

**AUSAID PROJECT
PACIFIC ISLANDS – CLIMATE PREDICTION PROJECT
(PI-CPP)**

***Report on the Stakeholders Workshop on Application of Climate
Predictions in Papua New Guinea***

Gateway Hotel, Boroko, NCD, PNG

7th to 9th March 2007

Introduction

A second phase of the project to enhance the ability of the Pacific Island Countries National Weather Services (NMSs) to provide a seasonal climate prediction service is now underway. The aim of the service is to provide information about likely seasonal variations to people and enterprises involved in climate-sensitive activities. This information can then be applied to assess the likely consequences of seasonal fluctuations in rainfall and other variables on the productivity of climate and weather sensitive activities. The project is being implemented in nine other Pacific Island Countries with the assistance of the Australian Bureau of Meteorology (the Bureau) through funding provided by the Australian Agency for International Development (AusAID).

One of the important components of Phase 1 involved the roll-out of the Seasonal Forecast System (called SCOPIC) to the local NMSs, training of local NMS personnel in statistics and forecast production and distribution, and the conducting of stakeholder workshops. To maintain consistency, this activity was included in Phase 2 for Papua New Guinea (PNG). The project started in PNG which with the training of National Weather Service (NWS) personnel in statistics and forecast production and distribution, and a awareness workshop for the PNG stakeholders in early March 2007. In addition, the visiting parties investigated the possibility of implementing a pilot project in the application of climate forecast information in the agricultural sector.

The project team arrived in Port Moresby on 4th March and spent the next 2 days training the NWS personnel on basic statistics and SCOPIC. They also assisted the NWS personnel with the preparation of their presentations and other relevant materials for the following 3-day workshop. Sixteen met staff from different sections of NWS (climate & special service, forecasting & warning, facilities & observation and provisional observing stations) underwent training.

The stakeholders' workshop was conducted from 7th to 9th March. During the formal opening an address was delivered by Ms Andrea Cole, Second Secretary, Australian High Commission, and the opening address by the Deputy-Secretary of Ministry for Department of Transport, Mr Kevin Luana. The Director of the NWS, Mr Samuel Maiha chaired the session. There were thirty-nine participants, including twenty officers from the met service, and representatives from the following sectors: media, agriculture (coffee and food crops), disaster management, water and sewage and treasury. The project funded the attendance of met and disaster officers from twenty provinces.

The objectives of the workshop were as follows.

- To demonstrate available information and stress the limitations of the forecasts, the nature of probability-based predictions;

- To demonstrate to decision-makers in climate sensitive activities the availability of, and effective and prudent use of probabilistic climate predictions as an input to decision-making;
- To train decision-makers in climate sensitive activities on the usage of probabilistic climate predictions in decision making to minimize risks in their respective sectors;
- To establish effective communication delivery channels from the PNG National Weather Service to its clients;
- To ascertain specific information needs, provide a forum for identifying desirable software modifications; and
- To investigate a possible pilot project, for the application of climate forecast information in climate sensitive industries, most notably agriculture.

The workshop was structured into six sessions: Formal Opening; The Climate System, its behaviour and consequences; Seasonal Climate Forecasting; Managing Climate Risks (case studies); The Forecasting and Decision-Making exercise and Climate Outlook Forum.

The Project Team (PT) was represented by Ms Janita Pahalad (Australian Team Leader-ATL), Dr David Jones, Rod Hutchinson and Kevin Smith (Bureau of Meteorology), and Dr Yahya Abawi (Queensland Climate Change Centre of Excellence). Dr Michael J Coughlan also joined the team for the first 2 days in order to meet with senior government officials, for the purposes of introducing the Project to the Government of PNG, and to seek their support for the project and their local Met Service.

Outcomes

The attendance at the workshop was encouraging as it dropped slightly throughout the workshop. An evaluation of the workshop was carried out (see attached summary report). The overall rating for the workshop mainly ranged from *very good* to *excellent*. Thirty-two participants evaluated the workshop. Full evaluation report is attached.

Five women (12%) attended the stakeholders' workshop and 3 women (19%) participated during the NMS training.

Discussion and Recommendations

Several recommendations were made during the round-table discussion, mainly aimed at the PNG NWS. Most of discussion focussed on some of the problems faced by the PNG NWS which continuously hinders its operations.

Steven Adarei (PNG NWS) highlighted the problem of lack of manpower at outer stations (most stations are manned by 1 person). Maiha (A/Dir of PNG NWS) commented that a number of stations will be automated and the staff will be relocated to outer stations, but questioned whether it will be a sustainable solution to the current problem. NWS can setup more observing stations but do not have staff to man them therefore needs to form partnership with the stakeholders. NWS is currently trying to purchase 9 raingauges, Stevenson screens and other equipment. He also requested stakeholders who manage observing sites to make all their data available to NWS.

