

**AUSAID PROJECT
ENHANCED APPLICATIONS OF CLIMATE PREDICTIONS IN
PACIFIC ISLAND COUNTRIES
(PI-CPP)**

***Report on the Stakeholders Workshop on Application of Climate
Predictions in Vanuatu***

Municipal Social Centre, Port Vila
2nd to 4th February 2005

Introduction

The project is now moving into its second and most important phase, which involves the roll-out of the revised (near-final) 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. In addition, the visiting party investigated possible pilot project, for the application of climate forecast information in climate sensitive industries, most notably fisheries, agriculture and water.

The first of a series of workshops under the second phase was held in Vanuatu. The project team spent two days (31st January to 1st February) training the Vanuatu Meteorological Service (VMS) personnel on advance statistics and SCOPIC. They also assisted the VMS personnel with the preparation of their presentations and other relevant materials for the following 3-day workshop. About twelve met staff, including observers from the six provinces, underwent training.

The stakeholders' workshop started with a formal opening, with an address delivered by Ms Harriet Baillie, Australian High Commission and the opening address by the first Political Advisor to Acting Minister of Meteorology, Mr Joe Carlo Bormal. The Director of the VMS, Mr Jotham Napat chaired the session. There were thirty-two participants, including thirteen from the met service, and representatives from the following sectors: Chamber of Commerce, Women Council, Disaster Management Office, Independent News, and several government departments (forestry, fisheries, economic and sector planning, Public Works, quarantine, hydrology, agriculture, livestock, health and environment). Mr Luc Maitreppierre from Meteo France, New Caledonia also attended the workshop.

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 PIC National Meteorological Service to its clients;
- To ascertain specific information needs, provide a forum for identifying desirable software modifications

- To train the media contacts in order to ensure most effective and accurate dissemination of the climate information, including predictions to the general public; and
- To identify and/or commence one or more pilot projects in some of the PIC.

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 (Project Team Leader), Dr David Jones (National Climate Centre), Dr Anthony Falkland (Australian Marine Science and Technology Ltd) and Dr Yahya Abawi (Queensland Department of Primary Industries).

Outcomes

An evaluation of both the training of the met officers and the workshop was carried out (see attached summary report). The overall rating for the workshop ranged from *very good* to *excellent*. It was noted that this workshop was the first of its kind in Vanuatu which focussed on climate information.

Some of the key points highlighted during the discussion sessions were:

- Agriculture plays a very important role in Vanuatu's economy. Farmers expressed their keen interest in the 3 monthly rainfall outlooks. Climate variability affects pest population therefore climate outlook information will assist in controlling pest outbreaks. Climate outlooks will be useful to the women community of Vanuatu in subsistence gardening.
- Some of the observed climate change impacts were reported such as early flowering of certain crops which leads to early harvesting and early planting.
- It was a realisation workshop for the met observers who saw the importance of the data they collect.
- More than 75% settlements are located on the coastal area therefore coastal erosion is a problem.
- Most people live in rural areas and tend to follow traditional methods. There is a need to disseminate climate prediction information to these people and encourage them to use it. Traditional knowledge cannot be incorporated in the prediction model. There is a need to understand the scientific connection to do that.
- Public Works envisaged that climate outlook information will assist them with designing and planning. Localised flooding is common in Port Vila due to poor drainage system. Information such as rainfall intensity is crucial which requires shorter term data eg daily and hourly data.
- Climate outlooks for low rainfall will enable communities to be better prepared for drought eg planning water storage. All urban areas rely on groundwater source: rainfall affects the supply and the water quality.
- Health: climate forecasting system will assist in setting up control mechanism eg malaria outbreaks.
- There are outbreaks of fish poisoning but not sure whether related to weather/climate. Sigatoka is highly related to climate variability, due to seaweed poisoning.

- Forestry noted that certain varieties of insects are associated with rainfall.
- Napat saw the possibility of running a monthly climate forum to present the latest outlooks. He also requested all participants to provide their contact details so that VMS could continue to liaise with them and provide them with the outlooks. ATL suggested that it have the local forum after the monthly teleconference between NIWA, the Bureau and other regional/national agencies. Napat also highlighted that VMS is currently reviving all their rainfall stations.
- VMS will try to issue forecast information in a language that everyone can understand. During the workshop the representative from the Chamber of Commerce offered VMS to present their weather/climate information from his radio programme which is aired on Monday, Tuesday and Thursday. It was highlighted that radio broadcasts do not reach most of the people in Vanuatu therefore other means of dissemination need to be used as well for eg through the weather observers.

Discussion

VMS requested if cyclone forecasting can be incorporated into SCOPIC. ATL: a research has been undertaken by the Bureau on seasonal forecasting for tropical cyclones, and if useful information/system is available before the end of the project, the team will try to incorporate that into the model.

