



**Cooperative Development of Aeronautical Meteorological
Services in the AFI Region
(CODEVMET AFI)**

Genesis of the Project

July 2021

1. Executive Summary

The Cooperative Development of Aeronautical Meteorology in Africa-Indian Ocean Region Programme (CODEVMET AFI) designed to address longtime critical air navigation deficiencies in MET field in AFI Members States. The Programme focuses on two main objectives: i) Enhancing the capabilities of State CAAs in carrying out the safety oversight in MET field; ii) Establishing a mechanism aimed at enabling MET Services Providers to comply with ICAO's aviation safety standards related to the provision of timely, reliable and accurate meteorological information to aviation. This paper recalls the history of the Programme and its achievements, and the issues related to its management.

2. Introduction

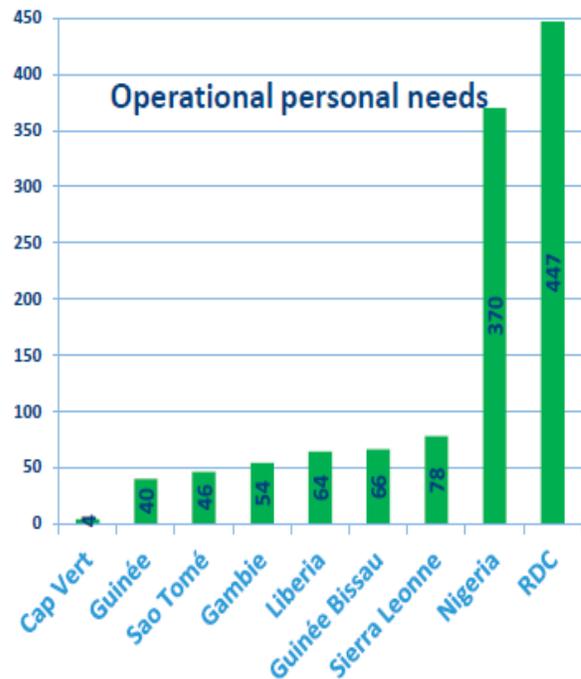
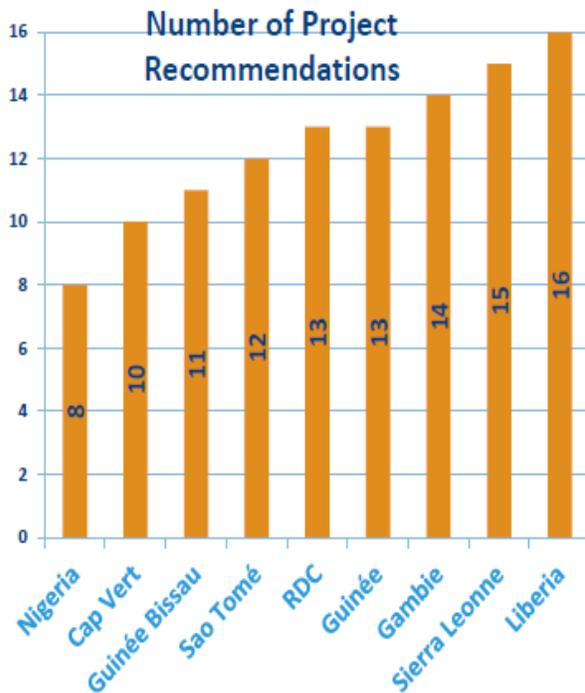
- 1.1. In 2008/2009: Nine (9) States (Cabo Verde; Democratic Republic of Congo; The Gambia, Guinea, Guinea Bissau; Liberia, Nigeria, Sao Tome and Principe and Sierra Leone) called for the evaluation of the level of implementation of MET facilities and services in their regions.
- 1.2. The study conducted by ICAO and funded by IFFAS (International Financial Facility for Aviation Safety) identified specific air navigation deficiencies in aeronautical meteorological field in each concerned State and concluded that the level of the implementation of MET facilities and services of the majority of participating states **is low and very far from the satisfactory**.
- 1.3. This feasibility study formulated sets of eleven recommendations for medium to long term planning to remove the MET deficiencies and furthermore, supported the proposal to establish a resource-sharing programme for the Cooperative Development of MET services for the West and Central region of Africa (CODEVMET-WACAF) for the removal of MET deficiencies.
- 1.4. The Programme focuses on two main objectives:
 - a) Enhancing the capabilities of State CAAs in carrying out the safety oversight in MET field;
 - b) Establishing a mechanism aimed at enabling MET Services Providers to comply with ICAO's aviation safety standards related to the provision of timely, reliable and accurate meteorological information to aviation.
- 1.5. The project was firstly designed for 9 WACAF States, and the has been extended to gradually cover WACF states and finally open to all AFI States.

