



CREWS PROJECT PROGRESS REPORT

(July – December 2021)

1. Project title	Strengthening Hydro-Meteorological and Early Warning Systems in the Pacific (CREWS Pacific SIDS 2.0)	2. Project reference CREWS/RProj/05/Additional Financing Pacific
3. Implementing Partners involved in the project	World Meteorological Organization (WMO); World Bank Global Facility for Disaster Reduction and Recovery (WB GFDRR); United Nations Office for Disaster Risk Reduction (UNDRR)	4. Regional/National Partners involved in the project Secretariat of the Pacific Regional Environment Programme (SPREP); The Pacific Community (SPC); Australian Bureau of Meteorology (BoM)
5. Project Duration/Timeframe (from year – to year)	Jan 2021-Dec 2024	6. Total Funding Approved by Steering Committee (in US dollars), including fees USD 4,799,000
7. Reporting focal point(s) from Implementing Partners	WMO: Lina Sjaavik Lsjaavik@wmo.int WB GFDRR: Habiba Gitay hgitay@worldbank.org Simone Esler sesler@worldbank.org UNDRR: Nazgul Borkosheva Nazgul.borkosheva@un.org Stefanie Dannenmann-Di Palma dannendmann@un.org	



8. Project overview	<p>Please include objectives, key project deliverables, leveraging, contextual information/statistics, significant events during the reporting period <u>in bullet points</u>. (max 250 words)</p> <p><u>Objectives and key project deliverables</u> CREWS Pacific SIDS 2.0 builds upon the CREWS Pacific SIDS project (2017-2021) and aims to upscale its efforts in the Pacific Region. The project will enhance regional and national capacity and systems for risk informed services related to extreme and high impact hydro-meteorological events in the Cook Islands, Federated States of Micronesia (FSM), Fiji, Kiribati, Nauru, Niue, Republic of Marshall Islands (RMI), Palau, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu. The project has five main outcomes that strengthen integrated and inclusive early warning systems that are part of the region’s stronger and more comprehensive human security and resilience agenda:</p> <ol style="list-style-type: none">1. Improved governance;2. Enhanced product development and accessibility;3. Enhanced service delivery;4. Enhanced communication and awareness programmes on early warning services (EWS); and5. Improved integration of gender including people living with disabilities across the EWS chain. <p><u>Leveraging</u> The project links closely with the following regional initiatives (approx. USD 85.5 million):</p> <ul style="list-style-type: none">• Climate and Oceans Support Program in the Pacific (COSPPac) (Phase 2) (AUS 22.6 million)• Tuvalu Coastal Adaptation Project (USD 38.6 million)• Recovery Support for Tropical Cyclone Pam (AUD 35 million)• Intra-ACP Climate Services and Related Applications Programme (ClimSA) (EUR 5,5 million) <p><u>Key events during reporting period</u> <i>CREWS Pacific SIDS 2.0 official project launch (14 July 2021)</i></p> <p>The project was launched virtually on 14 July 2021 in the presence of representatives from the beneficiary countries which included the NMHSs, National Disaster Management Organizations, and Ministries of Foreign Affairs and Trade as well as the regional and national partners. The launch event provided an opportunity for the beneficiary countries to interact with the project implementing partners and learn more about the objectives of the CREWS Pacific 2.0 project. Please refer to Section 14 for details of the launch.</p>
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	<p><u>CREWS Pacific SIDS 2.0 inception workshop (29 September 2021 and 06 October 2021)</u></p> <p>Organized by WMO, and with direct support from the project implementing partners, the CREWS Pacific SIDS 2.0 inception workshop allowed the beneficiary countries to review, discuss, validate and endorse the proposed project activities. The workshop also deliberated on the setup and Terms of reference for the Project Steering Committee.</p>
<p>9. Progress summary</p>	<p>What has been achieved <u>during this reporting period?</u> – Please list <u>in bullet points</u> the most significant and tangible outcomes? (Highlight at least 1 key achievement that can be elaborated in the 2021 Annual Report). (max 250 words)</p> <ul style="list-style-type: none"> • National Strategic Plan (NSP) and National Framework for Weather, Water, Climate and Oceans Services (NS-FWWCOS) for Tokelau. <ul style="list-style-type: none"> – WMO hired a consultant who developed a draft methodology and workplan based on consultations with the Tokelau Meteorological Service (TMS). National and communities’ consultation are expected to take place in Q1 2022. The draft NSP and NS-FWCS are expected to be concluded and approved by the second quarter of 2022. • National Strategic Plan for Meteorology and Hydrology for the Vanuatu Meteorology and Geohazard Department (VMGD) <ul style="list-style-type: none"> – Concept note for the NSP covering the period from 2024-2033 was developed by VMGD with support from WMO. Following the review and approval of the document in January-February 2022, WMO and VMGD will start the implementation of this activity, which will include the hiring of an external expert, and organizing and conducting national consultations’ workshops. • Review of the Solomon Islands’ National Disaster Council Act of 1989.

