

iCARE Innovation Fund

Satellite and AI-Driven Climate Resilience Tool for Bhutan

Monthly Progress Report

1. Project Information

Project Title:	Satellite and AI-Driven Climate Resilience Tool for Bhutan
Project Code:	WBCAR
Partner Organisation:	Department of Local Governance and Disaster Management
Reporting Period:	1 st July 2024 – 31 st July 2024
Date of Submission:	05/08/2024
Contact Name:	Roxane Bandini-Maeder
Contact Position:	CEO
Contact Email Address:	roxane@geoneon.com
Contact Telephone Number:	+61417052557
Status of project progress in this reporting period	<input type="checkbox"/> Significant delay <input type="checkbox"/> Delay <input checked="" type="checkbox"/> On Track
Report sign Off	<input checked="" type="checkbox"/> I have reviewed all the information provided for each section including number of beneficiaries. The information provided for each section of the report is complete. Name: Roxane Bandini-Maeder Designation: CEO

2. Key Achievements

1. Successful completion of Milestone 3

- Completion of the geospatial tool [Bhutan Home \(geoneon.com\)](http://Bhutan Home (geoneon.com))
- Completion of training material

2. Organisation of ADPC Mission in Bhutan

- Liaise with stakeholders, meeting organised with key stakeholders, including the DLGDM, DoFP, Tarayana Foundation and Bhutan Ecological Society, and ADPC

3. Stakeholder Engagement

- Project Mid-Term Update with Thinley Norbu, Chief of DLGDM, getting positive feedback about the geospatial tool and its impact.
- Start to plan capacity engagement building aimed to be on the week of the 4th of November.

4. Milestone 4

- Commencement of recommendation drafting for the use of satellite data in Disaster Risk Reduction
- Commencement of getting feedback from the geospatial tool
- Organisation of technical meeting to go through the tool for testing phase.

5. Project Scaling:

- Engagement with key stakeholders for scaling up the project after the project completion in other region or with other features with Swiss Development Cooperation and Pakistani Government.

3. Implementation Progress

Activity Title	Last Month Progress	Current Month Progress	Activities, and Events, planned for the subsequent month
Activity 1.1.1: Consultation between DLGDM and Geoneon to identify Key Stakeholders and engage with them via a letter of Engagement (January 2024 – February 2024)	Activity Progress: 100% - Completed Non-Applicable - activity completed.	Activity Progress: 100% - Completed Non-Applicable - activity completed.	Non-Applicable - activity completed.
Activity 1.2.1: Development of consultation plan, feedback form, execution of beneficiaries consultation workshops and report outlining findings and data analysis of gender diversity attendance. (January 2024 – March 2024)	Activity Progress: 100% - Completed Completed: <ul style="list-style-type: none"> • Delivery of Consultation Workshops • Delivery of consultation through feedback/survey form • Report post-consultation • Consultation Plan • Feedback Form in Progress Execution of Consultation Plan	On going of execution of Consultation Plan	On going of execution of Consultation Plan
Activity 2.1.1: Source existing data and analysis of data gaps and pipeline development. (January 2024 – June 2024)	Activity Progress: 90% Completed: <ul style="list-style-type: none"> • Continuous stakeholder engagement for providing updates and discussing results. • Run Wildfire Severity Index for the whole country successfully completed • Executed training course on different type of satellite imageries, AI and data fusion developed for long term preparedness • Developed webpage and web map for visualisation of results. In Progress: <ul style="list-style-type: none"> • Wildfire Exposure Index development 	Activity Progress: 100% Completed	Non-Applicable - activity completed.

	<ul style="list-style-type: none"> • Calibration of Wildfire Severity Index and Wildfire Exposure Index. • Source High resolution satellite data for example: consultation with Bhutan Power Corporation to determine an area. <p>Short Report</p>		
<p>Activity 2.2.1 Material Creation and Design</p> <p>(April 2024 – June 2024)</p>	<p>Activity Progress: 85% Completed:</p> <ul style="list-style-type: none"> • Dissemination of training material • Survey after post-training <p>In Progress:</p> <ul style="list-style-type: none"> • Training Material for the use of the tool. 	Activity Progress: 100% Completed	Non-Applicable - activity completed.
<p>Activity 4.1.1 Collecting feedback</p> <p>(July 2024-November 2024)</p>	<p>Progress: 5% In Progress: Designing testing phase</p>	<p>Activity Progress: 40% Completed:</p> <ul style="list-style-type: none"> • Dissemination of the geospatial tool for testing phase to four stakeholders governmental and non-governmental. <p>In progress:</p> <ul style="list-style-type: none"> • Collect feedback. 	Meeting with key 4 stakeholders
<p>Activity 4.2.2: Development of consultation plan, feedback form, interviews, teaching material, execution of capacity enhancement workshops and report outlining findings and data analysis of gender diversity attendance</p> <p>(November 2024 – 15th January 2025)</p>	<p>Progress: 5% In Progress:</p> <ul style="list-style-type: none"> • Planning of capacity of enhancement workshop 	<p>Activity Progress: 10% In Progress:</p> <ul style="list-style-type: none"> • List of key stakeholders participating at the capacity building • Development of stakeholder consultation plan 	Planning of capacity Building
<p>Activity 4.3.1 Finalisation of tool</p> <p>(November 2024 – 15th January 2025)</p>	<p>Not started Activity to start October 2024 after completion of testing phase</p>	<p>Activity Progress: 10% Start to package into software.</p>	Continue to package tools into software.

