CREWS PROJECT PROGRESS REPORT

(July - December 2023)

1.	**Project title**	Afghanistan - AF-ECLIM: Enhancing hydromet, early warning and climate Services for Resilience	2. **Project reference** **CREWS/CProj/10/Afghanistan**
3.	**Implementing Partners involved in the project**	World Bank (lead) (WB) World Meteorological Organization (WMO)	4. **Regional/National Partners involved in the project** Ongoing Techcnical Engagement: Afghanistan Meteorological Department (AMD), Ministry of Energy and Water (MEW), Ministry of Agriculture, Irrigation and Livestock (MAIL) No Direct Engagement: Ministry of Rural Rehabilitation and Development (MRRD), State Ministry of Disaster Management (SMDM), National Statistics and Information Authority (NSIA)
5.	**Project Duration/Timeframe** (from year – to year)	September 2019 – December 2023 – extended till December 2025 since last reporting period	6. **Total Funding Approved by Steering Committee (in US dollars), including fees** 3,660,000
7.	**Reporting focal point(s) from Implementing Partners**	**World Bank** Yunziyi Lang, Climate Change Specialist - ylang@worldbank.org Efrem Ferrari, Consultant - eferrari@ifc.org **World Meteorological Organization** Rokhaya Ba - rba@wmo.int Luis Roberto Silva Vara - LSilvaVara@wmo.int	

8. Project overview	Please include objectives, key project deliverables, leveraging, contextual information/statistics, significant events during the reporting period in bullet points. (max 250 words)
	Objectives: Revised project objective: *to improve the delivery of hydromet, climate and early warning services to relevant stakeholders and strengthen the knowledge of climate risk management and resilience building practices for Afghanistan*.
	Key Deliverables: • Delivery of services to stakeholders and end-users for priority sectors including improvement in the dissemination of warnings for public safety and economic sectors; • Improvement of the information, including through regional collaboration. • Enhanced decision-making to mitigate the adverse impacts of natural hazards on life, livelihoods and property.
	Significant events during the reporting period: • WB and WMO meeting to restructure the objectives and activities of CREWS-AF. • The WB provided technical contributions, with a particular focus on disaster risk manamgent, to the Post-Disaster Needs Assessment (PDNA) of 2023 Herat Earthquakes.
9. Progress summary	What has been achieved during this reporting period? – Please list in bullet points the most significant and tangible outcomes? (max 250 words) • *WMO-WB Joint Workshop (16-17 October 2023)*: WMO and WB held a two-day internal workshop at the WMO Headquarters (Geneva). Latest status of the CREWS-AF was presented and discussed, in the context of resuming the activities which were halted following the changes in the country in 2021. A revised workplan, with roles and responsibilities, was discussed, prepared and agreed. This workplan defines the WB and WMO respective activities for the remaining duration of the project adapting to the current operating environment. Potential collaboration, beyond the CREWS-AF, was also explored.

| | • *Ongoing Techcnial Dialogues with Governmetn Counterparts*: Following the May 2023 Steering Committee Meeting of the CREWS Afghanistan Program, organized by the WMO with support of the WB, technical engagement with the counterpart resumed. Two hybrid techcnial missions were held during the current reporting period (in-country missions in July and December, 2023) to kick off dialgoues with government counterparts (e.g., AMD, MEW, MAIL) on the following key activities:

    i.   **Activity**: Update of the Afghanistan Hydromet Roadmap, originally published in 2018. **Status**: Techcnial consultnat has been recruited. The data collection process has begun with AMD, MEW, and MAIL.

    ii.   **Activity**: Revamp and update of the Afghanistan Drought Early Warning Decision Support Tool (AF-DEWS). Status: Discussion has been initiated with Cima Foundation and the Italian Department of Civil Protection for the integration of AF-DEWS into the MyDewetra, an open data platform for hydro-meteorological information and multi-hazard early warning system (MHEWS). **Status**: The TOR is under preparation, selection to be performed in next semester.

    iii.   **Activity:** Establish a robust seasonal drought forecasting and early warning system for Afghanistan, leveraging earth observation (EO) data and machine learning (ML) techniques. **Status**: The TOR has been prepared, selection to be performed in next semester.

    iv.   **Activity**: Dvelopment of a digital climate agromet advisory services (DCAAS) tool and pilot in selected areas. The DCAAS aims to integrate high resolution weather and climate information (remote sensing data) into agricultural decision-making. **Status**: ToR is under preparation, selection to be performed in next semester.

    v.   **Activity**: Develop a nation-wide downscaled climate model for Afghanistan, building on existing analysis and model conducted by WCS for Punj Amu River Basin through a EU-funded poejct. The outputs of this analysis be leveraged to perform in depth analyses of the potential impacts of climate change on disasters, livelihoods (particularly agriculture), and climate-indueced migration. **Status**: ToR is under preparation, selection to be performed in next semester.

