CONAGUA
National Water Commission

National Maritime Service
(SMN)

Report of the International Committee to Panama City, Panama,

on the Meeting between the Panama Meteorological Service (ETESA-HIDROMET)

and its Users and the Workshop on Launching Pilot Collaboration Projects

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BACKGROUND:

The committee's principal objective was to attend, as an observer, the meeting between the Panama Meteorological Service (ETESA-HIDROMET) and users of hydrometeorological and climatological information in the country in both the public and private sectors. The committee members also attended the Workshop on Launching Pilot Collaboration Projects. Both of these events were held in Panama and were intended to help gain a better understanding of various forms for the delivery and the use of information. They were also meant to promote inter-institutional activities with the aim of adapting and defining the scope of efforts by personnel engaged in the development and delivery of information (the Meteorological Service) and identifying the real needs of users.

These measures were discussed as actions to be taken within the framework of the **Madrid Conference Statement and Action Plan** adopted by the **Madrid Conference of Directors**, which was held in March 2007. They were also outlined as part of the Programme of Cooperation in Meteorology and Climatology for Ibero-American National Meteorological and Hydrological Services (NMHSs), which was established in the 1980s but received a new impetus in 2003, and whose objectives are consistent with those of the Madrid Conference.

At the 2007 Conference, the participants agreed that they needed to take the initiative so that every Meteorological Service would have the ability to improve its interaction with users and meet their expectations.

The Madrid Action Plan consists of 15 points:

1. Review the institutional framework governing meteorological and hydrological service provision.

2. Lead a quantum change in the way that weather, climate and water information and services are produced, used and communicated.

3. Embark on capacity-building endeavours through creation of education and training opportunities for both users and providers of weather, climate and water information.

4. Foster increased recognition by governments and other stakeholders of the contribution that NMHSs and their partners are making to secure and sustainable living.

5. Adopt steps to strengthen observational programmes and the associated research, and development of models and service delivery systems (SAT).

6. Focus targeted attention on the urban environment.

7. Facilitate and strengthen dialogue and collaboration between providers and users.

8. Improved service delivery programmes that address the developmental, societal, economic, environmental and health concerns of the countries.

9. Strengthen existing, and establish new, operating partnerships between users and providers.

10. Facilitate and strengthen the ability of NMHSs to effectively communicate weather services and products through all forms of media.

11. Develop economic assessment techniques and methodologies for quantifying the benefits of services, as well as World Meteorological Organization (WMO) Guidelines on these methodologies, training in their use, and application and publication of the results.

12. Encourage the free and unrestricted exchange of data to support research and improve operational services.

13. Build on the earlier WMO work on the development of a comprehensive economic framework for meteorological service provision.

14. Develop an implementation plan.

15. Monitor and report every year on progress, and organize a further, more broadly based, conference (2012) to take stock of achievements.

Madrid Action Plan Documents

On the other hand, the objectives of the Ibero-American Cooperation Programme in Meteorology and Hydrology are centred around four key elements:

- *Capacity-building and institutional development*
- *Staff training and development*
- *Operational management*
- *Regional projects and initiatives*

In this context, three activities have been defined (among other things), which can address the proposed actions and meet the needs of these programmes:

1. Meeting between the Meteorological Service and its users

This entails an explanation on the part of users in the public and private sectors of how they use meteorological and climatological information and how its use could be promoted in various ways. For example, this could be through better awareness of the information that is available to them, training in the use of this information, a closer relationship with personnel in the Meteorological Services, and so on. To this end, the experiences and contributions of previous regional workshops have been incorporated into the process.

2. Workshop on Launching Pilot Collaboration Projects

Once a meeting has taken place, a workshop can be held to promote closer ties between the National Meteorological Service (NMS) and its customers (users), allowing them to work together to define inter-institutional projects aimed at improving relations between the NMS and the users, which will contribute to better decision-making by the sectors involved, based on hydrometeorological and climatological information, so that the NMS itself can adapt or redesign the presentation of its products in a simpler and more effective manner.

It is important to note that this workshop represents a commitment on the part of the NMS and the users, because the time scheduled for the Pilot Projects is 18 months. During this period, all of the sectors involved will attend periodic meetings aimed at reviewing the data for the specific purpose of the project and monitoring the project up to the end. In addition, officials need to be appointed who are responsible for the projects that are set up, and fully dedicated personnel need to be assigned for all of these activities.

3. Course on Methods for Evaluating the Economic and Social Benefits of Hydrometeorological Information

This course presents the basic elements of economic analysis so that they can be applied to the evaluation of economic and social benefits arising from the use hydrometeorological information in various areas of application.

The course therefore offers an objective approach to explaining why it is important to provide essential support and invest in this sector for better decision-making.

