Endline Evaluation of the Strengthening Capacities in the Use of Geospatial Information for Improved Resilience in Asia-Pacific and Africa Project

November 2024

Planning, Performance Monitoring and Evaluation Unit

Foreword

The Strengthening Capacities in the Use of Geospatial Information for Improved Resilience in Asia-Pacific and Africa project (Reference: C2021.TARSA076.NORAD) aims to develop GIT capacities of beneficiary organizations in eight countries in Africa (Nigeria and Uganda), Asia (Bhutan, Bangladesh and Lao PDR) and in the Pacific Islands (Fiji, Solomon Islands and Vanuatu) to improve the national response to climate risk. The project targets relevant government organizations responsible for disaster risk, natural resource management and/or climate finance. The final evaluation assessed the performance and results of the project at its operational closure.

The evaluation found that the project made substantial strides in enhancing disaster management, climate adaptation and natural resource management across several countries, with notable progress in the Pacific region. The project improved disaster preparedness by strengthening cyclone and flood response capacities, as demonstrated during Tropical Cyclones Judy, Kevin and Lola, as well as during severe flooding in Lao PDR and Uganda. Through partnerships with local organizations, the project also equipped focal point agencies, like the Fiji Meteorological Service, to monitor hazards more effectively, boosting regional resilience. Capacity-building efforts introduced GIS and GIT tools, which significantly improved disaster risk reduction and climate planning abilities in countries such as Bangladesh, Bhutan, Fiji and Lao PDR.

The project emphasized gender inclusion by increasing female participation in technical training and writeshops, although achieving balanced gender representation remains a challenge due to existing gender dynamics within partner institutions. Effective partnerships with governments and academic institutions contributed to project success, aligning interventions with global and national priorities like the Sustainable Development Goals and other development frameworks. Synergies with international partners like JICA and UN agencies enhanced impact, yet deeper integration with United Nations Country Teams and local development actors was less than anticipated.

Challenges to sustainability included the project's short duration, high staff turnover and inconsistent government engagement in some areas. While project outcomes are likely to endure in countries with strong institutional support and leadership committed to integrating GIT, other regions faced risks due to dependency on external support and loss of trained personnel. Despite delays stemming from administrative hurdles, the project was delivered on time, meeting output targets and creating a knowledge hub with training resources and GIT solutions. This hub, along with scalable results and increased local capacity, offers a foundation for wider adoption, especially where strong government commitment and institutional frameworks support GIT integration in disaster and climate planning.

The evaluation issued a set of nine recommendations of which seven were accepted and two were partially accepted.

The evaluation was managed by the UNITAR Planning, Performance Monitoring and Evaluation (PPME) Unit and was undertaken by Antonio Cabo. The PPME Unit is grateful to the evaluator, UNOSAT's project team and partners, as well as other project stakeholders for providing important input into this evaluation.

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Acronyms and abbreviations

A2i	Agency to Innovate
AF	Adaptation Fund
BMD	Bangladesh Meteorological Department
BRRI	Bangladesh Rice Research Institute
CCA	Climate Change Adaptation
CCD	Climate Change Division
CCDA	Climate Change Adaptation and Development Initiative
CFAs	Climate Finance Advisers
CoP	Community of Practice
DDM	Department of Disaster Management
DEPC	Department of Environmental Protection and Conservation
DMH	Department of Meteorology and Hydrology
DMIC	Disaster Management Information Centers
DOFPS	Department of Forest and Park Services
DPD	Disaster Prevention Division
DPM	Department of Relief Disaster Preparedness and Management
DRM DSS	Disaster Risk Management Decision Support System
DRR	Disaster Risk Reduction
DSS	Decision Support System
EO	Earth Observation
FMS	Fiji Meteorological Services
FP	Focal Point
FRA	Fiji Roads Authority
GCF	Green Climate Fund
GDS4CR	Geospatial Decision Support for Climate Resilience
GEEW	Gender Equality and Women's Empowerment
GEF	Global Environment Facility
GIT	Geospatial Information Technology
GIS	Geographic Information System

HAND	Height Above Nearest Drainage
IP	Implementing Partner
IWM	Institute for Water Modelling
JICA	Japan International Cooperation Agency
LDC	Least Developed Countries
MAF	Ministry of Agriculture and Forestry
MAL	Ministry of Agriculture and Livestock
MCDA	Multi-Criteria Decision Analysis
MECDM	Ministry of Environment Climate Change Disaster Management and Meteorology
MID	Ministry of Infrastructure Development
MIM	Monitoring and Information Management Wing
MLMR	Ministry of Lands and Mineral Resources
MMERE	Ministry of Mines, Energy and Rural Electrification
MoA	Ministry of Agriculture
MoCCAMGEEDM	Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Environment, Energy, and Disaster Management
MoDMR	Ministry of Disaster Management and Relief
MoENR	Ministry of Energy and Natural Resources
MoFT	Ministry of Finance & Treasury
MoIT	Ministry of Infrastructure and Transport
MoLSW	Ministry of Labour and Social Welfare
MoU	Memorandum of Understanding
MPWT	Ministry of Public Works and Transport
MRD	Mineral Resource Department
NAP	National Adaptation Plan
NDC	Nationally Determined Contribution
NDMO	National Disaster Management Office
NGO	Non-governmental Organization
NLCS	National Land Commission Secretariat
NORAD	Norwegian Agency for Development Cooperation
NRM	Natural Resource Management
ODV	Output Delivery Verification

PPME	Planning, Performance Monitoring, and Evaluation Unit
PWD	Public Works Department
SDG	Sustainable Development Goals
SIDS	Small Island Developing States
SLM DSS	Suitability Land Management Decision Support System
SOB	Survey of Bangladesh
SoVI DSS	Social Vulnerability Index Decision Support System
SPARRSO	Space Research and Remote Sensing Organization
ToC	Theory of Change
ToT	Training of Trainers
UAV	Unmanned Aerial Vehicle
UNDP	United Nations Development Programme
UNOSAT	United Nations Satellite Centre
UNITAR	United Nations Institute for Training and Research
USP	The University of South Pacific
VMGD	Vanuatu Meteorology and Geo-Hazards Department

Executive Summary

The Strengthening Capacities in the Use of Geospatial Information for Improved Resilience in Asia-Pacific and Africa project is funded by the Norwegian Agency for Development Cooperation (NORAD) and implemented by UNITAR-UNOSAT between July 2021 and December 2024. The project aims to enhance climate resilience and disaster risk reduction (DRR) in eight countries: Bangladesh, Bhutan, Fiji, Lao PDR, Nigeria, Solomon Islands, Uganda and Vanuatu. With a budget of NOK 60,000,000 (approximately USD 5.7 million), the project focuses on building geospatial information technology (GIT) capacities for effective planning and decision-making through targeted technical training, backstopping services, awareness raising, and development of web-based GIT applications, including geospatial decision support systems (DSS) and a knowledge platform. Together with the Commonwealth Secretariat's Commonwealth Climate Access Hub, the project also provided support to access climate finance in the three Pacific small island developing States (SIDS) of Fiji, Solomon Islands and Vanuatu.

Key findings

The project **undeniably improved disaster management capabilities**, with clear examples in Vanuatu and Solomon Islands during Tropical Cyclones Judy, Kevin (March 2023) and Lola (October 2023). The project also enhanced **disaster preparedness**, as witnessed with the floods and landslides affecting Lao PDR (June 2023) and Uganda (June 2022), and **focal point organizations' ability to monitor floods and cyclones improved shown** with the Fiji Meteorological Service (FMS) enhancing the country's preparedness and resilience to future disasters, and **data management for spatial planning and forest management**. **The project has also facilitated the development of new partnerships and collaborations** primarily between government agencies and academic institutions in several project countries. However, the project's limited timeframe and the stochastic nature of meteorological hazards, compounded by evolving vulnerability and exposure parameters make it impossible to attribute changes in disaster mortality and damage to the project.

Likewise, through writeshops and use of GIS/GIT, **the project enhanced the capacity to prepare proposals for climate finance in the three Pacific SIDS, mobilising nearly USD 12 million from the Adaptation Fund and the Global Environmental Facility.**

The project **aligns well with global and national priorities, including the Sustainable Development Goals (SDGs), the UNITAR strategic framework and NORAD's strategy and climate change adaptation Theory of Change.** The project **effectively addresses the specific needs of its beneficiaries** in terms of targeted support for DRR, climate change adaptation and natural resource management. It also **addresses Gender Equality and Women's Empowerment**.

The project demonstrates **strong coherence with national policies, strategies and other development interventions**. It effectively complements existing DRR and climate resilience initiatives in various countries and builds on previous efforts by development partners, including Japan International Cooperation Agency (JICA), Germany and other UN agencies. The synergies created with other development partners contributed to achieving the project's objectives, ensuring that its interventions were complementary and impactful. Deeper integration with the United Nations Country Teams (UNCT) and other development actors in the implementation countries did not materialize as expected.

The project has been especially **effective in developing the technical skills and institutional capacities required for integrating GIT into decision-making processes**. Across countries such as Fiji, Solomon Islands and Vanuatu, the project's interventions resulted in measurable improvements in disaster preparedness and response, including enhanced flood and cyclone impact assessments. The use of GIT tools, such as the Sea-Level Rise Impact Mapping Application in Pacific countries, has helped improve climate change adaptation planning. Moreover, in the three Pacific countries, Bangladesh, Lao PDR and Uganda the project supported national disaster management authorities by providing training and tools for disaster risk management and climate resilience. In Bhutan, the project successfully contributed to sustainable land use planning through GIT, improving the country's ability to manage natural resources.

The project's technical backstopping services further amplified the effectiveness of these interventions, providing on-demand technical support to national and local governments. This support enabled timely disaster response in the Pacific region, particularly during the tropical cyclones in Vanuatu and the Solomon Islands where GIT applications were used to perform real-time damage assessments.

Factors contributing positively to project performance include **strong government engagement, the technical profile of the project's focal point organization, the selection of the primary counterpart and host of the in-country expert, the leadership's understanding of GIT capabilities within the focal point organizations, and the tailored implementation approach for each country**. In contrast, factors **hindering include performance, high staff turnover, inconsistent government engagement, and policy-formulating**

rather than technical profile of the focal point organization.

The project has attained or surpassed its output level targets, making significant progress since the midline review, delivering capacity-building activities and establishing a knowledge hub hosting training materials and other tools, and developing and deploying web applications (GIT solutions). Project capacities, including the web solutions have been applied by the focal point and beneficiary organizations to improve the effectiveness and efficiency of their service delivery.

At the individual level, **technical training participants have reported varying degrees of behavioural and practical changes following their participation in project activities**. While most respondents indicated improved skills and increased use of geospatial tools in their daily work, the extent of these changes depend largely on the post training institutional support.

Overall, **organizational capacities on the application of GIT for disaster risk and natural resource management have improved** from baseline to endline in project countries, notably in Bangladesh, Bhutan, Fiji and Lao PDR. **However, challenges persist**, particularly in ensuring that district-level officials in countries such as Bangladesh, Solomon Islands and Vanuatu receive adequate training and resources to utilize GIT tools effectively.

The project has led to several scalable and replicable results with potential for wider adoption beyond the initial project countries. Linked to the factors contributing to the project performance, the sustainability of the project's results varies across the different countries, with a higher likelihood of enduring results in contexts where there has been strong government engagement (leadership with GIT vision), institutional integration of GIT tools and continuity of in-country experts in the focal point organizations.

The project's outcomes are **less likely to be sustained in countries facing challenges such as reliance on external support (including from UNOSAT), inconsistent government engagement and the loss of trained personnel**. Expectation of a funded extension or second phase of the project was high in some countries, where sustainability of the project solutions may need more external support, including increased awareness by national decision-makers, to enhance integration of GIT tools.

Considerable progress was made towards addressing women's needs in GIS through gender mainstreaming and inclusiveness strategies, but the results have been mixed. While there was notable progress in increasing female participation in training sessions, and the project's climate writeshops, the overall gender balance remained skewed across countries reflecting also the gender balance in partner institutions.

The project produced outputs in a timely and cost-efficient manner, effectively leveraging in-country experts and partnership arrangements. **Despite delays** experienced due to administrative hurdles, particularly in obtaining government permissions and challenges in navigating complex administrative processes, **good adaptive management practices and the role of in-country experts were significant factors in mitigating these delays** and enabling delivery of the planned activities within the expected timeframe.

Recommendations
High priority:

1. Clarify the level and timeframe for continued backstopping support and in-country experts post-project to ensure sustained capacity and effective application of GIT tools.
2. Advocate for the establishment and consolidation of core GIT teams in all focal point organizations to ensure the sustainability of GIT capacities and foster the integration of geospatial information in national policies.

3. Increase engagement on the knowledge platform and support Training of Trainers (ToT) participants in the application of knowledge and skills when delivering training.

Medium priority:

4. Involve both technical and higher decision-making levels from government agencies.
5. Consider the inclusion of additional training and support for subnational and local authorities to ensure the effective application of GIT tools across all levels of government.
6. Establish early contact with national governments, involving UNOSAT/UNITAR leadership, to streamline official approval processes and reduce delays in project implementation.
7. Strengthen the project's cooperation with the UNCT and bilateral cooperation frameworks to enhance coordination and avoid duplication of efforts.
Explore opportunities for collaboration with other UN and bilateral projects to maximize impact and create synergies.
8. Identify further countries to replicate the project's successful elements such as using in-country experts and adopting open-source software. Continue support in countries where progress is being made to sustain results.
9. Promote gender participation in technical fields like GIT by showcasing "champions" and undertaking awareness raising together with academic institutions. Such champions can be women already working in national governments in different positions with GIT solutions. Develop a gender strategy for new project and discuss its operationalization across all project components. Consider partnering with universities to address gender root causes. Consider helping to groom more junior women in government who could move to the GIT field. Strengthen collaboration with the implementing partners in terms of gender good practices for replication in future activities.

Lessons Learned

1. **Importance of Stable Leadership:** The presence of stable leadership within focal point organizations is critical for the successful adoption and sustainability of GIT tools.
2. **Challenges of Working with Policy-Oriented Agencies:** Technical government agencies are better suited to apply GIT solutions than policy-oriented organizations, which may lack the necessary technical expertise.
3. **Need for Decision-Maker Awareness:** Insufficient awareness of GIT capabilities among senior decision-makers can hinder the allocation of resources and the effective adoption of these tools.
4. **Value of High-Level Engagement:** Early and sustained high-level engagement, particularly involving UNOSAT leadership facilitates smoother project implementation by overcoming bureaucratic obstacles.
5. **On Climate Finance Funding:** Organized, persistent and committed local, national and international partnerships provide a comprehensive approach and represent a key factor for the development and approval of concept notes and proposals since this process can be long and requires a lot of resources and contribution from other actors.

Good practices

1. **Use of Open-Source Software:** The strategic choice of open-source software like QGIS was both cost-effective and practical, enabling broader access to GIT tools without the burden of licensing fees.
2. **In-Country Expert Model:** Deploying in-country experts familiar with local contexts has been highly effective in embedding GIT capabilities within national institutions and ensuring that the tools are tailored to specific country needs. The deployment of in-country experts was consistently highlighted as a good practice. These experts provided critical support by ensuring that the project's tools and methodologies were effectively tailored and integrated into the local context. Their presence helped to bridge the gap between high-level technical objectives and the practical realities faced by local institutions, thereby enhancing the project's overall effectiveness
3. **Tailored Training Programmes:** Training programmes that are customized to the specific needs and capacities of the participants have proven successful in ensuring the immediate applicability of skills and knowledge gained.
4. **Adaptive Management Strategies:** The project's ability to adapt to challenges, such as reallocating resources and adjusting timelines, was critical in maintaining progress despite delays.
5. **Collaborative Approaches:** Collaborative approaches were also identified as a good practice. in several countries, collaboration between government agencies, technical experts, and other stakeholders was crucial for successfully implementing GIT tools.

Introduction

Project description and funding envelope

1. The United Nations Satellite Centre (UNOSAT) is part of the United Nations Institute for Training and Research (UNITAR). As an UN-based knowledge centre, UNOSAT provides United Nations funds, programmes and specialized agencies with satellite analysis, training and capacity development at their request, as well as supporting Member States with satellite imagery analysis over their respective territories and providing training and capacity development in the use of geospatial information technologies. UNOSAT has spearheaded the use of these technologies in various fields of application, namely for emergency response, disaster risk reduction, peace and security, as well as for the protection of cultural heritage and monitoring and evaluation of development projects.

2. Since 2011, through the financial support of the Norwegian Ministry of Foreign Affairs and the Norwegian Agency for Development Cooperation (NORAD), UNOSAT has been implementing training and capacity development activities in Asia and Africa with technical support from its Bangkok and Nairobi regional liaison offices, respectively.

3. The Strengthening Capacities in the Use of Geospatial information for Improved Resilience in Asia-Pacific and Africa project, funded by NORAD, has been under implementation since August 2021. With an initial end date of July 2024, the project received a no-cost extension (NCE) from 01 August to 31 December 2024. The project's primary focus is on enhancing resilience to climate risks in Africa and the Asia-Pacific region, with a strong emphasis on developing GIT capacities through training delivered in various modalities.

4. The project aims to develop GIT capacities of eight focal point (Table 1) and 63 beneficiary organizations in eight countries in Africa (Nigeria, Uganda), Asia (Bhutan, Bangladesh, and Lao PDR), and the Pacific (Fiji, Solomon Islands, and Vanuatu) to improve the national response to climate risk. Project focal point and beneficiary organizations[1] are relevant organizations responsible for disaster risk, climate change adaptation, land-use planning, natural resource management or research. Most beneficiary organizations are national government ministries, agencies or departments, but there are six academic institutions and one international NGO (Table 2). The Commonwealth Secretariat's Commonwealth Climate Access Hub supports the project's climate finance component as the project's implementing partner.

Table 1 - Project focal point organizations

Country	Focal Point Organization	Main Responsibilities
Bangladesh	Monitoring and Information Management (MIM) Wing, Department of Disaster Management (DDM), Ministry of Disaster Management and Relief (MoDMR)	Coordination of disaster management efforts, data collection, and monitoring.
Bhutan	National Land Commission Secretariat (NLCS)	Management of land resources, geospatial data, and policy formulation related to land use.
Fiji	Climate Change Division of the Ministry of Environment and Climate Change	Leading climate change initiatives and integration of geospatial data into climate resilience planning.
Lao PDR	Disaster Prevention and Risk Reduction Division, Social Welfare Department, Ministry of Labour and Social Welfare (MoLSW)	Disaster risk reduction, preparedness planning, and policy development.

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[1] See section Methodology for definition of focal point and beneficiary organizations.

Country	Focal Point Organization	Main Responsibilities
Nigeria	Federal Ministry of Environment	Implementation of environmental policies, climate action, and disaster risk management.
Solomon Islands	Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM)	Overseeing climate change adaptation, disaster management, and meteorological services.
Uganda	Office of the Prime Minister, Department of Relief Disaster Preparedness and Management	National disaster preparedness and coordination of relief efforts.
Vanuatu	Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Environment, Energy, and Disaster Management (MoCCAMGEEDM)	Comprehensive management of climate adaptation, disaster response, and environmental protection.

Table 2 - Names and types of beneficiary organizations

Organization type	Organization name
Bangladesh	
National government	Agency to Innovate
National government	Space Research and Remote Sensing Organization
National government	Climate Change Division, Department of Energy
National government	Bangladesh Rice Research Institute
National government	Survey of Bangladesh
Academia	Urban & Rural Planning Discipline, Khulna University
UN institution	World Food Programme
UN institution	United Nations High Commissioner for Refugees
Bhutan	
National government	Department of Forests and Park Services, Department of Water, and Department of Energy of the Ministry of Energy and Natural Resources
National government	Ministry of Finance & Treasury
National government	Department of Agriculture, National Soil Service Centre, Ministry of Agriculture and Livestock
Local government	Urban Planning Division, Thimphu Thromde
Academia	College of Science and Technology, and Jigme Namgyel Engineering College of the Royal University of Bhutan
National government	Bhutan Power Corporation
National government	Ministry of Infrastructure and Transport
Fiji	
National government	Climate Change Division, Office of the Prime Minister
National government	National Disaster Management Office
National government	Department of Environmental Protection & Conservation
National government	Fiji Meteorological Service of the Ministry of Infrastructure and Meteorological Services
National government	Fiji Bureau of Statistics
National government	Fiji Roads Authority
National government	Fiji Rural Electrification Fund
National government	Ministry of iTaukei Affairs

Organization type	Organization name
National government	Ministry of Agriculture
National government	Ministry of Forestry
National government	Climate Change Division of the Fijian Taskforce on Relocation and Displacement
National government	Mineral Resources Department of the Ministry of Lands and Mineral Resources
National government	Ministry of Waterways and Environment
National government	Ministry of Rural and Maritime Development and Disaster Management
UN institution	Climate Change Division of the United Nations Development Programme
Academia	The University of the South Pacific
NGO	WWF Pacific - Fiji Coral Reef Resilience Project
Lao PDR	
National government	Ministry of Agriculture and Forestry
National government	Ministry of Natural Resources and Environment
National government	Ministry of Public Works and Transport
National government	Ministry of Planning and Investment
National government	Ministry of Education and Sports
National government	Ministry of Health
National government	Ministry of Energy and Mine
Academia	National University of Laos
National government	National Mapping Department
Solomon Islands	
National government	Solomon Islands National Disaster Operations Committee
National government	Ministry of Agriculture and Livestock
National government	Mineral Resource Department
National government	Ministry of Finance and Treasury
National government	Ministry of Infrastructure Development
National government	Ministry of Mines, Energy and Rural Electrification
National government	Ministry of Lands, Housing and Survey
National government	Royal Solomon Islands Police Force
National government	Forum Fisheries Agency
Academia	Solomon Islands National University
Regional Organization	Secretariat of the Pacific Regional Environment Programme
Uganda	
National government	Uganda Bureau of Statistics
Local government	Kampala Capital City Authority
National government	Ministry of Lands, Housing and Urban Development
UN institution	UN Global Pulse and Ministry of Science and Technology
Vanuatu	
National government	National Disaster Management Office
National government	Rural Electrification Project
National government	Public Works Department of the Ministry of Infrastructure and Public Utilities

Organization type	Organization name
National government	Vanuatu Meteorology & Geo-hazards Department
National government	Ministry of Education and Training
National government	Ministry of Internal Affairs
Academia	University of the South Pacific

5. During 2021 and most of 2022, the project conducted a needs assessment rescoping exercise and a baseline evaluation. Capacity development activities began in November 2022 in the Pacific. The initial implementation timeline of four years from November 2020 until October 2023 was adjusted following the emergence of the COVID-19 pandemic, resulting in a revised schedule of August 2021 to July 2024, and the later NCE until December 2024.

6. The agreements between UNOSAT and its national partner organizations in the eight countries were signed in different years and, therefore, have different termination dates and even project implementation periods. In seven of the eight project target countries, the project was implemented under memorandum of understanding (MoU) between UNITAR and the national focal point organizations, while in Bangladesh, the project operated under a project document signed by UNITAR and the project focal point organization (Table 3).

Table 3 - Project legal document signature dates

Country	Instrument	Signature	Valid until
Bangladesh	Project document	April 9, 2022	July 31, 2024
Bhutan	MoU	October 7, 2022	July 31, 2024
Fiji	MoU	July 19, 2019	July 18, 2022
Lao PDR	MoU	September 1, 2022	July 31, 2024
Nigeria	MoU	September 30, 2022	September 30, 2025
Solomon Islands	MoU	October 19, 2022	October 19, 2025
Uganda	MoU	Pending	Pending
Vanuatu	MoU	January 18, 2022	January 18, 2025

Project logical framework

7. The project is delivered through six UNOSAT **work packages**: technical training, awareness raising events, web application solutions, technical backstopping, knowledge platform and community of practice, and climate finance **to deliver the project's eight outputs**:
    1.1 In-country capacity development trainings delivered to government officials
    1.2 Awareness raising events delivered to stakeholders
    1.3 Outreach highlights accomplishments of the project
    2.1 Thematic geospatial platforms implemented to support decision making
    2.2.1   Ad-hoc technical backstopping provided to stakeholders in the two regions
    2.2.2   A knowledge hub is created, acting as the portal for training resources and the Community of Practice
    3.1 Stakeholders in the Pacific are provided technical support in applying for climate funds
    4.1 Gender is mainstreamed in the project's activities

8. These outputs are expected **to be utilized, primarily by the project's focal point organizations to produce the following outcomes**:
    1. Strengthened knowledge, skills and awareness on the use of geospatial applications and tools for decision making

2.1 Improved ability to analyze geospatial data and information following a humanitarian crisis

2.2 Long term sustainability of technical capacities

3. Strengthened knowledge and skills on accessing climate finance

4. Improved efforts toward attaining gender equity

which would lead to the project's institutional outcomes:

- Enhanced evidence-based decision making in disaster risk and land management, using geospatial applications
- Embedding geospatial applications in stakeholder's organizations
- Improved access to climate finance in the target countries in the Pacific
- Gender is mainstreamed in focal point and beneficiary organizations' activities and outcomes

and **contribute to the project's ultimate objective** of *Improved resilience in Africa and Asia & Pacific, linked to the SDGs and the Sendai Framework for Disaster Risk Reduction*.

9. The project's logical framework was modified in response to the recommendations of the baseline evaluation, reflecting the different national outcomes and better defining the project's institutional outcomes, especially how the project's outcomes and impact will be measured. If, initially, SDG target indicators SDG 13.1.1 and 11.5.2 on disaster mortality and loss and damage were selected as measures of the project's success, after the baseline evaluation, the institutional outcomes were measured through capacity development indicators verified through two primary instruments: project evaluation survey and the project's capacity development scorecard (see section Methodology). The project rescoping exercise extended beyond the project's baseline evaluation and consolidated the expected national outputs and outcomes. The project monitoring was based on accomplishment of output indicators at the national level: number of trainings, number of backstopping requests, number of awareness-raising events, etc., leaving the assessment of the progress towards the institutional outcomes and contribution to the impact to the midline review and endline evaluation. Hence, at the inception of the endline evaluation, a coherence exercise was conducted to ensure alignment between the indicators for the project's outputs, outcomes, institutional outcomes and contribution to impact. The reviewed logical framework is shown in Table 4 and Table 5 below.

Table 4 - Project logical framework (I): results

Likelihood of Impact	Institutional Outcome (1)	Institutional Outcome (2)	Intermediate Outcome	Output
Improved resilience to natural disasters and climate change in Africa and Asia & Pacific	(InO 1.1) Stakeholders in member states and regional institutions using geospatial applications for decision-making related to improving resilience	(InO 2.1) Enhanced evidence-based decision making in disaster risk and land management, using geospatial applications	(O1) Strengthened knowledge, skills and awareness on the use of geospatial applications and tools for decision making	(OP 1.1) In-country capacity development trainings delivered to technical officials
				(OP 1.2) Awareness raising events delivered to stakeholders
				(OP 1.3) Outreach highlights accomplishme

Likelihood of Impact	Institutional Outcome (1)	Institutional Outcome (2)	Intermediate Outcome	Output
				nts of the project
			(O2.1) Improved ability to analyze geospatial data and information following a humanitarian crisis	(OP 2.1) Thematic geospatial platforms implemented to support decision making
		(InO 2.2) Embedding geospatial applications in stakeholder's organizations	(O 2.2) Long term sustainability of technical capacities	(OP 2.2) Ad-hoc technical backstopping provided to stakeholders in the two regions
				(OP 2.2) A knowledge hub is created, acting as the portal for training resources and the Community of Practice
		(InO 2.3.) Improved access to climate finance in the target countries in the Pacific	(O3) Strengthened knowledge and skills on accessing climate finance	(OP 3.1) Stakeholders in the Pacific are provided technical support in applying for climate funds
		(InO 2.4) Gender is mainstreamed in beneficiary organizations' activities and outcomes	(O4) Improved efforts toward attaining gender equity	(OP 4.1) Gender is mainstreamed in the project's activities

Table 5 - Project logical framework (II): indicators

Likelihood of Impact	Institutional Outcome (1)	Institutional Outcome (2)	Intermediate Outcome	Output
(I 1.a.1) SDG indicator 13.3.2 BGD, LAO, UGA, FJI, SLB, and VUT communicate the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions	(InO 1.1.1) High-level stakeholders (focal point organization management) agree to more efficient and effective delivery of their mandate related to improving resilience (resilience dimensions: DDM, disaster response, sustainable land management, CC adaptation, sustainable urban planning, gender	(InO 2.1.1) High-level stakeholders (focal point organization management) agree that their organizations have increased usage of geospatial applications solutions for decision making linked to the project's outputs	(O1.1) % trained technical stakeholders confirming application of knowledge and skills from the training	(OP 1.1.1) Number of in-Country Technical Trainings delivered per year (OP 1.1.2) Number of key national/regional institutions targeted as beneficiaries per training (OP 1.1.3)

Likelihood of Impact	Institutional Outcome (1)	Institutional Outcome (2)	Intermediate Outcome	Output
(I 1.b.1) SDG 13.b.1 FJI, SLB, VUT (confirm) receiving specialized support, and amount of support, including finance, technology and capacity-building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities	equality) at least partially attributed to the project's application and capacity development			Number of participants per training
(I 1.c.1) SDG 13.a.1 FJI, SLB, VUT (increase) mobilized X amount of United States dollars per year [between 2020 and 2025 accountable towards the $100 billion commitment] linked to GIT and FCA capacities				(OP 1.2.1) Number of awareness raising events organized or attended by project management team per year (OP 1.2.2) Number of key national/regional agencies or institutions at each event (OP 1.2.3) Number of attendees at each event
(I 2.1) SDG 2.4.1 Proportion of agricultural area under productive and sustainable agriculture in BTN, FJI, SLB (identified using the project's applications, not necessarily under production) (I 3.1) SDG 6.6.1 (detection of) change in the extent of water-related ecosystems over time, including mountains, forests, wetlands, rivers, aquifers and lakes in BTN, (especially internationally important wetlands-> Ramsar) using the project's applications (I 4.1) SDG 11.a.1 BTN improves/ establishes national urban policies (procedures) or regional				(OP 1.3.1) Number of articles published on the NORAD project (OP 1.3.2) Total number of views on NORAD articles (OP 1.3.3) Average number of impressions on NORAD tweets (OP 1.3.4) Engagement rate (OP 1.3.5) Number of people reached on Facebook (OP 1.3.6) Average engagement on Facebook (OP 1.3.7) Number of videos

Likelihood of Impact	Institutional Outcome (1)	Institutional Outcome (2)	Intermediate Outcome	Output
development plans that (a) respond to population dynamics; (b) ensure balanced territorial development; and (c) increase local fiscal space using the project's applications (I 5.1) SDG 15.4.1 (monitoring) coverage [by protected areas] of important sites for mountain biodiversity and changes in the mountain Green Cover Index in BTN using the project's applications (I 6.1) SDG 15. 3.1 (identification of) proportion of land that is degraded (drought, flood threatened) over total land area (providing the basis for water and land management actions) using the project's applications in NGA (I 7.1) SDG 5.5.2 (Changes in) the proportion of women in managerial (technical) positions linked to project activities or trainings in BGD, LAO, UGA, and SLB.				produced on the project
			(O2.1) % of trained technical stakeholder's "regularly "or "often" utilizing geospatial information technology in their respective home institutions/organizati on	(OP 2.1.1) Number of geospatial platforms or solutions implemented (OP 2.1.2) Number of views to the geospatial platforms (OP 2.1.3) Number of visitors to the geospatial platforms
		(InO 2.2.1) High-level stakeholders (focal point organization management) agree to having internalize capacity in sustainable manner	(O 2.2.1) % of staff of beneficiary organizations applying backstopping solutions to their work (O 2.2.2) Average monetary value of solution applied	(OP 2.2.1.1) Number of ad-hoc technical backstopping provided to national/regio nal key stakeholders per year
				(OP 2.2.1.2) Knowledge hub and community of practice are established for cross regional collaboration
		(InO 2.3.1) Relevant stakeholders agree that there has been an increased likelihood to access additional climate finance likelihood linked to the project's applications and CFA assistance	(O 3.1) % of national stakeholders involved in preparing applications for mobilizing climate funding using knowledge/skills from the project	(OP 3.1.1) Number of proposals prepared with the support of climate finance advisors

Likelihood of Impact	Institutional Outcome (1)	Institutional Outcome (2)	Intermediate Outcome	Output
		(InO 2.4.1) High-level stakeholders (focal point organization management) agree to have developed or improved gender mainstreaming by improving equal opportunities and collection of disaggregated data.	(O 4.1) All Female participants achieve equal or more than their male counterparts in regard to the learning objectives to ensure no one is left behind (O 4.2) Increase in knowledge on how to collect and apply gender disaggregated data (O 4.3) Improved knowledge on how to include gender and human rights considerations in climate funding proposals	(OP 4.1.1) Gender responsive approaches have been taken to ensure equity of the project's activities

Previous evaluations

10. The project underwent two independent evaluations: the project's baseline evaluation in July 2022, which confirmed the relevance of the project's objectives to the national focal point organizations and recommended modifications to the project's logical framework. It also identified "counterfactual countries" against which the progress in the project countries could be measured. As described in the methodology section below, said comparison could not be realized.

