

Agenda Item 6 REPORT AND RECOMMENDATIONS OF THE EXPERT TEAM ON CAPACITY DEVELOPMENT THROUGH WMO TECHNICAL DEPARTMENTS (CDP-ET- TDS)



World Meteorological Organization
Executive Council (EC)
Second Meeting of the Capacity Development Panel (CDP)
Videoconference

EC-CDP-2
3 and 4 February 2021
12:00 – 15:00 (UTC)
13:00 – 16:00 (Geneva)

Document 4.3 REPORT OF THE EXPERT TEAM ON CAPACITY DEVELOPMENT THROUGH WMO TECHNICAL DEPARTMENTS (CDP-ET-TDS)



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4.3(1) Report on activities of CDP-ET-TDs

Facilitator: Dr Carla Gulizia

Members: Dr Somenath Dutta, Prof Dwikorita Karnawati, Prof Peter Odjugo, Ms Nirivololona Raholijao, Dr Anna Timofeeva

Invited Members: Mary Scholes (representative of the Research Board – RB), Jennifer Milton (interim representative of Infrastructure Commission - INFCOM), Roger Stone (representative of Services Commission - SERCOM), Christophe Cudennec (representative of the Hydrological Coordination Panel - HCP), and Omar Chafki (representative of Joint WMO-IOC Collaborative Board (JCB))

• Revision of Expert Team's ToRs

The Terms of Reference (ToRs) of the CDP-ET-TDs were revised. Suggestion for expansion on the ToR item v. is proposed taking into account the ongoing interaction with the WMO Bodies and Technical Commissions representatives, as well as with the rest of the CDP-ETs facilitators. Below the full list of the CDP-ET-TDs ToRs is listed with the suggested adjustment highlighted in red:

Monitor and make recommendations on the following:

- i. Development of technological infrastructure
- ii. Capacity development in Services delivery
- iii. Capacity development in hydrology and water resources
- iv. Capacity development in research, science and innovations
- v. Work in close collaboration with the appropriate departments in the Secretariat **as well as with WMO Bodies and Technical Commissions**
- vi. **Work in close collaboration with the rest of the CDP-ETs identifying possible interactions based on the contributions received by the CDP-ET-TDs invited members**
- vii. Promotion of existing strategies on capacity development in various areas of service delivery, hydrology and water resources, by way of providing advisory on how to support least developed and developing countries.
- viii. Promotion of existing strategies in the areas of research, science and innovation.

• Development of Operating Plan

An Operating Plan for internal organization within the CDP-ET-TDs was developed and revised over the three held ET's virtual meetings. The latter includes the project overview, its goals, deliverables and milestones, required resources as well as expected outcomes.

Representative of the Research Board (Prof. Mary Scholes)

- The capacity development requirements are very different depending on the geographical region (developing countries vs developed countries).

Recommendation: targeting programmes taking into account **what kind of capacity** development is needed, **for whom and by whom**. It is relevant to gather this information in a database.

- Capacity development for **Early Career Researchers (ECRs)** needs to be addressed independently of the region of origin.

Recommendation: Connection between WMO Programmes and ECRs networks, potential integration of ECRs community with international high level panels, are possible ways of bridging this capacity gap.

- There is a need to change the paradigm and think not only in terms of capacity development but also in capacity recognition.

Recommendation: Foster the vertical integration of **capacity recognition**, not only at the individual level but also there is a need to enhance the recognition of institutional capacity. Enhance **institutional intercommunication** promoting levels of trust among the different entities.

- The latest version of the Concept Note “Innovation in Regions” that the Research Board is preparing was also shared.

Representative of the SERCOM (Prof. Roger Stone)

- The representative of the SERCOM has gathered and synthesized relevant information regarding capacity developments issues and recommendations based on several **Standing Committees feedback**: CLI, HYD, AVI, AGR.
- This documentation was uploaded into the Moodle Platform and discussed with the ET members who participated in the third meeting of CDP-ET-TDs on January 14th, 2021.
- The facilitator of the ET, Carla Gulizia, have extracted particular issues and recommendations that were more aligned with the ToRs of other CDP-ETs and shared these with the respective facilitators.
- **Several of the recommendations provided by SERCOM will be presented in the Agenda Item 5.3.**

Representative of the INFCOM (Ms. Jennifer Milton)

The representative of the INFCOM has provided a report and overview of the **identification and monitoring of Capacity Development activities supporting the implementation of new or modified technological systems, observations and infrastructure** supporting weather, water, climate and the environment.

The latter is **still in progress** and will be reported to the CDP-ET-TDs in due time after the revision and approval by the INFCOM Management Group.