In this connection, the events that the Panama Meteorological Service (ETESA-HIDROMET) decided to carry out with the support of the World Meteorological Organization were the **Meeting between the Meteorological Service and its Users** and the **Workshop on Launching Pilot Collaboration Projects.**

The principal objective of these activities is to make a contribution to improving safe and sustainable living conditions for the entire population by drawing on better information about the state of the weather, climate and water, supported by more efficient and timely management. It is also important to develop other products and services with enhanced socio-economic benefits and conditions that will provide greater decision-making capacity for the users who consult this information.

Meeting participants

DEVELOPMENT OF THE MEETINGS

These two activities were carried out under the direction of Mr José María Marcos Espinosa of the Spanish Ministry of the Environment (MMA) and Mr Patricio López Carmona of the State Meteorology Agency of Spain (AEMET), who were also speakers at the Meeting and Workshop. Ms Yvette Ramos and Dr Sonia Quiroga, consultants from the World Meteorological Organization, also collaborated and were speakers at both events as well.

During the meeting with users, various presentations were given by users from the public and private sectors, who spoke about the principal activities that are carried out in different areas, as well as the demands and requirements for more urgent or specific information on the part of each sector with respect to the Hydrometeorology Administration-(ETESA).

Just under 70 people from various government agencies and the private sector attended the meeting. The institutions that made presentations at the Meeting during the opening session and on the use and application of meteorological information were:

State Meteorology Agency of Spain (Consultant)
World Meteorological Organization (Consultants)
Spanish Ministry of the Environment and Rural and Marine Affairs (Consultant)
Hydrometeorology Administration (ETESA)
National Environmental Authority (User)

Agricultural Insurance Institute (User)
Gorgas Memorial Institute for Health Studies (User)
National Dispatch Centre (ETESA)
Panama Canal Authority (User)
Ministry of Agricultural Development (Mida) (User)
National Civil Defence System (User)

Development of the workshop

The workshop was held following the meeting, and it began with a plenary session that included a discussion of the organization of working groups with 30 participants each.

This workshop began with a welcome from the head of hydrometeorology (ETESA), and there was a presentation by José María Marcos on content, objectives and methodology, based on the concept called *Communities of Practice*. There was also a presentation by Yvette Ramos on *Strategic Planning*, *Change Management*, *Marketing Analysis* and SWOT analysis by ETESA-HIDROMET.

As the workshop progressed, once the working groups were formed and organized, sector-based meetings were held to determine and define the activities that would serve as pilot projects for future efforts following similar procedures.

In order to select the pilot projects, the social objectives were defined, along with the beneficiaries, the information channels, the basic needs and provisions for an impact assessment.

Two project working groups were established, one with a focus on the agricultural sector and the other on the health sector, from which the following projects emerged:

Pilot Project 1:

Early warning system for rice and cucurbit sowing in the Remigio Rojas integrated irrigation system

This was the project selected by the group that included the Hydrometeorological Administration (ETESA), the Agricultural Insurance Institute, the National Environmental Authority and the Ministry of Science. There are currently 380 producers in this integrated irrigation system.

The objective of this project is to identify critical thresholds to support the production of rice and cucurbits within an irrigation system, depending on specific meteorological and climatological conditions, as well as agricultural aspects.

Other objectives are to understand the scope of the project and analyse the improvement of relations and communications between ETESA-HIDROMET and the agricultural sector, in order to provide better socio-economic benefits for the sector.

Pilot Project 2:

Early warning system for dengue hemorrhagic fever in the Juan Díaz region

This second group was comprised of personnel from the Hydrometeorological Administration (ETESA), the University of Panama, the Ministry of Health and the Gorgas Memorial Institute for Health Studies.

The focus of this project is to identify the conditions under which cases of dengue hemorrhagic fever may occur in the Juan Díaz region, based on the interaction of meteorological information and health research that is being carried out in this country. The purpose of the project

is to enable authorities to respond to specific conditions that pose a significant risk in terms of the occurrence of this illness.

Working Group for Pilot Project 1

Working Group for Pilot Project 2

The working groups prepared summary reports on their work, and rapporteurs presented a synthesis of the groups' activities and conclusions.

In the course of the workshop, there was a demonstration of an interactive platform that allows for the posting of information on results that are being observed and for the sharing of

comments and messages about the experience in Panama, as well as conclusions from the workshop.

RESULTS AND CONCLUSIONS

As a result of attending this meeting, and after learning about the terms of reference for decision-making on implementation of the relevant actions, participation in these events, and the various experiences that were gained, one has a better understanding that the relationship between the National Meteorological Service and its users, and the products that are offered to the general public, are not optimal. For this reason, efforts need to be undertaken to make some changes that will improve the distribution of information.

On the one hand, this involves making clear in a general way the economic and social benefits that hydrometeorological information can bring to different sectors. And in addition, the Meteorological Service should be aware of the actual usefulness of the products and services that it offers to its various users, and any needs of theirs that are not being met, so that substantial improvements and/or changes can be made, and also so that projects can be carried out among institutions for specific purposes.

Based on experiences at previous events, the following observations have been made regarding the NMS-user relationship.