Napat stressed that dissemination of information was a cross sectoral issue and that there was a need for different sectors to be involved. He re-iterated that most people were in rural areas and were currently excluded from the available information. He mentioned that hopefully the RANET communication system will be installed throughout the islands of Vanuatu to enable information to be disseminated to all communities. Noting one of the recommendations, Napat reminded that participants that VMS can only issue forecasts and that it becomes the responsibility of each sector to issue the practical applications of this information relevant to their own sector. ATL supported the need for each sector to interpret and issue the practical application of the information provided.

There was a request from the Public Works Department for information on flood frequencies using SCOPIC (e.g. 50 and 100 year events). Tony Falkland (ECOWISE Environmental/AMSAT) replied that SCOPIC does not provide this information. It provides probabilities of three rainfall ranges which could not be interpreted in terms of flood frequencies. Other shorter term forecasting methods for rainfall and consequent flood flows (using flood forecasting models) would be required for this application.

The presence of the representatives from Vanuatu National Council Women (VNCW) at the workshop was noted. They emphasised the importance of the climate prediction information to the women community as women in Vanuatu are largely responsible for subsistence farming.

Another interesting outcome of the workshop was the responses from the representatives from Fishery Department. During the FDM exercise, some interesting and practical decisions were made using the information available on the sea surface temperatures. They requested for SSTs forecast be made available.

There was a suggestion that the National Disaster Management Office should disseminate information regarding risk of flooding and landslides (and impacts on food production).

Lot of interesting decisions were made in response to the forecasts during the Forecasting and Decision-Making exercise. This become more of a realisation exercise as many participants never considered (most were not aware of information such as climate outlooks) using climate outlooks in their decision making process, and found themselves making decisions that were practical and beneficial.

There was no strong recommendations on SCOPIC but more training for the VMS and the stakeholders was highlighted. Most recommendations are aimed at the VMS but some guidance and assistance from the Bureau or other regional partners may be required.

Recommendations Made

- VMS to interact regularly with the user sectors.
- There is a need to train people in all provinces.
- The authorities should listen to the people in the provinces as they are ones who are experiencing climate-related changes.
- There is a preference to simplify the information. Information has to be simple. There is a need to disseminate information by appropriate means to the people (through newspapers and local radios). There is a need to get the information to the grass roots level.
- There should be consistent consultation between the VMS and the user sectors in form of regular forum at about 3 to 4 months.
- VMS to produce a summary bulletin of the forecast information for the media.
- Climate outlooks need to be specific to sectors and should include practical applications eg the type of crops that should be planted etc.
- There is a need for practical applications of the forecast and not the technical information itself, noting that most people are only interested in the former.
- There is a need for more climate training for the VMS staff.
- More time should be allocated to group exercise sessions.

Additional Comments

During the closure, Napat acknowledged the AusAID for funding the project and including Vanuatu in the Project. He also thanked the Bureau, the project team, and all the participants for attending and making the workshop a successful one. The participants also expressed their appreciation towards the VMS, AusAID and the project team for having such a workshop in Vanuatu. In response ATL thanked Napat and his team for their assistance in organising the workshop, and also acknowledged the participants for their contributions over the 3 days. She encouraged the participants to provide feedbacks on the SCOPIC outlook products and on any climate bulletins produced by the VMS so that VMS and the project team will be able to improve their products and try to customise them to meet the users' needs as far as possible.

After the closure of the workshop VMS organised a trip for the participants to the RANET station (the first of the Pacific RANET project). During the visit, Napat was interviewed on the workshop.

Falkland took the opportunity to talk to the participants from the local water authority in regards to the pilot project. He managed to acquire some digitised data and make contact with the relevant people.

Since this was the first workshop, some teething problems were expected, but none had any negative impact on the workshop. If any, the cancellation of the flight from Port Vila to Honiara scheduled on the 5th (the next workshop was in Honiara from the 7th) led to splitting of the team: David Jones and Yahya Abawi had to leave on the 3rd for Honiara while Janita Pahalad and Anthony Falkland joined later on the 8th (via overnight in Brisbane).

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EVALUATION REPORT

Stakeholders Workshop on Application of Climate Predictions (Vanuatu)

Introduction

An evaluation was done for the 3-day workshop held at the Municipal Social Centre, Port Vila from 2nd to 4th February 2005. 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-one people registered on the first day of the workshop but the number dropped from the next day. Despite this, the remaining group was very interactive and showed great interest in the new service. The following results are summarised from 21 forms.

The average rating for each workshop session ranged from 4.2 to 4.4 (out of 5). The lowest rating was given to “*the time allocation*” for every session (as low as 3.5). The highest average rating of 4.9 was given to “the usefulness of the Forecasting and Decision-Making Exercise”. Training handouts also scored an average of 4.5. The participants rated the three presenters from *poor* to *excellent*.

Most participants found the *Forecasting and Decision Making Exercise* as the most valuable aspect of the workshop. There was no session that was rated as least valuable but there were few general comments: 5 participants found presentations too scientific and found it hard to follow (Pigeon-English is the common language among the locals). There were several recommendations for more local examples.