11. In June 2023, the project held an interactive in-person review workshop instead of an in-depth evaluation. The midline review workshop enabled a collective reflection by the project team and focal points of the partner organizations about opportunities and challenges during the first year and a half of project implementation. The workshop enabled incorporating the vision, experiences and perspective of the project's focal point organizations and implementing partner. The in-person workshop was complemented by two online pre-workshops (one for Pacific countries and another for Asian and African countries) and the deployment of a survey to technical training participants, backstopping support requesters and awareness-raising event participants.

12. The endline evaluation relates progress from the midline evaluation and the degree to which recommendations from the baseline evaluation and midline review have been incorporated into project implementation in the section on Effectiveness.

Purpose and scope of the endline evaluation

Evaluation purpose

13. The endline evaluation aims to systematically assess the performance and results of the project as it reaches its operational closure. Specifically, the evaluation:

- Measure project results against the indicators in the logical framework to determine the extent to which intended outputs and outcomes have been achieved.

- Assess the likelihood of impact and sustainability of results based on mechanisms and strategies put in place by the project.
- Identify enabling factors, challenges, and lessons learned from project implementation to inform future programming.
- Provide evidence-based findings, conclusions and recommendations to the project team, donor, implementing partner, and other stakeholders.

14. The evaluation's purpose is thus to meet accountability requirements, and provide findings, conclusions, recommendations and lessons learned to contribute to the project's improvement, strategic direction, and broader organizational learning to inform strategic decisions on the design and planning of possible future phases and focus areas of this or similar projects.

Scope of the evaluation

15. The endline evaluation covers the project's full timeframe[2] starting from August 2021 to July 2024, building upon the results of the baseline evaluation and midline review. The evaluation provides forward-looking recommendations to inform the NCE period and possible future phases or the development of similar projects.

Evaluation criteria

16. The evaluation assesses project performance using the six OECD-DAC criteria: relevance, coherence, effectiveness, efficiency, likelihood of impact and likelihood of sustainability. The evaluation included questions related to gender equality and the empowerment of women dimensions and environmental sustainability.

17. The evaluation was guided by the following main evaluation questions:

- *Relevance*: Has the project reached its intended users (beneficiary organizations) and are activities relevant to the beneficiaries' needs and priorities, and designed with quality?
- *Coherence*: To what extent is the project coherent with relevant policies (institutional and national) and complementing other projects or services available?
- *Effectiveness*: How effective has the project been in delivering results and achieving the intended outcomes?
- *Efficiency*: To what extent has the project delivered its results in a cost-effective manner and optimized partnerships?
- *Likelihood of Impact*: What are the potential cumulative and/or long-term effects expected from the project, including contribution towards the intended impact, positive or negative impacts, or intended or unintended changes (positive or negative)?
- *Likelihood of Sustainability*: To what extent are the project's results likely to be sustained in the long term? How is environmental sustainability addressed in the project?

18. The full terms of references of this evaluation are included in Annex A and the evaluation question matrix in Annex B.

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[2] The evaluation does not consider the NCE period from 01 August to 31 December 2024

Methodology

19. The evaluation followed a mixed-methods approach. Data for informing the evaluation questions was obtained from primary and secondary sources analyzed through qualitative and quantitative methods. The qualitative methods include text analysis from information gathered through interviews and a focus group. Descriptive statistics (cross-tabulation and correlations) were used for analysing information from surveys and the scorecard. For complementing the application of these tools and methods, two field visits were held to Bhutan and Bangladesh.

Primary sources

Interviews

20. The evaluation team (independent evaluator and UNITAR PPME) conducted interviews with 41 project stakeholders, between May and August 2024, depending on the respondent's availability. Most interviews were held online, but interviews with project stakeholders in Bangladesh and Bhutan were conducted during the independent evaluator's missions to those countries. Semi-structured interviews were guided by an interview guide (Annex C).

21. 2For evaluation purposes, project stakeholders are divided into three main groups: focal point, beneficiary organizations, and project team. A minority of stakeholders consulted mostly through documentary sources are considered third parties.

22. Focal points are staff of the project's focal point organization. They are the primary recipients of the project capacity development activities and technical backstopping services. In this project, all focal point organizations were national government organizations, mostly with disaster risk management responsibilities. Most beneficiary organizations were also national government organizations, mostly ministries (Table 6) Beneficiary organizations are those organizations that benefit from project activities (staff participated in the technical training [including climate finance writeshops], awareness-raising activities or requested technical backstopping support). UNOSAT staff involved in the project implementation, project in-country experts, and Commonwealth Secretariat Climate Finance Hub staff involved in the project implementation are considered the project team. During the interviews, however, UNOSAT in-country experts mainly acted as focal point organization representatives given that most of the in-country experts are seconded government officials. In Bhutan and Bangladesh, in-country experts were present during the interviews with focal point organization management staff at the request of the interview respondents. In Fiji, individual consultations were held with the in-country expert.

Table 6 - Organizations and type of organizations interviewed for the endline evaluation

Organization type (evaluation)	Organization type	Organization
Beneficiary	National government	Bangladesh Rice Research Institute
	National government	Bhutan Department of Forest and Park Services, Ministry of Energy and Natural Resources
	National government	Bhutan Department of Water, Ministry of Energy and Natural Resources
	National government	Bhutan Energy resource division, Department of Energy

Organization type (evaluation)	Organization type	Organization
	National government	Fiji Rural Electrification Fund
	Academic institution	Jigme Namgyel Engineering College, Royal University of Bhutan, (Bhutan)
	National government	Bhutan Ministry of Agriculture and Livestock, Department of Agriculture, National Soil Service Centre
	National government	Solomon Islands Ministry of Mines and Energy
	National government	Lao PDR Ministry of Public Works and Transport
	National government	Fiji Ministry of Waterways and Environment
	National government	Survey of Bangladesh
	Local government	Thimphu Thromde (Thimphu municipality), Bhutan
	Academic institution	Urban & Rural Planning Discipline, Khulna University (Bangladesh)
Focal point	National government	Fiji Climate Change Division, Office of the Prime Minister
	National government	Uganda Department of Relief, Disaster Preparedness and Management, Office of the Prime Minister
	National government	Lao PDR Disaster Prevention and Risk Reduction Division, Social Welfare Department,
	National government	Nigeria Federal Ministry of Environment
	National government	Vanuatu Ministry of Climate Change Adaptation, Meteorology & Geo-Hazards, Energy, Environment and Disaster Management
	National government	Solomon Islands Minister of Ministry of Environment Climate Change Disaster Management and Meteorology
	National government	Bangladesh Monitoring and Information Management Wing, Department of Disaster Management -Ministry of Disaster Management and Relief
	National government	Bhutan National Land Commission
Project team	Multilateral	Commonwealth Secretariat
	UN	UNOSAT

23. A total of 42 people from 22 organizations were interviewed as shown in Table 7. Most organizations (55 per cent) belonged to the beneficiary organization category, but most respondents (41 per cent) were staff from focal point organizations. Of the interviewees, only 9 (24 per cent) were women.

24. The detailed list of interviewees can be found in Annex D and also includes two additional interviewees from UNOSAT not part of the below table.

Table 7- Interviewed stakeholders for the evaluation

Country	Beneficiary Organizations	# staff beneficiary organizations	Focal point Organizations	# staff focal point organizations	Project team organization*	# project team staff
Bangladesh	3	3	1	4	1	1
Bhutan	5	7	1	6	1	1
Fiji	2	2	1	1	2	2

Lao PDR	1	1	1	2	0	0
Nigeria	0	0	1	1	0	0
Solomon Islands	1	1	1	1	1	1
Uganda	0	0	1	1	0	0
Vanuatu	0	0	1	1	0	0
Not applicable	0	0	0	0	0	6
Total	12	14	8	17	2	11

*Project team organizations are UNOSAT and Commonwealth (as Implementing Partner) based in the different countries indicated in the table

Focus Group

25. Based on the stakeholder identification, the evaluation team held a focus group discussion with national stakeholders in Bhutan (three participants) that provided in-depth insights and opinions for a triangulation of data and findings from other data collection tools. The guiding questions for the focus group are derived from the questions for the semi-structured interviews.

Surveys

26. The evaluation obtained data on the achievements and impact of the technical training, backstopping requests, awareness raising events, and community of practice; and a subjective appraisal of progress towards the project's logical framework institutional outcomes through two instruments, the endline survey and the endline scorecard.

Endline survey

27. A total of 74 out of 344 respondents replied (22 per cent response rate) to the endline survey (See template on Annex E).[3] The respondents belonged to either focal point or beneficiary organizations and had participated in at least one project activity, either technical training, technical backstopping requests or climate finance writeshops.

Table 8 - Survey responses per country and organization

Organization	Bangladesh	Bhutan	Fiji	Lao	Solomon Islands	Uganda	Vanuatu
A2i	1	0	0	0	0	0	0
SPARRSO	1	0	0	0	0	0	0
Climate Change Division, Department of Energy, PFAN, UNDP	0	0	1	0	0	0	0
DEPC	0	0	0	0	0	0	1
Disaster Risk Management Specialist	0	0	1	0	0	0	0
FMS	0	0	1	0	0	0	0
FRA	0	0	1	0	0	0	0
MRD	0	0	4	0	0	0	0
Mineral Resources Department	0	0	1	0	0	0	0
MoA	0	0	1	0	0	0	0

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[3] The response rate is satisfactory compared to other UNITAR surveys administered to participants.

Organization	Bangladesh	Bhutan	Fiji	Lao	Solomon Islands	Uganda	Vanuatu
MAF	0	0	0	2	0	0	0
MAL	0	2	0	0	2	0	0
MoENR	0	2	0	0	0	0	0
MECDM	0	0	0	0	8	0	0
MoFT	0	0	1	0	0	0	0
MoIT	0	1	0	0	0	0	0
MID	0	0	0	0	3	0	0
MOLSW	0	0	0	1	0	0	0
MLMR	0	0	2	0	0	0	0
MMERE	0	0	0	0	2	0	0
MoNRE	0	0	0	1	0	0	0
MPWT	0	0	0	2	0	0	0
MoFT	0	0	1	0	1	0	0
NDMO	0	0	0	0	0	0	2
NLCS	0	6	0	0	0	0	0
Office of the Prime Minister (OPM)	0	0	1	0	0	0	0
OPM	0	0	0	0	0	5	0
Office of the Prime Minister Department of Relief Disaster Preparedness and Management	0	0	0	0	0	1	0
Principal Scientific Officer (Rural Electrification)	0	0	0	0	0	0	1
PWD	0	0	0	0	0	0	2
USP	0	0	1	0	0	0	2
VMGD	0	0	0	0	0	0	3
WWF Pacific - Fiji Coral Reef Resilience Project	0	0	1	0	0	0	0
Unknown	5	0	0	0	0	0	0
Total	**7**	**11**	**17**	**6**	**16**	**6**	**11**

Scorecard

28. An 8-question scorecard (see template on Annex F) to gauge changes in capacity development, sustainability of acquired capacity and gender aspects attributed to the project was developed for the midline review, and with some modifications during the endline evaluation to adjust it better to the project logical framework consolidated during the inception phase of the endline.

29. The scorecard is inspired by other scorecards used to measure indicators, such as the Protected Area Management Effectiveness Monitoring Tool (METT), and the SDG Indicator 6.5.1 survey, and the UNDP Capacity Development Framework. Only one management-level staff member from the focal point organization filled up the scorecard, with assistance from the in-country expert on request.

30. The evaluator conducted two field visits to Bangladesh and Bhutan in June and July 2024, correspondingly, with the main purpose of interviewing relevant stakeholders and beneficiaries from the project's capacity development activities (See Annex G about the Summary of field missions). During the field visits, stakeholders from focal point organizations, project's training participants and awareness-raising event participants were interviewed and completed the evaluation's scorecard.

Secondary sources

31. Ninety-seven documents were considered for the endline evaluation. During the document review phase, information to answer the evaluation questions was extracted by keyword search aided by artificial intelligence (GPT - 4.0). Most (63) were project documents, including progress reports, inception reports, financial reports, communication products, impact stories, training reports, training logs and web application and technical backstopping logs. Twenty-two documents belonged to the evaluation category, which included previous evaluation reports for this project, evaluation reports of related UNOSAT projects, and analysis produced by the evaluation team, such as technical backstopping analysis. The survey and scorecard were considered focal point organization documents, amounting to five documents (survey results summary and analysis and four separate readings of the scorecard results: question scores, country scores, institutional outcomes per country, and total institutional outcomes). Two documents produced by the donor NORAD were considered, and two further documents produced by a newspaper and a bilateral development actor were considered third-party documents.

32. The evaluation also consulted disaster, climate finance, official development aid, population, gross domestic product and other databases referred to in the respective analysis and reports attached to the evaluation report. The list of documents reviewed can be found in Annex H.

Data analysis

33. A random code was assigned to each of the sources (primary and secondary), with a letter combination for source type: focal point, beneficiary, project team, evaluation team, donor, and third party, and a number (following the order in which they were introduced into the analysis matrix). The sources were organized in rows under the evaluation questions (columns). For each evaluation question, one to four findings, statements on the project supported by the sources were extracted from the data and then elaborated. The evidence supporting each finding was gauged as follows:

- Strong evidence: more than three sources from two or more types
- Moderate evidence: more than two sources from more than one type
- Emerging evidence: at least two sources from at least one type
- Weak evidence: at least one source from at least one type

34. Descriptive statistics were used to analyse the survey, scorecard, and databases raw data including means, deviation, and correlations.

35. Regarding the gender perspective, the evaluation process incorporated a diverse range of stakeholders impacted by the intervention, ensuring an inclusive sampling frame. The data analysis was conducted with a focus on gender, utilizing disaggregated data to recognize differences between women and men. Additionally, it is relevant to mention that gender specific questions were integrated into the evaluation criteria, which facilitated the identification of underlying causes of gender inequalities during the project's

implementation. However, it is important to note that the evaluation did not adopt an in-depth gender analysis, as gender considerations were treated as a cross-cutting component of the project rather than a primary focus.

Evaluation criteria rating system

36. A rating based on a 6-point Likert-like scale was used to provide overall ratings for each of the six evaluation criteria. The rating scale is described in Table 9. Ratings were assigned and justified by the evaluation consultant, in agreement with PPME and presented to the project implementing team.

Table 9 - Evaluation rating scale

Rating	Description
Highly satisfactory	Under the concerned criterion, the activity (project, programme, non-lending, etc.) achieved or surpassed all main targets, objectives, expectations, results (or impacts) and could be considered as a model within its project typology.
Satisfactory	Under the concerned criterion, the activity achieved almost all (indicatively, over 80-95 per cent) of the main targets, objectives, expectations, results (or impacts).
Moderately satisfactory	Under the concerned criterion, the activity achieved the majority (indicatively, 60 to 80 per cent) of the targets, objectives, expectations, results or impacts. However, a significant part of these was not achieved.
Moderately unsatisfactory	Under the concerned criterion, the activity did not achieve its main targets, (indicatively, less than 60 per cent) objectives, expectations, results or impacts.
Unsatisfactory	Under the concerned criterion, the activity achieved only a minority of its targets, objectives, expectations, results or impacts.
Highly unsatisfactory	Under the concerned criterion, the activity (project, programme, non-lending, etc.) achieved almost none of its targets, objectives, expectations, results or impacts

Limitations

37. The evaluation's main limitation was the absence of completion of endline scorecards for Solomon Islands, Vanuatu, and Uganda. Despite numerous reminders, the focal point organizations could not complete the scorecard. It is important to note that the scorecard exercise is intrinsically subjective, as the scores were provided by only one national stakeholder per country who participated in the evaluation. Moreover, there are gaps in the scorecards submitted by the countries: i.e., Nigeria (not considered in the table). Therefore, we should be cautious in interpretating these results.

38. Furthermore, no survey responses were received for Nigeria given that training activities were only implemented after the survey was administered. The number of respondents from Pacific countries who were involved in writing climate finance proposals was limited (13, from which only two are from Vanuatu), making it difficult to disaggregate. Moreover, it was not possible to obtain contacts for participants in awareness raising activities, and responses from the survey on this subject came from those who took part in the other project components, who also indicated participation in these events.

39. The response rate to follow-up interviews with survey respondents was low and hence only allowed to provide in-depth information for those who positively responded.

40. While the evaluator aimed to interview all focal points and in-country experts, this was not possible due to lack of response rate. In one country, Lao PDR, the in-country expert position was not filled at the time of the evaluation.

41. Moreover, the evaluation was expected to compare the progress in the project countries to a set of counterfactual countries identified in the project's baseline evaluation. However, despite attempts during the baseline, the counterfactual focal point organizations, i.e. organizations fulfilling similar roles to the project countries' focal point organizations, could not be contacted. During the endline evaluation, the project and evaluation team tried to select a new set of counterfactuals based on countries where an eventual second phase of the project could occur. However, these countries have not been defined and cannot be used as benchmarks to measure project results due to uncertainties with regards to the next phase. The endline evaluation refers to the initially identified counterfactual countries to demonstrate trends in disaster impacts and climate finance as described in the section Effectiveness. The disaster and climate finance reports are attached to the endline evaluation report.

42. Potential ethical limitations arising from the use of Artificial Intelligence (AI) during the document review phase were mitigated through the application (by the evaluation team) of the PPME Unit ethical guiding principles, such as human oversight and explainability for maintaining the validity and quality of the evaluation results, transparency and accountability. Documents analyzed using AI contained no personal information, including names and positions.

43. Establishing the actual project costs is challenging and prone to errors that would also make the formal cost-effectiveness analysis moot. Discussions between the evaluation and the project team could not agree on project alternatives defined down to budget lines, necessary for said cost-effectiveness analysis.

44. Finally, as mentioned on the methodology section, the evaluation scope did not include an in-depth gender analysis about the unequal distribution of power and needs among men and women, differentiating its effects by gender groups and how the project data collection process during the implementation period for measuring progress indicators was done.

Findings

Relevance

To what extent is the project aligned with the Institute's efforts to helping Member States implement the 2030 Agenda for Sustainable Development (particularly Goals 1, 13, 15 and 17), the UNITAR strategic framework (2022-2025) and NORAD strategy and Theory of Change (ToC) on climate change adaptation?

Finding 1:

1. **The project strongly aligns with several Sustainable Development Goals (SDGs) targets, particularly in enhancing climate change mitigation and adaptation capacities (SDG 13.3, 13.b, 13.a), supporting sustainable agricultural and water management practices (SDG 2.4, 6.6), fostering regional and urban-rural planning (SDG 11.a), conserving ecosystems (SDG 15.4, 15.3), and promoting gender equality in leadership (SDG 5.5). Moreover, the project is aligned with the Sendai Framework for Disaster Risk Reduction by improving disaster risk management through strengthened institutional capacities and the use of geospatial technologies.**

2. **The project is consistent with the UNITAR Strategic Framework (2022-2025) by emphasizing capacity development, innovative technology use (such as geospatial tools), and promoting sustainability. It supports the Framework's objectives by ensuring that the developed capacities are durable, reducing dependence on external resources, and fostering local ownership.**

3. **The project aligns with NORAD's strategy and climate change adaptation ToC by building national capacities for climate resilience through the development and use of geospatial tools.**

45. Multiple sources, including national, UNITAR and NORAD policy documents and previous project evaluations, highlight the project's relevance for disaster risk reduction, climate action, institutional strengthening and multi-stakeholder partnerships, and hence its alignment with the 2030 Agenda and the Sendai Framework for Disaster Risk Reduction.

Alignment with the SDGs

46. The project directly supports SDG 13.3 by enhancing education, awareness and institutional capacities for climate change mitigation, adaptation, and disaster risk reduction in countries such as Bangladesh, Lao PDR, Uganda, Fiji, Solomon Islands, and Vanuatu by equipping national governments to manage the impacts of climate change, thus contributing to more resilient communities. In line with SDG 13.b, the project supports the Least Developed Countries (LDCs) and the Small Island Developing States (SIDS), aligning with global efforts to ensure that vulnerable populations are not left behind in climate action. The project also contributes to SDG 13.a by supporting the capacity of Fiji, Solomon Islands and Vanuatu to access climate finance.

47. The project aligns with SDG 2.4 by promoting sustainable agricultural practices in Fiji and the Solomon Islands, developing solutions to understand risk better and managing diverse agricultural and conservation areas. Additionally, the project supports SDG 6.6 in Bhutan by focusing on protecting and restoring water-related ecosystems, including mountains, forests and rivers, which are essential for sustaining agriculture and biodiversity. In Bhutan, the project further supports SDG 11.a by strengthening national and regional

development planning, thus fostering positive economic, social, and environmental links between urban, peri-urban, and rural areas. This integrated approach to development planning is crucial for ensuring sustainable and inclusive growth. The project's activities in Bhutan align also with SDG 15.4 by helping government efforts to conserve mountain ecosystems.

48. The project contributes to SDG 5.5 by promoting women's full and effective participation in decision-making processes related to disaster risk management and climate change adaptation.

Table 10 - SDG targets with project contribution

SDG Target	Description
13.3	Enhancing education, awareness and institutional capacities for climate change mitigation, adaptation, and disaster risk reduction in countries such as Bangladesh, Lao PDR, Uganda, Fiji, Solomon Islands, and Vanuatu by equipping national governments to manage the impacts of climate change.
13.b	Supporting the Least Developed Countries (LDCs) and the Small Island Developing States (SIDS), such as Fiji, Solomon Islands and Vanuatu, aligning with global efforts to ensure that vulnerable populations are not left behind in climate action.
13.a	Supporting the capacity of Fiji, Solomon Islands and Vanuatu to access climate finance.
2.4	Promoting sustainable agricultural practices in Fiji and the Solomon Islands, developing solutions to understand risk better and managing diverse agricultural and conservation areas.
6.6	Protecting and restoring water-related ecosystems, including mountains, forests and rivers, which are essential for sustaining agriculture and biodiversity in Bhutan.
11.a	Strengthening national and regional development planning in Bhutan, fostering positive economic, social, and environmental links between urban, peri-urban, and rural areas.
15.4	Helping government efforts in Bhutan to conserve mountain ecosystems.
5.5	Promoting women's full and effective participation in decision-making processes related to disaster risk management and climate change adaptation.
17.8	Enhancing capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts

Alignment with the Sendai Framework

49. Additionally, the project aligns with the Sendai Framework for Disaster Risk Reduction by focusing on improving disaster risk governance and enhancing disaster preparedness. The Sendai Framework emphasizes the importance of understanding disaster risk and integrating it into development planning and decision-making. More specifically, it aligns with Sendai - Global target A (substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015), B (substantially reduce the number of affected people globally by 2030, aiming to lower the average annual figure per 100,000 between 2020-2030 compared to 2005-2015), C (Reduce direct disaster economic loss in relation to global gross domestic product by 2030), and D (Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030).

50. The project's use of GIT to provide critical data and support informed decision-making directly contributes to these priorities.

Alignment with UNITAR Strategic framework 2022-2025

51. The project is consistent with the UNITAR Strategic Framework (2022-2025) by emphasizing capacity development, innovative technology use (such as geospatial tools), and promoting sustainability. It supports the Framework's objectives by ensuring that the developed capacities are durable, reducing dependence on external resources, and fostering local ownership. More precisely, the project aligns with strategic objective 5 on "Cross-fertilizing Knowledge and Expertise" and its sub-objective 5.1 "Optimize the use of technologies, including geospatial technologies, for evidence-based decision-making".

Alignment with the NORAD climate change adaptation ToC

52. NORAD's strategy emphasizes the importance of building resilience to climate-related risks, particularly in vulnerable countries. The project addresses this by equipping national and local governments with geospatial tools that enhance their ability to anticipate and respond to climate-related hazards. The ToC for climate change adaptation underlines the need for technological and capacity-building interventions that enable countries to manage climate change impacts effectively. The project's focus on developing and deploying GIT supports this approach by providing tools for risk assessment, early warning and disaster preparedness. Moreover, the project's emphasis on enhancing decision-making processes through geospatial tools aligns with NORAD's focus on creating informed, evidence-based policies for climate adaptation. By strengthening the capacity of governments to integrate climate risks into their planning and decision-making processes, the project supports the overarching goals of NORAD's climate change adaptation strategy.

Evaluation question 1.2

To what extent do the project's strategy and activities respond to the identified needs, priorities and capacities in applying geospatial information technology in the project countries and of different beneficiaries?

Finding 2:

1. The project's strategy and activities are highly relevant and responsive to the identified needs and priorities of the project countries in applying GIT for disaster risk management, climate resilience and sustainable development. The project has effectively tailored its interventions to address specific gaps in technical capacity, data availability and institutional readiness, as identified during the needs assessment (rescoping) phase.

2. The project has significantly contributed to building and enhancing technical capacities among the staff of focal point and beneficiary organizations. The training programmes have been well-aligned with the participants' existing capacities and job roles, ensuring that the skills acquired are immediately applicable in their work contexts.

3. The project has successfully integrated GIT into decision-making processes across various sectors, particularly disaster risk management and climate adaptation. By developing user-friendly web-based applications and decision support systems, the project has enabled beneficiaries to make more informed decisions, thereby enhancing the effectiveness of their operations.

Relevance to Identified Country Needs and Priorities GIT

53. The project has demonstrated a strong relevance to the identified needs and priorities of the project's countries GIT for disaster risk management, climate resilience and sustainable development. During the needs assessment (rescoping) phase, specific gaps were identified in the areas of technical capacity, data availability and institutional

readiness, which the project strategically addressed through tailored interventions: technical training and technical backstopping services. The project team confirmed during the rescoping phase the notable, yet differences among participant countries, lack of access to reliable geospatial data and insufficient technical expertise to utilize such data effectively, including in the three Pacific countries where UNOSAT implemented the similarly oriented CommonSensing project between 2017 and 2021. The project's customized training programmes and technical assistance ensured that the interventions directly addressed the countries' needs, as confirmed by the focal points and beneficiary organizations participating in the evaluation.

Capacity Building and Enhancement of Individual Technical Skills

54. The project team made considerable efforts to ensure that training programmes offered by the project were designed to align with the participants' existing capacities and job roles and that the participants could apply the knowledge and skills acquired immediately in their work contexts. Slight misalignments occurred as the result of limited number and conflicting responsibilities of national government staff. Thus, the focal points and beneficiary organizations selected training participants based on the need and applicability of the knowledge and skills and encouraged by the project, strode to include equal female representation. Yet, the participant pool in all countries presented significant differences in prior knowledge. Moreover, across all countries, the limited female GIT/Geographic Information System (GIS) professional pool determined the relatively low participation of women in project activities.

55. Moreover, the project's focus on practical, hands-on training helped ensure that the skills transferred were retained and integrated into routine operations. This approach has led to a noticeable increased use of geospatial tools in disaster planning and response activities, and ultimately improvement in disaster preparedness and resilience in the project countries. Training participants also confirm that the training modality, mostly five days of full-time training, offered the most optimal trade-off between the need to enhance capacities and the obligation to fulfil their government jobs.

Support for Evidence-Based Decision-Making

56. One of the project's key achievements has been the development of user-friendly web-based applications and decision support systems that enable beneficiaries to access and utilize geospatial data more effectively. In all participant countries, except Nigeria, the project's interventions have led to an at least incipient transformation in decision-making, especially in disaster management, land management (Bhutan) and disaster relief operations, allowing national government agencies to make more informed decisions regarding disaster risk management and relief allocation. The evidence supporting this outcome (decision-making transformation) is still emerging, but the initial feedback from project beneficiaries strongly suggests that integrating GIT into decision-making processes is beginning to yield positive results.

Evaluation question 1.3

How relevant is the project in providing targeted support to beneficiary organizations for strengthened disaster risk reduction, climate change adaptation and natural resource management?

Finding 3

1. **Targeted Support for Disaster Risk Reduction (DRR): The project provided targeted support to beneficiary organizations for DRR, particularly in Bangladesh, Lao PDR, Fiji, Solomon Islands, Uganda and Vanuatu, improving disaster preparedness, early warning systems and response strategies.**

2. **Climate Change Adaptation (CCA): The project has contributed to enhancing the capacity of focal points and beneficiary organizations to integrate climate risk information into planning and decision-making processes. In the Pacific countries, the project has helped mobilized climate finance and implementing other adaptation or mitigation projects through geospatial tools.**
3. **Enhanced Natural Resource Management (NRM): In Bhutan, the project has tailored support to national institutions like the NLCS and the Department of Forestry, enabling them to manage natural resources more efficiently and sustainably.**

Targeted Support for Disaster Risk Reduction

57. The project provided targeted training and technical support for DRR across various focal points and beneficiary organizations in Bangladesh, Lao PDR, Fiji, Solomon Islands, Uganda and Vanuatu. These include national government organizations charged with disaster preparedness and response. For example, in Fiji, the project's tools and information have significantly improved the ability of the Fiji Meteorological Service to perform flood susceptibility and cyclone exposure modelling. Similarly, in Vanuatu, the VMGD has benefited from targeted training and tools that have strengthened its capacity to predict and respond to natural disasters, including cyclones and volcanic eruptions.

Relevance in Climate Change Adaptation

58. The project enhanced the capacity of organizations to integrate climate risk information into their planning and decision-making processes in the Pacific countries, particularly exposed and vulnerable to climate change impacts. Examples of project capacity transfer and technical support include the Sea-Level Rise Impact Mapping application, assessing the potential impact of sea-level rise, and, in Vanuatu, LiDAR data processing, satellite remote sensing and time series analysis through big data techniques for climate resilience building.

Enhanced Natural Resource Management

59. The project is highly relevant in promoting sustainable NRM through developing and deploying geospatial tools and applications in Bhutan. The project's targeted support to the NLCS has helped monitor land use, forest cover and biodiversity. In Lao PDR, the Department of Agriculture and the Ministry of Agriculture and Forestry have benefited from similar targeted support.

