prof. Coleen Vogel from the University of the Witwatersrand, who have agreed to formally supervise Noah and Madaka on their Ph.D. projects, respectively.

The day was structured into firstly presentations from the Tanzanian and South African supervisors, giving inputs on latest advancements in their fields with direct relevance to the CLIVET Project and the students' work. Then, the three Ph.D. students presented each their study plan, and received comments from the whole group, with specific focus on how to integrate the Ph.D. projects across the various topics and working modes. Finally, the Danish supervisors contributed with their views and input to the various project parts.

During the open discussion at the end of the meeting, several issues were raised as important to the implementation of the project:

a) **The involvement of several supervisors**, actually three for each Ph.D. student, one from Denmark, one from Tanzania and one from South Africa. It is clear that the formal supervisor is the one at the university where the Ph.D. students are enrolled, i.e. Bruce, Coleen and Denis in this case. They are the overall responsible for the academic achievement, level, and documentation necessary to grant the Ph.D. degree. The Danish and Tanzanian supervisors are responsible for supporting the students with guidance and practical advice during the implementation, including support to access to necessary field facilities, data and literature, and the necessary linkages between the Ph.D. projects within the CLIVET Project.

b) **The relationship between the overall Project and the Ph.D. projects.** It was agreed that there is a necessary distinction between requirements for the individual Ph.D.s and for the overall CLIVET Project. However, it should be an added advantage for the Ph.D. projects to work in the framework of the larger CLIVET Project, and everybody agrees to work for the mutual benefits of the two.

According to the resources (human, time) available within CLIVET, supporting activities will be implemented parallel with the Ph.D. projects. This involves M.Sc. projects with direct relevance to and (partly) financed by the CLIVET project. Such have already been defined, e.g. an M.Sc. at TMA to assist in data collection and analysis, and two M.Sc. students (Christian and Theis) at DGG to investigate aspects of groundwater in the hydrological functioning of the Great Ruaha River Basin and its role in climate change adaptation in agriculture.

Similarly, to the extent that project participants and supervisors conduct supplementary studies that feed directly into CLIVET, this will add to the outputs and overall outcome of the Project. As an example, Simon Stisen is now devoting additional time to the CLIVET Project as he has been granted the Post Doc position in the project with GEUS. This enables further and high qualified inputs on the hydrological modelling within the Project.

It is recognized that there are several overlapping activities and objectives of the three Ph.D. projects, the most important being the assessment of historical climatic and hydrological data to infer possible significant changes and their impacts on the climate systems, the water resources, and the livelihood strategies and adaptation of the farmers. It was agreed to share the data that each Work Package (WP) and Ph.D. collect in this respect, thereby pooling resources, saving time and enabling better coordination in efforts and outcomes.

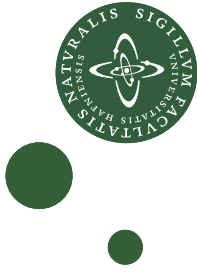
The other issue is land cover/land use analysis. Here, it was agreed to let the individual WPs develop their own approaches as their scope and scale may be quite different. However, again, it was decided to encourage data sharing in this respect and also to make cross checks across scales and WPs to ensure consistency in the data material and outputs.

c) **Data collection and sharing.** This is already touched upon above. The topic was discussed quite intensively, and important issues were raised. It was proposed to establish a sort of clearing house for all climate data used in the Project, and specifically rendering this responsibility to TMA, through the M.Sc. student. It makes sense to try to have all climatic data go through the same institution for consistent quality check and assurance (QA) and this will be attempted. Various digital analysis packages exist for the quality control and trend analysis of time series data, as proposed by Bruce, and it was decided to use these. TMA will be primary responsible for the QA of climate data used within the project.

d) **Time frame to look at in the project.** It was decided to look at the period after 1970, where relatively good data (including RS data) exist. For WP3, the analysis may date further back.

e) **Approval of Ph.D. work plans.** It is necessary to get official approval of the Ph.D. work plans presented at the workshop. As Denis and Coleen were not present at the meeting, I would like to request that a formal approval of the work plans (as presented or revised in agreement with other supervisors) along with the final work plans be sent to me (by the three supervisors) by **Dec. 1st, 2010.**

Karen G. Villholth, Sep. 29, 2010



CLIVET Project Workshop Cum Project Steering Committee Meeting

Aug. 31, 2010

**Dept. of Geography and Geology, University of Copenhagen and GEUS,
Geological Survey of Denmark and Greenland**

Venue: Dept. of Geography and Geology, University of Copenhagen, Denmark (Room U13 in Area 6, 2nd floor)

Participants

Geological Survey of Denmark and Greenland (GEUS)

Bjørn K. Jensen, Vice Director

Karen G. Villholth, Senior Researcher and Project Coordinator (Dept. of Hydrology)

Simon Stisen, Senior Researcher (Dept. of Hydrology)

Institute of Resource Assessment, University of Dar es Salaam (IRA)

Emma T. Liwenga, Research Fellow (agricultural/livelihood research)

Noah M. Pauline, Ph.D. student (environmental sciences and adaptation)

Dept. of Water Resources Engineering-CoET, University of Dar es Salaam (WRED)

Deogratias M.M. Mulungu, Lecturer; Coordinator of Research and Postgraduate Studies (R & PGS)

Madaka H. Tumbo, Ph.D. student (hydrological studies)

Tanzania Meteorological Agency (TMA)

Emmanuel Mpeta, Manager (climate/modelling)

Sarah E. Osima, Ph.D. student (climate/modelling)

Dept. of Geography and Geology, University of Copenhagen (DGG)

Torben Birch-Thomsen, Ass. Professor

Theis S. Knudsen, M.Sc. student

Christian M. Rundblad, M.Sc. student

Danish Meteorological Institute (DMI)

Martin Stendel, Senior Scientist, Danish Climate Centre

University of Cape Town, Cape Town, South Africa (UCT)

Bruce Hewitson, Prof., Climate Systems Analysis Group

University of Hohenheim, Stuttgart, Germany

Jegan Ganeshamoorthy, M.Sc.

