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WHO ACTIVITIES IN SUPPORT OF THE ISLAND COUNTRIES OF THE SOUTH-
WESTERN INDIAN OCEAN IN THEIR EFFORTS TO FORECAST
CYCLONES AND TO REDUCE THE ADVERSE EFFECTS OF
SUCH DISASTERS

(Submitted by the World Meteorological Organization)

Summary and purpose of document

As called upon by the Economic Commission for Africa by its Resolution 62C(XXII) adopted at its twenty-second session held in Addis Ababa, Ethiopia, April 1987, this document provides relevant information on WMO's activities in support of the Member countries in the field of tropical cyclone forecasting, warning services and disaster prevention and preparedness.

ACTION PROPOSED

The Commission may note the information contained in the document and call upon its Members, UN agencies and the donor community to provide urgent assistance to the national institutions and the proposed regional centres involved in cyclone warning as well as disaster prevention and preparedness.

Reference: Follow-up action on relevant resolutions adopted by the twenty-second session of the Commission and thirteenth meeting of Ministers.

INTRODUCTION

1. The twenty-second session of the Economic Commission for Africa held in Addis Ababa, Ethiopia, April 1987, considered the disastrous effects of tropical cyclones on the fragile economies of the Island countries of the South-Western Indian Ocean and adopted ECA Resolution 620 (XXII) "Support to the Island Countries of the South-Western Indian Ocean in their Efforts to Forecast Cyclones and to Reduce the Adverse Effects of such Disasters". It called upon various UN agencies, including WMO to take into account natural disasters like tropical cyclones, floods, tidal waves, volcanic eruptions, gas leaks and marine pollution when designing and implementing their programmes. It requested the UNDP and the international community to increase their technical and financial assistance to countries regularly affected by cyclones.

2. As a result of unprecedented loss of lives and property damage caused by tropical cyclones, and the recognition of the increasing global social, economic and environmental impact of tropical cyclones, the United Nations General Assembly adopted two Resolutions in 1970 and 1972. The first of these resolutions was addressed to WMO and resulted in the establishment of the Tropical Cyclone Project. The United Nations General Assembly maintained a close interest in the Project and in 1977 adopted a further resolution calling on WMO to intensify its efforts in this field. In response to this resolution, Eighth Congress of WMO (Geneva, 1979) reviewed the progress made and decided to upgrade the Project to WMO Tropical Cyclone Programme (TCP).

THE TROPICAL CYCLONE PROGRAMME OF WMO

3. The objective of the Tropical Cyclone Programme (TCP) of WMO is to establish and strengthen national and regionally co-ordinated systems for improved and effective meteorological and hydrological forecasting and warning services to ensure disaster prevention and preparedness. To this effect, WMO has established regional tropical cyclone bodies in all the tropical cyclone-prone ocean basins of the world. With the support of WMO and some regional Organizations like the ESCAP, the groups meet at regular intervals to review their development programmes. The Tropical Cyclone Programme of WMO encourages collaboration not only among Members of a particular basin but also among the different bodies enabling mutually beneficial exchange of experience and transfer of technology. The implementation of the Disaster Prevention and Preparedness element of the Programme is being carried out in collaboration with the Office of the United Nations Disaster Relief Co-ordinator (UNDRO) and the League of Red Cross and Red Crescent Societies (LICROSS).

4. At its Tenth session, WMO Congress (Geneva, May 1987) noted with satisfaction the Resolution 620 (XXII) of the ECA in support of the Island Countries of the South-West Indian Ocean and calling upon relevant UN agencies and donor countries to provide increased support to the countries which are highly vulnerable to cyclones. Congress provided the necessary funds to enable the regional bodies to continue their activities over the period 1988-1991.

The Tropical Cyclone Committee for the South-West Indian Ocean

5. In order to assist the countries concerned in developing appropriate strategies nationally and regionally, the WMO Regional Association I (Africa), an intergovernmental body, established a Tropical Cyclone Committee in 1973 made up of members of the tropical cyclone-prone countries of the sub-region. The programme of the Committee comprises five major elements, namely meteorological, hydrological, disaster prevention and preparedness, training and research. The Members of the Committee are Comoros, France (Reunion), Madagascar, Malawi, Mauritius, Mozambique, Seychelles, Swaziland, the United Republic of Tanzania and Zimbabwe. The Committee meets every other year to review its Operational and Technical Plans and agree on ways and means to reinforce national capabilities and enhance regional cooperation and co-ordination.