Evaluation question 1.4 (GEEW)

How relevant is the project in supporting gender equality and women's empowerment and meeting the needs of other groups made vulnerable, including the countries in special situations?

Finding 4

1. **The project was strongly aligned with Gender Equality and Women's Empowerment Goals.**

60. The project promoted gender balance in training programmes and capacity-building activities, and two webinars. In the project countries, the project team promoted women's participation in DRM, CCA, and the GIT and GIS community. With gender-responsive data collection and support for vulnerable groups as elements in the project logframe, the project addressed and was relevant to gender and human rights issues. However, most national stakeholders consider gender and human rights issues outside the project's scope, as their national or organizational policies address them.

61. The intervention logic aligns with SDG 5 target 5.5. "Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life", indicators 5.5.1 and 5.5.2, as reflected in the national outcomes for Bangladesh, Lao PDR, Uganda, Solomon Islands and Vanuatu; aiming at increasing female representatives in DRM governance. A direct effort made by the project is the inclusion of women in-country experts in Fiji and Solomon Islands (25 per cent). The intervention logic also aligns with SDG17 target 17.18 efforts to "increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts" with five national outcomes aiming at increasing capacity on using gender-disaggregated geospatial data that can support the production of gender responsive plans.

62. After the baseline evaluation, the project incorporated explicit gender results and indicators in the project log frame at the intermediate outcome level "improved efforts toward attaining gender equity", reflected in equal achievement of learning objectives of female participants compared to male participants and increased capacities to collect and apply gender disaggregated data and include gender and human rights considerations in climate funding proposals.

Relevance rating

Rating: Highly satisfactory

> Overall, the project showed strong alignment with global and national priorities and effectively addressed the specific needs of its beneficiaries in terms of targeted support for DRR, CCA and NRM. It also addressed Gender Equality and Women's Empowerment.

Coherence

Evaluation question 2.1

How compatible is the project with relevant national policies, strategies and commitments on disaster risk reduction, climate resilience and environmental management?

Finding 5

1. **The project strongly aligns with national DRR policies in Bangladesh, Fiji, Lao PDR, the Solomon Islands, Uganda and Vanuatu enhancing capacities aligned with national strategies and disaster management acts.**
2. **The project is well-aligned with climate resilience strategies by supporting the integration of climate data and the development of tools for climate adaptation.**
3. **The project supports environmental management frameworks in Bhutan and Nigeria by providing geospatial tools that align with national environmental protection and climate change policies.**

Alignment with National DRR Policies.

63. The project aligns with national DRR policies in the project countries. The project supports the Disaster Management Act 2012 and the National Plan for Disaster Management 2021-2025 in Bangladesh. The Solomon Islands also benefit from the project's alignment with its National Disaster Management Plan (2018). Additionally, the project aligns with Lao PDR's National Disaster Management Plan (2021) and it supports Uganda's National Policy for Disaster Preparedness and Management (2010). National stakeholders confirm that the project support is framed within said policies.

Compatibility with Climate Resilience Strategies.

64. The project supports Uganda's climate resilience by developing a satellite-based flood monitoring system and a web-based solution for visualizing and operationalizing the social vulnerability index, aligned with Uganda's National Climate Change Act (2021). The project aligns with their National Climate Change Policies in Fiji (2018) and the Solomon Islands (2012) by providing tools such as the Sea-Level Rise Impact Mapping applications. The project further aligns closely with Vanuatu's National Climate Change and Disaster Risk Reduction Policy (2016), which emphasizes the integration of climate change adaptation and disaster risk management into all aspects of national planning and decision-making.

Support for Environmental and Land Management Policies.

65. The project has supported national environmental management policies, particularly in Bhutan and, potentially, in Nigeria.

66. In Bhutan, the project primarily supports the Geoinformation Policy (2018) by promoting geospatial technologies for efficient data sharing and land management, contributing to sustainable development and environmental conservation in Bhutan. The project is also aligned with and supportive of the Land Act of Bhutan by focusing on sustainable land management practices and the National Land Use Zoning Guideline by enhancing stakeholder collaboration and providing tools for better land use planning, ensuring that up-to-date geospatial data inform these practices. Finally, the project aligns with the National Environment Protection Act by enhancing the NLCS' ability to monitor and manage natural resources using geospatial data.

67. In Nigeria, the project was set to support the National Policy on Environment and the National Climate Change Policy by providing geospatial tools that enable better monitoring of environmental impacts, such as desertification and coastal erosion.

Evaluation question 2.2

To what extent does the project complement or create synergies with other interventions in the project countries by development partners?

Finding 6

1. **The project complements existing initiatives led by development partners in Bangladesh, Fiji, Vanuatu, Uganda, and Solomon Islands enhancing the impact of broader efforts through its focus on GIT. It also complements other environmental-related programmes and multi-donor programmes in climate adaptation. For example, the project created significant synergies in Bhutan by aligning with and supporting initiatives funded by the Japan International Cooperation Agency (JICA) and the German-funded international Climate Initiative.**
2. **The project aligns well with and creates synergies with the UNOSAT-implemented project Mapping Service – Evidence-Based Information Support to Humanitarian Assistance, Peace and Security Using Satellite Imagery and Geospatial Techniques Project in the Pacific.**

Coherence with ongoing DRR, Climate Resilience, and GIS related Initiatives

68. The project has complemented existing DRR and climate resilience initiatives in several countries by enhancing these broader efforts through its focus on GIT.

69. In Bangladesh, the project builds on the foundational work of the Comprehensive Disaster Management Programme (CDMP) (2003-14) that aimed to reduce communities' vulnerability to natural hazards by improving the capacity of the DDM. More importantly, project support is expected to enhance the IFAD-funded Promoting Resilience of

Vulnerable Through Access to Infrastructure, Improved Skills, and Information (PROVATi) project (2017-2026) by enhancing drone capabilities for disaster assessment. However, given the current political instability in Bangladesh, it is not clear how this and other initiatives will be implemented.

70. In Lao PDR, the project is coherent with ongoing GIS-related initiatives by UN agencies focused on DRR, but that are only covering specific disasters (floods and droughts) or set skills (GIS for hydrological model), in contrast to the NORAD project that covered a broader range of events through its backstopping services.

71. In Fiji, the project Sea-Level Rise Impact Mapping tool supports the work of the Pacific Resilience Programme (PREP) (2015-2022), funded by the World Bank and identified in the Fiji inception report. Despite the alignment, no actual cooperation happened during this project's implementation.

72. In Vanuatu, the project supported the setup of a GIS unit within the National Advisory Board on Climate Change, which has also supported other projects, including the ADB's Greater Port Vila Urban Resilience Project (2020-2025). Also, in Vanuatu, the components of the project "Climate Information Services (CIS) for Resilient Development Planning in Vanuatu (Van-KIRAP)", funded by the Green Climate Fund, and led by the Secretariat of the Pacific Regional Environment Programme (SPREP) in partnership with the Vanuatu Meteorology and Geohazards Department, include and are not limited to strengthening the institutional capacity for long-term implementation of CIS in decision-making among users in agriculture, fisheries, infrastructure, tourism and water sectors. This aligns with NORAD project efforts on DRR and climate resilience in almost the same targeted sectors.

73. Additionally, in the Pacific, the NORAD project complement efforts of UN joint projects such as "Smart Villages and Smart Islands - Asia Pacific", "Strengthening Hydro-Meteorological and Early Warning Services in the Pacific", and "Intra-ACP Climate Services and Related Applications". The first project approaches e-agriculture and multihazard early warning and response with GIS/GIT support in order to improve the well-being and livelihoods of people by empowering them with digitally-enabled solutions and skills that address their daily needs. The Hydro-meteorological project also contributes to the Sendai Framework through the delivery of activities that include tailored training on weather, water and climate products and systems to enhance product development and accessibility and communication and awareness programmes on Early Warning Services. The third-mentioned programme aims to improve the production, access to and use of climate information, services and applications for decision-making through the development of training on climate analysis, monitoring and prediction and, User Interface Platforms to co-design tailored climate services, establishment and improvement of Climate Data Management Systems and Information Systems.

74. On DRR and climate resilience, the NORAD project also aligns with the programmatic activities of the World Food Programme (WFP) and the Agriculture Organization of the United Nations (FAO). In Bangladesh, the project supported WFP in the use of satellite imagery for district vulnerability analysis in 2023, under WFP's Mobile Vulnerability Analysis and Mapping (mVAM) reports. In Uganda, the project cooperated with FAO providing capacity development for GIS and remote sensing for FAO's Shock Responsive Systems in Karamoja project.

Coherence with National and Regional Environmental and GIS related Programmes

75. In Bhutan, the project built upon JICA's "Project on Data Integration and Data Infrastructure Development for Disaster Risk Reduction", which focused on enhancing Bhutan's data infrastructure for better disaster risk management. This project laid the foundation for

improving the availability and integration of critical data, which is essential for effective DRR and environmental management. JICA is Bhutan's most important bilateral partner in information technology (IT) themes, and the project engaged in collaboration with JICA during stakeholder consultations in Bhutan, specifically related to land zoning.

76. In addition, the German-funded International Climate Initiative project "Living Landscapes - Securing ecological connectivity of high conservation value areas in Bhutan" conducted two Advanced Drone Operation Training for NLCS and Department of Forest and Park Services (DOFPS) on surveying, mapping and surveillance using drones including basic maintenance and data analysis. The NORAD project has provided further training to improve drone data analysis capacities, specifically building on the results from the German-funded project implemented by WWF.

77. The NORAD project also complement efforts with at least two UNDP projects in Bangladesh - "Strengthening Inclusive Development in Chittagong Hill Tracts" and the "Adaptation Initiative for Climate Vulnerable Offshore Small Islands and Riverine Charland in Bangladesh"- focused on ecosystem management and climate resilience, correspondingly, and the "National assessment of multi-hazard risk and critical infrastructure under climate change and development and pilot-testing of Lao PDR hospital safety index" project in Lao PDR. All projects include the use of GIS for achieving the proposed outcomes, but do not include a training component on GIS.

78. In the Pacific Islands, the NORAD project also complements efforts with UN joint projects. The "System for Earth Observation Data Access, Processing and Analysis for Land Monitoring"- phase II aims to aid tropical forest countries' ability to plan and implement sustainable land use policies by providing satellite data and training on data processing software. The "Multilateral Environmental Agreements in ACP Countries-Phase III" addresses the environmental challenges by building national and institutional capacity and strengthening institutional frameworks through the delivery of training on Marine Protected Areas and GIS tools for enhancing its management. In Solomon Islands, the project cooperated with the GEF project "Ensuring Resilient Ecosystems and Representative Protected Areas in Solomon Islands" (EREPA), identifying pilot sites.

Synergies with other UNITAR-implemented projects

79. The evaluation identified other projects being implemented at UNITAR with similar outcome areas than the NORAD project, either implemented by UNOSAT or other UNITAR divisions. However, no primary information was collected on these initiatives.

80. For example, the "Asia-Pacific Disaster Resilience Network Web Portal" project, implemented by UNOSAT, also aims at creating web-based country specific DSS and has a capacity development component. Initiatives with the same target countries include the "Risk Informed Climate Change Relocation for Vulnerable Communities in Fiji", and the "Enhancing resilience of infrastructure through strengthened governance" in Bhutan". The "Women's Leadership in Tsunami-Based Disaster Risk Reduction Training Programme", implemented by the HO, since 2016, also aimed at developing DRR capacities for women in Pacific Islands, but does not include GIS components, which is complemented by the NORAD-funded project.

81. The project, through its backstopping service, has aligned with the UNOSAT Emergency Mapping Service. The Service provides satellite imagery and geospatial analysis in response to humanitarian crises and disasters. For example, during cyclone events in the Solomon Islands and Vanuatu, UNOSAT's emergency mapping services provided real-time satellite imagery integrated with the current project's geospatial tools. This collaboration allowed for more accurate and timely risk assessments, enabling national

disaster management agencies to make informed decisions during emergencies. Integrating these real-time data feeds with the project's existing geospatial tools created a robust decision-support system that significantly improved the effectiveness of disaster response efforts.

Coherence rating

Rating: Satisfactory

The project demonstrates strong coherence with national policies, strategies and other development interventions. It effectively complements existing DRR and climate resilience initiatives in various countries, and builds on previous efforts by development partners, including JICA, Germany and other UN agencies. The project also aligns well with other UNITAR-implemented initiatives.

The project effectively leveraged synergies with **UNOSAT's emergency mapping services**, particularly during key emergency response situations, contributing to enhanced decision-making capabilities in real time. This cooperation proved valuable in addressing immediate disaster management needs, demonstrating how **UNOSAT's geospatial tools** can complement long-term capacity-building initiatives. Evidence suggests that these synergies were impactful, but there is potential for further expanding cooperation with other **UNOSAT projects**, particularly those focused on capacity development, monitoring, and sustainable land use management.

By integrating more closely with other **UNOSAT initiatives**, the project could have broadened its scope, enhancing real-time applications of **geospatial information technology (GIT)** across different sectors. While the existing collaboration was productive, expanding these partnerships could have amplified the long-term benefits of geospatial tools for disaster preparedness and resilience-building.

Despite this, the project's overall coherence with broader DRR and climate resilience efforts is evident. The synergies created with both **UNOSAT** and other development partners contributed to achieving the project's objectives, ensuring that its interventions were complementary and impactful. Based on this evidence, the project maintains a strong alignment with strategic goals and national priorities, with meaningful cooperation enhancing its effectiveness.

Effectiveness

Evaluation question 3.1

To what extent has the project achieved its planned outputs and outcomes, including strengthened knowledge and skills and enhanced decision-making? What progress has been made in each country since the midline review?

Finding 7

1. **The project has significantly enhanced the technical capacities of participants across multiple countries, particularly through training and technical backstopping. Participants reported substantial improvements in their ability to use GIT for disaster risk management and decision-making, with strong positive feedback on the relevance and effectiveness of the training sessions.**
2. **The development and deployment of web-based geospatial applications significantly improved the decision-making capacities of government agencies across the project countries. These web apps provided real-time data visualization and analysis platforms that were crucial for informed decision-making in land management, disaster risk reduction and climate resilience.**

3. **Since the midline review, countries such as Fiji and Bhutan have made substantial progress in applying GIT for disaster risk reduction and environmental management, largely due to the deployment of in-country experts and tailored training programmes. However, progress has been uneven in countries like Lao PDR and Nigeria, where issues such as government engagement and capacity retention have impeded implementation. Staff turnover and inconsistent government engagement, particularly in Lao PDR and Vanuatu, raise concerns about the long-term sustainability of the skills and capacities developed.**

Strengthened Knowledge and Skills

82. The project was highly successful in meeting or exceeding its planned outputs across all countries. All training activities were conducted as planned, and backstopping requests were fully addressed, often with additional support beyond the initial scope (Table 11).

Table 11 - Planned and delivered outputs: training and backstopping support requests[4]

Country	Planned Outputs	Accomplished Outputs	Overall Assessment
Bangladesh	**3 Training:** 1. Introductory Training on the Application of GIT for Rapid Response Mapping 2. Advanced Training on Geospatial Information Technologies for Disaster Risk Reduction 3. GIT for Decision-Making Training Workshop.	**4 trainings:** 1. Introductory training on the Application of GIT for Rapid Response Mapping 2. Training on the Application of GIT for Rapid Response Mapping 3. Advanced Training on Geospatial Information Technologies for Disaster Risk Reduction 4. Technical Training Workshop on Geospatial Decision Support for Disaster Risk Management	Planned output exceeded with additional training and backstopping support
	8 Backstopping support: GIT integration, hazard mapping.	**9 backstopping support completed:** Cyclone Preparedness and Response, Flood Risk Management, Hazard Mapping and Risk Assessment, Damage Assessment Tools, Air pollution monitoring.	
Bhutan	**3 Trainings:** 1. Advanced Training on UAV Remote Sensing, Monitoring and Mapping 2. Advanced Training on big data analytics for land monitoring and management 3. Training Workshop on GIT for Land Management & Evidence-Based Decision-making	**6 trainings:** 1. Intro Cloud GIS and Web Application 2. Advanced UAV Data Collection, Processing, and Mapping, 3. Advanced Remote Sensing for Sustainable Land Management, 4. Web Application Development Part I - Open-Source Solution GeoNode	Planned output exceeded with additional training and backstopping support, with additional backstopping support for other beneficiary organizations

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[4] A detailed table comparing baseline, midline and endline status of planned outputs is presented in Annex I.

Country	Planned Outputs	Accomplished Outputs	Overall Assessment
		5. Foundational GIT for Sustainable Land Management 6. Advanced Web GIS Application Development	
	8 Backstopping support for Geo-Node, UAV support.	**9 backstopping support completed** for Geo-Node deployment, ArcGIS customization, UAV integration, UAV support for DOFPS.	
Fiji	**7 Trainings:** 1. ESRI Enterprise Portal Training and Modern front-end development for Web Mapping 2. INFORM Index Development Training 3. Landslide Susceptibility Training 4. Water Body Change Detection and Shoreline Change Detection 5. Terrain Modelling, Cyclone Exposure Modelling in QGIS 6. Crop Suitability Decision Support, Sea-Level Rise Impact Mapping, Rainfall Triggered Landslide Mapping, Multi-Criteria Decision Analysis (MCDA), Decision Support System (DSS), and Flood Susceptibility Mapping 7. GIT for Decision-Making Training Workshop	**7 trainings** 1. Intro Landslide Susceptibility Mapping 2. Advanced Multi-Hazard INFORM Risk Index Development 3. Intro Cloud GIS and Web Application Development 4. Advanced Web Application Development and Geodata Management Quality Improvement 5. Geospatial Flood Susceptibility and Cyclone Exposure Modelling 6. Advanced landslide susceptibility 7. Fiji -Geospatial Decision Support Systems for Climate Resilience	Planned outputs exceed for backstopping
	8 Backstopping for flood/cyclone modeling, GIT integration.	**38 backstopping** completed for Sea-Level Rise Impact Mapping, flood/cyclone models, web app development, including support for Ministry of Agriculture, water supply and watersheds, climate finance proposals (e.g. sea walls) and NAP and NDC assessment, digitization for the Fiji Rural Electrification Fund Programme	
Lao PDR	**3 Trainings:** 1. Introductory Training on the Application of GIT for Rapid Response Mapping 2. Advanced Training on Geospatial Information Technologies for DRR 3. GIT for Decision-Making Training Workshop	**3 trainings:** 1. Strengthening Capacities in GIT for DRM 2. Advanced Earth Observation (EO) Applications for DRM, 3. Advanced Geospatial Information Technologies for Decision-Making in DRR	Planned outputs were delivered, with additional backstopping support provided
	8 Backstopping support for flood risk mapping, data integration.	**9 backstopping support completed** for data management and integration, flood risk mapping, hazard mapping, early	

Country	Planned Outputs	Accomplished Outputs	Overall Assessment
		warning systems, land cover and environmental integration	
Nigeria	**3 Trainings:** 1. Introductory Training on the use of GIT for Environmental Monitoring 2. Advanced Training on the use of GIT for Environmental Monitoring 3. GIT for Decision-Making Training Workshop	**3 trainings:** 1. Intro GIT for Sustainable Development, Advanced GIT for Environmental Monitoring (Drought Monitoring & Management) 2. Application of Geospatial Decision Support System for Environmental Conservation (Big Data Analysis and Multi-Criteria Decision Analysis for Desertification Management) 3. Application of Geospatial Decision Support System for Environmental Conservation (Big Data Analysis and Multi-Criteria Decision Analysis for Desertification Management)	Partially Accomplished: Complete training delivery but no backstopping requests
	8 Backstopping for GIT integration, hazard mapping.	1 backstopping services registered: from Nigeria's National Agency for the Great Green Wall for geospatial resources, including administrative boundaries (levels 1 and 2), terrain data, population statistics, and vegetation datasets and addressed in September 2024,	
Solomon Islands	**3 Trainings:** 1. Advanced Data Collection and Management (UAV and Smartphones) 2. GIT for Crop Mapping and Water Management 3. GIT for Decision-Making Training Workshop	**4 trainings:** 1. Data Collection, Management, and Analysis for DRM and Climate Resilience, 2. Advanced UAV Data Collection, Processing, and Mapping 3. Hydrological Modelling for Flood Susceptibility Mapping and Coastal Risk Assessment 4. Solomon Islands -Geospatial Decision Support Systems for Climate Resilience	Planned output exceeded with additional training and backstopping support.
	8 Backstopping for web-based tools, environmental monitoring.	**71 backstopping support** completed for UAV and hydrological models, disaster response tools and real-time disaster monitoring, environmental monitoring, vaccination monitoring	
Uganda	**3 Trainings:** 1. Intro on Geospatial Information Technologies for Disaster Risk Reduction 2. Advanced Geospatial Information Technologies for Disaster Risk Reduction	2 training delivered: 1 Introductory Course on Strengthening Capacities in the Use of Geospatial Information Technology (GIT) for Disaster Risk Management	Partially Accomplished for training 2 out of three training planned outputs were delivered, but planned

Country	Planned Outputs	Accomplished Outputs	Overall Assessment
	3. GIT for Decision-Making Training Workshop	2 Capacity Building Training on GIS and Remote Sensing (with FAO)	backstopping exceeded with critical backstopping support for landslide risk assessment
	8 Backstopping for landslide mapping, early warning systems.	**29 backstopping** for landslide mapping, early warning systems, disaster risk management tools, Additional support for drought monitoring.	
Vanuatu	**3 Trainings:** 1 Advanced Data Collection and Management. 2 Advanced Training on Hazard Mapping and Risk Assessment 3 Training Workshop on Participatory Disaster Risk Assessment and Community-based DRM Action Planning	**7 trainings:** 1 Geospatial Decision Support for Climate Resilience (GDS4CR) 2 Remote Sensing and LiDAR Data processing for Climate Resilience 3 Intro GIT and Road Network Digitization 4 Intro GIT and Road Network Digitization in Torba Province, 5 Intro GIT and Road Network Digitization in Sanma Province 6 Intro GIT and Road Network Digitization in Tafea Province, 7 Vanuatu -Geospatial Decision Support Systems for Climate Resilience	Planned outputs exceeded, with significant additional support for damage assessment and infrastructure resilience. Training at field (province) level conducted
	8 Backstopping for disaster management tools.	**22 backstopping** support completed for damage assessments, cyclone tracking and disaster response and damage assessment (TC Lola), forest management and additional support for infrastructure Mapping and resilience planning.	

83. At the outcome level, the project has significantly strengthened the technical capacities of participants across multiple countries by providing comprehensive training in GIT. Survey results and interviews with focal points consistently show that most participants felt more confident in applying the skills and knowledge acquired through this training to their work (Figure 1). Technical backstopping was equally crucial in ensuring that the skills acquired during the training were not only retained but also further developed and applied, as confirmed by survey respondents and individual interviews. This ongoing support allowed participants to refine their techniques, troubleshoot challenges, and explore advanced applications of GIT in their respective fields.

Figure 1 - Technical training participants confidence in applying knowledge from the training
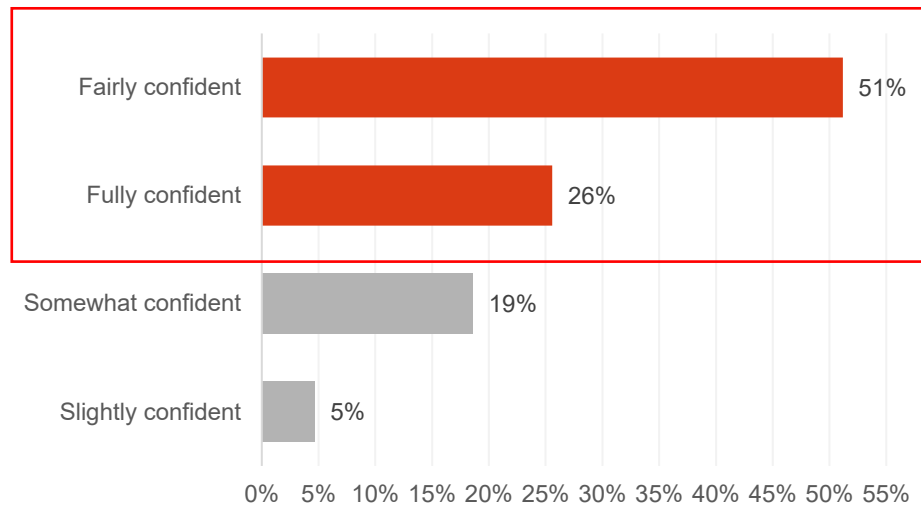
84. In Bangladesh, the project significantly enhanced the capacity of key government agencies through comprehensive training and technical backstopping. The DDM, under the Ministry of Disaster Management and Relief, utilized these tools to improve hazard mapping, risk assessments and disaster response operations. The training allowed DDM to integrate GIT into their operational workflow more effectively, particularly for cyclone preparedness and flood management. Additionally, the Bangladesh Meteorological Department (BMD) leveraged the training to enhance their weather forecasting and early warning systems, which are critical for DRR. The Institute for Water Modelling (IWM) also applied GIT for flood modeling which helped to better predict and manage water-related hazards. The project's ongoing technical backstopping ensured that these agencies could continuously refine their use of GIT, leading to improved decision-making processes and more robust disaster management strategies.

85. In Bhutan, the training significantly enhanced the technical capacities of officials from the NLCS and the DOFPS. NLCS utilized ArcGIS Enterprise for data sharing and developing decision-support systems within the Bhutan Geo-Portal, improving their ability to manage land and natural resources effectively. The DOFPS, on the other hand, benefited from technical support in applying UAVs (Unmanned Aerial Vehicles) open-source software for forest monitoring and management. The ongoing technical backstopping was crucial in helping officials from both departments refine their use of these tools and maintain their proficiency, ensuring the sustainability of these advanced techniques in their respective operations.

86. Project training and technical support was also used by the Department for Energy's UAV-based solar energy feasibility study, identifying potential sites for PV plants. Moreover, project skills are being deployed by the NLC in support of the Royal Gelephu Mindfulness City planning through the project-developed decision-making support dashboard This new city is planned to serve as an economic hub and gateway for tourists to the rest of the country. The Thimphu city's Urban Planning Division has also applied project skills for data analysis for the Thimphu structural plan implementation.

87. In Lao PDR, the project significantly improved the technical capacities of participants by training them to develop and apply hazard maps. These maps were utilized by relevant government agencies responsible for disaster risk management to enhance flood risk assessments and early warning systems. This improvement enabled more effective disaster management interventions, particularly in identifying and prioritizing high-risk areas for focused action. In Fiji, officials from the FMS and the Ministry of Agriculture successfully applied GIS tools to enhance flood susceptibility modeling and identify landslide-prone

areas. They also integrated satellite imagery into natural resource management decisions. The practical relevance of the training was highly praised, and ongoing technical backstopping ensured that these skills were retained and expanded, leading to more informed and effective decision-making processes.

88. In the Solomon Islands, officials from the NDMO and the MECDM received training in GIS and remote sensing technologies. They applied these skills to conduct hazard mapping, environmental monitoring and natural resource management. The ongoing technical backstopping provided crucial support, enabling these agencies to sustain and build upon the training received, which has led to more robust disaster response strategies and better-informed environmental management decisions.

89. In Uganda, the training enabled the Ministry of Water and Environment to integrate climate data into water resource management, significantly improving planning and resource allocation in drought-prone areas. The follow-up support was crucial in ensuring that these new capabilities were effectively embedded within the ministry's operations, allowing for the sustained application of the techniques learned.

90. In Vanuatu, the project provided training and technical backstopping to several key government agencies, including the VMGD, the NDMO, and the DEPC. VMGD used the training to enhance weather forecasting and disaster risk management, particularly in mapping cyclone-prone areas and improving early warning systems. NDMO applied the geospatial tools to better coordinate disaster response efforts, while DEPC focused on using these technologies for environmental monitoring and conservation planning. The ongoing technical backstopping was crucial in ensuring these agencies could integrate GIT into their operations, leading to more effective and coordinated disaster management and environmental protection efforts.

Enhanced decision making

91. The project's development and deployment of web-based geospatial applications (web apps) significantly enhanced the decision-making capacities of government agencies. These apps provided real-time platforms for data visualization, analysis and sharing, which were crucial for informed decision-making in areas such as land management, disaster risk reduction and climate resilience. The continuous technical backstopping provided by the project ensured that these tools were effectively integrated into the operational workflows of the relevant agencies, allowing them to maintain and update the apps according to evolving needs.

Table 12 - Planned and actual web applications developed[5]

Country	Planned Web Apps	Status	Overall Assessment
Bangladesh	FloodAI Monitoring Dashboard	Released	Accomplished: Both web apps are operational and used by the intended target group (DMD staff).
	Multi Hazard Risk and Vulnerability Assessment Tool (MRVA)	Released	
Bhutan	UAV Data Processing Tool	Released	Target exceeded: 3 out of 2 planned web apps are operational, except for the SLM DSS, which is still in the data gathering phase. Unplanned apps
	Suitability Land Management (SLM) Decision Support System (DSS)	Dropped	
	Multi-Criteria Decision Analysis (MCDA) Tool (not planned)	Released	
	Geo-Node (not planned)	Released	

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[5] Updates until 10 September 2024.

Country	Planned Web Apps	Status	Overall Assessment
			developed by demand of focal point organization
Fiji	i tei Qele App	Released	Fully Accomplished: All web developed and operational.
	i tei Qele Editor	Released	
	Fiji Decision Support System (DSS)	Released	
	Sea-Level Rise and Critical Infrastructure Tool	Released	
	(Rainfall-Triggered) Landslide Mapping	Released	
	Multi-Criteria Decision Analysis (MCDA)	Released	
	Flood Susceptibility Mapping	Released	
Lao PDR	Flood Susceptibility Mapping Tool	Flood Susceptibility Mapping (HAND) Tool: Released	Fully Accomplished: All planned web apps were developed and are fully operational.
	Disaster Risk Management Decision Support System (DRM DSS)	Released	
	MCDA Tool	Released	
Nigeria	FloodAI Monitoring Dashboard	Dropped	Partially accomplished: Two web app dropped out of three planned but MCDA app operational
	Environmental Monitoring DSS	Dropped	
	Multi-Criteria Decision Analysis tool (MCDA)	Released	
Solomon Islands	Solomon Islands Decision Support System (DSS)	Released	Fully Accomplished: Three web apps developed out of two planned and all three currently operational.
	Multi-Criteria Decision Analysis (MCDA)	Released	
	Sea-Level Rise and Critical Infrastructure Tool	Sea Level Rise Tool: Released	
Uganda	Flood Monitoring Dashboard	Dropped	Partially Accomplished: Three out of five planned web apps dropped, and two pre-released (hazard and risk being used by focal point organization)
	SoVI DSS	Dropped	
	Geospatial Data Hub	Dropped	
	Hazard and Risk Assessment Tool	Pre-release	
	Multi-Criteria Decision Analysis tool (MCDA)	Pre-release	
Vanuatu	Vanuatu Decision Support System (DSS)	Pre-released	Fully Accomplished: four web apps developed out of two planned and fully operational.
	TC JUDY and KEVIN 2023 Emergency Response Dashboard	Released	
	Multi-Criteria Decision Analysis (MCDA)	Released	
	Sarakata, Vanuatu - Flood Susceptibility (HAND)	Released	

92. In **Bhutan**, the project supported the deployment of the Bhutan Geo-Node, a web-based platform designed to facilitate data sharing and collaboration across various government agencies. This platform, supported by ArcGIS Enterprise, enabled NLCS to manage and disseminate geospatial data more effectively. The Geo-Node allowed for the integration of critical data sets, including land use, environmental monitoring and disaster risk information into a centralized system accessible to multiple stakeholders. This enhanced the efficiency and effectiveness of national planning efforts, particularly in land and resource management. The ongoing technical backstopping provided by the project

ensured that the platform remained up-to-date and functional, contributing to sustained improvements in Bhutan's capacity for data-driven decision-making.