Programme

08:30 – 09:00 REGISTRATION/TEA/COFFEE

Session 1: Introduction to the CLIVET Project and related activities

Session Leader: Torben Birch-Thomsen

09:00 – 09:10 **Introductory remarks**

Bjørn Jensen

09:10 – 09:30 **Description of the CLIVET project and profile of the Great Ruaha River Basin**

Karen Villholth

09:30 – 09:50 **Climate change projection. How far can we get in Tanzania?**

Bruce Hewitson

09:50 – 10:10 **Climatic history and trends in Tanzania**

Emmanuel Mpeta

10:10 – 10:30 **Water resources assessment and availability for agriculture in the Great Ruaha River**

Deogratias Mulungu

10:30 – 10:50 **Climate change perceptions and adaptation among rural populations in the Great Ruaha Basin**

Emma Liwenga

10:50 – 11:10 COFFEE AND TEA

Session 2: CLIVET Project work packages

Session Leader: Martin Stendel

- 11:10 – 11:30 **Study plan, Work Package 1 (Climate)**
Sarah Osima
- 11:30 – 11:50 **Study plan, Work Package 2 (Hydrology)**
Madaka Tumbo
- 11:50 – 12:10 **Study plan, Work Package 3 (Adaptation)**
Noah Pauline
- 12:10 – 12:30 **Role of groundwater in climate change adaptation**
Theis S. Knudsen and Christian M. Rundblad

12:30 – 13:30 LUNCH BREAK

Session 3: CLIVET Project implementation and integration

Session Leader: Bruce Hewitson

- 13:30 – 13:50 **Climate data availability for the Project**
Martin Stendel
- 13:50 – 14:10 **How to coordinate and integrate data at various spatial and temporal scales within and between work packages**
Torben Birch-Thomsen
- 14:10 – 14:30 **Building on results of previous hydrological studies of the Great Ruaha Basin**
Simon Stisen
- 14:30 – 15:00 **Feedback on presentations and comments to work packages**
Facilitator: Karen Villholth

15:00 – 15:30 COFFEE AND TEA

- 15:30 – 16:30 **Open discussion of the best ways forward:**
How to ensure integration across the work packages?
Focus areas: land use changes, drought resilience, and importance of irrigation, others?
Facilitator: Karen Villholth

16:30 Closing of the workshop (Karen G. Villholth)

Appendix 2 CLIVET PPROJECT WORKSHOP CUM PROJECT STEERING COMMITTEE MEETING

PARTICIPANTS

Tuesday, August 31, 2010

Venue: Dept. of Geography and Geology, University of Copenhagen, Denmark

S/N	NAME	ORGANIZATION	CONTACT
1	Bjørn K. Jensen, Vice Director	Geological Survey of Denmark and Greenland (GEUS)	bkj@geus.dk
2	Karen G. Villholth, Senior Researcher, Project Coordinator	Geological Survey of Denmark and Greenland (GEUS)	kgv@geus.dk
3	Simon Stisen,	Geological Survey of Denmark and Greenland (GEUS)	sst@geus.dk
4	Bruce Hewitson, Professor	Climate Systems Analysis Group, University of Cape Town, Cape Town, South Africa (UCT),	hewitson@csag.uct.ac.za
5	Emma T. Liwenga, Research Fellow	Institute of Resource Assessment, University of Dar es Salaam (IRA)	liwenga@ira.udsm.ac.tz liwenga99@yahoo.com
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11	Torben Birch-Thomsen, Ass. Professor	Dept. of Geography and Geology, University of Copenhagen (DGG)	tbt@geogr.ku.dk
12	Theis S. Knudsen, M.Sc. student	Dept. of Geography and Geology, University of Copenhagen (DGG)	theis82@hotmail.com
13	Christian M. Rundblad, M.Sc. student	Dept. of Geography and Geology, University of Copenhagen (DGG)	christianru@m7.stud.ku.dk christian_rundblad@hotmail.com
14	Martin Stendel, Senior Scientist	Danish Meteorological Institute	mas@dmi.dk
15	Jegan Ganeshamoorthy, M.Sc. Student	University of Hohenheim, Stuttgart, Germany	ganeshjegan@yahoo.com

Appendix 2 CLIVET PPROJECT WORKSHOP CUM PROJECT STEERING COMMITTEE MEETING

S/N	NAME (excuses)	ORGANIZATION	CONTACT
16	Coleen Vogel, Professor	School of Geography, Archaeology and Environmental Studies, Univ. of the Witwatersrand, Johannesburg, South Africa (WITS)	coleen.vogel@wits.ac.za
17	Denis A. Hughes, Professor	Institute for Water Research, Rhodes University, Grahamstown, South Africa	d.hughes@ru.ac.za