PNG has a number of highland stations with good quality data for 20 to 25 years but these sites are now longer operational. Possa Kavora (NWS) added that poor quality data was mainly due to poor quality equipment. She recommended that NWS to carry out regular inspections and to maintain the standard of the observing sites.

Nelson Simbiken (Coffee Research Institute) commented that the workshop is a good start for NWS to gain recognition among stakeholders therefore NWS should partner with the stakeholders. NWS should devise a plan to move forward which should include plans in participation, plans in networking, and plans in improving the met service. Maiha informed the workshop that there is NWS plan but it has not been formalised due to lack of funding. The Plan includes ways to raise outer stations' profile and how they can play important role in reaching out to the stakeholders. He suggested cost sharing with the stakeholders such as disaster officials or to seek assistances from donor agencies. The Plan is yet to be submitted to the Department of Transport. Mavis Tito (Caritas PNG) offered to assist NWS in terms of promoting awareness on the new climate prediction service.

A suggestion was that PNG NWS should become more visible especially at provisional levels through its provisional Officer-in-charge as been members of Disaster Committees. Some OICs are already members of such committees. One of the main problems in the provinces is poor telecommunication network. NWS will be funding 3 sets of RANET sites in 2007. A webpage server has been purchased and will be launched in near future.

Roy Daggy (Department of Treasury) pointed out that a number of stakeholders use weather and climate forecast information to make policy-based decisions such as in agriculture (which is PNG's main economy). ENSO and climate predictions are useful as it can be used in the national budgeting process. He suggested strategies for short-term, medium and long-term plans for NWS and suggested few examples: validate climate data as a short-term plan; select sites that need to be upgraded as a medium term plan; and NWS to draw up a strategy plan and submit it to the Treasury and National Planning as a long-term plan.

Maiha voiced his disappointment that many key stakeholders were not present at the workshop. David Jones suggested NWS to hold regular meetings with some of their key stakeholders.

In additions, Dr John Bailey (National Agricultural Research Institute – NARI) made several written recommendations:

- Improvement of technical language (words) to user-friendly and understandable by lay consumers in PNG.
- NMS to make an aggressive drive to link up with major development companies who have been collecting e.g. rainfall data should be approached so that their available data are shared with NMS.
- More exposure on NMS officers i.e. capacity building on its specific areas of profession (climate and weather). Have regular workshops with outstations officers.
- NMS officers in province to network with provisional disaster coordination centres.
- NARI stations would benefit from having NWS prediction bulletins emailed to them monthly, using the new SCOPIC predictions and outputs.

- NARI and DAL advisors will have to make advisory decisions on the basis of NWS reports. Advisors may need some training in understanding the probability concept inherent in the rainfall predictions.
- It would also be useful if the SOI data and other data distributed during group sessions were made available to NARI and DAL – these data together with NWS interpretation may help them give the correct advisory recommendations to farmers. This in no way undervalues interpretation given by NWS, it simply provides extra information that may improve the advisory recommendations given to farmers.

Data Rescue

During the workshop closure session on Friday, 8th March, Rod Hutchinson handed a CD with PNG data to Samuel Maiha. The CD contained all the climate data that have been extracted from PNG NWS' old CLICOM system which were given to Hutchinson on an obsolete magnetic tape. The CD included all the PNG data that have been stored on Bureau's data management system. Under the PI-CPP project PNG NWS received a desktop computer, a colour printer, Uninterrupted Power Unit, Norton Antivirus software and some consumables. ClimSoft (climate database management system) with all the PNG digital data were installed on the computer before the shipment. Training on ClimSoft was conducted by Hutchinson and Kevin Smith after the stakeholders' workshop.

During the closing session, Maiha expressed his gratitude to the AusAID for giving PNG National Weather Service the opportunity to participate in PI-CPP and also thanked the project team.

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EVALUATION REPORT

Stakeholders Workshop on Application of Climate Predictions (Papua New Guinea)

Introduction

An evaluation was done for the 3-day workshop held at the Gateway Hotel, Port Moresby from 7th to 9th March. The main purpose was to ensure that the objectives of the workshop were met and to measure the success of the project.

Evaluation Form

The form consisted of eight sections with rating ranging from strongly agree (5) to strongly disagree (1). The five workshop sessions and training handout were evaluated with an overall assessment.

The workshop sessions were:

- Climate System, its Behaviour and Consequence;
- Seasonal Climate Forecasting;
- Managing Climate Risks;
- The Forecasting and Decision Making Exercise; and
- Climate Outlook Forum.