93. The Sea-Level Rise Impact Mapping tool and the Flood Susceptibility Mapping application was crucial for the **Fiji** FMS and the Fiji NDMO in planning disaster risk reduction strategies. Additionally, the i tei Qele App allowed the Ministry of Agriculture and Waterways to visualize crop suitability based on soil and land data, significantly impacting agricultural planning.

94. In **Vanuatu**, the project deployed a cyclone tracking and early warning web app that greatly enhanced the capabilities of the VMGD and the NDMO. This app provided real-time tracking of cyclones, which allowed these agencies to issue timely warnings and improve disaster response coordination.

95. The **Solomon Islands'** DSS was developed under the project to support decision-makers in understanding climate change resilience. The app provides contextual analyses of hazards, risk and vulnerability, aiding the MECDM in their disaster management efforts.

96. In **Lao PDR**, a flood risk management web app was introduced, helping government agencies, particularly the Department of Meteorology and Hydrology (DMH), to improve flood forecasting and management by integrating historical flood data with current weather patterns.

97. In **Bangladesh**, the UNOSAT S-1 FloodAI Monitoring Dashboard and the Hazard and Risk web app were developed to assist the DDM in improving disaster preparedness and response capabilities. These apps integrated various data sources to provide comprehensive hazard maps, which were crucial during cyclone and flood emergencies.

98. The deployment of these web apps across multiple countries has significantly enhanced the ability of government agencies to make informed, data-driven decisions in critical areas such as disaster risk management, climate resilience, and natural resource management. The project's commitment to ongoing technical backstopping ensured that these tools were not only effectively integrated into existing systems but also maintained and updated to meet the specific needs of each country. The success of these web apps highlights the project's substantial contribution to improving governance and operational effectiveness in the participating countries.

Progress since midline review

99. Project countries have progressed at different speeds since the midline review in June 2023, despite the project team's efforts to complete all planned activities. While Fiji, Bhutan, Bangladesh and Solomon Islands have made substantial strides due to strong government engagement and effective deployment of in-country experts (seconded government officials), the challenges in Lao PDR, Nigeria, Uganda and Vanuatu emphasize the critical importance of consistent government support and the retention of skilled personnel.

100. In Fiji, GIT has been successfully integrated into national disaster preparedness, leading to enhanced decision-making processes across various sectors. The country has made considerable progress in using GIT tools, such as the DSS, to improve flood risk mapping and disaster response planning. The success in Fiji is largely due to strong collaboration between the focal point organization, the Climate Change Division (CCD) under the Office of the Prime Minister and the project team, which, through the CFA efforts, established a project development unit. However, despite these successes, the project has faced critical challenges that could impact its long-term effectiveness and

sustainability. Government changes after the 2022 election have shifted the role of the focal point organization toward a more policy-formulating role, while technical ministries, such as the Ministry of Waterways and Environment or the Ministry of Agriculture, have not set GIS units, creating a degree of dependency on GIS services provided by the CCD-based in-country expert.

101.   GIT tools supporting the critical Rural Electrification Fund initiative or the mapping of river systems and catchments needed by the Ministry of Waterways and Environment suffered significant delays due to ineffective communication between different government bodies.

102.   Bhutan has similarly embedded GIT into its national land management and spatial planning frameworks. The NLCS, the project's focal point organization has used advanced GIT tools to support land use planning and environmental monitoring. Bhutan's progress is also supported by solid institutional backing, with a clear leadership vision on GIT capabilities, which has ensured that the GIT tools and training provided are fully utilized within government operations.

103.   In contrast to the successes in Fiji and Bhutan, Lao PDR and Nigeria have faced significant challenges in implementing GIT, leading to uneven progress in these countries.

104.   In Lao PDR, the project has been hampered by high staff turnover and some challenges in project-government engagement, including transaction costs due to administrative procedures. While there has been some success in building local capacity through GIT training, these gains have been somewhat undermined by frequent personnel changes.

105.   Nigeria has struggled with bureaucratic delays and in-country expert recruitment challenges, compounded by the rather policy-oriented than technical profile of the government's appointed focal point organization, the Federal Ministry of Environment. Overall, project implementation has started slowly, with the first training only conducted in July 2024.

106.   Bangladesh has made some progress in applying GIT for disaster risk management, particularly in flood monitoring and response. The project has supported the development of a FloodAI monitoring dashboard, which provides real-time data to improve decision-making during flood events. The country has benefited from the technology, but there is a need for more robust government engagement and investment to ensure that these tools are fully integrated and utilized across all relevant sectors. Moreover, the deep political crisis into which the country plunged in June 2024 prevents drawing conclusions on how the new government structure will retake GIT approaches and tools to DDM or when clear organigrams and leadership at the relevant government agencies will be restored.

107.   Uganda has also shown progress in using GIT, particularly enhancing its disaster risk management capabilities. The project has facilitated the development of several GIT tools, including a FloodAI/landslide susceptibility dashboard. However, like in Lao PDR, Uganda's government faces challenges related to staff turnover and the retention of trained personnel.

108.   The Solomon Islands have made notable progress in applying GIT for disaster risk management and environmental planning. The country has successfully implemented several GIT-based solutions, such as the DSS for DRM, which has been used to improve disaster preparedness and response. The Solomon Islands have benefited from the strong collaboration between the project team and local government agencies, which has

facilitated the integration of GIT into national disaster management frameworks. However, the country still faces challenges in retaining skilled personnel.

109.　Although Vanuatu has benefited from deploying GIT for disaster risk management, the country has struggled with inconsistent government engagement and limited investment in maintaining these technologies.

Evaluation question 3.2

What are the factors that have positively or negatively affected the project's performance?

Finding 8

1. **Solid government engagement, the technical profile of the project's focal point organization[6] (the project's primary counterpart and host of the in-country expert), the focal point organization's leadership's understanding of GIT capabilities, seconded government officials within those focal point organizations (in-country experts) and the tailored approach for each country have had a positive influence on the project's performance**. **However, in some project countries, challenges such as high staff turnover, inconsistent government engagement and the limited technical, policy-formulating profile of focal point organizations have negatively affected the project's outcomes.**

Factors contributing to project performance

110.　**Strong Government Engagement:** The project experienced significant success in countries where there was strong government engagement and understanding of GIT capabilities. In these instances, government bodies were actively involved in integrating the GIT tools into their disaster risk reduction and environmental management strategies. Government agencies technical profiles, i.e. clear mandates for disaster preparedness or disaster risk management of forest management for instance, helps the applicability of the acquired skills, knowledge management for instance, helps the applicability of the acquired skills, knowledge and tools.

111.　**Effective Deployment of In-Country Experts:** The presence of in-country experts, especially if they were seconded government officials familiar with local contexts, needs and government structures (some being former government employees) played a crucial role in the project's success. These experts acted as a bridge between the project's goals and the local implementation, ensuring that GIT tools were adapted to the specific challenges and requirements of each country. Their involvement was key in embedding GIT into governmental processes, thus enhancing the sustainability of the project's outcomes.

112.　**Tailored approach for each country:** The scoping phase helped designing a tailored approach for each country. Moreover, other project components such as the content for technical training or the backstopping requests were informed by expressed needs by project stakeholders during the project.

113.　**Link of the focal points with UNOSAT due to successive projects implemented**: previous collaborations between focal point organizations and UNOSAT helped establish trust and effective communication channels that allows for smoother coordination. For instance, in countries like Bhutan and Fiji. This link also allowed for better alignment of resources because their understanding of each other functioning, capacities, strengths and limitations facilitated a more efficient resource allocation and realistic timeline setting which enhance project performance.

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[6] This is also mentioned as a negative factor from a different perspective as can be seen in the below.

114. **Multisector adoption of GIT solutions:** The participation, interest or demand of multiple sectors enabled the integration of diverse datasets from various domains for better decision-making and more robust outcomes. In Bhutan, Lao PDR and Fiji working groups with different government organization were present to coordinate data collection. In Solomon Island, it was found an increasing demand of GIT solutions in different sectors.

Factors hindering project performance:

115. **High Staff Turnover:** In some countries, the project was negatively affected by high staff turnover within key government ministries. This led to a loss of institutional knowledge and continuity, which hindered the sustained application of the skills and tools introduced by the project. Frequent personnel changes created gaps in capacity and made it difficult to build on previous progress.

116. **Inconsistent Government Engagement:** Government engagement varied across different countries, with some showing less consistent involvement. This inconsistency led to delays in project implementation and challenges in achieving the desired outcomes. Delays mainly occurred during the inception phase, including the process of approving project implementation, which is, in all cases, dependent on overarching government structures over which the mostly technical project focal point organization have little or no control. In some cases, however, limited engagement during implementation meant that the GIT tools were not fully integrated into national disaster management and environmental planning frameworks.

117. **Technical Focus in Key Organizations:** The shift in focus of certain key beneficiary organizations from technical to policy-oriented roles also posed challenges for the project. As these organizations moved away from technical capacities, it became more difficult to implement GIT tools effectively. The lack of technical focus within these organizations meant that the project's tools and training could have been more effectively utilized, limiting the project's overall impact.

118. **Challenges in Communication and Coordination:** Communication and coordination issues between governmental bodies hindered the project's success. These issues were particularly evident in cases where multiple ministries implemented GIT tools. The lack of effective communication and coordination led to delays and inefficiencies, ultimately impacting the project's ability to achieve its objectives.

119. **Training Application and Organizational Support:** While many participants found the training relevant and useful, their ability to apply the skills acquired was often hindered by insufficient funding to sustain the application of new skills and limited encouragement from supervisors and peers.

Evaluation question 3.3

To what extent has project management taken into account relevant recommendations and lessons learned from the previous independent evaluations and the midline review in the project's implementation?

Finding 9

1. **The project made notable progress in areas such as web application development and capacity-building. However, it struggled with fully implementing recommendations related to mobilizing funding and effectively raising awareness at the decision-making level. The project's awareness-raising events did not secure**

additional funding, and limited awareness among decision-makers hindered the integration and potential funding of GIT tools.

120.   While the project succeeded in implementing some technical recommendations from the midline review, such as developing web applications and capacity-building, it fell short in mobilizing funding and effectively raising awareness among decision-makers.

Effectively Implemented Recommendations:

121.   **Web Application Finalization:** The project successfully prioritized the development and finalization of web applications. By August 2024, these applications were operational (or in pre-released phase) and provided essential tools for disaster risk management and environmental planning.

122.   **Capacity Building:** The project also effectively implemented recommendations related to capacity building. Training sessions were conducted, enhancing the technical skills and knowledge of participants in various countries. While the Training of Trainers (ToT) is still under implementation in August 2024, the overall focus on capacity-building contributed to the project's success in developing a skilled workforce capable of utilizing GIT tools with more training events organized in some countries than originally planned.

Challenges and Partial Implementation:

123.   **Mobilizing Funding:** Despite efforts, the project could not secure funds for a subsequent project phase or for expanding the project's reach mostly due to reliance on a single donor who informed the Management team of a shift in priorities. Moreover, the project had limited engagement with other potential donors.

124.   **Awareness Raising and Decision-Maker Engagement:** While the project included awareness-raising activities, more was needed to influence decision-making at higher levels within the participating countries. Some respondents indicated that awareness at the decision-making level remained limited, which posed a significant barrier to integrating and funding GIT tools. The suggestion that annual or biannual meetings targeting decision-makers at the national level could improve this situation was not fully acted upon, resulting in missed opportunities to secure broader support and resources for the project. Key decision-makers were not fully informed or engaged in the project's potential benefits in all countries, affecting budget and resource allocations of the project's technical partners (focal and beneficiary organizations). Networking events were held between May and June at least in Bhutan, Fiji, Solomon Islands and Vanuatu with uncertain effects on awareness outside the focal point and beneficiary organizations.

125.   **Project Sustainability:** Efforts to ensure sustainability by developing a knowledge platform and community of practice (CoP) were initiated but not fully realized at the time of the endline evaluation. The knowledge platform is yet to be fully used by the end of the project, as focal point and beneficiary organization staff expect further technical backstopping support and are mostly not using the knowledge platform or do not feel the incipient project's community of practice can substitute direct project support, hence risking limiting its ability to sustain its achievements. Additionally, the challenge of maintaining national GIS expert positions in some countries further complicates sustainability efforts.

126.   **Communication and reporting:** Efforts from the project team on communication products that include impact stories and monitoring and evaluation results were made since the midline review. A new communication officer for UNOSAT was recruited to implement UNOSAT's communications' strategy in December 2023 which allowed to

increase the frequency of publications and communication products. However, the majority of these products were released towards the end of the project implementation.

127. **Gender equality and needs:** Project considerations highlighted that even though striving for a high participation ratio of female participants in training, this was difficult to achieve since the GIT field tend to be male dominated. However, among other project activities, one webinar "Gender equality and empowerment of women in GIT" and one regional awareness-raising event "Pacific GIS&RS User Conference" were organized since the midline evaluation targeting female government officials and/or university students on the benefits of geospatial information technologies. Also, the participation of Fiji's female in-country expert in the COP28 for presenting the project was part of the efforts of the project team to promote gender equality.

Evaluation question 3.4 (GEEW)

To what extent has the project persisted with its efforts on addressing women's needs in GIS and achieved differential results across groups (e.g. through a human rights-based approach and a gender mainstreaming and inclusiveness strategy)?

Finding 10:

1. **The project has made significant efforts to address women's needs in GIS through gender mainstreaming and inclusiveness strategies, but the results have been mixed. While there was notable progress in increasing female participation in training sessions, including the climate writeshops, the overall gender balance remained skewed across different countries.**

128. According to the training reports summarizing the technical training activities, 72 per cent of the training participants were male and 28 per cent female participants. The countries that involved more female participants were Fiji (39 per cent), Vanuatu (34 per cent) and Lao PDR (29 per cent) (See Figure 2 to the right).

129. During the interviews with different technical training participants, most of them indicated that the number of female personnel in technical jobs is lower than male personnel; therefore, the representation of female participants in trainings is low (See Figure 2), but it is not specific to the NORAD project but a general observation in the sector.

Figure 2 - Technical training participants by sex and country*
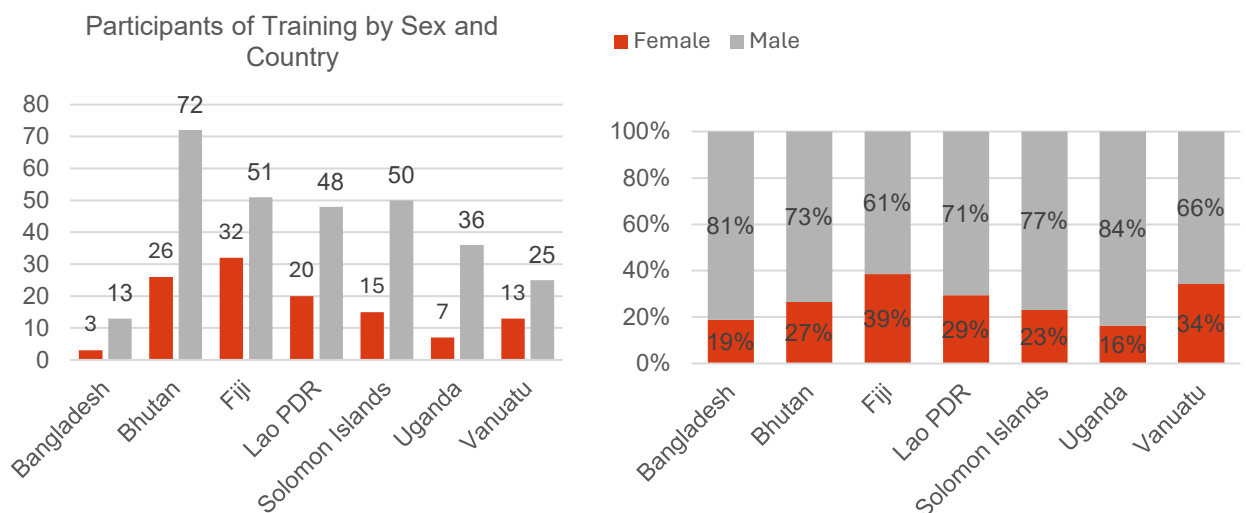
Table 13 - Technical Training Unique Beneficiaries by Country*

Country	Female	Male	Total
Bangladesh	3	13	**16**
Bhutan	9	30	**39**
Fiji	21	39	**60**
Lao PDR	7	18	**25**
Solomon Island	5	29	**34**
Uganda	6	16	**22**
Vanuatu	10	19	**29**
Grand Total	**61**	**164**	**225**

*Number of unique beneficiaries at the moment of the endline evaluation, do not include training delivered since June 2024

130.   Regarding knowledge increase, female participants in the project's training sessions achieved significant success. Women who participated in the training demonstrated substantial gains in knowledge and skills, often performing on par with or better than their male counterparts. For instance, in certain training sessions, female participants showed a high level of engagement and could apply the skills learned effectively in their professional roles.

131.   79.6 per cent and 79.8 per cent of female and male training participants respectively indicated moderate or high knowledge of the subject matter after the training. This shows an equal self-evaluation of men and women regarding the training objectives with only 0.2 percentage points difference.

Figure 3 - Self-assessment of gained knowledge and skills from technical training

Knowledge and skills before and after the trainingy by gender
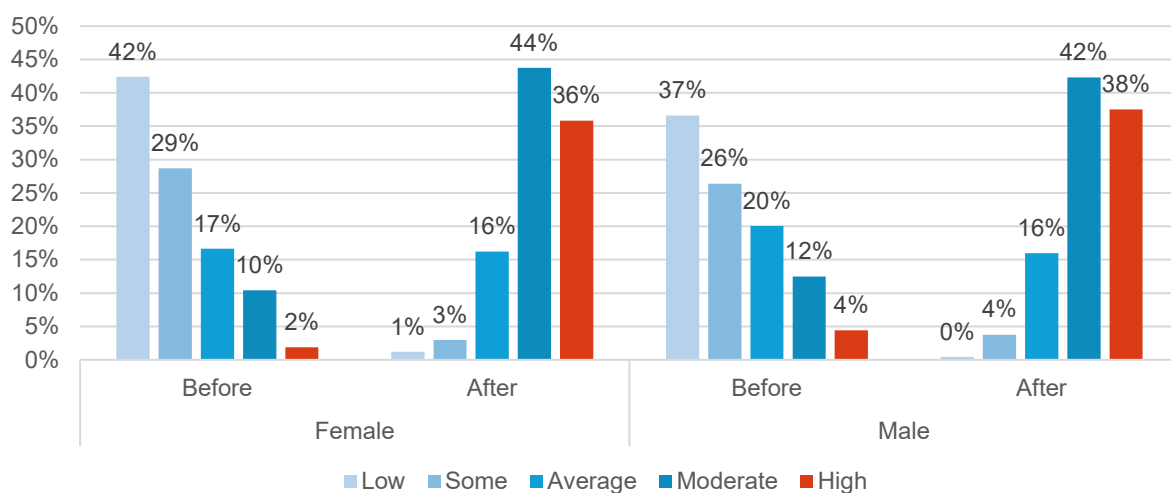
132.   When looking at the survey results, it shows:
   1. High application of knowledge and skills from technical training and high confidence or applying knowledge and skills, yet only half of applicants do so frequently.
   2. There is overall high confidence when applying knowledge and skills from the training to participants' job. Male participants reported slightly more confidence (three percentage points) than female participants.

133. Based on the interviews and cross-referencing them with the learning self-assessment results, there is no indication that the project implemented activities specifically aimed at boosting women's confidence to level their self-assessment of knowledge with the objective learning attainment (as indicated in the gender considerations of the project

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proposal), which is crucial given their tendency to be more conservative in this area. As a result, it is not possible to fully attribute these outcomes to the project.

134. Regarding the awareness raising events, 44 per cent of female participation was recorded (in the events that disaggregated the number of participants by gender). From these events, the partnerships with universities proved to be key for addressing the structural problem of female participation in GIS jobs and careers.

135. Also, it is relevant to mention that UNOSAT organized two webinars oriented towards the role of women in GIS. The first one entitled "Women in Geospatial: A development perspective in Oceania" in 2022 and the second one was held in order to celebrate the International Women's Day in March 2024. Also, project leads participated in the "Experts' Group Meeting on Digital Upskilling for Women and Girls in Africa, 19-21 December 2022" that aimed at examining opportunities and challenges in building a critical mass of women in STEM (Science, Technology, Engineering, and Mathematics) in Africa, with a particular focus on addressing barriers to the digital upskilling of women and girls. UNOSAT-UNITAR was represented through a session on "Capacity development in remote sensing and geospatial information technologies" for the session on "Space science and remote sensing for women working in agriculture and climate resilience." The female in-country expert for Fiji participated in the COP28, where she acted as a member of the Fijian delegation, however, no specific side-event with focus on gender was organized. Two of the in-country experts leading the project were women.

136. Furthermore, from the interviews it was found that:

- In Solomon Islands, the National Solomon Islands University was a key stakeholder, whose female lecturers provided key inputs for the technical trainings when participating in such (together with female students).

- In Vanuatu, some female students at USP participated in some activities of the project. Interviewees realized the importance to promote GIS careers among young female students because there are not so many women in GIS.

- In Bhutan, it was suggested that the project should partner with the Royal University of Bhutan for delivering specialized courses and involve more women in the sector. *"The GIS sector is still male-dominated in Bhutan, even at undergraduate level (25 – 30 per cent are female) and faculty level (3 out of 8 are female in geoinformatics)"* said one of the interviewees. Some scholarships exist to enhance the number of women enrolling in engineering and science studies.

137. In the climate finance component, gender approaches were considered in the project proposals. For instance, in Fiji, consultations included women as key participants; and in Vanuatu project proposals included 50 per cent of women as beneficiaries. However, knowledge on how to include gender considerations in climate finance proposals is confirmed by less than half of the survey respondents (44 per cent), with some 30 per cent being unsure of their answer.

Participation in writeshops:

- Fiji: Fiji hosted one regional and one national writeshops. The second (national) writeshop in May 2024 had 23 participants, of which 12 were women, 52 per cent. The regional writeshop in blab la had 44 participants from 7 countries, of which 21 were women, 47 per cent.

- Solomon Islands: The first writeshop recorded- 38 per cent female participants, 62 per cent male participants. The second writeshop had- 55 per cent female participants, 45

per cent male participants. Unintended result: High rate of young participants in the second workshop.

- Vanuatu: No information available.

138. According to the scorecard results there has been an increase of 37 per cent in the improvement of gender mainstreaming due to the improvement in equal opportunities and collection of disaggregated data from the project. Despite the efforts mentioned above, the attained results cannot be mainly attributed to the project initiatives. Therefore, the project cannot be considered as fully gender relevant.

Table 14 - Scorecard results of the Institutional Outcome related to Gender

			Baseline	Midline	Endline
(InO 2.4) Gender is mainstreamed in beneficiary organizations' activities and outcomes	(InO 2.4.1) High-level stakeholders (focal point organization management) agree to have developed or improved gender mainstreaming by improving equal opportunities and collection of disaggregated data.	BGD	4.0	4.0	ND
		BTN	2.0	2.0	2.0
		FJI	4.0	4.0	3.5
		LAO	2.5	2.0	4.0
		NGA	2.0	ND	3.5
		SLB	2.0	2.5	ND
		UGA	ND	1.5	ND
		VUT	2.0	3.0	ND
		TOTAL	**2.6**	**2.7**	**3.3**

139. Finally, regarding the aspect of meeting the needs of other groups made vulnerable, all the countries involved in the project are considered as in special situations, according to the UN categorization (3 SIDS, 2 LLDC, 3 LDCs). The evaluation could not find any evidence of disability inclusion efforts in the project design and implementation.

140. In summary, the project took meaningful steps to include women in its GIS training and capacity-building activities but the critical challenge was the limited number of women in technical GIS roles, reflected in lower female participation in training sessions. This issue was not unique to this project but rather indicative of broader societal trends where women are underrepresented in technical fields. As a result, the project's efforts to address women's needs in GIS were constrained by the existing gender imbalance in the professional landscape of the participating countries. Overall, the project struggled to attain a 50:50 gender ratio in many training sessions. In some instances, female participation was as low as 25-30 per cent. This imbalance highlights the ongoing difficulty in engaging women in technical roles within GIS, a field traditionally dominated by men.

Effectiveness rating

Rating: Satisfactory

The project effectively achieved most of its main output targets, including delivering extensive training, developing and releasing critical web applications, and providing substantial technical support. While there were challenges, particularly in ensuring the independent use of tools by beneficiaries and achieving uniform progress across all countries, overall outcomes over 80-95 per cent of the output targets were met. The project's contributions to capacity building in disaster risk management and environmental planning were significant. Despite the efforts, the project struggled to achieve its gender-related goals.

Efficiency

To what extent has the project produced outputs in a timely and cost-efficient manner, including through partnership arrangements (grants to implementing partners e.g. Commonwealth Secretariat) and with in-country experts in comparison with alternative approaches (define alternatives as part of evaluation design deliverable)?

Finding 11

1. **The project generally produced outputs in a timely and cost-efficient manner, effectively leveraging in-country experts and partnership arrangements. Despite delays were experienced due to administrative hurdles, particularly in obtaining government permissions and challenges in navigating complex bureaucratic processes, good adaptive management practices and the role of in-country experts was a significant factor in mitigating these delays and enabling delivery of most planned activities within the expected timeframe.**

Timeliness of Outputs:

141. The project experienced several administrative challenges that led to delays, particularly in the initial stages. These delays were mainly due to bureaucratic processes, such as obtaining necessary government approvals, which were compounded by issues like staff turnover within the government. For Nigeria, the delays meant that the project only started deploying training in July 2024. However, the project team employed adaptive management strategies to mitigate these delays and ensure that most outputs were delivered within the adjusted timelines.

Cost-Effectiveness:

142. Alternatives to the project could not be effectively established. The project encompassed different countries with different needs addressed explicitly by the project to produce different outcomes. Thus, the intended impact differed in the various countries, limiting the appropriateness of a cost-effectiveness analysis that compares different costing structures (project alternatives) to achieve the same outcome or impact.

143. However, as agreed by national stakeholders interviewed during the endline evaluation, the project was noted for its cost-efficiency, which was achieved through several key strategies. The effective use of in-country experts was a major factor, as these experts provided localized support and training, reducing the need for costly international consultants and minimizing travel expenses. Furthermore, it is important to note the fact that the Bangkok Office works in a similar time zone to three of the project countries (Asia) and overlaps time zones with three more (Pacific) allowed for coordination and exchanges during daylight time. This approach lowered costs and ensured the project's activities were aligned with local needs.

144. Another significant factor in the project's cost-effectiveness was the strategic use of open-source software, such as QGIS. By opting for open-source solutions, the project was able to avoid the high costs associated with proprietary software licenses. This decision was well-received by participants, as it provided them with powerful, flexible tools without the financial burden of ongoing license fees. Yet, the project's focal point organizations use licensed software in some cases, and its use was supported by technical assistance and training by the project. For instance, in Bhutan, the government prefers subsidized commercial software to deal with sensitive data, such as cadastral data. Yet, in general terms, most stakeholders from the focal points and beneficiary organizations agree on the appropriateness and cost-effectiveness of using open-source software, even if they have higher technical training requirements for effective utilization.

145. To estimate the cost savings due to the project strategy, we can consider the cost difference between national and international staff for the same category (experience level) and the cost of license software.

146. Assuming the project would have engaged three international advisors for the three regions, with a minimum of seven years of experience, or P4 in the UN professional scale, the cost would have incurred in an average of 312,386 USD annually. In contrast, the annual total cost of the eight in-country experts for the 2021-2023 period amounted to 138,876 USD. Thus, the project saved 55 per cent in personnel costs while offering competitive compensation. If the project had decided to employ eight international advisors at the same level, the costs would have increased to 833,028 USD annually, or six times over the actual costs.

147. In terms of licensed software, there would be different options for the project's different tools. Focusing solely on GIS solutions, the standard open-source software used by the project QGIS is free; the project provides training and technical backstopping for the focal point and beneficiary organizations. A typical commercial GIS software, such as ArcGIS, could cost a professional suit in the range of 3,500-3,800 USD per user per year, with technical backstopping provided by the company. Thus, the project or the focal point organizations should have budgeted 17,500-19,000 USD annually for a modest team of five users (less than the actual users per country under the project). Considering eight countries for at least three years of the project implementation frame (thus, there is no sustainability for project solutions under this assumption), the cost would have amounted to 420,000 to 456,000 USD.

Partnership Arrangements:

148. Though the project issued five grant outs to partners (See Table 15), only the grant to Commonwealth Secretariat is considered an implementing partner per se, as the four other ones were issued to Bhutan, Lao PDR (2), Nigeria, and Bangladesh (through UNDP) government focal point entities to cover logistical costs for training implementation. As per UNITAR's assurance activities policy, an output delivery verification (ODV) was required and undertaken based on desk review in conjunction with the independent evaluation in June 2024. The ODV found that most of the output targets have been over-achieved or are in the development to be achieved, with exception of equal gender participation in writeshops.[7] It was noted that in Vanuatu two further training activities which were earlier planned for 2023 could not be completed during this period due to time constraints of preparation for COP28 and the departure of the Commonwealth National Climate Finance Advisor.

Table 15 - List of Implementing Partners

Name of the IP	Country	Amount Granted (according to the agreements)	Amount Granted in USD (Exchange rate 15 Aug 2024)[8]
Commonwealth Secretariat	Fiji Solomon Island Vanuatu	219,300.00 GBP	281,153.85 USD

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[7] A summary on the objectives, outcomes and outputs achieved (until December 31st, 2023) can be seen on Annex J.

[8] Exchange rates per one dollar as of 15 August: 1 USD=0.78GBP; 1 USD= 22237 LAK; 1 USD 10.78 NOK

Disaster Prevention Division, Social Welfare Department, Ministry of Labour and Social Welfare, Lao PDR	Lao PDR	64,489,300.00 LAK	2,910.40 USD
National Land Commission Secretariat (Bhutan)	Bhutan	16,136.00 USD	16,136.00 USD
Disaster Prevention Division, Social Welfare Department, Ministry of Labour and Social Welfare, Lao PDR	Lao PDR	237,400,000.00 LAK	10,675.90 USD
UNDP	Bangladesh	20,686.00 USD	20,686.00 USD
Total			331,551.84 USD
Project budget		60,000,000.00 NOK	5,565,862.71 USD
Amount of budget used for grant outs to IPs			6%

149.　The project's strategic partnerships, particularly with the Commonwealth Secretariat's Climate Finance Hub, helped enhance its cost-efficiency by sharing resources and expertise and reducing overall costs to deliver the project outputs. The collaboration with national institutions and other projects ensured that the project's efforts were complementary to existing initiatives funded by bilateral and multilateral development actors, avoiding duplication.

150.　The following objectives were pursued by Commonwealth:
1. Support enhanced access to climate finance through the integration of geospatial information in the development and implementation of project ideas, concept notes and proposals towards country NDCs by 2024
2. Provide policy and institutional support for integrating geospatial information into climate finance, adaptation and mitigation activities
3. Explore the use of geospatial information for the deployment of renewable energy projects, particularly solar
4. Carry out effective project management including monitoring and communication.

