

# FOUNDATION FOR ENVIRONMENT CLIMATE AND TECHNOLOGY

## Our progress for 2007

2007 has been a year of productivity, consolidation and change for us and here is a review of this.

**Personnel:** In January 2008, Janaki Chandimala shall complete 5 years and Zeenas Yahiya shall complete 6 years of engagement at FECT and its predecessor research group at the Natural Resources Management Services (NRMS). Eng. Badra Nawarathna of the Mahaweli Authority continued with us on secondment. Champika Jayatilake and Amila Karunaratne joined us and Amal Tilakaratne, Manjula Siriwardhena, Upamala Tennakoon, Chamipka Jayatilake left us. Amal started his B.S at University of Peradeniya and Manjula her M.Sc at Asian Institute of Technology during the course of the year.

**Grants:** Our collaborative work with the International Research Institute for Climate and Society (IRI) continued on the *Climate and Malaria Project* funded by NOAA and this was brought to a close this year. We contributed to papers and reports that were published, final conferences, and in engagement with the personnel of the Anti-Malaria Campaign. We also supported a follow up proposal to the US National Science Foundation with the International Research Institute for Climate and Society, New York (IRI).

**Proposals submitted:** While three proposals that we submitted to the National Science Foundation of Sri Lanka were selected for intensive evaluation – the process has been suspended due to NSF's budget difficulties. Our project proposal to the Provention Consortium on "*Assessing Drought and Enabling Adaptation through Rain Water Harvesting*" was funded. In addition, the project proposal to the International Foundation for Science on "*Assessing Predictability of Seasonal Rainfall in the Kelani River Basin in Sri Lanka*" was funded. We also supported a proposal led by IRI to the National Oceanic and Atmospheric Agency (NOAA) on drought monitoring and prediction. We continue to look for funding in climate and applications in public health, water resources, agriculture, disasters, environment and energy.

### Papers published:

- Chandimala, J. and L. Zubair, Predictability of streamflow and rainfall based on ENSO for Water Resources Management in Sri Lanka, *Journal of Hydrology*, 335, 303-312p
- Zubair L., Siriwardhana M., Chandimala J and Yahiya Z, Predictability of Sri Lankan rainfall based on ENSO, *International. J. Climatology*, 28 (1) 103-110.

### Papers Under Review:

- Quality Evaluation of Surface Temperature Data in Sri Lanka", *International Journal of Climatology*.
- Epochal changes in the association between malaria epidemics and El Niño in Sri Lanka", *Malaria Journal*.
- Sri Lanka Rainfall Climate and Its Modulation by El Nino and La Nina Episodes – *Journal of the Institution of Engineers, Sri Lanka*

- Engendering Multi-disciplinarity and Quality: Environmental Education at the University of Peradeniya, *Journal of the Institution of Engineers, Sri Lanka*
- B. Lyon, Zubair, L., V. Ralapanawe and Z. Yahiya, Fine scale evaluation of drought hazard for tropical climates, *Journal of Applied Meteorology and Climatology*, revised

#### **Papers In Preparation:**

- Evaporation Climatology for Sri Lanka
- Calibration of Satellite Rainfall Estimates for Sri Lanka
- Climate Change Assessment for Sri Lanka
- Topography based interpolation of Surface Temperature
- Climate Change impact on the hydrology of Kelani River.
- Seasonality and Spatial Variation of Malaria in Sri Lanka in relation to Climate
- Seasonality and Spatial Variation of Dengue in Sri Lanka in relation to Climate

#### **Feature Articles**

Dec 5, 2007: L. Zubair and Z. Yahiya. The Language of Climate in Sri Lanka -The Island.

March 2007: L. Zubair, Climate Change and National Security in Sri Lanka, Lines-Magazine, in press.

#### **Reports:**

A comprehensive catalogue of FECT activities was completed. In addition, we contributed to reports to NOAA for the Climate and Malaria Project.

L. Zubair, S.J. Connor, N. Ward, J. Shaman, M. Stieglitz, M. Cane, H. Yang, G. N. L. Galappaththy, S. Mahanama, H.M. Faizal, U. Tennakoon, Z. Yahiya, J. Chandimala, M. Siriwardhana, *Annual Reports on Analysis of Impacts of Climate Variability on malaria transmission and the development of an early warning system*, Progress Report to NOAA. (July 2007, September 2007, December 2007).

#### **Posters:**

- Annual Average GND wise Malaria incidence in Moneragala, M. Siriwardhana *et al.*
- Calibration of Satellite Rainfall estimates over Sri Lanka, B. Nawarathna *et al.*
- Evaporation Climatology for Sri Lanka, B. Nawarathna *et al.*

**Website development:** We developed a new website <http://www.tropicalclimate.org>. We continue to maintain <http://www.recoverlanka.net> and <http://www.climate.lk> websites. These websites require updating and we shall attend to this over the next year. We contributed to the implementation of a satellite rainfall interface for Sri Lanka particularly for water resources, agriculture and health.

**Workshops:** We contributed with posters, presentation and in the organization of the two workshops at the end of the Climate and Malaria Project. These were:

- Analysis of Impacts of Climate Variability on Malaria Transmission in Sri Lanka and Development of An Early Warning System, IWMI, Colombo, 17 September 2007
- Malaria Risk Management using Climate Information, Organized by the Postgraduate Institute of Science (PGIS), University of Peradeniya and Co-organized and Sponsored by Foundation for Environment, Climate and Technology, Peradeniya, 21 September 2007.

**Administration:** Financial management of bank accounts at Peoples Bank and Hatton National Bank has been smooth. The accounts were drawn up by Rimza Muhulees and Zeenas Yahiya. Our Auditors, Anzari and Co., has reported on a health state of financial management in the last Audit conducted until March 2007. The Annual report has been prepared and shall be submitted via our company secretary, Ralapanawe Associates, to the Registrar of Companies. This year we set up a secondary office in Aruppola, Kandy providing researchers with an office close to Kandy with access to a dedicated ADSL internet facility.

**Collaborations:** We had productive collaborations with personnel attached to Mahaweli Authority of Sri Lanka (MASL), International Research Institute for Climate and Society (IRI), University of Peradeniya (UOP), Open University of Sri Lanka (OUSL), Anti Malaria Campaign (AMC), International Water Management Institute (IWMI), National Aeronautics and Space Agency (NASA), the University of Ruhuna (UoR), SL Rainwater Harvesting Forum (SLRHF), Natural Resources Management Centre (NRMC), Natural Resources Management Services (NRMS) and Tamil Nadu Agricultural University (TNAU).

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**Immediate Plans :** Work shall commence on the two new grants that have been awarded on seasonal climate and streamflow predictions and planning for rainwater harvesting as a means of drought mitigation. The publication of findings from previous grants related to Malaria, Plantations, Human-Elephant conflict shall be a priority. We shall continue to apply for grants for climate and environmental controls on malaria and dengue, disaster risk management. We shall look into hiring a Researcher and a Science Writer this year. The coming year shall see the publication of work undertaken by Badra Nawarathna of the Mahaweli Authority. The websites shall see marked improvement and shall include interfaces for monitored climate and environmental features for use by the Mahaweli Authority and the Anti-Malaria Campaign. The major publications of a Catalogue of work and an Atlas of climate shall be undertaken.

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