DBCP Capacity Building Workshop on Ocean Observations for Operational Services in the Indian Ocean Region

National Reports

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1. Existing Capacities/Activities for Observation /Forecasting in Tanzania

Tanzania Meteorological Authority (TMA) is the central institution for weather and climate services in Tanzania. It operates a network of meteorological stations across the country, providing essential data for weather forecasting and climate monitoring. TMA is also involved in regional initiatives, contributing to the development of climate services and early warning systems.

The following are existing capacities/activities for observation/forecasting in Tanzania;

1. Existing Capacities/Activities for Observation /Forecasting in Tanzania

Marine forecasting office:

Located at Dar es Salaam and the main duties are;

- To prepare marine weather forecasts for the coastal (Indian ocean) and major lakes (Lake Victoria, lake Tanganyika and lake Nyasa)
- To disseminate marine weather forecasts to various marine users through different ways (e.g TV stations, radio stations, SMS, Emails, and web and social media platforms)
- To monitor Tsunami events in the Indian Ocean under the guidence from tsunami centers (India, Indonesia and Australia) and submits it to the disaster management unit.

1. Existing Capacities/Activities for Observation /Forecasting in Tanzania

Port Meteorological Observation:

Located at Dar es Salaam region near the coast and the main duties are;

- Observations of weather parameters (Wind, temperature, pressure and rainfall)
- Coding of weather parameters

Marine Briefing Offices:

There are four marine briefing offices which are located in Zanzibar, Dar es Salaam, Kigoma and Mwanza regions.

1. Existing Capacities/Activities for Observation /Forecasting in Tanzania

The main duties of marine briefing offices are;

- Interpreting marine weather forecasts to marine users.
- To disseminate marine weather forecast to the marine users e.g Fishers, boat captain and port operations related to the weather.
- To communicate with forecasters and marine users if there are any problems/challenges in water bodies related to marine weather.

2. Gaps and Needs for Observation /Forecasting

Lack of marine observation stations: No observation stations over the ocean and Lakes, We use land stations located near coastal areas to provide data which regarded as marine data.

We need to establish at least four (4) marine observation stations and we must have buoys, tide gauges, coastal radars and ships to provide data.

Forecasting Limitations: Most forecasts base on general weather conditions; a few focuses on marine safety, coastal erosion, fishing conditions.

We need to train oceanographers, modelers, technicians, and marine forecasters in data assimilation, numerical modeling, and instrument calibration.

2. Gaps and Needs for Observation /Forecasting

Limitations in Packaging and dissemination of marine forecasts:

- **Limited Internet and Communication Access**: In many coastal and inland areas (e.g., Zanzibar, Mafia, and Pemba), weak telecom infrastructure limits access to digital forecasts.
- **Use of Technical Language**: Forecasts are often packaged in English with scientific words, making them difficult for local fishers and coastal residents (many of whom speak Kiswahili) to understand
- **Inaccessible Formats**: Many marine forecasts are issued in formats (e.g., PDFs or websites) that are not user-friendly or suitable for communities without smartphones or internet access.
- **Lack of Training**: Fishers and local community members are not always trained on how to interpret and act on forecast information.

2. Gaps and Needs for Observation /Forecasting

Capacity Building and Training

- Provide training to fishermen and coastal residents on how to interpret and respond to forecasts.
- Professional development for meteorologists and oceanographers in advanced marine forecasting techniques.
- To empower local mediators (e.g., community leaders, fisheries officers) to act as information bridges.