• *Inform DRM Initiaves*: Four magnitude (Mw) 6.3 earthquakes on October 7, 11, and 15, 2023, in Herat Province in Afghanistan led to an unprecedented disaster and destruction. A total of 66,360 people (12,100 families) has been directly affected across nine districts. More than 1,500 people are confirmed dead, and over 2000 injured. The WB provided technical contributions, with a particular focus on disaster risk manamgent, to the Post-Disaster Needs Assessment (PDNA) of 2023 Herat Earthquakes in collaboration the |

	United Nations Development Programme (UNDP), the European Union (EU), with the Asian Development Bank (ADB). The PDNA is centered around the vision of achieving an inclusive recovery in areas affected by the earthquakes by adopting a people-centric, gender-responsive and integrated approach, fostering community resilience to climate and disaster risks, and ensuring the equitable development of communities and their livelihoods. Specifically, the WB team contributed to the section on loss and damages incurred by the Disaster Risk Reduction sector and by defining the recovery needs. The report, which is being finalized in January 2024, will be formally published in February 2024.

10. Project Performance

Interpretation of color coding		
High	🟢	Good progress; on track in most or all aspects of delivery
Medium	🟡	Moderate progress or on track in some aspects of delivery
Low	🔴	Less than moderate or poor progress. Not on track in critical areas of its delivery. Requires remedial attention

	Rate of expenditure	Rate of delivery	Alignment of Objectives
Coding		🟡	🟢
Narrative	Disbursement as of December 2023 **From WB side:** Disbursed: USD 694,626 (35% of WB grant allocation) Committed: USD 30,629 (2% of WB grant allocation) **From WMO side:** Disbursed: USD 430,150 (44% of WMO grant allocation) Committed: USD 19,085 (2% of WMO grant allocation),	**WB**: Technical consultations with the counterparts, following the CREWS-AF Steering Committee Meeting and two missions in Country, allowed for the resumption of several pending activities. Althouth no new activities were completed during the last reporting period, it is expected that additional outputs will be initiated from next semester onwards. **WMO**: Revision of the workplan carried out, in collaboration with WB, to set up activities for the remaining duration of the project. Organization of capacity building activities and identification of potential local partners initiated during this reporting period. No new activities were completed during this reporting period.	Fully aligned

11.Risk Status

Risk Status	What is the current risk status as compared to what was identified in the project proposal?

	• The risk levels remain high because of the FCV context. The constraints due to the COVID situation are being eased; although efforts are ongoing to move ahead through a virtual work situation. • On Dec 24, 2022, the Taliban Interim Administration (ITA) ordered all foreign and domestic non-governmental groups in Afghanistan to suspend employing women. • On July 25, 2023, the ITA announced a ban on all beauty salons in Afghanistan. The ruling is the latest curb on the rights and freedoms of Afghan women and girls following edicts barring them from education, public spaces and most forms of employment. • Operational limitations in directly engaging with Afghan Governmental Agencies affected the rate of delivery till summer 2023. However, the situation has greatly improved with missions to the country resuming in July 2023. Activities have resumed, although direct investments in the country are not yet possible. The new Approach Paper 3.0 has been submitted to the Board, which provides additional flexibility in Bank's engagement with the technical agencies.
Measures to address	What mitigation measures have been developed to address the risk status? • Enhanced regional linkages and service delivery through international organizations and regional agencies active in the Country (e.g. Food and Agriculture Organization (FAO), Regional Integrated Multi-hazard Early warning System (RIMES), United Nations – Office for the Coordination of Humanitarian Affairs (UN-OCHA), World Food Programme (WFP), General Aviation Airport Coalition (GAAC), Pakistan Meteorological Department (PMD), Tajhydromet, Uzhydromet, South Asia Hydromet Forum); • Requested an extension and restructuring of program, which was granted, to the CREWS secretariat to adhere activities to the current operational context while disinvesting from those activities which cannot be implemented. • Aligned the revised project with the WB strategy for enhancing the resilience of Afghanistan to external shocks, including natural hazards.