	<ul style="list-style-type: none"> - A concept note of this activity was developed by the NDMO was shared with WMO for review in December 2021. WMO is currently discussing and reviewing the concept note and the budget with the NDMO, and expects to kickstart the implementation of activities in Q1 2022. • Action-oriented Stakeholder Workshops on Impact-Based Forecasting and Warning Service (IBFWS) in Samoa and Tonga. <ul style="list-style-type: none"> - The Samoa Meteorology Division and Tonga Meteorology Service in collaboration with WB GFDRR team, organised stakeholder workshops for their respective countries (16 and 18 November, 2021 for Samoa and 30 November and 2 December 2021 in Tonga). <ul style="list-style-type: none"> - Participants were introduced to the concept of impact tables for IBFWS and drafted impact tables for key hazards for use in Samoa and Tonga. Outcome was the development of IBFWS by the participants in their respective countries. - The second workshop focused on developing advice and action statements in IBFWS. Participants were introduced to the concept of advice and action statements and they developed draft advice and action statements for different key hazards and impact levels for use in Samoa and Tonga for their IBFWS. - In addition, a third workshop was facilitated with Samoa on design and communication to share global lessons learned on effective design and communication for IBFWS products and identify initial design and communication requirements for Samoa. • The terms of reference for a technical firm to provide complementary advisory support on IBFWS in Samoa and Tonga. <ul style="list-style-type: none"> - These have been prepared and technical evaluation for a consultancy firm has been completed. The WB GFDRR team is in the process of deciding on the successful bidder • Implementing Arrangement – WMO & BoM <ul style="list-style-type: none"> - The implementing arrangement between WMO and the Australian Bureau of Meteorology (BoM) has been developed and internal approvals are currently ongoing.
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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		Poor progress; requires remedial attention	
Coding	Rate of expenditure	Rate of delivery	Alignment of Objectives
Narrative	<p>The total expenditure of the project to date is USD 208,952, of which:</p> <p>WMO: USD 119,868</p> <p>WB GFDRR: USD 77,502</p> <p>UNDRR: USD 11,582</p>	<p>Following a planning period, under which contractual arrangements with regional partners were being finalized, WMO activities under CREWS Pacific 2.0 commenced in Q3 2021. Some selected activities have been advanced and implemented under the ongoing CREWS Pacific SIDS project (2017-2022).</p> <p>Opportunities for meaningful technical dialogue with the government partners have been constrained due to ongoing COVID-19 and travel restrictions.</p> <p>Meetings and workshops are still in virtual mode, but the government officials all meet in person in their respective countries.</p> <p>Action-oriented stakeholder workshops for IBFWS were conducted for Samoa and Tonga during November and December 2021. The meetings are</p>	<p>The project remains aligned to the objectives.</p>

		<p>scheduled to be held during the working day in Samoa and Tonga. The WB GFDRR team has also ensured that the in-country facilitation is done by the Met organisation staff in each country, and breakout groups included to ensure active participation by the government officials. In both countries, the Met organisations have actively engaged critical stakeholders in Samoa (National Disaster Management Office, Water Resources Division and Fire and Emergency Services Authority) and Tonga (National Emergency Management Office, Ports Authority, Marine Department, Agriculture (Vanilla project) NGO, and Civil Society) so that there is early engagement with key IBFWS stakeholders.</p> <p>UNDRR activities under the CREWS Pacific 2.0 initiative started in Q4 2021. A Programme Management Officer was recruited and is based in Fiji to coordinate the implementation of project activities. An implementation plan and TOR for gender and disability analysis were developed.</p> <p>Additionally, UNDRR has begun work in support of the National Disaster Management Office (NDMO) of Fiji to progress the development of a Disaster Risk Management Volunteer Scheme. Consultations were conducted with government and non-government institutions to map how best to ensure a strong gender and disability inclusion in</p>	
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		the overall scheme, including the engagement of community volunteers in early warning and early action value chain.	
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11. Risk Management Status

