

## **Improving Agrometeorological Bulletins Perspectives from RA V (South-West Pacific)**

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### **Introduction**

The information in this paper is drawn from a survey conducted among countries in the WMO RA V Region. Unfortunately only 7 countries responded to the questionnaire and they are Australia, New Zealand, New Caledonia, Philippines, Fiji, Indonesia and Malaysia. Nevertheless some useful information can be drawn from the results of the survey.

### **Agrometeorological Services**

Generally agrometeorological services were provided together with other services of the National Meteorological and Hydrological Service (NMHS) and not through an independent unit. Two countries have services that are joined together with other climatological services while one was integrated with general weather forecasting services. Only one country indicated that it had an independent agrometeorological unit.

### **Types of Agrometeorological Information Provided**

Agrometeorological information given in bulletins/advisories included summaries of immediate past weather, current weather and forecasts for the next immediate period. The weather elements were generally described with respect of their deviations from normals. The time periods used for describing and forecasting the weather vary from 1 day to 2 months. Consequently, the frequencies of preparing and distributing agrometeorological bulletins were also from 1 day to 2 months.

Information relevant to agriculture contained in the bulletins included soil moisture conditions, cropping advisories, evapotranspiration, agricultural warnings, soil temperatures, crop phenology, influence of weather on crops, etc.

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### **Collection, Analysis and Presentation of Information**

Weather information was usually obtained from a network of weather stations that, in some cases, included automatic weather stations. Sometimes, other non-meteorological agencies were involved in collecting the data. The data were collected and analysed in a data center and results were often presented in text and graphical forms. They were sent to clients via fax, phone, postal services and e-mail. A few countries have them on their web-sites or the Internet. One developed country provided Internet access to near real time AWS data, satellite and radar imageries.

### **Involvement of Agricultural Agencies**

Usually, no agricultural agencies are involved in the preparation of the bulletins. However, in many countries agricultural agencies were involved in the distribution of the information.

### **Target Audience**

A variety of people in the agricultural sectors were targeted. These include farmers, land-users, agricultural researchers, extension workers, land development personnel, foresters, etc. One NMHS mentioned the use of seminars to disseminate services to users.

### **Feedback**

In general, no systematic or regular feedback mechanisms have been established in the NMHSs. A few countries conducted occasional surveys to assess their services. Only one country carried out regular surveys for this purpose, and one used seminars or talks with users to evaluate their products.

### **Assessment of Economic Values**

The developing nations, in general, did not assess the economic values of their services. They might not even know whether the information provided were useful or not. Two countries indicated that they have done some form of economic assessment on their services. One nation obtained some idea on the benefit of its agrometeorological services by estimating the negative impact of extreme weather on agriculture.

### **New Techniques**

Most countries reported increasing use of new technologies like GIS and simulation models. Generally GIS was used to perform spatial analysis of meteorological elements. Downscaling from outputs of general climate

models through regional modeling and statistical means were also used in a few countries. One country mentioned the development of crop-weather models.

### **Limitations**

Inadequate finance, human resources, technology and coverage by national network of weather station were common reasons given by developing countries for the ineffectiveness of their agrometeorological services. One country felt that lack of capacity of users, particularly rural farmers, to understand and use the bulletin limited its usefulness.

The lack of communication or contacts with users was also mentioned as a limitation to the usefulness of the bulletins. Due to the lack of feedbacks, the NMHSs might not be providing what the users really want. In some cases, the information provided does not have sufficient spatial detail to meet needs of small farmers. Too long time was taken to collect, analyze and distribute information that by the time the bulletin reached the users, it was no longer relevant or useful. Timeliness is an important factor in agrometeorological services.

One country felt that serving the diverse needs of users that included public media and agricultural sectors affected the types and amounts of information supplied.

### **Suggestions for Improvement**

For developing countries, assistance in the form of finance, training and transfer of technology will certainly improve the agrometeorological bulletins. They also need help in the management of database. Sharing of resources within a region may also help in improving the bulletins.

NMHSs need to take greater effort to communicate with the users so that they may meet the needs of their clients. One good means is to hold regular dialog sessions with users. NMHSs need to listen more carefully and learn to talk in the language of the users in order to be relevant and useful in their services.

In some countries the bottleneck may be the lack of ability of users especially farmers to understand and use the bulletins. It seems that some sort of training and awareness needs to be conducted among users in order to benefit better from the bulletins.

NMHSs should make an effort to reduce the time for getting the bulletins to the users. In this aspect, automation of data collection, analysis and distribution will greatly help in this area. Countries that have the capability for putting information on the Internet, will certainly be able to reach more clients and in a much faster manner.