3. Projects Phases

3.1. Phase I - CODEVMET WACAF

- a) Phase I came in the form of Field Expert Missions to the above specified nine countries with the objective of:
 - i. Preparing an inventory of available MET facilities and services in these countries.
 - ii. Preparing a Gap Analysis
 - iii. Setting up guidelines for planning and implementation of MET facilities / services in each of these countries.

- b) Phase I, which was funded by IFFAS (International Financial Facility for Aviation Safety) in the tune of \$85,498 USD.
- c) The phase was completed in 2009 with the following outcome:
 - i. Met deficiencies were identified in all the 9 states
 - ii. Inventories of Met requirements were established in each of the 9 states.
 - iii. Guidelines for removing those identified Met deficiencies were proposed / forwarded.
- d) At the end of Phase I, recommendations were forwarded for training of personnel to add to the capacity that was found on the ground through the feasibility studies.



3.2. Phase II - CODEVMET - WACAF - Pilot Project

3.2.1. CODEVMET - Pilot Project (Phase II) was initiated after the successful implementation of CODEVMET Phase I. Indeed, in 2012, the CODEVMET-WACAF Steering Committee decided for a progressive implementation of the project, first extended the project to all 24 WACAF States, and named it CODEVMET WACAF phase II or CODEVMET Pilot Project funding was through annual contributions from Member States.

3.2.2. Two types of services were to be provided by the project: ‘‘Core Services and ‘‘On request services’’

- a) The ‘‘Core Services ‘‘ are tasks for common benefit of all CODEVMET AFI Members;
- b) The ‘‘On request Services’’ are undertakings for the benefit of a Member or a group of Members, on the request basis.

- c) The budget is only for the “Core services” which are required to be funded primarily by the CODEVMET AFI Members through the annual contributions.
- d) For any “On request services”, the respective Member State or group of Member States having requested the services shall, upon the arrangement of the Steering Committee and upon receipt of a payment request from ICAO, deposit the estimate cost of the services in CODEMET-AFI Trust Funds.

3.2.3.Objectives of the project: The objectives of the project consisted of the provision of “Core Services”, that is:

- a) Harmonize regulations on safety oversight of MMET Services
- b) Training (Basic and Advance levels) of Met Inspectors, who will be able to provide oversight functions to aviation MET service providers in member states.

3.2.4.Participation to the project

- a) In total, 5 out of the 12 states participated as Active Project Members (APM) by contributing **\$45,500 USD** each and all benefited from the “Core services”.
- b) They are named: Cape Verde, Gambia, Nigeria, Ghana and Senegal

3.2.5.Steering Committee activities

- a) The first Steering Committee (SC/1) meeting was held in Dakar, during which Nigeria was elected as Chairperson, Banjul as Headquarter to host the project.
- b) A decision of the SC/1 Meeting reached to recruit a Project Field Expert to run the project.
- c) Four Steering committee meetings were held in Dakar, Nigeria, Cape Verde and Gambia respectively during the course of the project.

3.2.6.Achievements of the Phase II of the Project:

- a) Harmonized regulations on safety oversight of Met services:
 - i. Met Inspector Manual
 - ii. Checklists for audit / surveillance of MET services
 - iii. Guidelines on harmonized establishment and implementation of QMS for monitoring and evaluation (M&E).
- b) Development and conduct of two training courses;
 - i. Basic training of Met Inspectors
 - ii. Advance training of Met Inspectors

Table 1 Achievements of Phase II

Outcomes	Participating States				
	Cape Verde	Gambia	Nigeria	Ghana	Senegal
Template of MET related regulations developed and distributed					
Template of MET Inspector Handbook developed and distributed	1	1	1	1	1
Manual of Standards for MET developed and distributed	1	1	1	1	1
Guide on QMS/MET developed and distributed	1	1	1	1	1
Checklists for QMS/MET internal Audit developed and distributed	1	1	1	1	1
Basic Training course for national inspectors provided to 10 participants (25-28 March 2013)	2	3	2	1	2
Course on the Manual on QMS/MET (Doc-9873/OMM-1001) – number participants	2	3	2	1	2

3.3. CODEVMET AFI Programme (Phase III)

3.3.1. Project references

Project Title and Acronym: Cooperative Development of Aeronautical Meteorology Services in the AFI Region

Project Number: RAF1680x

Duration: 3 years

Region: Africa and Indian Ocean

Project Headquarters: Banjul, the Gambia

Member States: Botswana, Burundi; Cabo Verde; Cameroon, Congo; Côte d'Ivoire; Democratic Republic of Congo, Equatorial Guinea, Gabon, Gambia, Ghana, Niger, Nigeria, Congo (Brazzaville), Rwanda, Senegal, Togo

Executing Agency: International Civil Aviation Organization (ICAO)

