

THE STATUS OF IMPLEMENTATION AND
OPERATION OF WWW KEY COMPONENTS IN AFRICA

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I. - INTRODUCTION

This paper relates the major difficulties experienced by many, if not, most of the African countries in implementing and operating national surface and upper air synoptic stations, their components in the telecommunication system and their national met service for the data processing activities.

Therefore the status of data quality in RAI depends essentially on the status of implementation and operation of www key component in Africa.

In the second part, the case of NIGER is one example where data quality control is carried manually using rudimentary methods.

II . - The WWW Programme

The World Weather Watch Programme (WWW) is the basic programme of the WMO, with the primary purpose to provide Members with observational data and processed products for meteorological forecasting and warning services to various national and international users. The WWW has been evolving for about 20 years and considerable progress has been made. Nevertheless, much remains to be done. Parts of the globe are still inadequately observed or not observed at all by surface-based systems. Observational data can be delayed or even lost, compromising the ability of Members to provide timely warnings or vital forecasting services. Not all Members have the possibility to benefit from the high quality analyses and forecast products available in the WWW system.

III . - WWW in developing countries

2. The president of Regional Association I (Africa) presented to the thirty-sixth session of the Executive Council an analysis of the problems faced by Members of developing countries, particularly in RA I, in the implementation and operation of the three essential elements of WWW, namely the GOS, GDPS and GTS. Two basic problems exist in developing countries which are the main causes of the specific technical problems leading to a low level of implementation and operation of key WWW facilities in a number of these countries. The lack of proper orientation or awareness of government authorities, and potential users at large, on the value of meteorology to the economic development is one. The second is the strained economic situation prevailing in the developing countries which prevents governments from giving the necessary support to Meteorological Services while recognizing the importance of meteorology. As a result of these two problem areas, taken individually or combined, the following specific problems arise in the WWW system in many developing countries :

- because of lack of sufficient observational equipment and inadequate manpower to run the stations, the planned synoptic network may not be fully implemented;
- The operation of stations already implemented may be suspended or interrupted owing to a lack of replacement equipment, spare parts, consumables or trained manpower to maintain faulty equipments.
- Maintaining the level of operation of existing upper-air stations is difficult, because of the increasing costs of operating these stations
- Implementing synoptic stations in sparsely inhabited and inaccessible areas is difficult;
- The quality of observations is not maintained to the required standard or is degraded because of the lack of an organized instrument calibration and testing centre in the country or poor management of the stations in the way of delayed responses to requests from the stations or a lack of inspection and supervision programmes.
- Adequate telecommunications facilities are made available neither for national data collection nor for regional or global data exchange. Lack of trained technicians and spare parts are mainly the reasons for the poor performance of telecommunications facilities. Replacement of outmoded and aged equipment is not given enough attention because of lack of resources;
- Most RTHs and RMCs in Africa do not perform their responsibilities satisfactorily because of the minimum support given to them by governments. This is a result of authorities not being fully made aware of the international obligations in this regard or because of technical incompetence of the centres themselves./.-

We notice many sources of errors- from the initiation to the processing of data .

IV - 1 - SYNOPTIC SURFACE STATION

* Local environnement in which the station is located make the data non representative (temperature, sounding, sunshine, evaporation, rainfall etc)

- parc invaded by animals , sand dunes etc.....
- the parc is surrounded by administrative buldings.

* Instruments dont give reel value of parameters

- many recording instruments lack of precision because of the climat (dust, sand). Clock system . Often faulty.

- many instruments lack of spares parts. Their fonctionning is irregular.

* Our Observation do not describe the réalité

- the observation hour is not respected.
- fréquent paralax errors
- the estimations of the values of visibilité and cloud ceiling are often arbitrary (subjective).
- we observe big variation between the recorded and indicated values.

* Our observers are not so encouraged

- They have low level of training . Many are trained locally.
- Many of our observers come to meteorology without any aptitude or vocation.
- Most of our observers have not being retrained, or readapted to new techniques.
- Tey have the feeling of being neglected by the higher hierarchy.
- Most of them complain of being less payed and they have a lot of financial problems.

IV - 2 . - Centre Of Data Collection

A first control should be carried at this level when meteorological informations ave gathered within a message. The operator should make sure these data are in compatibility with the code.

But most of the time, this is not the case because of many probems. Errors being generated for certains important reasons :

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1 - Telecommunications difficulties

- * during the night by SSB
- * many stations feel serious difficulties of energy that can make the SSB functioning
- * no appropriate maintenance . Certains fréquences are missing

2 - Operators not caring

- * All the operators come from airnavigation division. They dont have any ideas of the contains of a meteorological message.
- * Difficulties of mutual understanding arise between the operator and the meteorological agents sending message from stations . They can not handle a propre way to easily cover a national data collection.
- * Most of the time during collecting activities, the operator required that certains stations send their message befor HH + 00.

IV - 3 N M C

The messages are compiled in the text of a bulletin ready to be sent to the corresponding RTH. The bulletin is not complet when a station is missing. It should carry the mention NIL before the station index. One source of error may be created when preparing a bulletin.

IV - 4 R T H

All the messages sent toward or by NIAMEY should transit by a KLB5 our message switching system. It is installed en 1974. This system works for both Airnavigation and meteorological service.

- 1 - The messages are switched automaticaly toward the appropriate destination . They are routed as programmed.
- 2 - Many messages happen to come to NIAMEY whithout being programmed. In this case they are given an appropriate heading which is accepted by the system , then sent bzck and dissiminated toward the assigned adress.

IV - 5 Processing Center

All the processing activities are carried manually

- 1) Plotting
- 2) Analyses- at this level we can controle the reliability of data.