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QWeCI

Quantifying Weather and Climate Impacts on Health in Developing Countries

D6.1.a – Assessment report from first year extended visits

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Dissemination Level CO		
PU	Public	PU
PP	Restricted to other program participants (including the Commission Services)	
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CO	Confidential, only for members of the consortium (including the Commission Services)	

D6.1a) Assessment report from first year extended visits.

During the strategizing stages of the DoW, a minimum of 9 extended visits were expected to take place during the 42 months of the QWeCI project, three per year in the first 3 years, with no fixed upper limit. The visits were to play an essential role in the capacity building, activity coordination and dissemination of results within the project. As it turns out, the particular structure of the QWeCI partnership, as collaboration between diverse scientific communities in different continents together with the presence of 3 specific pilot projects requiring communication and synergy between these communities, has resulted in a great number of extended visits being planned and carried out with 7 visits taking place during the first 12 months and 5 more after that. Also two more visits are planned to occur within the next few months.

In many instances, extended visits have been complimented by teleconferencing with yet other project partners. These teleconferences have been too numerous to keep track of in a detailed manner but, for example, regular skype meetings between UoC and KNUST, facilitated by UNILIV, have become an essential monitoring and networking tool for the Ghana pilot project (**WP5.2**) with similar regular link ups with UNILIV and CSE in Senegal (**WP5.3**). A similar case can be made for the Malawi pilot project and communications between ICTP, UNIMA-COM and UNILIV (**WP5.4**). Below is a list of the extended visits that have occurred in the first year of the QWeCI project with a brief assessment of the results and the work packages. Following is a list of visits that have recently occurred and two that are planned for the near future.

One aspect that can improve is the timely manner of reporting of planned and/or concluded visits and their outcomes to QWeCI management. This may simply have been an aspect of early teething problems that have been overcome now that connections between various QWeCI research institutes are well established. In conclusion the 'extended visits' activity, planned under QWeCI has been very successful and will be relied on more heavily, and often complimented by teleconferencing, in the coming months.

Visits occurred in first 12 months.

UNIMA to ICTP April 2010. For a week in April 2010, *Harry Gombachika* from the University of Malawi, visited the Earth System Physics group in ICTP. Purpose of the visit was to exchange preliminary station climate data, identify a preliminary community of end-users and external collaborators for the Malawi pilot project (**WP5.4**). Also logistics and priorities regarding the following visit of UNILIV and ICTP to Malawi were discussed. The data provided by Mr. *Gombachika* during his visit has been fundamental in accomplishing D5.4b and, together with networking efforts guided by the list of end-users and external collaborators, was the foundation on which further data exchange is now being facilitated with the Malawi Meteorological Service.

ICTP and ECMWF to UNILIV April 2010. In lieu of the kick-off meeting, rearranged and held in June 2010 (due to the Icelandic ash cloud), a group of mostly UK-based QWeCI scientists, and others joining via teleconference, discussed uses of atmospheric model output, bias correction and downscaling techniques. The ensuing scientific interaction has already led to significant results many of which resulted in European Geophysical Union QWeCI abstracts. A particular focus was made on

the seamless aspects of the QWeCI systems to be developed. Administration aspects of the project were also covered, including the details of the consortium agreement, the ethical clearance procedures, and the work-package leaders were allocated. These talks have proven essential in establishing procedural protocol when addressing, and resolving, early teething problems encountered in of the pilot project.

UoC to KNUST April 2010. In April 2010 *Robert Schuster* of the University of Cologne arrived in Ghana to service existing stations, installed in 2008, and install new ones in the surroundings of Khumasi (fig. 1, **WP5.2**). Also training was provided on use and maintenance of the new stations and the extraction and processing of data.

UoC to KNUST July 2010 and January 2011. In July, *Andreas Fink* added a new pressure sensor to the AWS and maintenance work was performed on it and other three pluvio stations (**WP5.2**).



In January, with non QWeCI funds, provision was made for three complete used pluvio stations and a laptop to KNUST and further development and maintenance of the field equipment was carried out. Also discussion of work in WP5.1 and WP5.2 and about feeding the meteorological data into the QWeCI database with *Sylvester Danour* and *Leonard Amekudzi* proved useful.

UNILIV & ICTP to UNIMA November 2010. In November 2010 *Marco Zennaro*, *Carlo Fonda*, and *Ermanno Pietrosevoli*, from the ICTP Aeronomy and Radio Propagation Laboratory, visited various sites in and around the cities of Mangochi, Zomba and Blantyre to install WiFi equipment necessary for **WP5.4** (fig.2). Also *Claudio Piani Rachel Lowe* and *Adrian Tompkins*, from the Earth System Physics group at ICTP, and *Andy Morse*, from UNILIV, visited with various potential end users for **WP5.4** and conducted a 1 day workshop (see report **D6.2** due M18) with *Elina Kululanga* at the Malawi Meteorological Service (MMS) to establish data exchange and general collaboration agreements.