Estimated Start Date: September 2016

Project Cost: US\$ 1 244 200

3.3.2. Rationale of the projects

- a) By the end of CODEVMET-WACAF (PP) project, the project participation was constituted by five States that have met the funding prerequisites
- b) With reference to the Terminal report of the CODEVMET-WACAF project, it appears that many challenges are still to be addressed, including:
 - i. Staffing and qualification of inspectorates to assume full functioning of the safety oversight of MET in their respective States;
 - ii. The development and the implementation of the surveillance programme for the CAAs;
 - iii. Implementation of QMS;
 - iv. The Training of MET Forecasters;
 - v. The Quality of Telecommunication and MET equipment.
- c) Based on the success of the results obtained by the project and given the remaining challenges, the Conclusion 17/104-a) of the Seventieth meeting of APIRG, called for the extension for the CODEVMET-WACAF (PP) Membership to all AFI States. The so proposed Cooperative Development of Aeronautical Meteorology for Africa-Indian Ocean

Region (CODEVMET- AFI) will constitute a forum to continue addressing the MET critical deficiencies in the Region.

3.3.3. Objectives of CODEVMET-AFI

- a) The objectives of the pilot project were reformulated to become the new objectives of the CODEVMET - AFI program as follows:
 - 1) To continue enhancing the capability of the CAAs in carrying out safety oversight of MET services through the adoption of a comprehensive system approach; and
 - 2) To establish a basic and on-demand system aimed at enabling MET Service Providers in Member States to achieve compliance with international aviation safety standards as these relate to the provision of timely, reliable and accurate meteorological information to aviation users in an efficient manner
- b) That resulted to the extension of the services with the addition of the following:
 - Operational Met Personnel training;
 - Training of Met Services Providers for the implementation of QMS.
 - Training for maintenance;
 - Provision of Met systems, equipment and installations.
- c) All participating members of the CODEVMET AFI will be able to benefit under “Core Services” from:
 - free regulations, manuals and other documents that were developed during the CODEVMET - Pilot Project
 - Updated regulatory documentation and manuals
 - Training of National / Regional Met Inspectors; Met forecasters and observers; Quality managers and internal auditors for QMS / Met
 - Provision of MET operational systems; Met operational equipment; Met facilities

3.3.4. Outcomes

a) Two major outcomes:

- **Outcome 1:** (“Core Services”): Continuous enhancement of capability of the States’ regulatory authority in carrying out safety oversight of MET services through the adoption of a comprehensive system approach as an integrated part of Air Navigation Services (ANS).
- Output 1.1 : Generic MET Regulations/Rules; Generic Procedures Manual for MET Quality Management System (QMS) implementation and surveillance; Generic MET Inspector/trainer’s Handbook
- Output 1.2: The capability of the national inspectors/trainers of Member States will have been enhanced for carrying out QMS implementation and safety oversight / surveillance of MET services

- **Outcome 2** :To establish a system aimed at enabling MET Service Providers in Member States achieve compliance with international aviation safety standards in as these relate to the provision of timely, reliable and accurate meteorological information to aviation users in an efficient manner)
- Output 2.1 “Core Services” : Detailed plan for institutional training of operational and technical personnel of each MET Service Providers.

3.3.5. Achievements

- a) Under outcome 1, Output 1.1 was delivered in six Member States who paid their annual contributions for the CODEVMET AFI project. The following achievements were delivered:
- MET Inspector’s Handbook;
 - MET inspector’s handbook;
 - Manual of standards for MET;
 - Guide on quality management system (QMS)/MET;
 - Checklists for QMS/MET internal audit;
 - Basic training course for 10 national inspectors;
 - Course on the manual on QMS/MET; and
 - Advanced training for 10 MET inspectors.

3.3.6. Challenges

- a) The work plan which was approved by SC/1 covered three outputs which were expected to be delivered over a period of 15 months, starting from March 2018. Although the first output was delivered ahead of schedule, no activities could be implemented with regard to the two other scheduled outputs.
- b) CODEVMET has had a very limited success. Out of 15 countries that signed up for CODEVMET AFI, very limited expected outputs were delivered in only 6 Member States.
- c) Insufficient and lack of timely financial contributions from Member States;
- d) Furthermore, the ICAO EAO’s evaluation conducted in 2018, pointed out some concerns, which include the followings :
- i. The CODEVMET project is one of the regional projects that have not achieved their planned objectives regarding the training and technical assistance field
 - ii. The linkages of the project with the Global Plans, regional priorities and the ICAO Business Plan were not clearly specified in the project documents.
 - iii. No results framework (log frame) with clear objectives/outcomes, outputs, activities with objectively verifiable indicators with baselines and targets have been established at the project design stage the regional project.
 - iv. The follow up actions of regional projects is not integrated into the regional office operating plans and the day to day work of Regional Officers.