<p>Risk Status</p>	<p>What is the current risk status as compared to what was identified in the project proposal?</p> <p>The risk status of the project remains low to medium as identified in the project proposal.</p> <p>The major risk to achieving the intended outcomes and objectives is the ongoing COVID-19 pandemic, which has caused significant implementation constraints due to the inability to travel and difficulties with in-country stakeholder face-to-face consultations. In addition, volcanic eruption and subsequent tsunami in Tonga on January 15, 2022 will likely hamper progress over the coming months due to the need for the Tonga Meteorological Service and other stakeholders to focus on post-disaster response and recovery efforts.</p> <p>Other potential risks are:</p> <ol style="list-style-type: none"> 1. Severe natural hazards, such as tropical cyclones or volcanic eruption, that may hinder communications with countries; and 2. Time and availability-related issues by beneficiary NMHSs, NDMOs and other in-country, who may be busy with other commitments and/or priorities. 3. Change of leadership or directorship of beneficiary NMHSs, NDMOs and other national entities.
<p>Measures to address</p>	<p>What mitigation measures have been developed to address the risk status? <u>In bullet points</u></p> <ul style="list-style-type: none"> • The project team remains in close and regular dialogue with the beneficiary NMHSs, NDMOs, in-country and regional implementing agencies.



	<ul style="list-style-type: none">• All technical activities in the foreseeable future will need to continue being carried out remotely. A few NMHSs received teleconference equipment under the CREWS Pacific SIDS project 2017-2022. More NMHSs, including NDMOs, may need assistance with virtual conference equipment under CREWS Pacific SIDS 2.0 project.• A template for a concept note is developed and shared with project beneficiaries to complete and sent to the Secretariat. This includes information on national project's activity focal point. Where needed, extra support from within the country will be ensured.• WB GFDRR team continues to engage with the Met organisations through ongoing projects (such as the Pacific Resilience Program (PREP) where investment projects are being implemented in both countries. For the consultancy firm, the need to form a joint venture with a local firm/consultant based in the country to support implementation was specified.• The emergency situation in Tonga is ongoing and the WB team will discuss with Government of Tonga in the coming weeks on how the CREWS support can be implemented in parallel with the post-disaster recovery – as appropriate.
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12. Contributions to CREWS Output(s)s

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

12.1 National Output(s)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 July 2021	Target for reporting period	Progress by December 2021
1.1 Support the development of bills and legislations for meteorology, hydrology, disaster management.	3 bills/policies on Met/Hydro and DRM.	1 request received, pending concluded concept note, and ready to start.	0	Concept note for Solomon Islands NDMO received and under review, activities expected to start in Q1 2022.
1.2 Socioeconomic assessment of RSMC Nadi/Fiji Meteorological Service (FMS).	Development of socio-economic assessment	Draft TOR has been prepared and is being finalized.	Initial scoping and engagement with FMS.	The ToR have not been advertised. Progress is hindered due to ongoing COVID-19 and travel restrictions and the recent impact of TC Cody that hit Fiji in January 2022.
1.3 National Strategic Plans for Meteorological Services inclusive of costed implementation plans and National Framework for Weather, Water and Climate	5 NS-FWCS	Tokelau and Vanuatu preparing concept	0	Consultant hired and methodology and workplan for Tokelau

<p>Services (NS-FWCS) for meteorology, hydrology, disaster risk management, and other related environmental disciplines developed for six Pacific SIDS (Nauru, Samoa, Solomon Islands, Tokelau and Vanuatu).</p>		<p>notes for NS-FWCS.</p>		<p>NSP/NS-FWWCOS developed.</p> <p>Concept Note for Vanuatu received and currently under review, activities expected to start in Q1 2022.</p>
<p>1.4 WMO and regional coordination mechanisms for meteorological, hydrological, disaster management, and other related environmental disciplines and services improved.</p>	<p>Number of Pacific Meteorological Council (PMC) documents for improved coordination mechanisms developed.</p>	<p>Discussion between WMO and SPREP on relevant PMC decisions and budget to address these is ongoing</p>	<p>N/A</p>	<p>Discussion between WMO and SPREP on relevant PMC decisions and budget to address these is ongoing.</p>
<p>1.5 Collaboration between RSMC Nadi/FMS and the Pacific Islands and Territories' Met Services it serves formalized.</p>	<p>Number of Agreements (SLAs, MoUs or equivalent) for the service provision developed or drafted.</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>



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.