Activity 4.4.1 Recommendation report (September 2024 – 15 th January 2025)	Progress: 1% In Progress: Plan recommendation based on discussions from meetings with stakeholders		Activity to start September 2024
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4. Results Framework Indicators Progress

PDO 1 Indicator Description: Government agencies and Citizens who have access to climate-resilient solutions tested or access to the results of the climate resilient solutions under the project (Number)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Government Agencies	0	N/A	0	5
Male citizen	0	N/A	0	1000
Female citizen	0	N/A	0	1000
Date		1 st of July	31 st of July	
Comments	This will be reflected at the end of project			
Output Indicators 1: Number of people trained (online) (by sex, country, topic, year, participant category):				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Participants	0	15	15	4
Male including in participants	0	14	14	2
Female including in participants	0	1	1	2
Date		1 st of July	31 st of July	
Comments	1 st training course to be held in person early June			
Output Indicators 2: Number of people trained during the Capacity Enhancement Workshop Number of knowledge products provided (by type of product, theme, country)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Participants	0	0	0	10
Female including in participants	0	0	0	>30%
Date		1 st of July	31 st of July	
Comments	This will be reflected at the end of the project			
Output Indicators 3: Number of knowledge products provided (by type of product, theme, country)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Total Products:	0	2	4	5
Open-source Geospatial Tool	0	0	1	1

Beneficiaries Engagement Workshop and Finding Reports.	0	1	1	1
Training Material for the Open-Source Tool	0	0	1	1
Capacity Enhancement workshop	0	0	0	1
Training material on the use of satellite imageries, AI and data fusion. This training is important to make sure end-user understand the tool.	0	1	1	1
Date		1 st of July	31 st of July	
Comments	Additional knowledge product was produced: Training material on the use of satellite imageries, AI and data fusion. This training is important to ensure end-user understand the technology behind the tool.			
Output Indicators 4: Number of people provided with knowledge products (by recipient category, type of knowledge product, country, theme)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Open-source Geospatial Tool	0	0	4	10
Beneficiaries Engagement Workshop and Finding Reports.	0	32	32	20
Training Material for the Open-Source tool	0	0	4	10
Capacity Enhancement workshop	0	0	0	10
Training material on the use of satellite imageries, AI and data fusion. This training is important to make sure end-user understand the tool.	0	23	23	10
Date		1 st of July	31 st of July	
Comments	Beneficiaries Engagement Workshop and Finding Reports has been provided to 36 people.			

Output Indicators 5: Number of events supported (by type, year, theme, country)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Facebook and LinkedIn Posts	0	4	5	6
Press release	0	2	2	2
Stakeholder engagement workshop	0	3	3	2
Conferences	0	0	0	1
Blog Post (Additional)	0	1	1	0
Date		1 st of July	31 st of July	
Comments				
Output Indicators 6: Number of people participating in supported events (by participant category, sex, year, theme, country)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Reactions of Facebook and LinkedIn Posts	0	Total:226 reactions 25 comments 19 reposts	Total:226 reactions 25 comments 19 reposts	20
News agency of press release	0	1	1	1
Participants of stakeholder engagement workshop	0	24	24	10
Participants of conferences	0	N/A	N/A	20
Date		1 st of July	31 st of July	
Comments	We notice an increase of engagement of people in Bhutan on Social Media			
INDICATORS SPECIFICALLY RELATED TO PROJECT				
Outcome 1 Indicator Description: Enhanced stakeholder engagement and Needs Identification				
Number of stakeholders engaged	0	37		10
Hazards identification	0	1		3
Indicators identification	0	1		2
Critical infrastructure types identification	0	3		3
Date		1 st of July	31 st of July	
Comments	Please note that a request was made by stakeholder to focus on one hazard but country wide instead of multi hazard in one			