12. Contributions to CREWS Output(s)s

(use number for activities and products and % for project component completion)

12.1 National Output(s)

CREWS Output(s) 1: National Meteorological and Hydrological Services service delivery improved, including the development of long-term service delivery strategies and development plans				
State Project Output(s) in this section	**Overall Project Target**	**Progress by June 2023**	**Target for reporting period**	**Progress by December 2023**
Hydromet Concept of operations (CONOPS)	TOR developed	Activity completed	-	-
Services delivery strategy	TOR developed	Technical discussion held with AMD and GDWR on hydromet services delivery. WMO & WB have requested detailed inputs on status of weather and hydrological stations.	-	-
Reinforcing the legal and institutional framework	TOR developed	Activity completed	-	-

Introducing QMS across operations of AMD and WRD-MEW to interact with their user communities	-	Activity on hold but could be resumed in the next reporting period.		
Developing stakeholder/user surveys to tailor the services for users	Surveys completed	ToR has been developed. Alternative implementation modality through data-crowdsourcing currently in progress.	-	Activity put on hold, as it is difficult to find suitable firms able to conduct the survey in Afghanistan.
Updating the roadmap Strengthening Hydromet And Early Warning Services In Afghanistan originally launched in 2018	Roadmap updated and published	-	New output (October 2023)	Activity in progress: NMHSs consulted through online meetings for the update of the roadmap.
Developing National Capacity Assessment Tool (NCAT) for Afghanistan National Meteorological and Hydrological Services (NMHSs), to evaluate existing capacities and capabilities for the provision of hydrological services in an MHEWS Environment, by integrating data from diverse sources (WMO Data Repository) and conducting further assessments through WMO Guidelines.	National capacity of Afghanistan NMHSs is assessed through the WMO National Capacity Assessment Tool (NCAT)	-	New output (October 2023)	Activity in progress
Take stock of Observation Network (ON) and connectivity status & requirements; Rehabilitation of key AMD ON stations	Key Observation Network stations are rehabilitated	-	New output (October 2023)	Collection of latest information on status of ON from relevant

				agencies (AMD, MEW and MAIL)
and reconnected to WMO GTS				

Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). Please list in bullet points.

- All the activities currently being carried out under this output have been informed by the CREWS-AF meeting organized in Islamabad in May 2023. The local agencies have been leading this effort, through a continuous consultation process that is informing both the assessment and the roadmap update. The consultations are being carried out in the country as well as through virtual means..

CREWS Output(s) 2: Risk Information to guide early warning systems and climate and weather service developed and accessible

State Project Output(s) in this section	Overall Project Target	Progress by June 2023	Target for reporting period	Progress by December 2023
Design of Drought Early Warning System	Design completed	Completed	-	-
Development of Drought Early Warning System	Established and functional	ToR has been developed to convert the tool into a open-source interactive data and information platform, with the capacity to integrate other datasets.		Discussions held with Cima Foundation and the Italian Department of Civil Protection to upgrade the AF-DEWS into a multi-hazard early warning system (MyDewetra),

				capable of visualizing and producing alerts for drought, floods, and other natural hazards.
Design of Agrometeorological services	Pilot implemented	Partnerhsip estalbsihed with Agricutlure GP. An initial concept for the digital agromet advisory services protype has been developed in collaboration with Agricutlure GP, and the upcoming Afghanistan Food Systems Analytics ASA.		In partnership with the *Improving Livelihood Resilience to Climate Change in Afghanistan* ASA, a ToR has been developed and discussion is ongoing with potential firms to undertake the pilot. Activity expected to be carried out from 2024 onwards.
Flood Early warning designed and Flash Flood forecasting and alerting systems enhanced	Flood EW Design developed; Link with CAR FFGS established and capacity enhanced	CARFFGS components on Seasonal to Sub-seasonal ensemble prediction, riverine routing and landslide have been	Completed	Completed

		implemented and operational and cover the Amu Darya and Syr Darya basins. Step 4 and 5 trainings conducted under PARFFGS for AMD and MEW staff			
Afghanistan is re-connected with Regional Climate Services	Completed	Completed	-	-	
Concept note for the Amu Darya Flow Forecasting and Early Warning System	Completed	Completed	-	-	
Strengthening the use of NWP for improving forecast accuracy	Expand regional NWP to cover Afghanistan	Completed	-	-	
Develop analytics to understand the impacts of climate variability and climate change on water resources to support integrated water resources management	Analytics are developed	-	New output (October 2023)	Activity to be led by the WB Water team, in partnership with the *Improving Livelihood Resilience to Climate Change in Afghanistan* ASA (P500817).	