Regional Cooperation Programme of the Committee

6. At its seventh session (Mauritius, September 1985), the Committee considered the need for closer regional cooperation, and recommended the establishment of a regional tropical cyclone warning Centre towards further improvement of tropical cyclone forecast and warning services. With assistance from WMO, an in-depth study on the feasibility of such a centre resulted in the formulation of a Regional Cooperation Project which included a number of specific features, such as proposals for a regional specialized cyclone warning Centre, a regional computer network, improved telecommunication system, strengthened composite observational networks and a strong training component. The proposals were fully supported by the Regional Association I (Africa) at its ninth session (Harare, Zimbabwe, December 1986) and the Committee was requested to give detailed attention to the programme in order to ensure the early implementation.

7. At its eighth session (Antananarivo, Madagascar, 22-28 September 1987), the Committee examined in detail the proposed Regional Cooperation Programme, in particular the establishment of a regional centre and made the following recommendations:

- (i) A Regional Tropical Cyclone Advisory Centre be located in Reunion and be supported by two Sub-regional Tropical Cyclone Advisory Centres based in Madagascar and Mauritius. The Regional Centre would provide a meteorological watch over the whole region. The Sub-regional Centre in Madagascar would issue advisories for the Mozambique Channel and the eastern coast of Africa and its interland, while the Sub-regional Centre in Mauritius would issue advisories for the area between 75° and 90° E. The national responsibility for issuing cyclone warnings to their respective populations and previously agreed areas of responsibilities for the naming of depressions and issuing of marine bulletins remain unchanged.
- (ii) The Regional Cooperation Programme be implemented in a phased manner starting with the tropical cyclone season (1987-1988). The elements of the Programme, however, would require further developments. To this effect, the Secretary-General of WMO was kindly requested to assist in the drafting of a constitution and an assistance project document for the establishment of the Centres, based on existing arrangements and needs for review by a core group comprising Tanzania (Chairman), France (Reunion), Madagascar, Mauritius and Zimbabwe. At the kind invitation of Mauritius, the core group agreed to meet in Mauritius sometime before September 1988 to deliberate the constitution and the project proposal document for the implementation of the programme.

- (iii) In the long-term, the core staff would comprise permanent or semi-permanent personnel seconded from Member countries of the Committee. In the short-term, however, the host country would provide the staff to get the regional Centre operational as soon as possible.
- (iv) The finalized project document (see section (ii) above) based on the regional requirements and priorities as agreed by the Committee be submitted to various donors for funding.

Assistance required for the implementation of the Technical Plan and Strengthening of the Operational Plan

8. At its fourth session held in Maputo (Mozambique) in October 1979, the Tropical Cyclone Committee had already noted that the main reason for the slow progress in the implementation of its plan was largely due to the lack of resources. As support from the country programmes were limited, the Committee recommended that other sources of support like the UNDP intercountry programme be explored. In this respect WMO submitted a project document amounting to 3.6 million US dollars for funding under the fourth UNDP cycle (1983-1987, 1987-1991).

9. The objectives of the project were to provide support to Member countries of the Committee for the implementation of its technical plan. These were:

- (i) Improvement of the meteorological network of observing stations, including weather radars, satellite reception facilities and the transmission of meteorological information through associated telecommunication facilities;
- (ii) Improvement of forecasting techniques with emphasis on tropical cyclone forecasting and warnings;
- (iii) Training of various categories of meteorological personnel in the operation and maintenance of meteorological instruments and electronic equipment as well as in tropical meteorology.

The proposed solutions would contribute to the following goals:

- (i) At the regional level:
 - transfer of technology to the countries; and
 - promotion of technical cooperation among developing countries.

(ii) At the national level:

- reduction of loss of life, mitigation of damage to property and alleviations of adverse impact on the economy of the countries resulting from tropical cyclones; and
- minimization of the environmental degradation caused by tropical cyclones.

(iv) The estimated cost to implement this technical plan is about 5 million US dollars.

10. The proposal was not retained by the UNDP for funding under its ongoing intercountry programme. It is recalled, however, that during its previous cycles, UNDP had provided some assistance in respect of cyclone warning to a couple of the countries under their respective country programmes.

11. On its part WMO has provided assistance to the Committee for the development of a co-ordinated programme of action. It has also offered support to the various national Services in the form of consultancy services and fellowships and has organized training seminars in tropical cyclone forecasting, warning services and disaster prevention and preparedness. Through its Voluntary Cooperation Programme, WMO has granted some equipment and spares.

12. Considering the priority requirements of the countries, both at national and regional levels, expressed by the Tropical Cyclone Committee at its eighth session (see paragraph 7) as well as the requests made by the ECA Conference of Ministers at its last session (Addis Ababa, April 1987) in its Resolution 620(XXII), WMO proposes to continue its support to the Island countries and to reformulate the project document (see paragraph 8) for submission to potential donors, after consideration by the core group (see paragraph 7 (ii)).