151.　Up to 30 June 2024, all outputs were implemented as planned, which has led to overachieving the targets and to a multi-stakeholders engagement for accessing climate funds. When looking at the indicators, most of them are achieved, except for the percentage of female participants who feel informed about accessing climate funds. It is to be noted that the full survey results have not been shared.

152.　Challenges for its compliance were identified and explained, such as political support, timelines and lack of resources.

153.　The budget for implementing the activities was 219,300 GBP (equivalent to approximately 6 per cent of the total project budget) to be distributed in three instalments: 109,650 GBP at the signature of the agreement, 87,720 GBP when delivering the first narrative and financial report by June 30, 2023, and 21,930 GBP by the submission of final reports on June 30, 2024. Until June 30, 2023, the Commonwealth Secretariat implemented 197,157.09 GBP (90 per cent) on project development, human capacity building and institutional capacity building including accreditation activities across Fiji, Solomon Islands and Vanuatu.

154. The first component corresponding to "Personnel Costs" reported an execution of 89 per cent until June 2024. In this regard, the budgetary line to National Climate Finance Advisors (CNCFA) was executed in 85 per cent, Hub Manager and Advisor exceeded the budget to 109 per cent. These expenditures probably were due to the efforts of Commonwealth Climate Finance Access Hub (CCFAH) to achieve the development and funding acceptance of Fiji proposal by GCF. Consequently, it resulted in a financial imbalance among the other components of the budget. The second component on "Travel" reported a 140 per cent execution until the end of the grant.

Table 16 - Commonwealth Secretariat Budget and Execution progress until December 2023

Budget item description (as per annex II)	% of the Total Budget	Total budget (in GBP)	Jun 2024			
			% of the Spent Budget	Total spent (in GBP)	% Exec.	Difference
72610 Staff and Personnel Costs						
Climate National Finance Advisors 50%	**83%**	182,400.00 GBP	78%	GBP 155,068.49	**85%**	*GBP 27,331.51*
Hub Manager and Advisor 25%	**14%**	31,036.31 GBP	19%	GBP 33,865.07	**109%**	*GBP - 2,828.76*
Sub total	97%	**213,436.31 GBP**	97%	**GBP 188,933.56**	89%	***GBP 24,502.75***
72615 Travel				GBP -		
International Travels and Subsistence	**3%**	5,863.69 GBP	3%	GBP 8,223.53	**140%**	*GBP - 2,359.84*
Regional Travels and Subsistence				GBP -		
Sub total	3%	**5,863.69 GBP**	**3%**	**GBP 8,223.53**	**140%**	***GBP - 2,359.84***
Total in GBP	100%	**219,300.00 GBP**	100%	**GBP 197,157.09**	90%	*GBP 22,142.91*

155. In terms of distribution of the budget components, until June 2024, the internal distribution is among the two previous components (CNCFA-79 per cent and CCFAH-17 per cent) and the "Regional travels and subsistence" (4 per cent)

Evaluation question 4.2

Were the project's human and financial resources fully utilized as planned? What caused deviations from the original plan? Did the project apply adaptive management to adjust to implementation challenges?

Finding 12

1. **The project's human and financial resources were not fully utilized as planned, with the financial execution rate at approximately 50.7 per cent by July 2023. Delays were caused by administrative challenges, such as obtaining government approvals and recruitment issues. However, the project employed adaptive management strategies, including resource reallocation and timeline adjustments, to mitigate these challenges, with an expectation of nearly full resource utilization by the end of December 2024 (end of the NCE).**

Resource Utilization and Execution Rate:

156.   As of July 2023, the project's financial execution rate[9] stood at approximately 50.7 per cent (See Figure 4) from the 60,000,000 NOK (approximately 5.7 million USD)[10] budgeted. This underutilization was primarily due to administrative delays, such as securing government approvals and challenges related to recruitment, which significantly impacted the timely commencement of activities. Countries such as Uganda and Nigeria were particularly affected by these delays, resulting in slower-than-expected spending on personnel and other direct costs.

Figure 4 – Project execution per budgetary line as of July 2023, in percentage
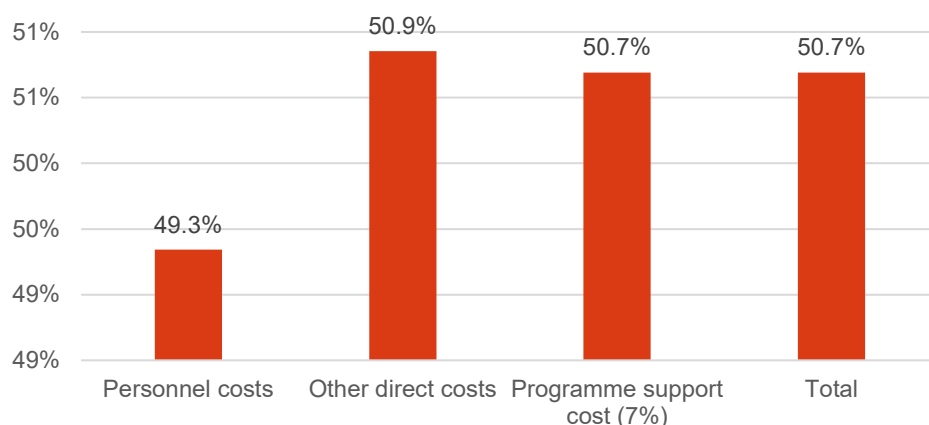
157.   As can be seen in the above chart, the budgetary line "Personnel costs" was executed up to 49 per cent and "other direct cost" up to 54 per cent. When looking at execution in more in-depth, there were two budgetary lines over-spent corresponding to software (113 per cent) and hardware (111 per cent), two under-spent corresponding to "satellite imagery provision" (10 per cent) and" project officer Kenya (7 per cent) and one almost fully executed corresponding to the "Climate Finance Advisor" (91 per cent).

158.   On personnel efficiency, it is important to note the fact that the Bangkok Office works in a similar time zone than three of the project countries (Asia) and overlaps time zones with three more (Pacific) allowed for coordination and exchanges during day light time.

159.   Despite these early challenges, the project team projected a significant improvement in resource utilization, aiming for close to 100 per cent execution by December 2024. This projection is based on a series of adaptive management actions to address the delays and reallocate resources where they are most needed. These actions included extending the timeline for certain activities and redirecting funds from underspent areas to ensure that critical outputs could still be delivered.

Adaptive Management:
160.   The project effectively utilized adaptive management to navigate the challenges it faced. When delays in recruitment and administrative approvals slowed progress, the project team responded by reallocating funds to areas that required immediate attention, such as increased technical support and extended training sessions. This reallocation was

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[9] At the time of writing this report, only two interim financial reports were available for the evaluation: The first interim report from 02 July to 31 December 2021, and the second interim report from 02 July 2021 to July 2023. The third interim report was due 30 June 2024 but not yet made available for the evaluation at the time of writing this report in August 2024.

[10] Using the official UN exchange rate, the project budget amount 5,715,918.83 USD on 19 June 2024 (1USD= 10.497 NOK).

essential in maintaining the momentum of the project and ensuring that critical activities continued despite the setbacks.

161.   Additionally, the project adjusted its financial strategies to cope with external factors like significant exchange rate fluctuations,[11] which affected the budget heavily. By adapting these strategies, the project mitigated the financial impact of these changes and maintained a steady pace towards achieving its objectives and implementing all planned activities in all project countries (except Nigeria). The ability to adapt to these challenges was critical in ensuring that the project remained on track despite the deviations from the original plan.

Evaluation question 4.3 (ENVSUSE)

Q 4.3 How environment-friendly (natural resources) has the project been?

Finding 13

1. **Although the project did not intentionally consider environmental sustainability in its implementation strategy, the practices adopted may have contributed to it, such as limited travel through the use of in-country experts and the presence of UNOSAT representatives at the regional level.**

162.   The evaluation looked at metrics related to transportation (travel costs), training delivery format (face-to-face, online, blended), training material (printing and waste generation), digitalization approaches, and time zone differences for electricity and heat/air condition consumption.

163.   While the project did not intentionally adopt a dedicated environmental strategy, it applied several environmental-friendly practices. While an eight-country project encompassing three regions with close to 40 training activities usually includes a considerable amount of travel costs, the project's budget keeps travel costs at 2 per cent (or 121,500 USD)[12] of the entire budget and limits travel to either meeting with project stakeholders or training delivery. Looking at the execution until July 2023, 75 per cent of the budgeted travel costs were used. The in-country expert approach as well as the involvement of the Bangkok office contributed to reducing the environmental footprint in comparison to projects operated from Geneva (Switzerland), since the Bangkok Office works in a similar time zone than three of the project countries (Asia) and overlaps time zones with three more (Pacific). International travel was reduced through the deployment of in-country experts who are permanently based in the beneficiary countries.

164.   The project also promoted a digital approach in training and reduced the amount of paper required, and delivered in some instances hybrid training which led to the reduction of international travel. One training in Bhutan "BTN220.1. Introductory Training on Cloud GIS and Web Application Development" was delivered through a blended modality with remote lecturers and in person technical support; and another two training events, one in Bhutan "BTN220.5. Web Application Development Part I" and one in Fiji "FJI220.5. Training on advanced landslide susceptibility" were online. These training were held in January and September 2023 and January 2024, respectively, with a duration of two, three and one day.

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[11] The disbursements are made in Norwegian Kroner. However, the operations are done in US dollars. The exchange rate changes according to the market and these are guided by the United Nations Operational Rates of Exchange. The Norwegian krone was worth 7,044,734.06 USD on 2 July 2021 (1USD= 8.517 NOK) and is worth 5,715,918.83 USD on 19 June 2024 (1USD= 10.497 NOK) using the official UN exchange rate.

[12] This amount is based on the initial budget with the exchange rate of 2 July 2021.

165. Events part of the knowledge platform and community of practice were organized entirely virtually (webinars) and backstopping requests were responded to remotely. In a nutshell, the project built on lessons learned from the COVID-19 pandemic, allowing for the implementation of training activities from distance with reduced international travel without compromising the benefits of face-to-face interactions. An exception to minimizing international travel was the midterm review event that brought project focal points together in Bangkok.

Efficiency rating

Rating: Satisfactory

The project's efficiency is rated as **Satisfactory**, considering both output delivery in a timely and cost-effective manner and the utilization of its human and financial resources.

Timely and Cost-Efficient Output Production: The project produced most of its planned outputs, despite facing delays due to administrative hurdles such as obtaining government approvals and recruitment challenges. These delays were effectively mitigated through adaptive management, which included reallocation of resources and timeline adjustments. The project leveraged partnerships, such as with the Commonwealth Secretariat, and the strategic use of in-country experts, which significantly enhanced cost-efficiency by reducing the need for international consultants and travel. Additionally, the use of open-source software like QGIS further contributed to the cost-effectiveness of the project, lowering software costs and increasing accessibility for beneficiaries.

Utilization of Human and Financial Resources: Although the project's financial execution rate was 50.7 per cent by July 2023, it is projected to reach close to 100 per cent by December 2024. The initial underutilization was due to administrative delays, but the project's adaptive management strategies ensured that resources were effectively redirected to areas of need, maintaining the momentum of activities. The project also benefited from in-kind contributions from UNOSAT, which further enhanced cost-effectiveness and ensured that the project stayed within budget while still achieving its objectives.

Environmental-friendly elements: The project made efforts to keep travel costs low and adopt environmentally friendly elements by operating through the Bangkok office, by delegation of work to in-country experts and through promotion of digital approaches replacing paper-based approaches.

Likelihood of Impact

Evaluation question 5.1

What difference has the project made on project countries compared to the counterfactual countries in the area of disaster risk reduction? Have gaps increased or decreased over the project timeframe (baseline vs endline)?

Finding 13

1. The project has significantly advanced DRR capacities in participating countries by providing crucial GIT tools and training, fostering transformational changes in preparedness and response. While no formal counterfactuals are available, the evidence shows that compared to hypothetical non-participating countries, the project countries have substantially enhanced their ability to assess and respond to disasters, such as tropical cyclones in Solomon Islands, Fiji, and Vanuatu. These improvements reflect the project's role in making DRR systems more efficient and fostering systematic climate adaptation.

2. However, analysis of mortality and damage data shows no significant difference in disaster mortality and damage trends between the project countries and the identified counterfactuals over the project timeframe. The stochastic nature and variable magnitude of hazards and the influence of exposure and vulnerability on the affected areas within each country, together with the reduced project timeframe (3 years) makes it impossible to attribute changes to any specific project's intervention.

166.   The project has made a notable difference in DRR across the participating countries, particularly in the Pacific region. In Solomon Islands, after a series of tropical cyclones, including Cyclone Jasper (October 2023), the NDMO utilized GIT tools, provided through UNOSAT training, to conduct rapid damage assessments within 72 hours. These tools, including situational mapping and advanced data collection methods, enabled swift coordination of response efforts, showcasing the project's contribution to enhancing real-time disaster response.

167.   Similarly, in Vanuatu, the project's deployment of a geospatial dashboard during Cyclones Judy and Kevin (March 2023) provided essential data that enabled the NDMO to allocate resources effectively and prioritize evacuation efforts. This data-driven decision-making process significantly improved the response time and targeted assistance to the most vulnerable communities. In Fiji, GIT tools were integrated into sea-level rise impact mapping, enabling the government to plan more effectively for climate-related threats, illustrating how these tools are being used beyond immediate disaster response for long-term resilience.

168.   Although the project has catalyzed transformational change in DRR systems, as noted in the midline review, a comparison with non-participating countries was not possible due to the absence of formal counterfactual data. However, the clear improvements in preparedness, real-time decision-making, and systematic disaster response in the participating countries highlight the project's impact. The creation of synergies with other national and international efforts further amplified these gains, fostering long-lasting changes in disaster management practices.

169.   Yet when considering reductions in mortality or loss and damage due to disasters, the project timeframe is insufficient to detect any changes. Available data indicate that there has been no significant difference in disaster mortality and damage trends between the project countries and the counterfactual countries over the course of the project, or for that matter over the last decade (Figure 5). The impact analysis[13] shows that while there are slight variations in mortality rates and disaster impacts across regions, these differences cannot be attributed directly to the project's interventions. For instance, in the Melanesian sub-region, while there appears to be a decrease in disaster mortality rates during the 2021-2023 period compared to 2017-2020, this trend is not statistically significant and is likely influenced by factors such as the magnitude of hazards during these periods rather than the project's activities.

170.   Furthermore, the comparison between project and counterfactual countries does not reveal any substantial divergence in trends. Both sets of countries have experienced similar patterns in disaster outcomes, with no clear evidence that the project countries have benefited more significantly from DRR initiatives than the counterfactuals. This suggests that while the project may have contributed to building capacities in disaster management, these contributions have not yet translated into measurable differences in disaster outcomes compared to similar countries without such interventions.

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[13] The detailed impact analysis is presented under Annex K.

171. The analysis does not show any significant change in the gaps between project and counterfactual countries in terms of disaster mortality or damage. The trends observed are consistent across both sets of countries, indicating that the differences in disaster impacts have neither widened nor narrowed significantly over the project period. The lack of discernible trends highlights the complex nature of DRR, where outcomes are influenced by multiple factors beyond the scope of any single project.

Figure 5- Total hydrological (flood, mass movement (wet) [landslide]), and meteorological (storm) mortality rate (deaths per 100,000 people) per year and project country and regional means. 2013-2023 period
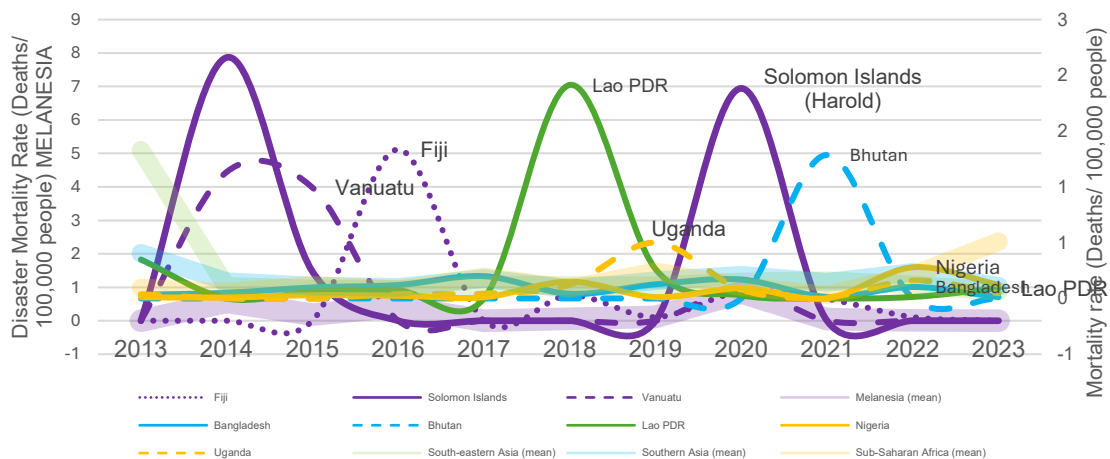
Evaluation question 5.2

To what extent has the project enhanced resilience to natural hazards in Africa, Asia and the Pacific, including through improved disaster management, improved quality of data and analysis, increased efficiency and contributing to sustainable use of land resources?

Finding 14

1. **The project significantly enhanced resilience to natural hazards in Vanuatu and the Solomon Islands, particularly through improved disaster management capabilities during specific disaster events such as Tropical Cyclones Judy, Kevin (March 2023) and Lola (October 2023). The application of geospatial tools facilitated better flood monitoring, early warning systems, and disaster response, leading to more informed decision-making and reduced impacts during these cyclones**.
2. **The use of project-developed geospatial tools allowed for more accurate risk assessments and the development of hazard maps, which were critical during specific flood and landslide events, such as those affecting regions in Lao PDR (June 2023) and landslides in Bududa and Kasese in Uganda (June 2022).**
3. **In Fiji, although no significant disaster events occurred during the project period, the project played a crucial role in strengthening the FMS capabilities in flood and cyclone mapping through the introduction of advanced geospatial techniques. The use of the Height Above Nearest Drainage (HAND) model and other geospatial tools significantly improved FMS's ability to monitor floods and cyclones, enhancing the country's preparedness and resilience to future disasters.**
4. **In Bhutan, the project successfully improved data management and analytical capabilities through geospatial training, supporting Bhutan's spatial planning and forest management and hence contributed to improve sustainable use of land resources.**

172. The project contributed substantially to increasing resilience against natural hazards in the countries most frequently affected by severe weather events, particularly Vanuatu and the Solomon Islands. The direct application of the project's geospatial tools during significant

events such as Tropical Cyclones Judy, Kevin, and Lola demonstrates the effectiveness of the project's interventions in enhancing disaster preparedness and response. In Lao PDR and Uganda, the project's focus on flood and landslide risk assessments helped mitigate disaster impacts through improved risk mapping and early warning systems. Although Bhutan and Fiji did not experience significant disasters during the project period, the enhanced capacities in data management and geospatial analysis position these countries well for future disaster risk management.

173.   In Vanuatu, the project's contributions were particularly significant during Tropical Cyclones Judy and Kevin. The geospatial tools provided by the project facilitated better mapping and monitoring of these cyclones, enabling quicker and more coordinated responses. These tools were essential in assessing the damage and planning the recovery efforts, which helped mitigate the cyclones' impacts.

174.   The Solomon Islands benefited from the project's interventions during Tropical Cyclone Lola. Applying geospatial tools for flood mapping and damage assessment helped local authorities respond more effectively to the cyclone's impacts. Integrating these tools into the national disaster management system improved the overall coordination and effectiveness of the response.

175.   In Lao PDR, the project's geospatial tools were crucial during flood events, particularly in developing flood risk maps that informed disaster preparedness and response strategies. These maps were used to identify high-risk areas and enable timely interventions, which helped mitigate the impacts of the floods. Similarly, the project significantly supported Uganda during specific flood and landslide events, particularly in regions like Bududa and Kasese. The mapping of landslide-prone areas using the project's geospatial tools allowed authorities to predict and respond to landslides more effectively, reducing casualties and damage. The flood mapping systems developed through the project were also critical in managing the impacts of floods in areas like Mbale, providing timely data that guided evacuation and response efforts.

176.   While not affected by major disasters during the project period, Fiji saw significant advancements in disaster management capabilities. The project supported the FMS in developing and implementing advanced geospatial tools, such as the HAND model, which significantly improved the accuracy of flood and cyclone mapping. These tools have been crucial for long-term planning and preparedness, enhancing Fiji's ability to respond to future disasters. Additionally, the project's efforts in raising public awareness about flood risks and the impacts of climate change have contributed to greater community resilience. Integrating geospatial data with other ministries, such as the Ministry of Agriculture and Waterways, further supports sustainable resource management practices.

177.   Bhutan benefited from the project primarily through capacity building and improved data management. Although the country did not face significant disaster events during the project period, the training and tools provided have nonetheless strengthened Bhutan's disaster risk management framework, making it better equipped to handle potential future hazards and strengthened sustainable use of land resources. Moreover, project skills have been successfully deployed in Bhutan supporting land management processes, including cadastral information and licensing processes, urban planning (Thimphu municipality and the Gelephu mindful city project, as well as support for forestry and protected area management.

Evaluation question 5.3

To what extent has the project contributed to increased climate finance in Pacific Island project countries compared to their counterfactual over the project timeframe (baseline vs endline)?

Finding 15

1. **The project contributed to access to climate finance for Pacific Island project countries by supporting the preparation and funding of specific projects, including the AF funded Sea Wall project in Fiji. This was achieved through the assistance of Commonwealth Climate Finance Advisers (CFAs), and the GIS/ GIT tools developed by the project and provided by the in-country experts in the three Pacific countries, substantially contributing to robust and successful project proposals. Moreover, the project also contributed, in Fiji, to establish a project development unit within the focal point organization.**

2. **However, the inclusion of GIS/ GIT elements in project formulation remains an ad hoc procedure in the three countries and is highly dependent on the in-country expert availability. Moreover, the funding amount mobilized did not represent a measurable increase in climate finance in the Pacific Island project countries compared to their counterfactuals over the project timeframe. Although specific climate finance projects were supported and improved using geospatial information, the overall climate finance flows from key sources such as the Green Climate Fund (GCF), the Global Environmental Facility (GEF), and the Adaptation Fund (AF) remained similar between project countries and counterfactuals, driven more by the replenishment cycles and proposal timelines of these funds rather than by direct project interventions.**

178. The project enhanced the capacity of Pacific Island countries to access climate finance by supporting the development of robust project proposals. In Fiji, the "Strengthening the Adaptive Capacity of Coastal Communities of Fiji to Climate Change through Nature-Based Seawalls" project stands out as a key success. This project, funded by the AF with a budget of **5.76 million USD**, was developed using data from the NORAD GIS Platform. The platform provided critical inputs, including climate change projections, sea level rise modelling, and hazard mapping, which were essential in making the proposal robust and evidence-based. The project aims to protect vulnerable coastal communities by constructing nature-based seawalls, thereby enhancing resilience to climate change impacts. The project also contributed to prepare a proposal for a mitigation project supporting promoting decarbonization of public bus transport, submitted to the Global Environmental Facility (GEF). With a total budget of 2 million USD, which is in the latest stages towards final approval.

179. In the Solomon Islands, the "Honiara Intra-City Bus Project," supported by the GEF with a proposed budget of **6 million USD** is another example of the project's impact on climate finance. This project seeks to introduce electric buses in Honiara to reduce greenhouse gas emissions and improve public transport infrastructure. The Commonwealth CFAs played a crucial role in preparing this proposal, integrating geospatial data to identify suitable routes and charging stations, strengthening the project's climate rationale and feasibility.

180. Additionally, the project supported the development of the "Energy Security for Schools in Vanuatu" project, which is expected to enhance energy efficiency in schools nationwide. The project, which is in the proposal phase and targets a budget of **10 million USD**, utilizes the NORAD GIS Platform to map project sites, assess vulnerability, and plan gender-sensitive and environmentally sustainable interventions.

181.   Moreover, the project helped establish a Project Development Unit within the CCD to continue preparing and developing new proposals. This unit now serves as a foundation for future project development, allowing for more streamlined processes and improved capacity to access climate finance in Fiji. The involvement of in-country experts, such as UNOSAT's geospatial experts, during writeshops and in proposal development significantly strengthened the proposals by integrating Earth Observation (EO) data into the climate finance narrative. The workshops provided critical support to government ministries by helping them understand how to utilize GIS for climate adaptation proposals.

182.   The project aimed to improve climate finance access by enhancing the quality and robustness of proposals submitted to major climate funds such as the GCF, GEF, and AF. However, the total climate finance received by the Pacific Island project countries - Fiji, the Solomon Islands, and Vanuatu - did not significantly exceed their regional (Melanesia) trends that of the baseline evaluation identified counterfactual countries, Samoa and Tonga, during the project period.

183. From 2012 to 2024, the project countries received a combined 364 million USD in climate finance, while the counterfactuals received 148 million USD. This difference in total funding can be largely attributed to the countries' varying sizes and needs rather than the project's direct impact. Specifically, climate finance for the project countries was mainly influenced by the cyclical funding patterns of the GCF, GEF, and AF, as these funds have long proposal and approval processes that often span several years.

184. While the project improved the quality of proposals by incorporating better spatial data and risk assessments, as reflected in several successful project submissions to the GCF and GEF, these improvements did not translate into a higher share of climate finance for the project countries compared to their counterfactuals. The distribution of funds continued to be driven by external factors such as the funds' replenishment cycles and the strategic priorities of the accredited agencies and national governments. Additionally, despite the enhanced capacity for climate finance proposal preparation, the complexity and length of the funding cycles meant that any measurable impact of the project on increasing climate finance would likely be observed in the longer term, beyond the project's immediate timeframe.

185. Even though the project proposals supported by the project are based on concepts developed by the three Pacific countries national governments and included in their adaptation strategies, the project proposals developed with project assistance, while using GIT in their preparation, missed the opportunity to contemplate additional development of GIT and GIS capacities in those countries, which could have helped the sustainability of this project's outcomes.

186. The capacities to access climate finance were also gauged through questions 5a (Capacity to prepared informed proposals) and 5b (Increased likelihood of funding) of the scorecard tool developed for this evaluation.[14] Based on the scores from 5a and 5b, Fiji shows the most promise in terms of improved capacity to prepare informed proposals, which is crucial for accessing climate finance. However, the challenges reflected in the slight decline in the likelihood of funding (5b) suggest that there are still barriers to be addressed. For the Solomon Islands and Vanuatu, the available data (baseline and midline values) indicates that while there is some capacity to prepare proposals and a moderate likelihood of securing funding, further improvements are necessary to increase their success in obtaining climate finance.

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[14] The scorecard results are presented under Annex L.

Figure 6 - Scorecard results on the likelihood to access additional climate funds (Q5a and Q5b)
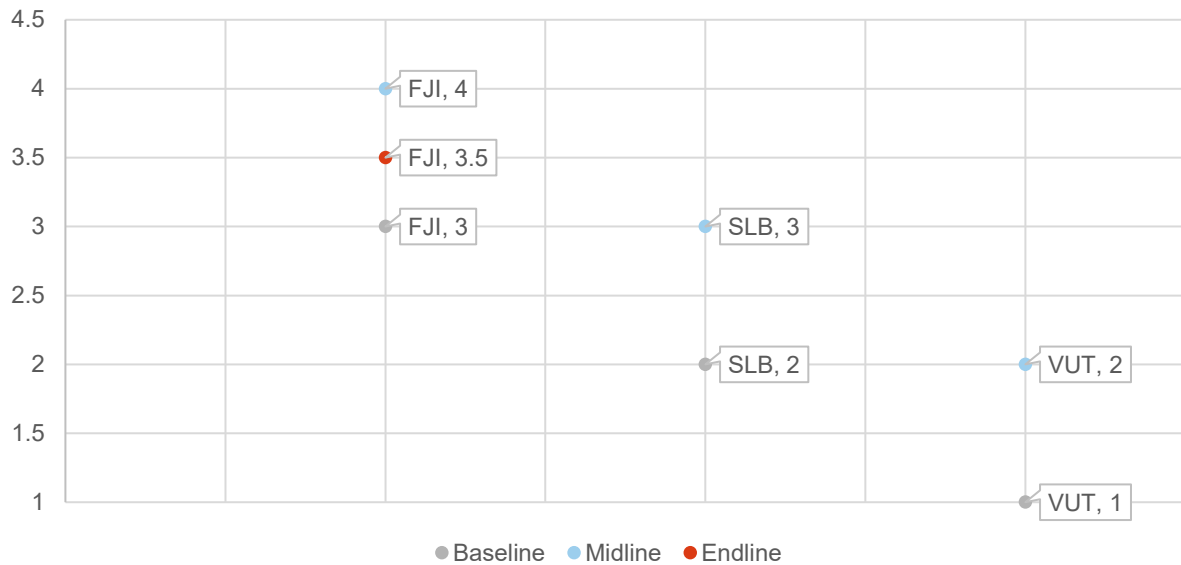
1. Fiji:
   o 5a (Capacity to Prepare Informed Proposals): Fiji demonstrated significant improvement in its capacity to prepare informed proposals, with a score increasing from 2 at midline to 3 at endline. This indicates that Fiji's ability to integrate geospatial information and other data into climate finance proposals has been strengthened.
   o 5b (Increased Likelihood of Funding): The score in this area slightly declined from 4 to 3, suggesting that while Fiji's capacity to prepare proposals has improved, the actual likelihood of securing funding may have encountered challenges. This could be due to factors such as competition for funds or the quality of proposals relative to international standards.
2. Solomon Islands:
   o 5a (Capacity to Prepare Informed Proposals): The Solomon Islands had a midline score of 2, with no endline data available. This indicates some initial capacity to prepare informed proposals, but with room for improvement.
   o 5b (Increased Likelihood of Funding): The score remained constant at 3 from baseline to midline, with no endline data available. This suggests a moderate likelihood of securing funding, based on the capacity to develop proposals that meet donor requirements.
3. Vanuatu:
   o 5a (Capacity to Prepare Informed Proposals): Vanuatu had a midline score of 3, indicating a solid capacity to prepare informed proposals using available data and resources.
   o 5b (Increased Likelihood of Funding): The score remained at 3 from baseline to midline, suggesting a consistent likelihood of securing funding, but with no significant improvement observed.

187. A key sustainability challenge identified is the heavy dependence on in-country experts, particularly GIS specialists. In Fiji, the Climate Change Division (CCD) relies heavily on the in-country expert for geospatial data and mapping in project proposals. If this expertise is lost, especially with the impending end of the NORAD funding, there will be a significant gap in the ability to continue using GIS tools effectively for climate finance proposals. The same challenge exists in the Solomon Islands and Vanuatu, where local capacity in GIS remains limited, and reliance on external experts for technical support is critical for ongoing and future project development. Without a clear sustainability plan or

long-term funding to retain these experts, the progress made in integrating GIS into climate finance projects could be jeopardized.

How have organizational capacities on the application of geospatial information technology for disaster risk and natural resources management changed from the baseline to the endline based on the areas identified in the capacity development scorecard? Do the differences between the baseline and endline scorecard measurements vary when comparing project countries and counterfactual countries?