The identification and monitoring of priorities and capacity development gaps, initiatives and/or activities, as well as lessons learned, will serve as input for the work of the ET-TDs and for making further recommendations for the CDP **consideration in the next inter-sessional period.**

Perspectives of the ongoing updating of the Capacity Development Strategy in Hydrology and Water Resources Mgt

Strategy = Guiding principles

- Mission
 - Vision
 - Objectives
 - Targets
 - Resources
 - Secretariat articulation and alignment partnerships
-
- Mechanisms for technology transfer and knowledge management
 - Types of education and training activities
 - Means (events, activities, projects, fellowships)
 - Implementation mechanisms (RTCs, community instructors, evaluation, partnerizing)
 - Prioritization of subjects

Representative of the Hydrological Coordination Panel (Prof. Christophe Cudennec)

Updating: 4 perspectives

1. Mandate (intersessional pace, WMO reform, continuity of major principles)
2. Progress (lessons of actions & difficulties, articulation with wider WMO CD developments: Global Campus, ...)
3. Hydrology:
 - Hydro/Hydromet value chain rationale
 - Progress of the state of the art in WMO & NHMs – Private – Academia
 - Lessons from COVID-19 outbreak
4. Educ/training modalities:
 - Didactical transformation
 - Impact of COVID-19 outbreak

Representative of the RTCs (Prof. Odjugo Peter)

The representative of the RTCs has gathered and synthesized information provided by several RTCs worldwide addressing three main issues: successes, priorities/gaps and recommendations/suggestions.

The individual RTCs questionnaire's responses as well as the consolidated final report provide relevant insights that could be useful for distributing among the RTCs as well as with Education and Training Collaborating Partners.

Priorities/Gaps

1. Most RTC Member countries **lack competencies** in Impact Based Forecast, Probabilistic Forecast and interpretation of uncertainty, Disaster Mitigation and Risk Reduction, Ocean Literacy, Tsunami Literacy and NWP utilization for weather forecast and Forecast of Severe Weather and Flash Floods among others.
2. Most RTC Member countries have serious **issues on internet facilities and connection during classes and examination.**
3. The **biggest challenges in online/distance learning in most RAs are the utilization of appropriate technology**, especially in hands-on/practical exercises, developing the e-learning materials (i.e. modules, case studies, simulation, demonstration), online assessment and evaluation.
4. **Language barrier.**
5. **Expansion of continuing professional development programmes to enhance the knowledge and competence** of Meteorologist, Hydrologists, Climatologists, Meteorological Technicians, Hydrological Technicians, Instrument Technicians and Climatological Technicians **to address current and future regional needs.**
6. **Expansion of research and development capacity across the RAs through knowledge transfer mechanisms** in BIP, MSc and PhD programmes and technical exchanges with established reputable institutions.

4.3(2) Future work plan of CDP-ET-TDs

1. **Continuous communication and interaction with CDP-ETs members, representatives from RB, HCP, JCB, SERCOM and INFCOM, as well as with Technical Departments Directors** at a regular basis for continuous improvement of coordination and delivery of WMO capacity development activities.
2. In the short-term, closely interact with the HCP representative, Christophe Cudennec, to **enhance collaboration from the CDP in the revision of the Strategy on CD in HWR undertaken by HCP.**
3. During this first intersessional period, the CDP-ET-TDs mainly focused in addressing what has been done and what were the priorities and needs identified by each of the WMO Bodies and Technical Commissions, based on the contributions received so far. The future plan will be focused in **assessing the connection between these priorities and identified needs and how the CDP may be instrumental in connecting those with the work that is being done at the regional level.**
4. **Local/regional consultations from each of the ET members will be encouraged towards the promotion and sharing of good practices among WMO Members.** This will also help in providing case studies to be included in the updated version of the CD Strategy and Implementation Plan (WMO. No. 1133), to be finished by 2022.

Document 5.3 RECOMMENDATIONS OF THE EXPERT TEAM ON CAPACITY DEVELOPMENT THROUGH WMO TECHNICAL DEPARTMENTS (CDP-ET-TDS)



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5.3(1) Recommendations from CDP-ET-TDs for inclusion in the report of chair to EC-73

Based on the contributions provided by the members of the CDP-ET-TDs several recommendations and relevant issues to be considered were gathered. Some are listed directly in Item 5.3 (2) for consideration by the Task Team on Capacity Development Strategy.

1. The **Services Department recommended certain areas of work that the CDP could be particularly instrumental** such as in guiding peer reviews of the Member capacity baseline data, perhaps through the regional associations, and developing a system of WMO capacity certification to complement the ISO certification of which some Members are already availing.
2. Based on INFCOM and SERCOM contributions, there could be a need for a **review, or update, of some of the current competency frameworks**, in coordination with the ETR, in order that they reflect requirements for expected competencies in **new or emerging technologies as they reach sustainable operational status**.
3. **INFCOM** to consider, in coordination with ETR, the development of a **Capacity Development framework to support the implementation of systems under its purview**.