Develop analytics to understand the climate – conflict nexus	Analytics are developed	-	New output (October 2023)	Activity yet to be initiated

Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). **Please list in bullet points.**
- During a mission to Kabul in July 2023, the WB team established a collaboration with the WB Agriculture and Water teams which resulted in the co-development of the *Improving Livelihood Resilience to Climate Change in Afghanistan* ASA (P500817). The ASA will support the co-development of Digital Agromet Advisory Services to support smallholder farmers enhance their agricultural productivity and resilience to weather and climate hazards and the assessment of climate change impacts on water resources.   - Drought & floods early warning systems, agromet advisory and water resource management plans are essential building blocks of the strategy for a resilient Afghanistan. These activities target the most frequent and damaging natural hazards and two key socio-economic priority sectors, such as agriculture and water. The goal is to support the development of knowledge products and appropriate adaptation strategies against the negative impacts of climate change.   - The WB team contributed to the Post-Disaster Needs Assessment following the earthquakes that struck throughout the Herat Province in October 2023. The team contributed to the assessment of damages and losses incurred by the Disaster Risk Reduction sector and the identification of priority recovery needs.

CREWS Output(s) 3: Information and Communication Technology, including common alerting protocol, strengthened				
State Project Output(s) in this section	**Overall Project Target**	**Progress by June 2023**	**Target for reporting period**	**Progress by December 2023**
Supporting MoUs between MRRD and other agencies relevant for the drought early warning system	MoUs signed	Cancelled	-	-

Developing a modern impact-based weather forecasting process	Impact-based forecasting process guidance document	Training recording shared with the agencies. Recording of virtual training events to be continued in the future.	-	-
Establishing a HydroMet data management system for AMD, GDWR, and MAIL	Data management system for AMD and WRD established and operating	Activity to be resumed in the next FY.		

Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). <u>Please list in bullet points.</u>
   No updates

CREWS Output(s) 4: Preparedness and response plans with operational procedures that outline early warning dissemination processes developed and accessible				
State Project Output(s) in this section	**Overall Project Target**	**Progress by June 2023**	**Target for reporting period**	**Progress by December 2023**
Capacity assessment for hydromet and DRM agencies	Current capacity assessed and training plan developed	The assessment, covering the period till 2021, is completed.	-	-

Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). **Please list in bullet points.**
Completed

CREWS Output(s) 5: Knowledge products and awareness programmes on early warnings developed

State Project Output(s) in this section	Overall Project Target	Progress by June 2023	Target for reporting period	Progress by December 2023
Afghanistan Hydromet Atlas	Completed	Completed	-	-
Afghanistan is a member of the South Asia Hydromet Forum and its engagement in SAHF to be strengthened	Full participating member of SAHF (member of RIMES led SAHF executive council)	Completed.	-	-
Linkage with Central Asia and Indian Meteorological Department established	Strong linkage with CA and MOU with IMD established	Folllowing the SCM, Pakistan Meteorological Department (PMD) raised its willingness to support for the delivery of activities and capacity building.	-	Involvement of PMD FFGS trainers in the organization of FFGS operational training in Kabul (to be held in January 2024).

				Afghanistan delegation attended the South Asia Hydromet Forum (SAHF) Executive Council meeting in Bangkok (November 2023).
Awareness raising on last-mile early warning service delivery (simulation with key stakeholders)	Awareness is raised on last-mile early warning service delivery	-	New output (October 2023)	Activity scheduled in 2024
Develop end-to-end open data platform to integrate Afghanistan multi-Hazard Assessment datasets, AF-DEWS datasets and other socioeconomic datasets	Platform is operational and accessible	-	New output (October 2023)	Implementing partner identified and discussion on-going
Develop FFGS post-processing tool to provide access to information, data and knowledge (bulletins, API)	Post-processing tool is developed and operational	-	New output (October 2023)	Implementing partners identified
Develop downscaled climate data and information at the national level	Downscaled data and information is available at national level	-	New output (October 2023)	ToR drafted, activity to be procured in the next semester.
Develop and implement a dissemination strategy to share with local stakeholders CREWS achievements	A dissemination strategy is developed and implemented	-	New output (October 2023)	Activity scheduled in 2024.-

Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). Please list in bullet points.
New linkages established with Pakistan Meteorological Department (PMD) for the delivery of activities under this project.
The activity is ongoing and linkages with Central Asia countries have been re-established / strengthened (by WMO). Linkages with South Asia hydromet agencies, particularly through the South Asia Hydromet Forum, resumed and an Afghanistan delegation attended the SAHF Executive Council meeting in Bangkok (November, 2023).