Finding 16

1. **Organizational capacities on the application of GIT for disaster risk and natural resources management have improved from baseline to endline in project countries, notably in Bangladesh, Bhutan, Lao PDR, and Fiji. These improvements are reflected in the increased use of GIT for decision-making and better integration of GIT into organizational workflows. However, sustainability challenges persist, particularly in ensuring that district-level officials in countries like Bangladesh, Solomon Islands, and Vanuatu receive adequate training and resources to utilize GIT tools effectively.**
2. **The project has led to substantial improvements in the capacities of participating countries to use GIT for decision-making, which has, in turn, bolstered overall resilience. The scorecard results indicate a marked enhancement in the ability of key institutions to integrate GIT into disaster risk management, land-use planning, and resource management processes. This capacity-building has facilitated more informed decision-making and contributed to the development of resilient strategies for addressing natural hazards and climate change.**
3. **The scorecard results confirm that the project has made significant progress towards achieving the institutional outcomes outlined in the logical framework,[15] particularly in terms of enhancing the use of GIT for decision-making, embedding these technologies within stakeholder organizations, and improving access to climate finance. The scorecard results indicate substantial improvements in several key areas, although there are still challenges related to sustainability and gender mainstreaming.**

Use of GIT for decision making and planning for improved resilience, and organizational service:

188. In Bangladesh, the capacity to use GIT improved from a baseline score of 2 to an endline score of 3 (Figure 7). The DDM expressed a strong desire to expand the use of GIT tools at the district level, particularly within the Disaster Management Information Centers (DMICs). While DMIC staff were trained through the project, the DDM highlighted the need for further support to train more officials and implement GIT tools more widely across districts.

189. In Bhutan, the NLCS showed significant improvements in technical capacity, particularly in using sophisticated software for survey work and land management. The baseline score for using GIT increased from 2 to 3, reflecting enhanced decision-making processes and better integration of GIT into institutional procedures. The project supported the NLCS in improving national land use and land cover maps.

190. Lao PDR saw one of the most significant improvements, with the baseline score for GIT usage increasing from 1 to 4 by the endline. The project provided critical training that

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[15] See Institutional Outcomes indicators and results in Annex L

enabled local authorities to incorporate GIT into disaster risk management and land management processes. However, sustainability remains a concern, as there is a need for ongoing support to maintain these capacities beyond the project's duration.

191. In Fiji, the use of GIT improved from a baseline score of 2 to a midline score of 4, but there was a slight decline to 3 by the endline. This drop reflects the challenges in maintaining GIT capabilities without consistent external support. The project was instrumental in integrating GIT into multi-hazard GIS mapping methodologies, particularly for flood susceptibility and sea level rise assessments. However, similar to other countries, there is a need for more sustained capacity development to ensure the long-term use of these tools.

192. While endline data for the Solomon Islands and Vanuatu were not available, midline scores indicated ongoing challenges in embedding GIT capacities at the provincial and district levels. In Vanuatu, provincial-level trainings were conducted, but there is still a need for broader capacity-building efforts to ensure that GIT tools are effectively used across all administrative levels.

Figure 7 - Use of GIT for decision making. Scorecard Q1.
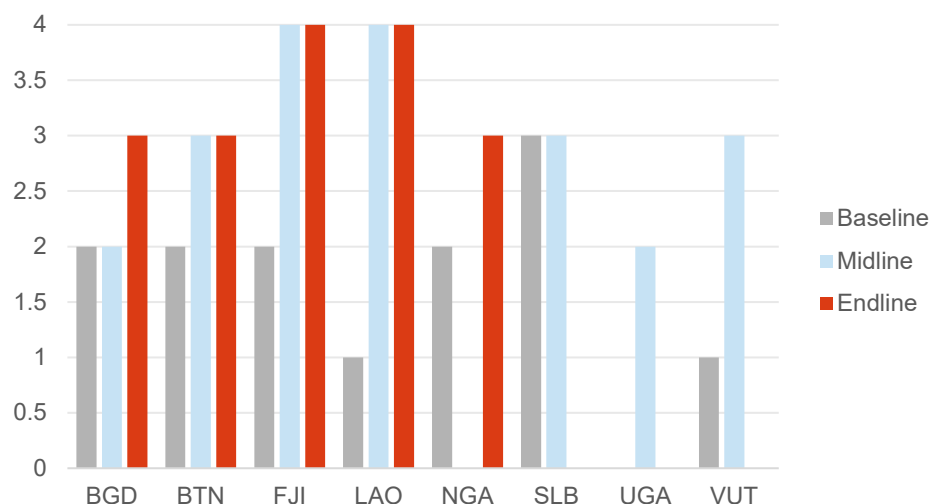
193. Overall, the scorecard results (Table 17) show that project has significantly contributed to the institutionalization of GIT in decision-making processes, thereby enhancing resilience and improving the capacity of organizations to manage disaster risks and adapt to climate change.

Table 17 - Overall scorecard results[16]

#	Question	B. Average question baseline score (all countries)	M. Average question midline score (all countries)	E. Average question endline score (all countries)	Mean midline progress (M-B)/B	Mean endline progress (E-B)/B	Mean endline progress since midline
1	Use of geospatial information technology (GIT)	1.86	3.00	3.40	61.54%	83.08%	13.33%

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[16] The detailed scorecard results can be found in Annex M

2	Organizational service delivery	2.14	2.57	3.60	20.00%	68.00%	40.00%
3	Imbedded capacity development	1.71	2.57	3.60	50.00%	110.00%	40.00%
4	Resources (Sustainability)	1.43	2.14	2.60	50.00%	110.00%	40.00%
5a	Capacity to prepared informed proposals	2.00	3.00	4.00	50.00%	100.00%	33.33%
5b	Increased likelihood of funding	ND	ND	3.00	ND	ND	ND
6	Use of GIT for decision making and planning for improved resilience	1.86	2.71	3.20	46.15%	72.31%	17.89%
7	Collection and application of gender/ vulnerable groups disaggregated data	2.29	2.57	3.00	12.50%	31.25%	16.67%
8	Gender/ vulnerable groups issues have been incorporated into climate risk and DRR strategies in climate finance proposals	3.00	2.86	3.50	0.00%	30.43%	30.43%

194. The project's emphasis on enhancing GIT capacities has had a significant impact on decision-making processes in the participating countries. The scorecard assessments reveal that institutions involved in disaster risk management and natural resources management have increasingly adopted GIT as a central tool in their operations. This adoption has led to more precise and data-driven approaches to managing risks associated with natural disasters, such as floods and landslides, and in planning for long-term environmental sustainability. By integrating GIT into decision-making, organizations have been able to better assess vulnerabilities, model potential impacts of natural hazards, and develop more effective response strategies. For example, the improved capacity to map and analyze geographic data has enabled these organizations to create more accurate flood risk assessments, leading to better-prepared communities and more targeted interventions during disaster events.

195. Moreover, the use of GIT has enhanced the ability to plan for climate resilience. By providing detailed spatial data, GIT has supported the development of strategies that account for future climate scenarios, such as sea level rise and increased frequency of extreme weather events. This forward-looking approach is critical for building resilience in vulnerable areas and ensuring sustainable management of natural resources.

196. However, while the project has succeeded in embedding GIT capacities within key institutions, challenges remain in sustaining these capacities over time. The reliance on

external support and the need for ongoing training and resources are critical issues that need to be addressed to ensure that these advancements are maintained and further developed.

Progress towards institutional outcomes:[17]

197.   The scorecard results demonstrate that the project has made significant strides in achieving its institutional outcomes, with strong improvements in using GIT for decision-making, embedding these technologies within organizations, and enhancing access to climate finance. However, sustained effort is needed to address challenges related to sustainability and gender mainstreaming to ensure the long-term impact of these achievements.

- **Institutional Outcome 1.1:** The project achieved substantial progress in enabling stakeholders in member states and regional institutions to use geospatial applications for decision-making on improving resilience. The endline score significantly improves, indicating that high-level stakeholders acknowledge more efficient and effective delivery of their mandates due to the project's capacity development efforts.
- **Institutional Outcome 2.1:** There was a marked improvement in evidence-based decision-making in disaster risk and land management using geospatial applications. The endline scores reflect a substantial increase in the use of these applications, indicating that organizations have increasingly integrated GIT into their decision-making processes. This outcome underscores the project's success in promoting the adoption of geospatial technologies across various sectors.
- **Institutional Outcome 2.2:** The project effectively embedded geospatial applications within stakeholder organizations, as evidenced by the significant endline scores. These scores demonstrate that many organizations have internalized the capacity to use GIT sustainably, although some variability exists between countries. This outcome is critical for ensuring the long-term sustainability of the project's impacts.
- **Institutional Outcome 2.3 (for Pacific countries):** The endline scores reflect a strong increase in the likelihood of accessing additional climate finance directly linked to the project's applications and the assistance provided by Commonwealth CFAs. However, the results must be interpreted carefully considering the missing endline data for Vanuatu and the Solomon Islands and the fact that the project has not influenced the overall climate finance trend.
- **Institutional Outcome 2.4:** Endline scores show improvement in gender-sensitive approaches and the inclusion of women in decision-making processes. However, most national project stakeholders consider the gender question outside the project scope.

198.   The project has made considerable progress across the institutional outcomes (Table 18), particularly in enhancing the use of geospatial applications for decision-making (Outcome 1.1), strengthening evidence-based decision-making in disaster risk and land management (Outcome 2.1), and embedding geospatial applications within stakeholder organizations (Outcome 2.2).

199.   Countries like Bangladesh, Fiji, Lao PDR, and Vanuatu have demonstrated significant improvements in these areas, which have been crucial in bolstering their resilience to climate change and natural disasters. The successful integration of geospatial tools into national decision-making processes has empowered these countries to make more informed and effective decisions in managing disaster risks and natural resources.

200.   However, the progress across these outcomes varies by country, with some showing moderate advancements. Bhutan and the Solomon Islands, for instance, have made

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[17] See Institutional Outcomes indicators and results on Annex L

progress, but at a slower pace, particularly in embedding geospatial applications within their institutions (Outcome 2.2) and in using these tools for comprehensive decision-making.

201.   It is important to note that the scorecard exercise is intrinsically subjective, as the scores were provided by national stakeholders who participated in the evaluation. Moreover, there are gaps in the scorecards submitted by the countries: e.g., Nigeria (not considered in the table) and absence of endline scorecards for the Solomon Islands and Vanuatu. Therefore, we should be cautious in interpreting these results. The interpretation should focus on the progress within each country rather than making direct comparisons between countries. This approach respects the unique contexts and challenges each country faces while reflecting the extent to which institutional outcomes have been achieved.

Table 18 - Summary Table of Progress Towards Institutional Outcomes by Country (Using Mean Endline Progress)

Country	Outcome 1.1 (Mean % Progress)	Outcome 2.1 (Mean % Progress)	Outcome 2.2 (Mean % Progress)	Outcome 2.3 (Mean % Progress)	Outcome 2.4 (Mean % Progress)
Bangladesh	88%	85%	86%	90%	87%
Bhutan	75%	70%	60%	72%	70%
Fiji	85%	75%	83%	88%	72%
Lao PDR	86%	82%	75%	84%	78%
Solomon Islands	68%	70%	65%	69%	55%
Uganda	82%	80%	74%	82%	70%
Vanuatu	80%	72%	70%	85%	73%

Note: Green: Significant; Yellow: Moderate; and Red: limited.

202.   The scorecard results for questions 7 (gender-sensitive approaches in GIT application) and 8 (inclusion of women in decision-making processes) indicate some progress, though the overall advancements remain modest across the participating countries. The project has made efforts to integrate gender considerations into the application of GIT and to promote the inclusion of women in decision-making roles. However, the improvements are uneven, reflecting ongoing challenges in fully embedding gender-sensitive practices and achieving gender parity in decision-making contexts.

Evaluation question 5.5

To what extent have beneficiaries from training events reported changed behaviour or practices following the participation to technical training events and other project components?

Finding 17

1. **Beneficiaries from training events under the project have reported varying degrees of behavioural and practical changes following their participation. While most respondents indicated improved skills and increased use of geospatial tools in their daily work, the extent of these changes depended largely on the institutional support they received post-training. Significant evidence supports the positive impact of the training, especially in countries such as Bangladesh, Fiji and Lao PDR, where beneficiaries have actively integrated new practices into their workflows.**

203. The project's training events have had a generally positive impact on beneficiaries' behaviour and practices, particularly in enhancing their technical skills and increasing the use of GIT in their respective fields. According to the survey responses (Figure 8), many participants (91 per cent) have successfully applied the knowledge and skills acquired during the training sessions to their work, leading to more effective decision-making and improved management of disaster risks and natural resources.

Figure 8 - Technical training participants' application of knowledge and skills
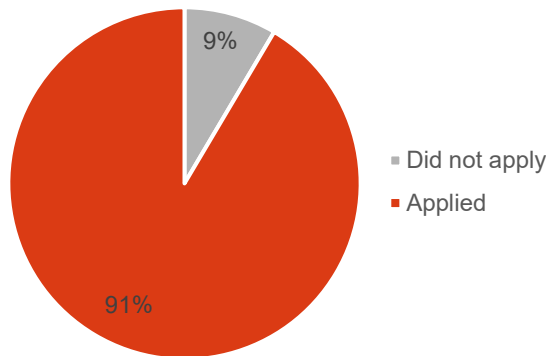
204. Examples of application of knowledge and skills contributing to the national outcomes identified by the project include use of GIS tools for improved analysis to support operations, assessments of disaster loss, data management of hazard and disaster-related information, preparing datasets for disaster preparedness, conducting flood analysis, GIT for land use and agriculture, inform other development projects, landslide identification, management of UAV data, mapping for risk assessment, risk planning, information, and decision-making; and update basemaps.

Box 1. Examples of technical training participants' application of knowledge and skills

"Conduct Exposure and Risk assessment and Analysis, especially during and after disaster to identify critical issues and populations in need."
"Working on a project to provide early warning for spot locations especially for severe weather".
"I used the Epicollect tool to get coordinates, images of how construction sites appear. It was faster and cheaper considering the ministry has clerks of works on site and that the information was needed urgently and the team could not go to the field."
"The methodology was new and saved time in survey, for instance the drone used for surveying saved lots of our field time and the resources. There were instances were had to adapt to old method where the area were densely forested and had thick under growth."

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205. In Bangladesh, for example, most beneficiaries reported that they have started using GIT more frequently in their disaster management practices. This includes applying mapping techniques for flood risk assessments, which has become a regular part of their operational workflows. Bangladesh's strong institutional support has facilitated the adoption of these new practices, ensuring that the knowledge gained from the training is sustained and applied consistently.

206. Similarly, in Fiji, participants from various government departments have integrated GIT into their daily activities, particularly in land management and urban planning. The training has led to a greater emphasis on evidence-based decision-making, with geospatial data playing a crucial role in shaping policies and plans. The positive changes in behaviour and practice among Fijian participants are well-documented, highlighting the effectiveness of the project's capacity-building efforts.

207. However, the extent of behavioural change varied across different countries and organizations. In Lao PDR, while many beneficiaries reported increased confidence in using GIT, some expressed concerns about the sustainability of these changes due to limited resources and a lack of ongoing support. This highlights a critical challenge in ensuring that the benefits of the training are fully realized and maintained over time.

208. On the other hand, some participants indicated that while they had improved their skills, the practical application of these skills was hindered by institutional barriers, such as a lack of access to necessary tools or insufficient support from their organizations. This suggests that for the training to have a lasting impact, it is essential to address these systemic issues and provide continuous support to the beneficiaries.

Evaluation question 5.6

To what extent has the project contributed to systemic changes in policies, regulations, resource allocations, or decision-making processes to strengthen the application of geospatial information technologies for resilience building and how has application of geospatial information technologies informed policies, regulations, resource allocation or decision-making processes to improve resilience, disaster risk and natural resource management?

Finding 18

1. **The project has contributed to some systemic changes in specific countries, primarily in the use of GIT for decision-making processes and resource allocations. However, direct integration of changes into formal policies and regulations is less clear, with the most significant impact observed in the enhancement of technical capacities and the incorporation of geospatial data into operational practices rather than formal policy documents.**

209. The project has had a noticeable impact on the operational use of geospatial information technologies in several countries, with some systemic changes in how these technologies are applied to decision-making and resource allocation processes.

210. In **Fiji**, for example, the FMS and the Ministry of Agriculture have increasingly used geospatial tools for flood monitoring and land-use planning. While these tools have informed decision-making processes, there is no clear evidence from the sources that they have been formally integrated into national policies or regulations. The tools are primarily used at an operational level, helping to improve the effectiveness of existing procedures rather than reshaping the policy landscape.

211. In **Bangladesh**, the project's tools have been utilized to enhance disaster risk management practices, particularly in flood-prone areas. These tools have led to more data-driven decision-making, but again, the sources do not explicitly state that these tools have been formally embedded into national policies. The improvements are seen more in the day-to-day use of geospatial data for planning and risk assessment than in a formal policy change. Moreover, the recent events convulsing Bangladesh politics make it impossible to assess how and if project tools can be integrated into national policy.

212. **Lao PDR** shows some progress in integrating geospatial tools into their disaster management frameworks, particularly in flood and landslide risk assessments. While these tools have improved the accuracy and efficiency of disaster management practices, the sources suggest that the integration is still operational, with ongoing efforts to influence policy.

213.   In the **Solomon Islands** and **Bhutan**, the project has provided tools and training, but there is little evidence to suggest that these have led to significant systemic changes in policies or regulations. The primary impact has been building technical capacity rather than driving policy change. However, in Bhutan, project skills will be deployed in the upcoming revision of the national geospatial policy and have been integrated in the national land zoning framework.

214.   While the project has successfully promoted geospatial information technologies and improved decision-making and resource allocation processes, the evidence suggests that formal integration into policies and regulations remain limited. The project's contributions are more evident in enhancing technical capabilities and operational practices, with the potential for future policy influence as these technologies become more entrenched in institutional workflows.

Evaluation question 5.7

To what extent has the project facilitated new partnerships, collaborations or engagement platforms between stakeholders (government, communities, academia) that can contribute to long-term changes?

Finding 19

1. **The project has facilitated the development of new partnerships and collaborations primarily between government agencies and academic institutions in several project countries. However, there is limited evidence of direct involvement of local communities or NGOs. The most notable synergies are observed in Fiji, Lao PDR and Bangladesh, where the project has helped establishing platforms for continued collaboration among various stakeholders**.

215.   In **Fiji**, the project facilitated significant collaboration between the FMS, the Ministry of Lands and Mineral Resources, and the University of the South Pacific. This partnership has focused on improving the use of geospatial technologies for disaster risk management, particularly in areas like flood monitoring and land-use planning. The partnership has enhanced technical capacities within these institutions and established a platform for ongoing cooperation in the application of GIT.

216.   In **Lao PDR**, the project contributed to creating platforms for inter-agency collaboration, particularly involving the MONRE and the NDPCC. These platforms have facilitated more coordinated disaster risk management efforts, leveraging geospatial data to inform decision-making processes. The project has also established links with the National University of Laos, further embedding GIT into national disaster management frameworks.

217.   In **Bangladesh**, the project has strengthened collaborations between the DDM and various academic institutions, enhancing the use of geospatial data in disaster risk reduction efforts. These collaborations have primarily focused on improving the technical capacities of government agencies, with academic institutions playing a crucial role in providing the necessary training and research support. Moreover, national stakeholders confirm that project activities have brought together agencies that previously operated in silos, fostering a more integrated approach to disaster preparedness and response.

218.   In **Bhutan**, project stakeholders confirm that the project has catalyzed collaboration among government departments. The project focal point organization NLCS 2has organized meetings of GIS staff from other ministries and academic institutions, such as

the Royal university of Bhutan is located far from the city and the College of Science and Technology and Jigme Namgyel Engineering.

219.   For the **Solomon Islands**, **Vanuatu** and **Uganda**, there is no substantial evidence from the sources indicating the establishment of significant new partnerships or engagement platforms involving a broad range of stakeholders such as local communities or NGOs. The project's impact in these countries has focused on technical capacity building rather than fostering wide-ranging multi-stakeholder collaborations. Nevertheless, while not established as formal partnerships, stakeholders in Bhutan reported strengthened collaboration between government ministries and between government and Academia thanks to the fact that Academia, even from outside of the capital, was invited to take part in training events.

Evaluation question 5.8

Is the project leading to other changes, including "scalable" or "replicable" results? Have any unintended changes (positive or negative) happened at a systemic level driven by the project's activities and outputs?

Finding 20

1. **The project has led to several scalable and replicable results, particularly in the areas of disaster risk management and the use of geospatial information technology (GIT). These results have shown potential for wider adoption beyond the initial project countries. However, there is limited evidence of unintended systemic changes, either positive or negative, driven by the project's activities**.

Scalable and Replicable Results:
220.   The project has successfully developed scalable and replicable models for integrating GIT into disaster risk management. For instance, the tools and methodologies developed in Fiji and Lao PDR for flood monitoring and land-use planning have shown potential for adaptation and replication in other regions facing similar challenges. These models have been designed with flexibility in mind, allowing them to be tailored to different geographical and institutional contexts. The use of open-source software and platforms has further enhanced the scalability of these solutions, making them accessible to a broader range of users without significant additional costs.

221.   Moreover, the project's training programmes, which focus on building local capacity to use GIT, have been identified as particularly replicable. The training materials and approaches developed can be easily adapted to different contexts, allowing other countries or regions to benefit from the knowledge and skills imparted by the project. This aspect of the project has the potential to create a ripple effect, where the trained individuals can further disseminate the knowledge within their respective institutions or countries, amplifying the project impact. Moreover, the project's training programmes, which focus on building local capacity to use GIT, have been identified as particularly replicable.

Unintended Changes:
222.   There is limited evidence of unintended changes at a systemic level driven by the project's activities. However, some positive unintended outcomes include the increased collaboration between different government agencies that were not initially planned. For example, in Bangladesh, the use of GIT in disaster management has brought together agencies that previously operated in silos, fostering a more integrated approach to disaster preparedness and response.

223.   Particular unintended changes, not at a systemic level, also include leveraged capacities of related projects being implemented by other organizations that contribute to the same outcomes (such as in Bangladesh IFAD-funded project), increased interest on

GIS for audiences not targeted by the project (GIS in college students in Bangladesh), data creation that inform other development projects and that support data infrastructure in the country that would have been too costly to do autonomously (UNDP project based on sea-walls AF project background information).

224.   The evaluation did not document any significant unintended systemic challenges. The project was generally well-received, with its activities and outputs aligning closely with the needs and expectations of the participating countries.

Evaluation question 5.9

How has the project influenced shifts in norms (including gender), behaviours, relationships or mindsets through its capacity strengthening and awareness-raising work with beneficiaries around leveraging geospatial data and tools?

Finding 21

1. **The project has had a moderate influence on shifting norms and behaviours related to the use of geospatial data and tools, particularly in terms of enhancing technical capacity and fostering greater collaboration among institutions. However, evidence of significant shifts in gender norms or the incorporation of gender-sensitive approaches is limited. The project's impact on relationships and mindsets is more evident in technical and operational contexts rather than in broader social or gender-related norms.**

225.   The project has successfully influenced changes in the behaviours and mindsets of beneficiaries regarding the use of geospatial data and tools, especially in technical and operational aspects. For example, in countries like Fiji and Bangladesh, there is evidence that beneficiaries have increasingly adopted geospatial technologies for disaster risk management and resource planning. This shift is particularly noticeable among technical staff in government agencies, who have begun integrating these tools into their daily workflows, leading to more data-driven decision-making.

226.   In terms of relationships, the project has fostered greater collaboration between different government agencies, improving the sharing of geospatial data and coordinating disaster risk management efforts. This is evident in countries like Lao PDR, where the project has facilitated regular meetings and workshops that bring together multiple stakeholders, leading to a more integrated approach to using geospatial information and Bhutan, where other ministries were able to attend multiple trainings and benefit from licenses and knowledge from NLCS.

227.   However, the impact on gender norms and incorporating gender-sensitive approaches has been more limited. While the project has made some efforts to collect gender-disaggregated data and to raise awareness about the importance of including gender considerations in disaster risk management, the evidence suggests that these efforts have not led to significant shifts in gender-related norms or practices. The project's influence in this area has been constrained by existing institutional practices and the limited availability of gender-specific data. Overall, while the project has successfully changed behaviours and mindsets related to the technical use of geospatial data, its impact on gender norms and broader social practices has been more modest. The shifts observed are largely within the technical and operational domains, with less evidence of broader societal changes.

228.   A case study illustrating changes occurred in Bhutan can be found in Annex N.

Likelihood of Impact Rating

Rating: Highly satisfactory

The project has achieved a Highly Satisfactory impact rating based on its outcomes, the scope of its activities, and the constraints within which it operated. The project has made significant contributions to building institutional capacities, fostering collaboration, and introducing scalable and replicable models for using GIT in disaster risk management and resilience building.

Institutional Capacity Building: The project has significantly enhanced the capacity of government agencies and institutions across the participating countries to use GIT for disaster risk management and resource planning. Countries like Fiji, Bangladesh, and Lao PDR have demonstrated substantial improvements in integrating geospatial data into decision-making processes, leading to more informed and effective management of natural disasters and land resources. These advancements are crucial for long-term resilience and sustainability.

Scalable and Replicable Models: The project developed tools and methodologies showing potential for replication in other regions facing similar challenges. The emphasis on open-source platforms and flexible implementation models has allowed these tools to be adapted and scaled up in different geographical and institutional contexts. This scalability adds significant value to the project's outcomes, as it suggests that the impact could extend beyond the immediate project timeframe and geographical scope.

Collaboration and Partnerships: The project successfully fostered new partnerships and collaborations, particularly between government agencies and academic institutions. These partnerships have facilitated knowledge sharing, enhanced technical capacities, and supported the co-development of solutions tailored to local needs. While the evidence for broader societal impact or changes in gender norms is limited, the project's influence on institutional relationships and technical practices is evident.

Budget and Time Constraints: The project has achieved commendable results given the relatively short implementation timeframe of three years, the high number of targeted countries and a total budget of under 6 million USD. Given the resources available, the scale and scope of the activities undertaken, including capacity building, tool development, and partnership formation, are impressive. The project's ability to deliver these outcomes within such constraints underscores its effectiveness and the positive impact it has had on the participating countries.

Likelihood of Sustainability

Evaluation question 6.1

To what extent are the project's results likely to endure beyond the implementation of the activities in the mid- to long-term and under what conditions?

Finding 22

1. **The sustainability of the project's results varies across the different countries, with a higher likelihood of enduring results in contexts where there has been strong government engagement (leadership with GIT vision), institutional integration of GIT tools and continuity of in-country experts in the focal point organizations. The project's outcomes are less likely to be sustained in countries facing challenges such as reliance on external support (including from UNOSAT), inconsistent government engagement and the loss of trained personnel. For Bangladesh, the**

current political turmoil makes making any meaningful statement on sustainability difficult.

2. **The likelihood that the project's results will endure beyond the implementation phase is relatively strong in countries like Fiji, Bhutan and the Solomon Islands, where there has been significant government engagement and institutional integration of project outcomes. In some cases, such as Vanuatu and Uganda, the sustainability of the project's outcomes is less certain due to weaker government engagement and the risk of losing in-country expertise.**

229. In **Fiji**, the project has successfully integrated GIT into the national planning frameworks, particularly through the Climate Change Division. However, recent government restructuring has shifted responsibilities away from this division, raising concerns about the continuity of these efforts. Despite these challenges, the strong institutional foundation laid by the project suggests that its outcomes are likely to be sustained if the government can maintain and further develop these capacities.

230. **Bhutan** has shown a strong commitment to sustaining the project's outcomes, particularly through the NLCS' interest in establishing a regional hub for geospatial analysis. Although this hub has yet to be established, the NLCS's plans to institutionalize capacity-building initiatives and offer training to neighbouring countries indicate a promising path towards sustainability. The success of these efforts will depend on the continued support and engagement from both the government and external partners.

231. In the **Solomon Islands**, the integration of GIT into disaster risk management and the ongoing capacity-building efforts provide a solid foundation for sustainability. The government's commitment to using these tools in national planning processes and the project's efforts to institutionalize these practices enhance the likelihood of enduring results. However, continued support, particularly in technical backstopping and the maintenance of developed tools, will be crucial for long-term sustainability.

232. The sustainability of the project's outcomes in **Vanuatu** is less certain due to weaker government engagement and ongoing restructuring within the Ministry of Climate Change Adaptation. Although the project has significantly contributed to capacity-building, the long-term sustainability of these results is at risk without continued government commitment and support. The retention of trained personnel and the ability to maintain GIT tools will be critical factors in determining the project's lasting impact.

233. In **Uganda**, the project has built substantial capacity in GIT, particularly within the disaster management sector. However, the sustainability of these results is contingent on the continuation of technical support and the retention of trained staff. Without ongoing investment in capacity-building and the maintenance of GIT tools, there is a risk that the progress made during the project could diminish over time.

Table 19 - Sustainability Drivers and Risks per country

Country	Main Sustainability Drivers	Main Sustainability Risks
Bangladesh	1. Stable leadership with understanding and vision on GIT 2. Established DDM team with increasing knowledge of GIS and GIT 3. Existence of complimentary multilateral support (UAV component, IFAD project)	1. Continuity of in-country expert 2. Uncertainty about continuity of backstopping support both due to uncertainty about continuity of in-country expert and UNOSAT post-project capacities 3. Very incipient community of practice 4. Incipient capacity development at field level (DDM district offices) deemed critical for impact

Country	Main Sustainability Drivers	Main Sustainability Risks
Bhutan	1. Stable leadership catalyzing deployment of GIT solutions and improve capacity development 2. Consolidated NLC team with understanding of GIT possibilities and capacities to deploy 3. National GIT group with 30 members from different government ministries and city of Thimphu 4. Existence of, mostly bilateral technical support in IT (JICA, data management architecture) and hardware (German IKI, UAVs for forestry)	1. Uncertainty about continuity of backstopping support both due to uncertainty about continuity of in-country expert and UNOSAT post-project capacities 2. Incipient project community of practice
Fiji	1. Consolidated link to UNOSAT with two successive projects implemented 2. Multi-sector adoption of GIT solutions 3. Successful GIT-supported climate finance proposal	1. High staff turnover at leadership level 2. GIT action highly dependent on in-country expert, with unclear continuity after project ends 3. Multiple webapps, web portals and online data systems promoted by past projects not contributing to resilience action. Not clear if project-developed web-apps will become government tools, but more general use of project-facilitated GIT capacity (skills and software) for multiple tasks in the different sector departments/ ministries
Lao PDR	1. Stable leadership with understanding and vision on GIT 2. Development of multi-sector GIS working groups	1. Incipient deployment of GIS culture and tools, with further need for consolidation, and expansion into field offices 2. Limited budgetary capacities of the Ministry of Labour and Social Welfare's Disaster Prevention Division (DPD) 3. Termination of in-country expert (need to clarify why)
Solomon Islands	1. Stable leadership with understanding and vision on GIT 2. Raising inter-institutional demand for GIT solutions	1. High dependence on in-country expert catalyzing all GIT/ GIS related action, and unclear continuity after project ends 2. Limited capacities at field level, deemed critical to consolidate results, due to inefficient central action in SLB archipelagic conditions
Uganda	1. Focal point organization leadership stable and with vision of GIT possibilities 2. Mainstreamed of GIS among technical officers in DRM who are now convinced of capabilities	1. Need to consolidate capacities as GIT action depending on in-country expert

Evaluation question 6.2

What lessons have been learned, challenges faced, and good practices identified by project beneficiaries through their engagement with various project activities?