ILIRI to Senegal. *Morris Agaba* from ILRI visited Senegal and Gambia and sampled approximately 500 sheep and cattle. This was



partly funded by QWECI but animal samples were supplied by a collaborating project (PROGEBE).

This is a potentially important collaboration. These will be tested for RVFV when assays for variants are refined. All samples have associated meta-data including lat, long, date, time (**WP5.3**).

UNILIV to Dakar October 2010. *Andy Morse* (UNILIV) at CSE, at UCAD, at IPD, traveled to Dakar in Senegal to visit *Abdoulaye Deme* (UCAD), *Jacques André Ndione* (CSE) and *Ibrahima Dia* (IPD). Plans were discussed for the Dakar Workshop (**T6.2b**) and field sites relevant to the Senegal pilot project were visited (**WP5.3**).

Recent Visits:

UNILIV to ECMWF April 2011 *Andy Morse & Dave Macleod* met with *Franco Molteni* and *Francesca Di Giuseppe* at ECMWF on the 8th of April to discuss:

- the ECMWF seasonal prediction system 4 and availability of data (thirty years from 1981 – 2010 at T255 resolution, **WP3.1**).
- the new reanalysis dataset produced by *Francesca Di Giuseppe* (pentad only from GPCP and ERA-I from 1989 to September 2009, **WP1.2**).
- the provision of an ECMWF QWeCI webpage for product discussion (**WP6.2**).
- the calibration of precipitation values in seasonal hindcasts (**WP3.1**).
- the use of monthly and 10-day MJO interaction products for RVF (**WP5.3**)

UP to UNILIV *Kibii Komen* visited the Liverpool team for 2 weeks from the 2nd to the 15th of May to:

- test malaria models using a South African dataset (**WP2.1**).
- establish current climate controls on Malaria and RVF in South Africa (**WP1.3**).
- conduct simulations of climate sensitivities of disease and projections of future distributions (**WP2.1**).
- Validate the existing climate-driver disease (malaria and Rift Valley Fever) incidence relationships in South Africa and seek assistance in doing the appropriate modifications to these relationships in a future climate (**WP1.3**).
- Perform dynamic malaria model runs for South Africa, verify it against the South Africa data sets, and test the performance of the dynamic and semi-dynamical modeling approaches for malaria for South Africa (**WP2.1**).
- Discuss methodologies to economically quantify, and derive policy implications of, the effects of climate change on malaria in the developing countries (**WP5.1**).

UoC to UNILIV *Volker Ermert* and *Andreas Fink* visited the Liverpool team from the 3rd to the 5th of May to:

- Discuss various papers to be submitted and related to QWeCI research at UoC and UNILIV (**WP6**).

- Discuss data and metadata needs for UoC's QWeCI work (metadata from Senegal, and improved metadata plus raw data from CSIC's datasets, **WP1.1 & WP5.3**)
- Meeting with research students at UNILIV working on monthly to seasonal prediction systems and decadal prediction systems (**WP6 & WP3.1**).
- Improving the communication between partners in terms of WP 1.2 and 5.1 (**WP6**).
- Contribution to deliverables & milestones for WP 5.1 regarding the needs of stakeholders related to computer systems of the multi-agency system (**WP5.1**)
- Suggested improvements to the model code of the Liverpool Malaria Model regarding the production of the model outputs (**WP2.1**).
- Planning collaboration on future research in other climate-disease projects (**WP6**).

CSE to UNILIV Jacques Andre Ndione visited Liverpool from the 5th to the 26th of June to:

- Work on malaria and RVF modeling and RVF analysis.
- Prepare scientific publications as part of the QWeCI project.
- Give feedback on current QWeCI outputs, especially malaria and climate products.

ICTP to ECMWF Adrian Tompkins met with Francesca Di Giuseppe and Franco Molteni from the 10th to the 14th of January to work on the development of the bias correction for temperature and precipitation using the monthly and seasonal forecast system output. Collaboration on this subject has continued using regular teleconferences since this date (**WP3.1**).

Planned visits:

UCAD to UNILIV Abdoulaye Deme will visit the Liverpool team from the 12th to the 26th June to:

- Collaborate on malaria modeling in Senegal and gain training in the use of the LMM (**WP2.1**).
- Carry out analysis of meteorological and climate data(**WP1.2**).
- Give feedback on current QWeCI outputs, especially malaria and climate products (**WP5.3**).

ICTP to UNIMA Marco Zennaro, Carlo Fonda and Ermanno Petrosevoli will be visiting Malawi again in early summer 2011. The goal of this visit will be to carry out maintenance and trouble shooting on the various nodes of the Malawi wireless network in collaboration with Anthony Muyepa-Phiri and the newly appointed local task leader Mayamiko Nkoloma (**WP5.4**).