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Capacity Development for Delivering Climate Services

Communities have always been exposed to climate variability and climate extremes, but the expected increase in frequency and severity of these events due to a changing climate poses new challenges for societies worldwide. Reducing the risks and maximising opportunities of climate impacts require appropriate science based information and the necessary institutional, infrastructure, and human capacity to transform and communicate this information into decision outcomes.

Many countries lack the resources to provide high-quality climate services particularly in the developing and least developed countries. Since 2009, the World Meteorological Organization (WMO) in collaboration with other UN Agencies has started implementing Global Framework for Climate Services (GFCS). The main focus of the Framework is to enable society to better manage the risks and opportunities arising from climate variability and climate change through incorporating climate information and prediction into planning, policy and practices initially in key priority areas of agriculture, water, health, disaster risk reduction and energy. This is achieved through strengthening the five pillars of Framework namely; User Interface (stakeholder) Platform, Climate Information System, Observation and Monitoring, Research Modelling and Prediction and Capacity Building.

Capacity Building is a major cross-cutting pillar with a focus on investment in people, practices and institutions to develop capacities to minimise climate related risk and maximise opportunities from favourable climate conditions by providing decision relevant climate information. The WMO Capacity Development Strategy recognizes that there are four types of capacity – institutional, infrastructural, procedural and human resources – which must be considered collectively to achieve sustainable capacity development of the National Meteorological and Hydrological Services (NMHSs).

Although many of the foundational capabilities and infrastructure for climate services exist, or are being established, many countries still lack policies, institutions or human resources with the right skills or practices to enable them to take advantage of new or existing climate data and products or create national stakeholder groups to promote national dialogue on these issues.

WMO identifies five key challenges in capacity building for climate activities:

- Climate services need to be established and/or improved in most countries;
- The capacity to deal with climate-related risks is lacking in many countries;
- The availability and quality of climate data are inadequate in many parts of the world;
- Climate services users and providers need to interact more effectively;
- The quality of climate services needs improvement to match user requirements.

Some of these challenges stem from the lack of climate data, human resources, financial, institutional infrastructural and procedural capacities for climate services, particularly in developing countries, LDCs and SIDS.

Assessment of Institutional Capacity is specific to each country and must be undertaken incrementally in a national context. Producing information that is timely, credible, and actionable necessitates inputs from many players, and requires close communication, coordination, and liaison between multiple institutions and stakeholders at different levels. However, there are common institutional challenges for the delivery of climate services across developing countries, including lack of a legal mandate, limited technical, financial and human resources, lack of mechanisms for exchange of information between government agencies and limited climate knowledge within government structures, and awareness of climate information generated at NMHSs.

Building human capacity is an integral part of the process, through which organizations build and maintain the capabilities to achieve their developmental objectives over time. With changes in the technological, social, political and environmental landscape, and the additional challenges imposed by a changing climate, the process of building human capacity for climate services needs to be adaptive, flexible and involve people from the supply (information providers) and demand (information users) side of climate services. This requires a review of the education qualifications, skill requirements and job training required for climate specialists, including those in the management positions.

Through its Education and Training Program, WMO plays a leading role in coordinating the development of weather and climate scientist skills by promoting access to training programs, technology, manuals, guidance documents, technical papers and workshops. Developing human capacity on the application of climate information in different sectors is also essential, and in fact is one of the most challenging aspects of climate services delivery, as non-specialists are not always fully aware of climate concepts or uncertainties, what products are available and how to use them. Similarly, service providers may not have a full understanding of users' requirements. Capacity building activities should be user-driven and should inform decision and policy making processes directed at national goals for sustainable development.

Translating climate information into decision making "intuitively" is difficult due to inherent uncertainties in climate information and the complexities of the system where decision is to be made. The use of modelling and scenario analysis adds substantial value by enabling information to be much more relevant to the decision in question than the general information contained in the forecast. Therefore, training and capacity development for users of climate information are crucial as the interactions and the insights gained from analysis of expected outcomes and risks provide more relevant information sources for the decision-maker.