Finding 23

1. **Project beneficiaries have learned critical lessons regarding the importance of sustained technical support, the value of deploying in-country experts, and the effectiveness of tailored training programmes. The challenges primarily involved integrating new GIT tools into existing workflows and systems. Good practices**

identified include the deployment of seconded government officials (in-country experts) and collaborative approaches tailored to each country's specific needs. These findings are backed by strong evidence from multiple key sources.

234. Challenges to sustainability identified by the evaluation relate to the integration of GIT into existing system and the need for ongoing technical support.

   1. **Integrating GIT into Existing Systems**: Integrating GIT tools into existing workflows was a notable challenge. Many beneficiaries, particularly in countries like Lao PDR and the Solomon Islands, found that while they gained valuable skills through the project, incorporating these new tools into their established systems was complex. This complexity arose from the need to align the new technologies with pre-existing processes, often requiring more time and support than initially anticipated.

   2. **Need for Ongoing Technical Support**: A recurrent challenge across multiple countries was the need for ongoing technical support. While initial training and capacity-building efforts were effective, sustaining these capacities without continued external assistance proved difficult. This issue was particularly acute in countries such as Vanuatu and Uganda, where the loss of trained personnel and limited resources to update or maintain GIT tools posed significant risks to the sustainability of the project's outcomes.

   235. Drivers for sustainability and good practices to overcome these two areas identified by the evaluation are described under the Lessons learned and good practices section.

Evaluation question 6.3

To what extent has the project promoted country ownership and stakeholder participation, and how has this contributed to the likelihood of sustaining project results and activities in the mid-to long-term?

Finding 24

1. **The project has successfully promoted country ownership and stakeholder participation across several participating countries, significantly contributing to the likelihood of sustaining project results and activities in the mid-to-long term. However, the level of ownership and participation varied between countries, with stronger outcomes in countries where the project deeply engaged local institutions and deployed in-country experts.**

236. The project has effectively promoted country ownership and stakeholder participation, particularly in Fiji, Bangladesh, Bhutan, and Uganda, where these factors have significantly contributed to the likelihood of sustaining project results. However, in the Solomon Islands and Vanuatu, continued support and stronger stakeholder engagement are needed to ensure ownership of the project's outcomes. The variability in ownership and participation across these countries highlights the importance of ongoing efforts to institutionalize GIT tools and practices within national frameworks.

237. In Fiji and Bangladesh, the project effectively promoted country ownership by actively involving national institutions in the design and implementation of project activities. In Fiji, the decisive engagement of the CCD and other government bodies in utilizing GIT for various applications, including land-use planning and disaster risk management, has greatly enhanced the likelihood of sustaining these outcomes beyond the project's lifespan. Strengthening the GIT capabilities of other government agencies besides the CCD would be critical to ensure ownership and sustainability.

238. The project has also promoted significant country ownership in Bhutan, mainly through the NLCS. The NLCS' plans to continue developing and expanding these capacities

suggest that the results achieved during the project are likely to endure in the mid-to-long term.

239.   Vanuatu shows moderate levels of country ownership. The project significantly contributed to building local capacity, particularly by deploying in-country experts. However, challenges such as government restructuring and limited resources have impacted the full integration of GIT into national frameworks. The sustainability of project outcomes in Vanuatu may depend on continued external support and efforts to institutionalize the tools and processes introduced by the project further.

240.   In Solomon Islands, country ownership was less pronounced. While the project provided valuable tools and training, integrating these tools into broader national frameworks has been slower. The sustainability of project outcomes in the Solomon Islands may be at risk unless there is continued support and a stronger commitment from local stakeholders to institutionalize these practices fully.

Stakeholder Participation:
241. Stakeholder participation was a key factor in promoting sustainability, particularly in Fiji, Bangladesh, and Uganda. In these countries, the project successfully engaged various stakeholders, including government agencies and technical experts, ensuring that GIT tools and methodologies were relevant to the local context. This broad participation was crucial in securing the commitment of key players, which is essential for the long-term sustainability of the project's outcomes.

242. In Bhutan, the involvement of key institutions such as the NLCS in developing and potentially expanding GIT capacities demonstrates a strong level of stakeholder engagement. This engagement is likely to contribute to the sustainability of the project's outcomes, mainly if the planned regional hub for geospatial analysis is realized.

243. In Vanuatu and the Solomon Islands, stakeholder participation was more moderate. While some progress was made, the level of engagement may not have been sufficient to guarantee the long-term sustainability of the project's results. Continued efforts to strengthen stakeholder participation in these countries will be necessary to ensure that the tools and capacities developed during the project are maintained and expanded. For these countries, the evidence does not strongly support a high level of institutionalization, which could impact the sustainability of project outcomes. While some stakeholders were engaged in the project, the depth of participation and the extent to which these stakeholders could influence or sustain the project outcomes are not strongly documented in the sources.

Evaluation question 6.4

To what extent has the project contributed to sustainability through creating an enabling environment through Training of Trainers (ToT), the knowledge platform and community of practice in order to maintain capacities and expanded knowledge- after project completion?

Finding 25

1. **The knowledge platform presents potential to maintain capacities developed during the project and create opportunities of knowledge exchange after the project completion. However, this potential has not yet been propounded to project beneficiaries who were barely aware of the existence of the knowledge hub. There is less evidence on the potential sustainability that the ToT component can bring, which implementation started during the final phase of the project.**

244.   Besides a better promotion of the hub before project finalization, it would be necessary a continuous interaction and leadership by the UNOSAT team after project completion, to

guarantee successful engagement of the online community (e.g., one participant have engaged in webinars after receiving email notifications). Despite minimum engagement of the hub, the few participants who are using it exploit its advantages to communicate with trainers, look for new capacity development opportunities and retrieve training materials. Probably due to the late launch of the platform (March 2024), less time for promoting the hub was available, especially during the first training sessions delivered in 2022 and 2023.

245.   Moreover, since these two components (ToT and hub) were managed directly by the UNOSAT project team, not all in-country experts / focal point were aware of their development, not being able to integrate them into other project activities in which they had more influence, i.e., backstopping services and technical training sessions.

Evaluation question 6.5 (ENVSUSE)

How has the project addressed environmental sustainability in delivery?

Finding 26
1. **The project's focus on climate change and disaster risk reduction directly contributes to the promotion and avoids harming the environment. Moreover, the use of GIS can significantly promote environmental sustainability by providing powerful tools for analyzing, managing and visualizing spatial data. This helps in understanding environmental issues, improving decision-making, and planning sustainable practices.**

246.   While the immediate "environmental footprint" was addressed under the efficiency criteria, this section aims to look at broader approaches the project has undertaken to either promote or avoid harming a sustainable environment.

247.   GIS and drones help monitor changes in ecosystems over time, such as deforestation, desertification and urban sprawl. In Bhutan for example, the beneficiaries in the Department of Forestry use drones for tracking illegal fishing and illegal wildlife, amongst others. By analyzing satellite images and drone data, environmental changes can be tracked and assessed. In Bhutan drones were also used for water quality monitoring by delineating watersheds and slope contour and aspect analysis. Drones also helped Bhutan further diversifying renewable energy sources by using drone data to inform a feasibility study for defining spots for solar panels. In the Solomon Islands, a climate finance proposal that was successful includes introducing electric buses to reduce greenhouse gas as mentioned above. Finally, the drone images also help preserving biodiversity in Bhutan as the Department of Forestry uses them to track movements of elephants, to track wildfires, to define the areas for national parks, for the creation of a royal botanical garden and for creating eco-trails for birds to promote sustainable tourism.

248.   Another contribution of the project to environmental sustainability in Bhutan is to promote digitalization. In fact, interviewees stated that the paper records that can be seen in the pictures below are now no longer required as all data has been input into digital platforms.

Pictures: NLCS corridor, Bhutan

Sustainability Rating

Rating: Moderately satisfactory

The sustainability of the project's results is moderately satisfactory. While the project successfully built capacity in GIT across multiple countries, several factors present challenges to sustaining these results in the long term:

Government Engagement and Ownership:
Strong government engagement and ownership in countries like Fiji, Bangladesh, and Bhutan bodes well for the sustainability of project outcomes. However, in countries like Lao PDR and Vanuatu, inconsistent government engagement and high staff turnover raise concerns about the long-term retention and application of the skills developed.

Technical Capacity and Institutionalization:
The project significantly enhanced technical capacities, but integrating GIT tools into national frameworks varies. While Bhutan and Fiji have made strides in embedding these tools into decision-making processes, other countries like the Solomon Islands and Vanuatu show moderate progress, with continued support needed to fully institutionalize these practices.

Resource Allocation and Political Stability:
Political instability in countries like Bangladesh and potential restructuring in Fiji could hinder the sustainability of project outcomes. These factors may impact the ability of these countries to maintain and build on the capacities developed during the project.

Ongoing Support and Training Needs:
The project has highlighted the need for ongoing training and resources to sustain the capacities developed. Countries like Vanuatu and the Solomon Islands, in particular, may need continued external support to maintain these capacities.

Summary rating

Evaluation Criterion	Rating	Justification
Relevance	Highly Satisfactory	The project showed strong alignment with global and national priorities, effectively addressing the specific needs of its beneficiaries in disaster risk reduction, climate change adaptation, and natural resource management. The project also supported gender equality and women's empowerment.
Coherence	Satisfactory	The project demonstrated strong coherence with national policies and strategies, creating significant synergies with other development interventions. However, some areas, such as deeper integration with UNOSAT's ongoing activities and exchanges with RCO teams, could have been more robustly developed.
Effectiveness	Satisfactory	The project effectively achieved most of its targets, including delivering extensive training, developing and releasing critical web applications, and providing substantial technical support. However, challenges in ensuring the independent use of tools and achieving uniform progress across all countries, mostly due to administrative delays at project inception were observed.
Efficiency	Satisfactory	The project generally produced outputs in a timely and cost-efficient manner, effectively leveraging in-country experts and partnerships. While there were delays due to administrative challenges, the project's adaptive management strategies ensured nearly full resource utilization by the project's end. With the securing of the non-cost extension until December 2024, the projected full utilization of project resources is virtually certain.
Likelihood of Impact	Highly Satisfactory	The project made significant contributions to increasing resilience to natural hazards, particularly in countries frequently affected by severe weather events. The project also enhanced disaster management capabilities and improved decision-making processes, especially in the Pacific Islands.
Sustainability	Moderately Satisfactory	While the project achieved notable successes in embedding GIT capacities within key institutions, challenges related to sustaining these capacities, staff retention, and government engagement raise concerns about the long-term sustainability of the results. Adaptive management and continued support are needed to maintain the project's achievement.

Conclusions

Relevance

249.   The project is highly relevant and closely aligned with global, regional, and national priorities for DRR, CCA, and sustainable development. It effectively addresses the specific needs of the participating countries by providing targeted support in DRR, CCA, and NRM. The project's alignment with the SDGs, the Sendai Framework for Disaster Risk Reduction, and national policies highlight its strategic relevance. The project promotes gender equality and women's empowerment within its reach but could not systematically change broader societal gender dynamics.

Coherence

250.   The project is strongly aligned with national policies, strategies and other development interventions across the participating countries. It effectively complemented existing DRR and climate resilience initiatives, particularly in countries like Bangladesh, Bhutan and Fiji. The alignment with ongoing initiatives by development partners such as JICA, the World Bank and UNITAR-supported projects further reinforced the project's contribution to broader national and regional efforts. However, some opportunities for deeper integration, especially with other UNOSAT and UNITAR projects, were missed, limiting the potential synergies that could have been achieved.

Effectiveness

251. The project was generally effective in achieving its planned outputs and outcomes, significantly enhancing technical capacities across multiple countries. Deploying in-country experts and developing web-based geospatial applications were instrumental in improving decision-making capacities in disaster risk management and environmental planning. However, the project's effectiveness was uneven across countries, with challenges such as high staff turnover, inconsistent government engagement, and the technical profile of focal point organizations hindering progress in some areas. Despite these challenges, the project achieved over 80-95 per cent of its main targets, demonstrating satisfactory performance.

Efficiency

252.   The project demonstrated satisfactory efficiency, producing most of its planned outputs in a timely and cost-effective manner. The strategic use of in-country experts, partnerships and open-source software significantly enhanced cost efficiency. Although there were initial delays due to administrative challenges, the project effectively applied adaptive management strategies to mitigate these issues and ensure nearly full resource utilization by the project's end. The relatively low execution rate by July 2023 of 50.7 per cent was due to the delayed inception of the project in some of the countries. The accelerated implementation rate in 2023 and 2024 makes closing to 100 per cent financial delivery by December 2024 likely, as shown by project financial execution projections. Besides administrative delays, the project was affected by exchange rate changes.

Likelihood of Impact

253. The project's impact on DRR and climate resilience in all participant countries was significant. In Lao PDR, Uganda, Vanuatu, the Solomon Islands and Fiji, project geospatial tools were effectively applied during specific disaster events. The project enhanced resilience through improved disaster management capabilities, better quality data and increased efficiency in resource use. By developing user-friendly web-based applications and decision support systems, the project has enabled beneficiaries to make more informed decisions.

254.   The project also supported robust climate finance proposals in the three Pacific countries, mobilizing nearly 12 million USD. However, the overall impact on climate finance in the Pacific Island countries was less measurable, with climate finance flows remaining similar to counterfactuals during the project timeframe. The project's contributions to enhancing organizational capacities and resilience were substantial, but systemic policy changes or significant differences in disaster outcomes compared to counterfactuals were not evident.

Likelihood of Sustainability

255.   The sustainability of the project's results varies across the participating countries. The likelihood of sustaining project outcomes is high in countries like Fiji and Bhutan, where strong government engagement and institutional backing are present. However, challenges such as government restructuring in Fiji, high staff turnover in other countries, and the limited integration of GIT into national frameworks in the Solomon Islands and Vanuatu pose risks to the long-term sustainability of the project's outcomes. Overall, the project's sustainability is contingent on continued government support, retention of trained personnel, and ongoing external assistance to maintain and build upon the capacities developed during the project.

Recommendations

Recommendations of high priority (Immediate application until the end of the no-cost extension in December 2024)

1. **Clarify the level and timeframe for continued backstopping support and in-country experts post-project to ensure sustained capacity and effective application of GIT tools.** Clearly define the number of backstopping support requests until project end, specifying the duration and the exact roles of in-country experts. This should be communicated to focal point organizations to avoid a gap in capacity. **Ownership:** UNOSAT should lead the coordination, with national governments ensuring ongoing communication and resource allocation to ensure full utilization of project solutions.

2. **Advocate for the establishment and consolidation of core GIT teams in all focal point organizations to ensure the sustainability of GIT capacities and foster the integration of geospatial information in national policies.** GIT teams should be embedded into the organizational structures of project GIS/ GIT solution users (focal point and beneficiary government agencies), with a mandate for long-term management of geospatial tools. These teams should benefit from ToT and accompanied to ensure consolidating a national practice community and access to relevant UNOSAT knowledge hub contents. **Ownership:** Exclusive responsibility of national governments, supported by UNOSAT. National governments should take the lead in embedding GIT capacities into their disaster management and climate resilience frameworks.

3. **Increase engagement on the knowledge platform and support ToT participants in applying the knowledge and skills when delivering training.** Support countries to develop a structured plan for continued use of the knowledge platform, ensuring ToT participants have access to resources and mentorship for delivering effective training. **Sustainability:** UNOSAT should maintain the platform with input from national experts, ensuring its relevance and usability over time.

Recommendations of medium priority (Application to further phases or new projects)

4. Involve both technical government agencies and higher decision-making levels:
   i. Assess the degree to which the leadership in potential focal point organizations has a clear understanding or vision of GIT capabilities.

ii. During project implementation, develop, together with the focal point organizations, mechanisms for sustained engagement with national government officials at higher levels to secure the necessary resources and political support for GIT integration.

iii. Advocate for stronger connections between technical agencies and project approval entities to expedite the implementation of GIT-related activities.
Identify the leadership in technical government agencies who can champion the use of GIT tools prior to project inception. Conduct engagement sessions with ministerial and agency leaders and capacity assessments of potential focal point organizations to ensure alignment on priorities for GIT use and sustainability of solutions.

iv. Focus on technical government agencies with the appropriate mandate and expertise to apply GIT solutions effectively.

In dialogue with the national governments, select agencies with direct mandates in disaster management or climate resilience to be the focal points for GIT integration.

Ownership: This should be a joint effort between the project's technical team at UNOSAT national governments, and international partners, ensuring alignment with national priorities.

5. Enhance Technical Capacity in Government Agencies at subnational and local levels:
i. Consider the inclusion of additional training and support for subnational and local authorities, as the project has done in Vanuatu and demanded in other countries, to ensure the effective application of GIT tools across all levels of government.

Consider providing more targeted, hands-on training for subnational and local authorities to ensure the effective application of GIT tools at all levels of government.

Sustainability: National governments should ensure that subnational authorities have access to technical support and resources through a shared platform or online community to maintain operational capacity after the project ends.

Ownership: National governments should take the lead in identifying key subnational agencies and personnel for training, while UNOSAT provides the technical expertise and platform support.

6. Facilitate High-Level Engagement and Approvals:
i. Establish early contact with national governments, involving UNOSAT and UNITAR leadership, to streamline official approval processes and reduce delays in project implementation.

This recommendation is crucial to avoiding delays and ensuring that GIT tools can be deployed rapidly during emergencies. Early engagement with government ministries and high-level decision-makers can also help secure political buy-in for integrating GIT solutions into national disaster and climate resilience strategies.

Sustainability: Regular high-level dialogues and annual or biannual meetings with national ministers and senior officials can ensure continued engagement post-project. This will also help maintain political support for GIT capacities beyond the project duration.

Ownership: UNITAR, UNOSAT, and the national governments should collaborate to establish early engagement mechanisms. National focal point agencies should facilitate communication with relevant ministries to accelerate the approval process.

7. Leverage UNCT and Bilateral Coordination Mechanisms:
i. Strengthen the project's cooperation with the UN Country Teams (UNCT) and other bilateral cooperation frameworks to enhance coordination and avoid duplication of efforts.

ii. Explore opportunities for collaboration with other UN and bilateral projects to maximize impact and create synergies.

This could include joint initiatives to expand the reach of GIT tools across sectors such as agriculture, urban planning, and environmental monitoring. Strengthening ties with bilateral cooperation frameworks will enhance the project's ability to mobilize additional resources and avoid duplication of efforts in project countries.

Sustainability: Establish communication channels with UNCTs and other cooperation frameworks in potential project countries to ensure that GIT-related initiatives are embedded within broader national development agendas, allowing for sustained collaboration post-project.

Ownership: UNOSAT management should take the lead in contacting UNCTs and bilateral cooperation frameworks, while national governments can identify priority areas for joint collaboration.

8. Replicate Success in Similar Contexts:

    i.   Identify further countries to replicate this project successful elements such as using in-country experts and adopting open-source software that could be replicated in other countries with similar contexts.

    ii.   Continued support in countries where progress is being made but that would require additional support to sustain results.

Identify additional countries where this project can be replicated. Successes such as the effective use of in-country GIT experts and the adoption of open-source software should be adapted to new contexts.

Sustainability: A sustainability framework should be embedded from the start to ensure that in-country experts and focal organizations are prepared to maintain and further develop GIT capacities post-project.

Ownership: National governments, other UN and bilateral partners, with support from UNOSAT, should identify new countries for replication. UNOSAT should ensure that technical backstopping is available to help adapt the project to new contexts.

9. Gender

    i.   Promote gender participation in technical fields like GIT by showcasing "champions" and undertaking awareness raising together with academic institutions. Such champions can be women already working in national governments at different positions with GIT solutions. There were several examples in the project countries, including some of the in-country experts. Develop a gender strategy for new project and discuss its operationalization across all project components. Consider partnering with universities to address gender inequality root causes. Consider helping to groom more junior women in government who could move to the GIT field.

    ii.   Strengthen collaboration with the implementing partner in terms of gender good practices for replication in future activities.

Promote gender participation in technical fields like GIT by showcasing successful female champions and conducting awareness-raising campaigns with academic institutions. These campaigns can highlight women already working in national governments who have successfully used GIT solutions. A gender strategy should be developed for new projects, with a focus on operationalizing gender inclusivity across all project components. Consider partnerships with universities to address gender disparities by offering training and mentorship programs for women in technical roles.

Sustainability: A long-term gender strategy should include continuous professional development and networking opportunities for women in GIT fields. Universities can play a key role in sustaining gender equity by offering scholarships or technical courses that encourage female participation in GIT.

Ownership: UNOSAT, but primarily national governments, and universities should collaborate to develop and implement a gender strategy, ensuring that female participation in GIT-related fields is actively promoted and supported.

Lessons learned and good practices

Lessons learned

1. Importance of Stable Leadership:
The presence of stable leadership within focal point organizations is critical for the successful adoption and sustainability of GIT tools.

2. Challenges of Working with Policy-Oriented Agencies:
Technical government agencies are better suited to apply GIT solutions than policy-oriented organizations, which may lack the necessary technical expertise.

3. Need for Decision-Maker Awareness:
Insufficient awareness of GIT capabilities among senior decision-makers can hinder the allocation of resources and the effective adoption of these tools.

4. Value of High-Level Engagement:
Early and sustained high-level engagement, particularly involving UNOSAT leadership, can facilitate smoother project implementation by overcoming bureaucratic obstacles.

5. On Climate Finance Funding:
Organized, persistent and committed local, national and international partnerships (CCFA) provide a comprehensive approach and represent a key factor for the development and approval of concept notes and proposals since this process can be long and requires a lot of resources and contribution from other actors.

Good Practices

1. Use of Open-Source Software:
The strategic choice of open-source software like QGIS was both cost-effective and practical, enabling broader access to GIT tools without the burden of licensing fees.

2. In-Country Expert Model:
Deploying in-country experts familiar with local contexts has been highly effective in embedding GIT capabilities within national institutions and ensuring that the tools are tailored to specific country needs. The deployment of in-country experts was consistently highlighted as a good practice. These experts provided critical support by ensuring that the project's tools and methodologies were effectively tailored and integrated into the local context. Their presence helped to bridge the gap between high-level technical objectives and the practical realities faced by local institutions, thereby enhancing the project's overall effectiveness.
A Fiji national trained by UNOSAT on the UNOSAT GIS Platform is embedded (it is unclear if this refers to the CFA, the in-country expert or another individual) within government and utilizes the data and maps from the platform to include in proposals targeting climate finance.

3. Tailored Training Programmes:
Training programmes that are customized to the specific needs and capacities of the participants have proven successful in ensuring the immediate applicability of skills and knowledge gained.

4. Adaptive Management Strategies:
The project's ability to adapt to challenges, such as reallocating resources and adjusting timelines, was critical in maintaining progress despite delays.

5. Collaborative Approaches:

Collaborative approaches were also identified as a good practice. In several countries, collaboration between government agencies, technical experts, and other stakeholders was crucial for successfully implementing GIT tools.

Annexes

Annex A: Terms of reference

Terms of Reference

Independent Endline Evaluation of the project titled "Strengthening Capacities in the use of geospatial information for improved resilience in Asia-Pacific and Africa"

(TARSA076.NORAD)

Background

1. **The United Nations Institute for Training and Research (UNITAR)** is a principal training arm of the United Nations, with the aim to increase the effectiveness of the United Nations in achieving its major objectives through training and research. UNITAR's mission is to develop individual, institutional and organizational capacities of countries and other United Nations stakeholders through high quality learning solutions and related knowledge products and services to enhance decision making and to support country-level action for overcoming global challenges.

2. **The United Nations Satellite Centre (UNOSAT), hosted by UNITAR,** is a technology-intensive centre delivering imagery analysis and satellite solutions to humanitarian and development organizations within and outside the United Nations, with the aim to contribute to evidence-based decision-making in areas such as humanitarian relief, human security and resilience, strategic territorial and development planning using geo-spatial information technologies.

3. Since 2011, UNOSAT has been implementing, with the financial support from the Norwegian Ministry of Foreign Affairs (NMFA) and the Norwegian Agency for Development Cooperation (NORAD), in training and capacity development activities. UNOSAT operates in Asia with support from its regional office in Bangkok hosted at United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), and in East Africa with key contribution from its centre in Nairobi.

4. The project **Strengthening Capacities in the Use of Geospatial Information for Improved Resilience in Asia-Pacific and Africa** aims to improve resilience in Africa and in the Asia-Pacific region using geo-spatial information technologies (GIT). This will be accomplished through capacity development that is comprised of technical training, awareness-raising activities, development of web applications solutions, provision of backstopping services and establishment of a knowledge platform, and climate finance.

5. The project aims to develop GIT capacities of beneficiary organizations in eight countries in Africa (Nigeria and Uganda), Asia (Bhutan, Bangladesh and Lao PDR) and the Pacific (Fiji, Solomon Islands and Vanuatu) to improve the national response to climate risk. Project beneficiaries are relevant government organizations responsible for disaster risk or natural resource management and/or climate finance.

6. The project is set to conduct technical capacity building through localized training, organizing awareness raising events, and providing technical backstopping assistance to pertinent stakeholders. Additionally, customized geospatial platforms and applications are being developed for beneficiary organizations to address needs across spheres like disaster risk management, climate resilience, land use management, etc. Climate finance advisers have

also been stationed in the three Pacific countries to promote access to pertinent global funding mechanisms.

7. The expected impact of the project is to improve resilience to natural disasters and climate change in Africa and Asia and Pacific.

8. The project is subject to an independent evaluation as per UNITAR Evaluation Policy. The evaluation plan calls for an endline evaluation of the project. The evaluation shall also build on the independent baseline evaluation and the midline review of the project. Lessons from the evaluation shall inform possible future phases of the project.

Purpose of the evaluation

9. The endline evaluation aims to systematically assess the performance and results of this project as it reaches its operational closure. Specifically, the evaluation will:

   - Measure project results against the indicators in the logical framework to determine the extent to which intended outputs and outcomes have been achieved.
   - Assess the likelihood of impact and sustainability of results based on mechanisms and strategies put in place by the project.
   - Identify challenges, enabling factors and lessons learned from project implementation to inform future programming.
   - Provide evidence-based findings, conclusions and recommendations to the project team, donors, and other stakeholders.

10. The evaluation's purpose is thus to meet accountability requirements, and provide findings, conclusions, recommendations, and lessons learned to contribute to the project's improvement, strategic direction, and broader organizational learning. The evaluation should not only assess how well the project has performed, but also seek to answer the 'why 'question by identifying factors contributing to (or inhibiting) successful delivery of the results.

11. The evaluation will include an assessment of the OECD/DAC criteria of relevance, coherence, effectiveness, efficiency, likelihood of impact and likelihood of sustainability of the project and cross-cutting topics such as gender, disability and human rights, and environmental considerations. In addition to serving as accountability function, the evaluation's purpose is also to be as forward-looking as possible to inform strategic decisions on the design and planning of possible future phases and focus areas of this or similar projects.

12. In addition, the evaluation aims also to inform future phases of the project by comparing progress made with counterfactual countries and by collecting baseline data for countries that are selected for the next project phase.

Scope of the evaluation

13. The endline evaluation will cover the project's full timeframe starting from August 2021 to July 2024, building upon the results of the baseline evaluation and midline review. Data will be collected while the project is still being implemented and the evaluation may hence not be able to account for all activities implemented in June and July 2024. The evaluation should provide forward-looking recommendations to inform possible future phases or the development of similar projects.

Evaluation criteria

14. The evaluation will assess project performance using the OECD/DAC criteria: relevance, coherence, effectiveness, efficiency, likelihood of impact and likelihood of sustainability. The evaluation questions related to gender equality and the empowerment of women dimensions are marked with "GEEW". Questions related to environmental sustainability are marked with

"ENVSUSE". Disability and human rights considerations should also be considered throughout the evaluation.

- ***Relevance:*** *Has the project reached its intended users (beneficiary organizations) and are activities relevant to the beneficiaries' needs and priorities, and designed with quality?*
- ***Coherence:*** *To what extent is the project coherent with relevant policies (institutional and national) and complementing other projects or services available?*
- ***Effectiveness:*** *How effective has the project been in delivering outputs and achieving the intended outcomes?*
- ***Efficiency:*** *To what extent has the project delivered its results in a cost-effective manner and optimized partnerships?*
- ***Likelihood of Impact:*** *What are the potential cumulative and/or long-term effects expected from the project, including contribution towards the intended impact, positive or negative impacts, or intended or unintended changes (positive or negative)?*
- ***Likelihood of Sustainability:*** *To what extent are the project's results likely to be sustained in the long term? How is environmental sustainability addressed in the project?*

Principal evaluation questions

15. The following questions are *suggested* to guide the design of the evaluation, although the criteria applied to the outcomes and the final questions selected/identified will be confirmed by the evaluator following the initial document review and engagement with project management with a view to ensuring that the evaluation is as useful as possible with regard to the project's future orientation.

   <u>**Relevance**</u>

a. *To what extent is the project aligned with the Institute's efforts to helping Member States implement the 2030 Agenda for Sustainable Development (particularly Goal 1, 13, 16 and 17) and the UNITAR strategic framework (2022-2025)?*
b. *To what extent does the project strategy and activities respond to the identified needs, priorities and capacities in applying geospatial information technology in the project countries and of different beneficiaries?*
c. *How relevant is the project in providing targeted support to beneficiary organizations for strengthened disaster risk reduction, climate change adaptation, and natural resource management?*
d. *How relevant is the project to supporting gender equality and women's empowerment and meeting the needs of other groups made vulnerable, including countries in special situations? (GEEW)*

   <u>**Coherence**</u>

e. *How compatible is the project with relevant national policies, strategies and commitments on disaster risk reduction, climate resilience and environmental management?*
f. *To what extent does the project complement or create synergies with other interventions in the project countries by development partners?*

   <u>**Effectiveness**</u>

g. *To what extent has the project achieved planned outputs and outcomes, including strengthened knowledge and skills and enhanced decision-making?[18] What progress has been made in each country since the midline review? What are the factors that have positively or negatively affected the project's performance?*
h. *To what extent have relevant recommendations and lessons learned from the previous independent evaluation and the midline review been taken into account/implemented in the project implementation?*

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[18] Logframe and project Theory of Change available in Annex E

i. *To what extent has the project persisted with its efforts on addressing women's needs in GIS and achieved differential results across groups (e.g. through a human rights-based approach and a gender mainstreaming and inclusiveness strategy)? (GEEW)*

Efficiency

j. *To what extent has the project produced outputs in a timely and cost-efficient manner, including through partnership arrangements (grants to implementing partners e.g. Commonwealth Secretariat) and with in-country experts in comparison with alternative approaches(define alternatives as part of evaluation design deliverable)?*
k. *Were the project's human and financial resources fully utilized as planned? What caused deviations from the original plan? Did the project apply adaptive management to adjust to implementation challenges?*
l. *How environment-friendly (natural resources) has the project been? (ENVSUSE)*

Likelihood of impact

Comparing project countries with counterfactuals and transformative impact

m. *What difference has the project made on project countries compared to the counterfactual countries[19] in the area of disaster risk reduction? Have gaps increased or decreased over the project timeframe (baseline vs endline)?*
n. *To what extent has the project contributed to increased climate finance in Pacific Island project countries compared to their counterfactual over the project timeframe (baseline vs end-line)? To what extent has the project enhanced resilience to natural hazards in Africa, Asia and the Pacific, including through improved disaster management, improved quality of data and analysis, increased efficiency and contributing to sustainable use of land resources?*
o. *How have organizational capacities on the application of geospatial information technology for disaster risk and natural resources management changed from the baseline to the end-line based on the areas identified in the capacity development scorecard? Do the differences between the baseline and endline scorecard measurements vary comparing project countries and counterfactual countries?*
p. *To what extent have beneficiaries from training events reported changed behaviour or practices following the participation to technical training events and other project components?*
q. *To what extent has the project contributed to systemic changes in policies, regulations, resource allocations, or decision-making processes to strengthen the application of geospatial information technologies for resilience building and how has application of geospatial information technologies informed policies, regulations, resource allocation or decision-making processes to improve resilience, disaster risk and natural resource management?*
r. *To what extent has the project facilitated new partnerships, collaborations or engagement platforms between stakeholders (government, communities, academia) that can contribute to long-term changes?*
s. *How has the project influenced shifts in norms (including gender), behaviours, relationships or mindsets through its capacity strengthening and awareness-raising work with beneficiaries around leveraging geospatial data and tools? (GEEW) Is the project leading to other changes, including "scalable" or "replicable" results? Have any unintended changes (positive or negative) happened at a systemic level driven by the project's activities and outputs?*

Likelihood of sustainability

t. *To what extent are the project's results likely to endure beyond the implementation of the activities in the mid- to long-term and under which conditions?*
u. *What lessons have been learned, challenges faced, and good practices identified by project beneficiaries through their engagement with various project activities?*

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[19] Project countries: Fiji, Solomon Islands, Vanuatu, Bhutan, Lao PDR, Nigeria, Uganda, Bangladesh. Counterfactual countries. Potential countries identified in the baseline evaluation with current or potential UNOSAT presence include Tonga and Samoa for Pacific countries, and Rwanda for Uganda.

v. To what extent has the project promoted country ownership and stakeholder participation, and how has this contributed to the likelihood of sustaining project results and activities in the mid- to long-term?

w. To what extent has the project contributed to sustainability through creating an enabling environment through Training of Trainers (ToT), the knowledge platform and community of practice in order to maintain capacities and expanded knowledge- after project completion?