- *Multiplier* demonstrating the value of the services provided by FMS and RSCM Nadi has the potential to increase future investments in the RSMC; the review of PMC Policies and documents will support future resource mobilization for PMC and NMHSs and NDMOs in the region.
- *Gender responsive & people centered*: The activities to strengthen capacities as well as the legislation and NSPs which outlines action plans for the NMHSs, aim to strengthen EWS in a way that will reach more people - specifically the ones most at risk, and further contribute to the concept of people-centered EWS.

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 July 2021	Target for the reporting period	Progress by December 2021
2.1 Integrated and inclusive operational Early Warning System (EWS) plan and system to addressing new and existing multi-hazards developed (includes SWFP, FFGS, CIFI).	Existence of operationalized EWS plan / Existence of integrated EWS platform.	N/A	N/A	N/A
2.2 Implementation of a high-resolution NWP mesoscale model in Fiji completed and operational.	Existence of verification and validation programme.	ECMWF license provided under CREWS Pacific 1.0 until 2022	N/A	ECMWF license provided under CREWS Pacific SIDS project until 2022

	<p>Number of ECMWF licenses provided.</p> <p>Number of staff trained.</p>			
2.3 Capacities to detect, monitor and forecast severe high impact meteorological, hydrological, and other related environmental hazards' events improved.	<p>Number of services with in-country capacity building sessions.</p> <p>Number of capacity building sessions conducted.</p> <p>Number of forecasts produced with input from training.</p>	N/A	N/A	N/A
2.4 Communities' response to multi-risk information and warnings improved	N/A	IBFWS Technical Advisor recruited. Short paper on operational lessons learned prepared.	N/A	The International Technical Advisor designed and facilitated

		<p>Technical meetings conducted by WB GFDRR with Tonga and Samoa counterparts. Stage 1 (scoping) completed. Stage 2 (implementation of technical studies) is underway.</p> <p>A Request for Expressions of Interest (REOI) for consulting team is being prepared by WB GFDRR.</p>	<p>stakeholder workshops for IBFWS – developing impacts tables, advice and action statements and communication and warning products Samoa & Tonga Stakeholder workshops for impact tables and advice and action statements completed IBFWS product design and communication workshop completed for Samoa Technical evaluation for a firm to support</p>
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				further development of IBFWS completed (implementation of this is likely to be supported through the PREP projects in the respective countries)
2.5 CB-EWS implemented	<p>Number of communities with CBEWS in place.</p> <p>Number of risk maps developed / updated.</p> <p>Existence of response plans.</p>	<p>Discussion with SPREP on CBEWS sites and budget. WMO and SPREP have received a request from Tonga- pilot Facebook based community Early Warning Dissemination System in 39 village communities in Vava'u. Concept pending.</p>	N/A	<p>Discussions with SPREP on CBEWS sites and budget, and alignment with CREWS Pacific SIDS 1.0 project.</p>

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.

- *People centered:* The stakeholder workshops have raised awareness of IBFWS with NMHSs and NDMOs and continues to encourage a paradigm shift from the conventional issuance of weather forecasts and warnings to an impact-based approach and making the connection between forecasts and warnings with user decision making and actions to mitigate their potential impacts. Samoa and Tonga have expressed positive views on the way the workshops have been organized, their role as facilitators and breakout groups for active engagement. In addition, they have also appreciated the best global practices being brought to their attention. There is also email communication amongst Samoa and Tonga, fostering further knowledge sharing and coherence. The exercise to develop the impact tables was considered to be a good example of bringing together their knowledge, supplementing it with global example and provided confidence to the countries in their efforts to move towards IBFWS which are much needed for people to take informed action.
- *People-centered:* The three organizations collectively bring in added value, such as for gender responsiveness, on-ground support, capacity building and a people centered approach especially for IBFWS in all three countries, whilst being cognizant to the needs of the country.

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 July 2021	Target for the reporting period	Progress by December 2021
3.1 Support development of Regional ICT Strategy that includes WIS to exchange and delivery of meteorology,	Developed strategy endorsed and operational.	N/A	N/A	N/A

<p>hydrology, and ocean data and information.</p>	<p>Number of technologies integrated and used by agencies.</p> <p>Percentage increase in data sharing between project's beneficiaries' countries and in-country agencies.</p>			
<p>3.2 Communication of early warning Improved.</p>	<p>Number of stakeholder consultations identifying communication channels.</p> <p>Existence of communication strategy.</p> <p>Percentage increase in communities reached for EW.</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>



3.3 National and regional platforms for NMHSs to exchange and share meteorological, hydrological, and other related environmental information among stakeholders including those in the socio-economic sectors strengthened.	Number of national and regional platforms taken place.	N/A	N/A	N/A
<p>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.</p> <p>No additional information for the reporting period.</p>				