The overall rating:

Venue: Excellent (1); very good (5); good (7); fair (6) and poor (1).

Workshop: Excellent (8); very good (7), good (4) and fair (1).

Some notable comments made by the participants:

- The language was one of the major problems.
- The workshop itself was very good of its kind.
- To accommodate the requirements in setting facilities around the region.
- More exercises needed because different sectors can have a turn in involving in their planning.
- More basic explanation.
- *I would like to credit you and your team for the wonderful job well done to bring me to light with your software programme.*
- Very useful to my job situation.

Further comments

On the first day of the workshop, the Project Team noted that English could be a problem therefore, upon participants' request most of the discussion sessions were conducted in Pigeon-English. Mr Jotham Napat, the Director of Vanuatu Meteorological Service, kindly acted as the interpreter during those sessions. Unfortunately, all presentations were conducted in English but during the exercise session, the team with the local met staff spent some time with each group.

The team also noted that there was a large variation in qualification/skills among the participants, including the Met Service, which enhanced the language problem. The team engaged the met staff in doing several presentations to build their capacity to rely this information to the others.

All presenters had a chance to read the evaluation forms. They have noted the comments/criticism (if any), and have revised their presentations (including format and contents) and their form of delivery. Though there are a set of generic training materials, the presentations are modified (if need be) for each Pacific Island Country.

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*Stakeholders' Workshop on Application of Climate Predictions
Bumbea Hall, Port Vila
2nd to 4th February 2005*

AGENDA

Wednesday

Formal Opening: Chaired by the Director of Vanuatu Meteorological Service, Mr Jotham Napat

- 8.30 Opening Ceremony (prayer): Tavis Tamara
 Welcome and Introduction of VIPs: Jotham Napat
- 8.40 Address by Ms Harriet Baillie, Australian High Commission
- 8.50 Opening address by Mr Joe Carlo Bormal: First Political Advisor to
 A/Minister of the Meteorology
- 9.00 Introduction to PI-CPP project and the Workshop: Janita Pahalad
- 9.15 Brief self introduction of the participants
- 9.30 *MORNING TEA*

Session Two: The Climate System, its behaviour and consequences

- 10.00 Background on the climate system including key process (small scale/large
 scale variability): David Jones, BOM
- 10.45 Local climatology (eg seasonal variation, ENSO teleconnections including
 some of the past events and tropical cyclones): Silas Robson and David
 Gibson. VMS
- 11.15 Local consequences: Round-table discussion (participants to offer their
 thoughts/insights into how and why variations in climate matter to them)
- 12.15 *LUNCH*

Session Three: Seasonal Climate Forecasting

- 13.15 Seasonal climate forecasts: what makes it possible (predictability in the
 system), processes, what do they tell us and their limitations: David Jones
- 13.45 Seasonal Climate Outlook for the Pacific Island Countries (SCOPI): What
 user products are available?: Yahya Abawi, QDPI and Patricia Mawa and
 Silas Robson, VMS
- 14.15 Regional and Local Seasonal Forecast Products: what's available regionally
 and locally; dynamic models: David Jones
- 14.45 *AFTERNOON TEA*

Session Four: Managing Climate Risks (case studies)

- 15.15 Local example: Ian Iercet (PWD), Peter Napuat (Chamber of Commerce),
 and Annick Stephens (Agri)
- 15.45 Agricultural: Yahya Abawi
- 16.15 Water management: Tony Falkland
- 16.45 *END OF DAY 1*

Thursday

Session Five: THE FORECASTING AND DECISION-MAKING EXERCISE

- 8.30 Briefing on F&D-M Exercise
- 8.45 Presentation of 1st 3-month rainfall outlook and ENSO outlook
Group session
Presentation “what actually happened”
- 10.45 *MORNING TEA*
- 11.15 Presentation of 2nd 3-month rainfall outlook and ENSO outlook
Group session
Presentation “what actually happened”
- 13.15 *LUNCH*
- 14.15 Presentation of 3rd 3-month rainfall outlook and ENSO outlook
Group session
Presentation “what actually happened”
- *Includes 30mins tea break.
- 16.45 *END OF DAY 2*

Friday

- 8.15 Lessons Learned from the F&D-M Exercise
- 9.30 *MORNING TEA*

Session Six: Climate Outlook Forum

- 10.00 Presentation of the following 3-month rainfall outlook: VMS
Round-table discussion
- 11.30 Presentation on RANET: Janita Pahalad
- 12.00 Recommendations and the next steps (Wrap-up): how to establish an effective communication channel/ service delivery channels; software modification specification.
- 13.00 *LUNCH*

THE STAKEHOLDERS WORKSHOP ON APPLICATION OF CLIMATE PREDICTIONS

Port Vila, Vanuatu

2nd TO 4th February 2005

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