5.3(1) Recommendations from CDP-ET-TDs for inclusion in the report of chair to EC-73 (Cont.)

4. **Approaching academics and NMHSs staff** to encourage new venues where research ideas and results can be shared to increase **awareness of potentially operationally-useful results**. The CDP may develop strategies to foster engagement at the local/regional level by close communication with the member's host institutions.
5. **Systematic contribution from University components** to strengthen training for NMHS personnel and continue **work in research-to-operation**. Monitoring examples from research institutions (e.g. Advances in climate forecasting), including them through **Climate Outlook Forums**.
6. To improve the **link between RTCs and Education and Training Collaborating Partners with regional projects** which have **available funds**, so that the training component is considered at early-stage of the project.

5.3(1) Recommendations from CDP-ET-TDs for inclusion in the report of chair to EC-73 (Cont.)

7. Overall need for **technical personnel in instruments**. Particular priorities: CD for the **implementation and operation of the Antarctic RCC-Network**. The **interaction with the GOOS regional alliances** and CD activities under this framework will be central, since it is one of the pillars of regional action.
8. Development of regional research and CD: **collaborative development of solutions and communication with other Regional Centres** such as WIGOS, GTS, WIS, etc. is necessary to coordinate the training in hydrology, meteorology and climate sciences.
9. Ensure **availability of training activities in various languages**. Being able to bring these trainings in the region's native language would cover an **important gap in terms of technical capacity and language barrier**.
10. There is a need for **collaborations between program related training (e.g. GAWTEC) with those responsible for training (such as RTCs and RICs)**. This link is crucial to cover the deficiencies that exist in terms of technical knowledge. The CDP could be instrumental in fostering these interactions.

5.3(1) Recommendations from CDP-ET-TDs for inclusion in the report of chair to EC-73 (Cont.)

11. There is a need that more experts be part of the **development of training** (as **Subject Matter Experts**). Particular emphasis to be placed on developing **partnerships with academic institutions** and professional and scientific associations, including exchanges of academic staff. **Pool of well-trained meteorologists must be supplemented by another interdisciplinary pool of professionals** who understand climate and can work with specific climate-sensitive sectors. (eg agricultural meteorology, health). For this aim, there needs to be an effective communication procedure between the different actors in the RAs and RTCs. This could be an opportunity to further **promote** the **WMO Global Campus**, the LEARN Portal, Train the Trainer opportunities **and other learning resources and communities** such as CALMet Commons.
12. There is a need to **enhance communication** of meteorological and climatological information to different **stakeholders in the language and style that they will understand.**

5.3(2) Recommendations from CDP-ET-TDs for consideration by the Task Team on WMO Capacity Development Strategy

- The recommendations included in Item 5.3(1) are key elements to be considered in line with the update of Capacity Development Strategy and Implementation Plan (CDSIP).
- It is necessary that all Technical Commissions follow-up and help in the review and update of the CDSIP undertaken by the CDP-TT-WCDS, and the CDP-ET-TDs can be instrumental in gathering their contributions and suggestions.
- **The development requirements are very different depending on the geographical region** they come from (developing countries vs developed countries), emphasis should be put on **what kind of capacity development is needed, especially, for whom and by whom**. There is a need to change the paradigm and think not only in terms of capacity development but also in **capacity recognition** (at individual and institutional level).

5.3(2) Recommendations from CDP-ET-TDs for consideration by the Task Team on WMO Capacity Development Strategy (Cont.)

- Capacity development for students and **Early Career Researchers (ECRs)** is needed, independently of the region. Along with better **funding opportunities and research facilities**, the engagement of ECRs from developing countries can be further improved with the identification of **science questions of regional importance** wherever it is feasible. **Funding agencies** are proportionally looking for proposals of applied nature with **potential to solve local/regional problems** instead of fundamental scientific research. Young scholars/scientists are to be encouraged to become aligned with the [YESS community](#) and other ECRs networks.

5.3(2) Recommendations from CDP-ET-TDs for consideration by the Task Team on WMO Capacity Development Strategy (Cont.)

There are several **good practices** yet to be shared and these could be included as case studies in the CDSIP updated version. **The MFI support for NMHSs from developing countries** is described within the report documentation as a concrete example of successful modernization projects, though **other partnerships and cooperation agreements must still be identified** in the course of the ongoing CDSIP update by 2022.

The WMO play an important role in fostering and helping with its instrumental support on resources mobilization, partnerships and development assistance. It is recommended the **promotion of NMHSs CD through “twinning” services, training and support through regional cooperative entities**. Closer collaborations are encouraged between **external funding agencies and NMHSs** in the region towards achieving the desired increase.

Thank you
Gracias
Merci

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