CREWS Output(s) 4: Knowledge products and awareness programmes on early warnings developed				
State Project Output(s) in this section	Overall Project Target	Progress by July 2021	Target for the reporting period	Progress by December 2021
4.1 Knowledge products and publications developed	Number of knowledge products developed	N/A	N/A	N/A
<p>Additional information: briefly indicate the contributions, with concrete examples, to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). Please list bullet points.</p> <p>No additional information for the reporting period.</p>				

CREWS Output(s) 5: Gender-sensitive training, capacity building programmes provided

State Project Output(s) in this section	Overall Project Target	Progress by July 2021	Target for the reporting period	Progress by December 2021
5.1 Guidance on mainstreaming gender and disability developed	Existence of Women In Leadership (WIL) CoP Number of women trained under WIL.	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). Please list in bullet points.

- *Gender responsive:* UNDRR is supporting the National Disaster Management Office (NDMO) of Fiji to progress the development of a Disaster Risk Management Volunteer Scheme. Consultations have started to map how best to ensure a strong gender/inclusivity lens in the overall scheme, including the development of an accompanying DRM Volunteers Scheme manual. The scheme will support the new legislative arrangements in Fiji with an updated Disaster Management Act in process. The focus is to ensure that the volunteers' preparedness and response work, including early warning activities is gender responsive and inclusive of persons with disabilities as well as other vulnerable groups.
- WMO and UNDRR developed a TOR for gender and disability analysis, development of guidelines for integration of gender and disability into EWEA value chain, and to identify project gender indicators. Activities will commence in Q1 2022.

12.2 Regional Output(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 July 2021	Target for the reporting period	Progress by December 2021
R.1 Implementation of a high-resolution NWP mesoscale model in Fiji.	FMS/RSMC Nadi staff have the necessary skill set to implement high resolution NWP model in Fiji.	Activity delayed	Training for HPC conducted.	Progress hindered due to the ongoing travel restrictions in place due to Covid-19. WMO is working closely with FMS and other partners to conduct the training.
R.2 Access for FMS and RSMC Nadi to high-quality NWP products and relevant tools.	ECCharts for FMS/RSMC Nadi in place.	ECCharts available until September 2022.	ECCharts available until September 2022.	ECCharts licenses available until September 2022.



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.

No additional information for the reporting period.

13. Visibility products

- a. Insert or copy any links to press releases, videos or communication items and/or social media links produced during the reporting period only*
- [CREWS Pacific 2.0 official project launch – Press Release](#)

14. Supporting documents

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

15. Project History

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



Project Launch – July 14, 2021

WMO, alongside the implementing partners, organized the official CREWS Pacific SIDS 2.0 Launch on 14 July 2021, attended by representatives from regional and national partners, directors and representatives of NHMSs, NDMOs and the New Zealand Ministry of Foreign Affairs and Trade (MFAT). During the virtual Launch event, WMO highlighted the achievements from the first phase of the CREWS Pacific SIDS project implemented between 2017 and 2021, and alongside the implementing partners, UNDRR and WB GFDRR, shared the new focus and activities planned for the second phase of CREWS Pacific SIDS.



16.



The Pacific Resilience Meeting – July 6-8, 2021

The Pacific Resilience Meeting – the biennial meeting of the Pacific Resilience Partnership, a leaders mandated coordination mechanism to support implementation of the Framework for Resilient Development in the Pacific (FRDP) - delivered a powerful Outcomes Statement. The Outcome Statement highlighted the importance of ‘increased efforts to better understand climate and disaster risk and their impact; and clearly and inclusively communicate early warnings and early action, at all levels and across all sectors’.

IBFWS

A Technical Advisor for Impact Based Forecast and Warning Services (IBFWS) was recruited by WB GFDRR. Technical meetings were conducted with counterparts in Government of Samoa and Government of Tonga. Roadmaps for implementing IBFWS for Samoa and Tonga highlighting proposed technical activities for the next 18 months were developed. Follow-up meetings have been arranged with Samoa Meteorology Division (SMD) and Tonga Meteorological Service (TMS) to agree on the next steps. Preliminary TOR for a consulting team have been developed to complement support over the next 12-18 months.



A short paper “An introduction to developing impact-based forecast and warning services in the Pacific islands” was finalized in April 2021 to share operational lessons learned and good practices.

Staff Recruitment

UNDRR project manager was recruited in Q2 2021.