The participants were asked to rate the above sessions by its contents (its usefulness and relevance), time allocation, the structure of the presentations, and its effectiveness. The contents and the amount of materials provided in the handouts were rated.

Participants also had a chance to comment on each presenter: how well the presenter do and how could he/she improve.

Finally, there was a section on overall assessment: most valuable aspect; least valuable aspect, venue, entire workshop and any additional comments.

Results

Thirty-nine people registered on the first day of the workshop and the number dropped slightly by the end of the workshop. The following results are summarised from thirty-two forms.

The average rating for each workshop session ranged from 4.4 to 4.5 (out of 5). The lowest rating was given to “*the time allocation*” for each session (as low as 3.9). The highest average rating of 4.8 was given to “*I would recommend others to attend sessions like CFO if it held on regular basis*”

Most participants found the *Forecasting and Decision Making Exercise* as the most valuable aspect of the workshop.

The overall rating:

Workshop: excellent (20); very good (10); good (1)

Some notable comments/recommendations made by the participants:

- The most valuable aspect of the workshop was the stakeholders to understand more about the nature of my organisation.

- The workshop is an eye-opener for me as a Quality Control Office with NWS. It motivates me to work closely with other staff members.
- Not sufficient participation of other stakeholders.
- PNG needs more of this sort of workshops. It is definitely an eye-opener for all the participants.
- Before doing seasonal forecasting, we should have a good long-term data. This where networking is important.

Further Comments

All presenters had a chance to read the evaluation forms. Once again, they noted the comments/criticism (if any). The presentations (including format and contents) and their form of delivery are continually revised.

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AGENDA

WEDNESDAY

Formal Opening:

Chaired by the Director of the PNG National Weather Service, Mr Samuel Maiha

- 9.00 Opening Prayer
 Welcome remark: Mr Samuel Maiha
- 9.10 Address by Ms Andrea Cole, Second Secretary, AusAID
- 9.20 Opening address by Mr Kevin Luana, Deputy-Secretary, Department of Transport
- 9.30 Introduction of the Project Team
 Introduction of the PI-CPP project and the Workshop: Janita Pahalad, BoM
- 9.40 Brief self introduction of the participants
 Performance by Buka Bamboo Band

10.00 MORNING TEA

Session One: The Climate System, its behaviour and consequences

- 10.30 Background on the climate system including key process (small scale/large scale variability): David Jones, BoM
- 11.15 Local climatology (eg seasonal variation, ENSO teleconnections including some of the past events and tropical cyclones): Mr Kasis Inape, PNG NWS

Session Two: Seasonal Climate Forecasting

- 11.45 Seasonal climate forecasts: what makes it possible, processes, what do they tell us and their limitations: David Jones
- 12.15 Seasonal Climate Outlook for the Pacific Island Countries (SCOPIIC): What user products are available?: Yahya Abawi, QCCCE

13.00 LUNCH

Session Three: Managing Climate Risks (case studies)

- 14.00 Agricultural Management: Yahya Abaw
- 14.45 Local case study - Agriculture: Mr John Demerua, NARI-Laloki

15.15 AFTERNOON TEA

- 15.45 Water management: Yahya Abawi

16.30 END OF DAY

THURSDAY

Session Four: THE FORECASTING AND DECISION-MAKING EXERCISE

- 8.45 Briefing on F&D-M Exercise
Presentation of 1st 3-month rainfall outlook and ENSO outlook
Group session
Presentation “what actually happened”
Brief report from each group
- 10.30** ***MORNING TEA***
- 11.00 Presentation of 2nd 3-month rainfall outlook and ENSO outlook
Group session
Presentation “what actually happened”
Brief report from each group
- 12.30** ***LUNCH***
- 13.30 Presentation of 3rd 3-month rainfall outlook and ENSO outlook
Group session
Presentation “what actually happened”
Brief report from each group
- 15.00** ***AFTERNOON TEA***
- 15.30 Lessons Learned from the F&D-M Exercise
- 16.30** ***END OF DAY 2***

FRIDAY

- 9.00 ClimSoft – climate database management system: Rod Hutchinson
- 9.30 GCOS – global climate observation system: Kevin Smith
- 10.00** ***MORNING TEA***
- Session Six:
- 10.30 **CLIMATE OUTLOOK FORUM**
Presentation of the following 3-month rainfall outlook: Mr Sam Maiha
Round-table discussion
- 11.00 Recommendations and the next steps (Wrap-up): how to establish an effective communication channel/ service delivery channels; software modification specification.
- 12.00** ***CLOSURE (followed by lunch)***

Stakeholders' Workshop on Application of Climate Predictions

*Gateway Hotel, Boroko, NCD, PNG
7th to 9th March 2007*

Participants List

Participants who also attended the NWS Training on 5th and 6th.

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