	district. That aligns with the urgency of having a wildfire exposure index. More stakeholder engagements have been undertaken as execution of stakeholder engagement plan.			
Output 1.1 Indicator Description: Number and diversity of stakeholders engaged				
Number of government officials engaged	0	15	15	10
Female including in the government officials engaged	0	30%	30%	>30%
Date		1 st of July	31 st of July	
Comments	Women in government agencies are less represented than man.			
Outcome 2 Indicator Description: Number of geospatial tool which is functional and ready to be tested				
Functional tools	0	0	1	1
Relevant hazards	0	1	1	3
Relevant infrastructures	0	3	3	3
Date		1 st of July	31 st of July	
Comments	This will be reflected at the end of phase 2.			
Output 2.1 Indicator Description: Number of people accessing the first open-source tool				
Number of people accessing	0	0	4	4
Date		1 st of July	31 st of July	
Comments				
Output 2.2 Indicator Description: Number of people with training manual delivered				
Number of people delivered	0	0	4	4
Date		1 st of July	31 st of July	
Comments	.			
Outcome 3 Indicator Description: Capacity Building and tool testing				
Number of government agencies	0	10	10	5
Government officials including in agencies	0	10	10	10
Female including in government officials	0	0	0	>30%
Number of male citizens accessing the results	0	0	0	1000
Number of female citizens accessing the results	0	0	0	1000

Date		1 st of July	31 st of July	
Comments	It will be reflected at the end of Phase 3.			
Output 3.1 Indicator Description: Number of people accessing the first open-source tool				
Number of people trained online prior testing test	0	0	0	4
Number of people testing the tool	0	0	4	4
Date		1 st of July	31 st of July	
Comments	It will be reflected at the beginning of Phase 3.			
Output 3.2 Indicator Description: A trained cohort of stakeholders capable of using and disseminating knowledge about the tool, promoting gender-balanced capacity building in the local context.				
Number of trained users, disaggregated by gender	0	0	0	10
Female including trained users	0	0	0	>30%
Number of people delivered with knowledge product	0	0	0	10
Female including in people delivered	0	0	0	>30%
Date		1 st of July	31 st of July	
Comments	It will be reflected at the end of Phase 3.			
Output 3.3 Indicator Description: Tool refinement based on feedback				
Address relevant feedback	0	0	0	>70%
Date		1 st of July	31 st of July	
Comments	It will be reflected at the end of Phase 3.			
Output 3.4 Indicator Description: Number of strategic recommendations made				
Strategic recommendations	0	0	0	5
Date		1 st of July	31 st of July	
Comments	It will be reflected at the end of Phase 3.			

5. Challenges, Lessons Learned and Way Forward

Challenges

No significant challenges have been encountered this month.

Expectation Management: Additional needs from the project have been identified, and we have managed expectations with stakeholders accordingly.

Access to data from other agencies: delays to access data for soil dryness and weather/climate.

Lessons Learned

Effective Communication: We have experienced good communication and support from ADPC and key stakeholders. This has been critical in identifying and addressing additional project needs.

Stakeholder Engagement: A significant number of stakeholders have expressed interest in further collaboration, indicating strong engagement and the potential for future projects.

Way Forward

Partner Collaboration: Continue to foster open lines of communication and collaboration with all partners involved in the project. Possibility to develop MoUs.

Expectation Management: Maintain ongoing expectations management with stakeholders to ensure alignment and transparency regarding project developments and timelines.

Finalise integration of soil dryness and weather data: promising results of integrating our own data for weather and climate, instead of using government one.

Annexures:

Access to the folder, which includes:

Geospatial Tool: [Bhutan Home \(geoneon.com\)](#)

Training Material: [Introduction to the Indices \(geoneon.com\)](#)

LinkedIn Post:

<https://www.linkedin.com/feed/update/urn:li:share:7214434999775711233/?actorCompanyId=18663159>

Glossary

Project Title	means	Exact and full name of the project as defined in the Sub Grant Agreement
Project Code	means	A five-digit code assigned by ADPC
Partner Organization	means	The lead agency(ies) responsible for the implementation of the project
Key Achievements	means	The actual outcome or impact of your work, such as reaching a PDO, or outcome or output defined in the final and agreed Results Framework.
Implementation Progress	means	Implementation progress means the steps or actions taken to achieve the PDO or outcomes or outputs. In this case it would be the list of activities defined in the final and approved work plan
Challenges	means	The most significant and persistent areas of risk that affect the project's ability to achieve its objectives. Challenges could be related to managing the Sub Grant, sustaining development gains, coordinating with stakeholders, and implementing core management functions. Please also discuss the solutions to mitigate these risks.
Lessons Learned	means	Lessons learned are contextual or operational information that may affect planning and future performance. They highlight the insights gained from the activity's implementation practices and progress, such as staff feedback, stakeholder interviews, data analysis, and success stories. They also include any changes required by or support requested from ADPC or partners.



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