CREWS Output(s) 6: Gender-sensitive training, capacity building programmes provided

State Project Output(s) in this section	Overall Project Target	Progress by June 2023	Target for reporting period	Progress by December 2023
Community awareness on drought early warning (technical support)	Technical assistance for training developed	On hold	-	-
Capacity building for cost-effective observation network through establishing local capacities and capabilities (3D Printed Agromet Stations for research and academia)	Training completed	Activity to be expanded for AMD and other agencies (MEW, MAIL, Kabul University)	-	-
Capacity building on the operational use of FFGS (training & training of trainers)	Trainings completed	-	New output (October 2023)	Organization of the training initiated.
Capacity building on: - weather & hydro forecasting and verification; observation network (synoptic, maintenance); use of satellite/remote sensing - GIS	Trainings completed	-	New output (October 2023)	Several potential partners for the implementation of the trainings were identified,

- interpretation of alerts/warnings and Impact-Based Forecasting (IBF) - validation/verification of decision support tools (FFGS, AF-DEWS, agromet, etc)				discussions are on-going

Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). <u>Please list in bullet points.</u>

The above trainings topics have been identified during the Steering Committee Meeting with the agencies in May 2023. The organization of the operational FFGS training has been initiated, with the involvement of trainers from Pakistan Meteorological Department (PMD) and an AMD trainer at a very early stage (e.g. in the design of the agenda and training materials).
Furthermore, consultation is on-going with the team of WMO Education and Training Programme (ETR), in the identification of training activities aligned with the requests.

12.2 Regional Output(s)s (for Regional Projects)

CREWS Regional Output(s): Institutional and human capacities at Regional WMO and Intergovernmental organizations to provide regional climate and weather services to LDCs and SIDS increased				
State Project Output(s) in this section	**Overall Project Target**	**Progress by June 2023**	**Target for reporting period**	**Progress by December 2023**
N/A	**N/A**	**N/A**	**N/A**	**N/A**
Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). <u>Please list in bullet points.</u> **N/A**				

13.Certification on Use of Resources

This needs to be provided at the end of the year as part of the submission of the 2nd semester report. Each Implementing Partner to provide a certification of the use of resources signed by their authorized representative.

14. Visibility products

    a. *Insert or copy any links to press releases, videos or communication items and/or social media links <u>produced during the reporting period only</u>*

15. Supporting documents

    a. *List and annex to the report any documents providing details on project activities <u>conducted during the reporting period</u> such as reports of training sessions, assessment reports, online solutions and tools, manuals, summaries of high-level discussions etc.*

16.Project History

    a. *Highlight key achievements since project started <u>in bullet points, include all visibility and supporting documents other than those from the last 12 months</u>*

        • CREWS Afghanistan Steering Committee Meeting report (annexed)
        • Step 4 and 5 trainings under the PARFFGS training program (report annexed)

- Completion of CARFFGS components on Seasonal to Sub-seasonal ensemble prediction, riverine routing and landslide, which covers the Amu Darya and Syr Darya basins (HRC reports annexed)
- 3DPAWS training was done in December 2022 to be followed with the making and installation of stations.
- WRF implementation and integration completed and WRF-FFGS are operational
- Concept of Operations (CONOPS) developed
- Modern Impact-Based Weather Forecasting guidance document prepared
- Hydromet Service Delivery Strategy framework document prepared
- Rapid Assessment of DRM Capacities completed
- Afghanistan Drought Early Warning Decision Support Tool (AF-DEWS) prototype developed
- Central Asia and Afghanistan Flood Early Warning System (CAFEWS) concept note developed
- ICON in the Cloud started
- Capacities of Hydromet Services: Dynamic Water Resources Assessment Tool (DWAT) utilized
- Cooperation and Twinning with TSMS
- ICT Assessment report developed
- Policy Note: Advancing the Road Map for Afghan-Tajik cooperation in Hydromet data exchange
- Afghanistan Hydromet Atlas
- CAFEWS Launched (11 December 2021)