- ***NMSs are not aware of user needs.***

- ***The users are not sufficiently aware of the number and types of services that are available.***

- ***NMSs do not deliver services in a timely and suitable manner.***

- ***The communication between NMSs and users is not adequate.***

- ***There are problems with the integration of these services into national development plans.***

In addition, in view of the plans to launch similar activities in Mexico in the near future, it is important to agree on and hold a meeting between the Meteorological Service and its users, applying the experiences from the forum that was held in Panama City, as well as experiences gained at other international forums.

These activities could also be used to help produce assessment studies of both the economic and overall benefits of hydrometeorological information provided by the Mexican NMS to its clients.

FOLLOW-UP

For the event that is to be held in Mexico, the objectives need to be defined precisely so as to offer guidance and provide direction about the what should be done, or what the expected outcomes should be. It is recommended that the Meeting between the National Meteorological Service-CONAGUA and its Users be held first, with the participation of consultants from WMO, AEMET and the Spanish Ministry of the Environment.

This will serve initially as a guide to learning about user needs, because this first event will enable one to learn about the activities for which the information distributed by the NMS is used, as well as the users' concerns and demands. It will help to improve communication with the users, and at the same time will clarify the process used to define the NMS-user relationship.

For the meeting in Mexico, the users who should be invited first are users in the public and private sectors who are entirely dependent on information from the NMS.

Second, there are other sectors that have their own meteorology offices, but it is necessary to invite them as well so that collaboration agreements can be arranged with them in order to meet user needs more fully, depending on the information that each institution has. This will mean taking advantage of and perhaps at the same time bringing together the information available at other institutions, with the NMS acting as the lead organization for this activity. (See Annex 1.)

ANNEX 1

First group:

CIVIL DEFENCE COORDINATION (DEPARTMENT OF THE INTERIOR)
STATE CIVIL DEFENCE ADMINISTRATIONS
NATIONAL CENTRE FOR DISASTER PREVENTION (CENAPRED)
MASS MEDIA
NATIONAL INSTITUTE FOR FORESTRY AND AGRICULTURAL RESEARCH (INIFAP)
AGRICULTURAL SECTOR (SAGARPA)
FARMERS' ASSOCIATIONS
INSURANCE COMPANIES
ECOLOGY INSTITUTE
HEALTH SECTOR
TOURISM SECTOR (SECTUR)
GOVERNMENT OF THE FEDERAL DISTRICT
MERCHANT MARINE
ASSOCIATION OF HOTELIERS
SURFACE WATER AND RIVER ENGINEERING GROUP (GASIR)
OTHER CONAGUA DIVISIONS
EDUCATION SECTOR
RESEARCH SECTOR
STRATEGIC PLANNING SECTOR
FILM COMPANIES
FORESTRY INSTITUTIONS
OTHER

Second group:

ATMOSPHERIC SCIENCES CENTRE (UNAM)
DEPARTMENT OF NATIONAL DEFENCE (SEDENA)
DEPARTMENT OF THE NAVY
MEXICAN AIRSPACE NAVIGATION SERVICES (SENEAM)
FEDERAL ELECTRICITY COMMISSION (CFE)
MEXICAN INSTITUTE OF WATER TECHNOLOGY (IMTA)
NATIONAL POLYTECHNICAL INSTITUTE (IPN)

ANNEX 2

In order to hold the meeting, it will be necessary to take various logistical issues into account, bearing in mind the experience in Panama:

- ***Selection of an appropriate venue for the event, based on the number of participants;***

- ***Advance visit by the consultants to the facilities where the meeting is to be held;***

- ***Identification of the consultants' needs in Mexico to carry this out;***

- ***Information needed in advance from the consultants for the meeting organizers and participants*** *(brochures containing all of the information necessary to ensure fulfilment the meeting's objectives);*

- ***Identification of expected results from the meeting;***

- ***The event is to be held over a two-day period, starting at 9 a.m. and running until 3 p.m. each day;***

- ***Allowance of adequate time for presentations by speakers*** *(30 minutes should be sufficient);*

- ***Other logistical and organizational aspects related to the meeting include:*** *computer equipment needed for the forum, folders, certificates of participation, CDs with the presentations, refreshments, and so on.*

ANNEX 3

Request for information required by two users in the public sector

Institution: National Environmental Authority

- Surface and groundwater balances
- Analysis of rises in water level
- Climatic characterizations by region
- Drought studies
  - Development of drought and desertification indicators
- Forecasting/warning systems (fire, flood, drought)
- Air quality analysis
- Climate variability
- Climatic atlas by region
- Videos, posters, publications … studies, research

Institution: Gorgas Memorial Institute for Health Studies

1. Access to information
   - Directly on the ETESA hydrometeorology page

2. Advice on understanding hydrometeorological variables and their interaction in health and disease phenomena

3. Formation of research teams
   - Development of proposals for joint research

4. Development of predictive models

5. Production of scientific publications on health that incorporate hydrometeorological variables