Gender equality and women empowerment (GEEW)

The evaluation questions with gender equality and women empowerment dimensions are marked with **"GEEW"** *in the above. Disability considerations should also be considered throughout the evaluation.*

Environmental Sustainability in Evaluation (ENVSUSE)

The evaluation questions with the evaluation sustainability dimension are marked with "***ENVSUSE"*** in the above.

Evaluation Approach and Methods

16. The evaluation is to be undertaken in accordance with the UNITAR Evaluation Policy, the operational guidelines for independent evaluations, the United Nations norms and standards for evaluation, and the UNEG Ethical Guidelines. The evaluation will be undertaken by a supplier or an international consultant (the "evaluator") under the supervision of the UNITAR Planning, Performance Monitoring and Evaluation Unit (PPME). PPME shall support the evaluation team in gathering background documentation and other data collection processes.

17. In order to maximize utilization of the evaluation, the evaluation shall follow a participatory approach and engage a range of project stakeholders in the process, including the project partners, the UN Country Teams, the beneficiary organizations, the donor and other stakeholders. Data collection should be triangulated to the extent possible to ensure validity and reliability of findings and draw on the following methods: comprehensive desk review, including a stakeholder analysis; surveys; review of the log frame (reconstructed) baseline data and the theory of change; key informant interviews; focus groups; and, if possible, field visits. These data collection tools are discussed below.

18. The evaluator should engage in quantitative and qualitative analysis in responding to the principal evaluation questions and present the findings qualitatively or quantitatively as most appropriate.

19. Based on the baseline evaluation, the evaluator shall gather baseline data on counterfactual countries such as Tonga, Somalia and Rwanda and scorecard data should be collected across pertinent countries. This information will serve to contextualize project results and measure possible impacts.
    Suggested data collection methods:

    Comprehensive desk review

20. The evaluator will compile, review and analyse background documents and secondary data/information related to the project, including a results framework indicator tracking review. A list of background documentation for the desk review is included in Annex C.

    Stakeholder analysis

21. The evaluator will revise the stakeholder mapping and analysis undertaken at the baseline and midline stages as needed. Key stakeholders at the global and national level include, but are not limited, to:

    - Project Management

- National Stakeholders, such as beneficiary organizations
- Counterfactual countries such as Tonga, Somalia and Rwanda
- Regional Bodies
- Climate change funds bodies
- Implementing partner: Commonwealth Secretariat

Survey(s)

22. To maximize feedback from the widest possible range of the project the different stakeholders following the comprehensive desk study to provide an initial set of findings and allow the evaluator to easily probe during the key informant interviews.

Key informant interviews

23. Based on stakeholder identification, the evaluator will identify and interview key informants. The list of contacts is available in Annex A. In preparation for the interviews with key informants, the consultant will define interview protocols to determine the questions and modalities with flexibility to adapt to the particularities of the different informants, either at, at the national or local level.

Focus groups

24. Focus groups should be organized with selected project stakeholders at the national or regional levels to complement/triangulate findings from other collection tools.

Field Visit

25. Field visits at the national level for project countries shall be organized for data collection. The number of field visits is still to be defined with project management. The evaluator could potentially attend high-level decision-making workshops with approximately 40-50 participants per session in Fiji, Solomon Islands, Vanuatu (1 mission) and Bhutan (1 mission) for stakeholder data collection.

Quasi- and non-experimental impact evaluation methods

26. Subject to data collection opportunities, a comparison of 'treatment' and 'control' groups shall be involved against a selection of outcome and impact level logframe indicators to determine the extent of changes that are attributable to the project, being the difference between the two groups.

27. The evaluator could consider whether Outcome mapping / Outcome harvesting / outcome evidencing, process tracing, contribution analysis, episode study, or other theory-based non-experimental approaches to evaluate outcome changes, are suitable tools for answering the evaluation questions.

Case studies

28. The evaluation shall develop two illustrative case studies, highlighting beneficiaries' experiences across different regions. The evaluation shall use a combination of quantitative and qualitative data. The case studies can be particularly useful for understanding the beneficiaries' changes of behaviour.

29. The case studies will be descriptive in nature and examine how various elements - including project implementation, contextual factors, etc. - have contributed to observed impacts for beneficiaries. They will look at the causal linkages between the project and noted effects at output, outcome and/or impact levels.

These case studies will add realism and provide in-depth examples to complement other evaluation findings.

Gender and human rights

30. The evaluator should incorporate human rights, gender, disability, and equity perspectives in the evaluation process and findings, particularly by involving women and other disadvantaged groups subject to discrimination. All key data collected shall be disaggregated by sex, country status/classification, disability, and age grouping and be included in the draft and evaluation report.

31. The guiding principles for the evaluation should respect transparency, engage stakeholders and beneficiaries; ensure confidentiality of data and anonymity of responses; and follow **ethical** and professional standards (UNEG Ethical Guidelines).

Timeframe, work plan, deliverables and review

32. The proposed timeframe for the evaluation spans from March 2024 (initial desk review and evaluation design) to July 2024 (submission of final evaluation report). An indicative work plan is provided in the table below.

33. The consultant shall submit a brief evaluation design/question matrix following the comprehensive desk study, stakeholder analysis and initial key informant interviews. The evaluation design/question matrix should include a discussion on the evaluation objectives, methods and, if required, revisions to the suggested evaluation questions or data collection methods, as well as a list of documents reviewed highlighting insights from every reviewed document. The evaluation design/question matrix should indicate any foreseen difficulties or challenges/limitations in collecting data and confirm the final timeframe for the completion of the evaluation exercise. Moreover, alternative approaches should be defined in the evaluation design/question matrix in order to define what data needs to be collected.

34. During data collection and analysis, the consultant shall share emerging findings, recommendation and lessons learned prior to writing the zero draft report and with the intention to inform a possible next phase of the project.

35. The consultant shall submit a zero draft of the evaluation report to the evaluation manager and revise the draft based on comments made by the evaluation manager.

36. The draft evaluation report should follow the structure presented under Annex D. The report should state the purpose of the evaluation and the methods used and include a discussion on the limitations to the evaluation. The report should present evidence-based and balanced findings, including strengths and weaknesses, consequent conclusions and recommendations, and lessons to be learned. The length of the report should be approximately 30 pages, excluding annexes.

37. Following the submission of the zero draft, a draft report will then be submitted to Project Management to review and comment on the draft report and provide any additional information using the form provided under Annex G by 29 July 2024. Within two weeks of receiving feedback, the evaluator shall submit the final evaluation report. The target date for this submission is 31 July 2024. Subsequently, PPME will finalize and issue the report, and present the findings and recommendations to Project Management and other invited stakeholders.
 Indicative: March 2024 – July 2024

Activity	March 2024	April 2024	May 2024	June 2024	July 2024	August 2024
Evaluator selected and recruited	▓					
Initial data collection, including desk review, stakeholder analysis	▓	▓				
Evaluation design/question matrix		▓				
Data collection and analysis, including survey(s), interviews and focus groups and field visit to Fiji, Solomon Islands and Bhutan for attending high-level decision-making event (half a day workshop with 40-50 participants per event)	▓	▓	▓	▓		
Sharing emerging findings	▓	▓	▓	▓		
Zero draft report submitted to UNITAR					▓	
Draft evaluation report consulted with UNITAR evaluation manager and submitted to Project Management					▓	
Presentation of findings, recommendations and lessons learned					▓	
Project Management reviews draft evaluation report and shares comments and recommendations					▓	
Evaluation report finalized and management response by Project Management						▓
Dissemination and publication						▓

Summary of evaluation deliverables and indicative schedule

Deliverable	From	To	Deadline*
Evaluation design/question matrix	Evaluator	Evaluation manager	3 April 2024
Comments on evaluation design/question matrix	Evaluation manager	Evaluator	5 April 2024
Sharing emerging findings	Evaluator	Programme Management	April 2024 (date tbc)
Zero draft report	Evaluator	Evaluation manager	1 July 2024
Comments on zero draft	Evaluation manager	Evaluator	8 July 2024
Draft report	Evaluator	Evaluation manager	15 July 2024
Presentation of findings, recommendations and lessons learned	Evaluator/evaluation manager	Programme Management	22 July 2024
Comments on draft report	Programme Management	Evaluation manager	29 July 2024
Final report	Evaluator	Evaluation manager	31 July 2024
Dissemination and publication of report	Evaluation manager		August 2024

*To be adjusted depending on the contract signature and to be agreed upon with the Evaluation Manager. The Draft report deadline is immovable

Communication/dissemination of results

38. The evaluation report shall be written in English. The final report will be shared with all partners and be posted on an online repository of evaluation reports open to the public.

39. Communication products such as an infographic or a concise video may be developed to disseminate key evaluation findings and recommendations to wider audiences, subject to budget availability. The video may be focusing on transformational change in selected countries only (e.g. those countries were a closing event is being organised, e.g. Bhutan, Fiji, Solomon Islands and Vanuatu).

Evaluation management arrangements

40. The evaluator will be contracted by UNITAR and will report directly to the Director of the Strategic Planning and Performance Division and Manager of Planning, Performance Monitoring, and Evaluation Unit (PPME) ('evaluation manager').

41. The evaluation manager reports directly to the Executive Director of UNITAR and is independent from all programming related management functions at UNITAR. According to UNITAR's Evaluation Policy, in due consultation with the Executive Director/programme management, PPME issues and discloses final evaluation reports without prior clearance from other UNITAR Management or functions. This builds the foundations of UNITAR's evaluation function's independence and ability to better support learning and accountability.

42. The evaluator should consult with the evaluation manager on any procedural or methodological matter requiring attention. The evaluator is responsible for planning any meetings, organizing online surveys and undertaking administrative arrangements for any travel that may be required (e.g., accommodation, visas, etc.). The travel arrangements, if any, will be in accordance with the UN rules and regulations for consultants.

Risks and mitigation measures

Risk	Likelihood of occurrence	Mitigation measure
Unavailable final financial report	High	Access expenditures from FBU.
Unavailable final narrative report	High	Request updated log frame by 30 May 2024 from project management
Slow response to documentation request	Moderate	Send reminders with Division Director in cc.
Delayed production of zero draft	Moderate	Exchange with programme management and donor on delay and request programme management to amend agreement to implementation period.

Evaluator Ethics

43. The evaluator selected should not have participated in the project's design or implementation or have a conflict of interest with project activities. The selected consultant shall sign and return a copy of the code of conduct under Annex F prior to initiating the assignment and comply with [UNEG Ethical Guidelines](#).

Professional requirements

44. The evaluator should have the following qualifications and experience:

- MA degree or equivalent in evaluation, social, environmental or development studies, or a related discipline. Knowledge of and experience in technology-based programming is desired.
- At least seven years of professional experience conducting evaluation in the field of capacity building, sustainable learning, GIS, disaster risk reduction and climate resilience and environmental preservation and food security
- Technical knowledge of the focal area (optional).
- Field work experience in developing countries.
- Excellent research and analytical skills, including experience in a variety of evaluation methods and approaches.
- Excellent writing skills.
- Strong communication and presentation skills.
- Cross-cultural awareness and flexibility.
- Availability to travel.
- Fluency in oral and written English.

- **Annexes:**
A. **List of contact points**
B. **Event data available on the UNITAR Event Management System**
C. **List of documents and data to be reviewed**
D. **Structure of evaluation report**
E. **Project logical framework**
F. **Audit trail**
G. **Evaluator code of conduct**

Annex A: List of contact points

To be provided by project management

B: Event data available on the Event Management System

To be downloaded from EMS (e.g. technical training and awareness raising events)

Annex C: List of documents/data to be reviewed

- Baseline Evaluation
- Midline Review
- Project Agreement
- Logical framework and outcome areas
- Project theory of change
- Project description and project workplan
- Commonwealth Secretariat Implementing partner agreement and reporting
- Country (Bangladesh via UNDP, Bhutan, Lao PDR) Implementing partner agreement and reporting
- Updates to MoUs with partner countries
- Monitoring event and backstopping request table
- Interim narrative reports
- Interim financial reports
- Content from the Knowledge Platform including webinar series and community of practice
- Impact stories
- Any other document deemed to be useful to the evaluation

Annex D: Structure of evaluation report

i.   Title page
ii.   Executive summary
iii.   Acronyms and abbreviations
1. Introduction
2. Project description, objectives and development context
3. Theory of change/project design logic
4. Methodology and limitations
5. Evaluation findings based on criteria/principal evaluation questions
6. Conclusions
7. Recommendations
8. Lessons Learned
9. Annexes
    a. Case Studies
    b. Terms of reference
    c. Survey/questionnaires deployed
    d. List of persons interviewed
    e. List of documents reviewed
    f. Evaluation question matrix
    g. Evaluation consultant agreement form

Annex E: Updated Project Logical Framework and Theory of Change

To be received in word or excel format from Project Management

Annex F: Evaluation Audit Trail Template

(To be completed by Project Management to show how the received comments on the draft report have (or have not) been incorporated into the evaluation report. This audit trail should be included as an annex in the evaluation report.)

To the comments received on (*date*) from the evaluation of the project "Strengthening Capacities in the use of geospatial information for improved resilience in Asia-Pacific and Africa"

The following comments were provided in track changes to the draft evaluation report; they are referenced by institution ("Author" column) and track change comment number ("#" column):

Author	#	Para No./ comment location	Comment/Feedback on the draft evaluation report	Evaluator response and actions taken

Annex G: Evaluation Consultant Code of Conduct and Agreement Form*

The evaluator:
1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. He/she should provide maximum notice, minimize demands on time, and respect people's right not to engage. He/she must respect people's right to provide information in confidence and must ensure that sensitive information cannot be traced to its source. He/she are not expected to evaluate individuals and must balance an evaluation of management functions with this general principle.
4. Sometimes uncovers evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. He/she should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, he/she must be sensitive to and address issues of discrimination and gender equality. He/she should avoid offending the dignity and self-respect of those persons with whom he/she comes in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, he/she should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Is responsible for his/her performance and his/her product(s). He/she is responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form[20]

Agreement to abide by the Code of Conduct for Evaluation in the UN System

Name of Consultant: _____

Name of Consultancy Organization (where relevant)**:** _____

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation. and I declare that any past experience, of myself, my immediate family or close friends or associates, does not give rise to an actual or perceived conflict of interest.

Signed at *place* on *date*

Signature: _____

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*This form is required to be signed by each evaluator involved in the evaluation.

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[20]www.unevaluation.org/unegcodeofconduct

Annex B: Evaluation question matrix

Evaluation criterion	Main questions	Sub questions	Evaluation hypothesis	Information sources	Potential limitations and gaps
Relevance:	Has the project reached its intended users (beneficiary organizations) and are activities relevant to the beneficiaries' needs and priorities, and designed with quality?	Q 1.1. To what extent is the project aligned with the Institute's efforts to helping Member States implement the 2030 Agenda for Sustainable Development (particularly Goal 1, 13, 16 and 17) and the UNITAR strategic framework (2022-2025)?	Primary beneficiary organizations or other relevant national organizations list or cite the project among SDG support activities/ initiatives in interviews or report	National project databases Project stakeholders (Project team and primary beneficiary organizations)	Project might have not been listed or relevant national SDG focal points not aware of project
		Q 1.2. To what extent does the project strategy and activities respond to the identified needs, priorities and capacities in applying geospatial information technology in the project countries and of different beneficiaries?	National organizations participating in the project include the project in their reporting towards sector or national strategies and plans	National reports (e.g. sector or national strategies, policies, or plans documents and reports) Project stakeholders	Beneficiary organizations might not regularly report on national/ sector goals
		Q 1.3. How relevant is the project in providing targeted support to beneficiary organizations for strengthened disaster risk reduction, climate change adaptation, and natural resource management?	Project stakeholders agree with the project providing targeted support to their organizations for strengthened disaster risk reduction, climate change adaptation and natural resource management	Project stakeholders	
Gender equality and the empowerment of women (GEEW)		Q 1.4 How relevant is the project to supporting gender equality and women's empowerment and meeting the needs of other groups made vulnerable, including	The project includes specific activities to support gender equality and women's empowerment Project beneficiaries/	Project reports (Training reports, Activity reports, Financial report, Inception reports, Project document etc)	

Evaluation criterion	Main questions	Sub questions	Evaluation hypothesis	Information sources	Potential limitations and gaps
		countries in special situations?	stakeholders aware of project gender initiatives	Scorecard and survey Project stakeholders	
Coherence	Q2 To what extent is the project coherent with relevant policies (institutional and national) and complementing other projects or services available?	Q 2.1 How compatible is the project with relevant national policies, strategies and commitments on disaster risk reduction, climate resilience and environmental management?	The project is cited or listed in publications or reports about the national policies, strategies and commitments on disaster risk reduction, climate resilience and environmental management	National reports (e.g. VNR, UNFCCC national communications, NBSAPs or CBD national reports, knowledge products, other reports) Project stakeholders (Project team, PBO, OBO, ORA)	Project might have not been listed or relevant national DRR, climate change or natural resource managmenet not aware of project
		Q 2.2 To what extent does the project complement or create synergies with other interventions in the project countries by development partners?	The project team and national counterparts identified and collaborated with other sector activities considered to be complementary	Project reports and stakeholders Stakeholders of other initiatives National reports, including reports published by complementary initiatives	Stakeholders of other initiatives might not be available for interviews during the evaluation mission
Effectiveness	Q 3 How effective has the project been in delivering outputs and achieving the	Q 3.1 To what extent has the project achieved planned outputs and outcomes, including strengthened knowledge and skills and enhanced decision-making? What progress has been made in	The project has completed and delivered all its planned outputs and the project stakeholders have used the project's outputs to contribute to the outcomes	Project reports Project stakeholders Survey and scorecard	Support from different initiatives might complicate outcome attribution to project outputs

Evaluation criterion	Main questions	Sub questions	Evaluation hypothesis	Information sources	Potential limitations and gaps
	intended outcomes?	each country since the midline review?			
		Q 3.2 What are the factors that have positively or negatively affected the project's performance?	Discrete factors that have affected the project can be identified	Project reports Project Stakeholders	
Gender equality and the empowerment of women (GEEW)		Q 3.2 To what extent have relevant recommendations and lessons learned from the previous independent evaluations and the midline review been taken into account/implemented in the project implementation?	The project has produced management responses and acted upon accepted evaluation recommendations or has incorporated learnings into the project logframe or strategy	Project reports (Evaluation reports, management responses, activity report, yearly report) Project Stakeholders (project team, primary beneficiary organizations) Project reports (training reports, activity report, yearly report) National reports Project Stakeholders (project team, primary beneficiary organizations, other beneficiary organizations, other relevant actors)	Underlying difference in access to GIS careers beyond reach of project
		Q 3.3 To what extent has the project persisted with its efforts on addressing women's needs in GIS and achieved differential results across groups (e.g. through a human rights-based approach and a gender mainstreaming and inclusiveness strategy)?	The project implemented activities addressing women's needs in GIS with concrete goals, including awareness, or policy changes (e.g. PBO gender policies) or generation of disaggregated information		

Evaluation criterion	Main questions	Sub questions	Evaluation hypothesis	Information sources	Potential limitations and gaps
Efficiency	Q 4 To what extent has the project delivered its results in a cost-effective manner and optimized partnerships?	Q 4.1 To what extent has the project produced outputs in a timely and cost-efficient manner, including through partnership arrangements (grants to implementing partners e.g. Commonwealth Secretariat) and with in-country experts in comparison with alternative approaches (alternatives defined in the evaluation hypothesis)?	The project had sufficient resources to attain its goals within the planned timeframe	Project reports Project stakeholders	
			The project contributed to regional change across Sub-Saharan Africa, Central and South Asia, Eastern and Southeastern Asia and Oceania than a) single national implementation b) single (one region) regional implementation	National reports Inception reports Evaluation reports (including other projects) Project stakeholders	No objective benchmarks to compare benefits of "dispersed" multi-regional action vs. "focused" national or regional action can be identified
			Placement of in country experts delivered results more efficiently (less costs for equal results) than employing international experts	National reports Inception reports Evaluation reports (including other projects) Project stakeholders	Subjective valuation by project stakeholders of performance of in-country experts vs. hypothetical international experts
			The project used the most cost-effective imagery, compared with ground surveys, aerial photography and other satellite sources, including partnership with the private sector (e.g. Google)	National reports Inception reports Evaluation reports (including other projects) Project stakeholders	Comparison limited by specificity of national needs which precluded other information sources

Evaluation criterion	Main questions	Sub questions	Evaluation hypothesis	Information sources	Potential limitations and gaps
		Q 4.2 Were the project's human and financial resources fully utilized as planned? What caused deviations from the original plan? Did the project apply adaptive management to adjust to implementation challenges?	The project exhausted its funding and deviations from planned budget were justified in response to challenges and adequately documented in project reports	National reports Inception reports Evaluation reports (including other projects) Project stakeholders	
Environmental sustainability (ENVUSE)		Q 4.3 How environment-friendly (natural resources) has the project been?	The project implemented specific actions to minimize its environmental footprint	Project reports Project stakeholders	
Likelihood of Impact:	Q 5 What are the potential cumulative and/or long-term effects expected from the project, including contribution towards the intended impact, positive or negative impacts, or intended or unintended changes	Q 5.1 What difference has the project made on project countries compared to the counterfactual countries in the area of disaster risk reduction? Have gaps increased or decreased over the project timeframe (baseline vs endline)?	There is a significant difference in DDR processes and results in terms of casualties and damages between project countries and similar countries (counterfactual countries identified in the baseline evaluation)	Project reports National, international databases National reports Project stakeholders	Variation in hazard magnitude and exposure, and stochastic nature of disaster events, short-term (3 years) timeframe of project and multiple factors affecting DDR response limits validity of comparison Short-term (3 years) timeframe of project and multiple factors affecting response limits validity of comparison based on "objective" data (as opposed to stakeholder assessment in interviews, and workshops, including use of scorecard)
		Q 5.2 To what extent has the project enhanced resilience to natural hazards in Africa, Asia and the Pacific, including through improved disaster management, improved quality of data and analysis, increased efficiency and	There is a significant difference in DDR or ecosystem management processes (as assessed by stakeholders) and results in terms of casualties and damages or ecosystem health and services (based on SDG or other national	Project reports National, international databases National reports Scorecard and survey Project stakeholders	

Evaluation criterion	Main questions	Sub questions	Evaluation hypothesis	Information sources	Potential limitations and gaps
	(positive or negative)?	contributing to sustainable use of land resources?	reports) in project countries before and after the project		
		Q 5.3 To what extent has the project contributed to increased climate finance in Pacific Island project countries compared to their counterfactual over the project timeframe (baseline vs end-line)?	There is a significant difference in climate finance between project countries and similar countries (counterfactual countries identified in the baseline evaluation)	Project reports Project stakeholders (PT, PBO, OBO, ORA) Project proposals with funding attributable to project action Scorecard and survey	Multiple factors affecting finance mask the project effect, including funding agency replenishment cycles, national political/ strategic decisions, and funding availability
		Q 5.4 How have organizational capacities on the application of geospatial information technology for disaster risk and natural resources management changed from the baseline to the end-line based on the areas identified in the capacity development scorecard? Do the differences between the baseline and endline scorecard measurements vary comparing project countries and counterfactual countries?	Organizational capacities on the application of geospatial information technology for disaster risk and natural resources management changed from the baseline to the end-line based on the areas identified in the capacity development scorecard	Scorecard Project stakeholders Project reports Survey	Assumes scorecard correctly responds to capacity changes affected by the project

Evaluation criterion	Main questions	Sub questions	Evaluation hypothesis	Information sources	Potential limitations and gaps
		Q 5.5 To what extent have beneficiaries from training events reported changed behaviour or practices following the participation to technical training events and other project components?	Project trainees report changed behaviour or practices	Project stakeholders Project reports Survey	
		Q 5.6 To what extent has the project contributed to systemic changes in policies, regulations, resource allocations, or decision-making processes to strengthen the application of geospatial information technologies for resilience building and how has application of geospatial information technologies informed policies, regulations, resource allocation or decision-making processes to improve resilience, disaster risk and natural resource management?	The project support has strengthened the application of geospatial information technologies for resilience buildings significantly contributing to systemic changes in policies, regulations, resource allocations, or decision-making processes	Project stakeholders Project reports Scorecard National reports (sector strategies, programs, plans)	
		Q 5.7. To what extent has the project facilitated new partnerships, collaborations or engagement platforms between stakeholders (government, communities, academia) that can	The project facilitated new partnerships, collaborations or engagement platforms between stakeholders (government, communities, academia) with at least potential contribution of systemic changes	Project stakeholders (including ORA) Project reports Scorecard National reports (sector strategies, programs, plans)	Other relevant organizations participating in the project-facilitated partnerships might not be available for the evaluation or not aware of the project

Evaluation criterion	Main questions	Sub questions	Evaluation hypothesis	Information sources	Potential limitations and gaps
Gender equality and the empowerment of women (GEEW)		contribute to long-term changes? 5.8 Is the project leading to other changes, including "scalable" or "replicable" results? Have any unintended changes (positive or negative) happened at a systemic level driven by the project's activities and outputs? 5.9 How has the project influenced shifts in norms (including gender), behaviours, relationships or mindsets through its capacity strengthening and awareness-raising work with beneficiaries around leveraging geospatial data and tools?			
Likelihood of Sustainability	To what extent are the project's results likely to be sustained in the long term?	6.1 To what extent are the project's results likely to endure beyond the implementation of the activities in the mid- to long-term and under which conditions?	Project beneficiary organizations intend to apply and expand on project solutions in the mid and long-term	Primary beneficiary organizations Project reports Scorecard National reports (sector strategies, programs, plans)	Uncertainty of budget allocation, or continuity in administration and PBO leadership might weight down on sustainability even if current project stakeholders have adopted and intend to use project solutions It needs more precise definition of mid and long term

Evaluation criterion	Main questions	Sub questions	Evaluation hypothesis	Information sources	Potential limitations and gaps
		6.2 What lessons have been learned, challenges faced, and best practices identified by project beneficiaries through their engagement with various project activities?	Lessons learned can be identified	Primary beneficiary organizations Project reports Scorecard National reports (sector strategies, programs, plans)	
		6.3 To what extent has the project promoted country ownership and stakeholder participation, and how has this contributed to the likelihood of sustaining project results and activities in the mid- to long-term? 6.4 To what extent has the project contributed to sustainability through creating an enabling environment through Training of Trainers (ToT), the knowledge platform and community of practice in order to maintain capacities and expanded knowledge-after project completion?	Knowledge platform and community of practice will be sustained by UNOSAT	Primary beneficiary organizations Project reports Scorecard	
Environmental sustainability (ENVUSE)		6.5 How is environmental sustainability addressed in the project?	Primary beneficiary organizations have assessed environmental impacts (positive or negative) of project-driven changes	Primary beneficiary organizations Project reports	

Annex C. Interview guide

Relevance

1. How was the project relevant to your organization's identified needs and priorities?

2 To what extent and how is the project coherent with relevant policies, strategies and commitments (institutional and national) and complementing other projects or services available in your organization or your country?

Effectiveness

3 How effective has the project been in delivering outputs and achieving the intended outcomes (strengthened knowledge and skills, enhanced decision-making)? What has potentially contributed to this? Were you, as a supervisor, able to observe any changed behavior amongst your staff that can be attributed to the project?

4 What other non-anticipated results, benefits, synergies, cooperations, have occurred that can be linked to the project? (in-lieu of outcome harvesting workshop) To what extent has the project continued its efforts on addressing women's needs in GIS?

Efficiency

5 Was the project adequately planned and resourced?

6 Could the project results have been achieved otherwise, through other project design, different components? Was there anything missing or unnecessary in the project design?

7 Did the project cause or catalyze partnerships with other national institutions or projects?

8 To what extent were activities in your country delivered on time? If delays occurred, what caused them?

9 Do you think the project clearly and transparently communicated administrative procedures, including disbursements?

10 for Pacific only: How effective was the partnership arrangement between UNITAR-UNOSAT and Commonwealth Secretariat? Were responsibilities always clear?

11 Did the project take any actions to minimize its environmental footprint in your country?

Impact

12 What are the potential cumulative and/or long-term effects expected from the project, including contribution towards the intended impact, positive or negative impacts, or intended or unintended changes (positive or negative)?

13 Are any results visible yet, e.g., regarding DRR processes, DRR management, and casualties and damages? (question to be more specific according to national outcomes)

14 To what extent has the project contributed to systemic changes in policies, regulations, resource allocations, or decision-making processes to strengthen the application of geospatial information technologies for resilience building and how?

15 for Pacific only. To what extent has the project contributed or facilitated enhance access to climate finance?

Sustainability

16 To what extent are the project's results likely to be sustained in the long term? Are there any risks to the sustainability of the project's results?

17 Are you aware of the knowledge platform and the community of practice being set up by the project? Do you think they contribute to sustain the project results?

18 Do you think the training of trainers has contributed to mainstream and make sustainable the capacities acquired from the project?

19 What lessons (positive and negative) did you learn from this project?

Annex D: List of persons interviewed

#	Type	Name	Position	Organization	Country
1	Focal point	Filimone Ralogaivau	Acting Director Climate Change	Climate Change Division, Office of the Prime Minister	Fiji
2	Focal point	Barnabas Bago	National Programme Coordinator, Programme Management and Coordination Unit (PMCU)	MECDM	Solomon Islands
3	Focal point	Julia Marango	Project Development Officer	MoCCAMGEEDM	Vanuatu
4	Focal point	Lobzang Tobgye	Deputy Chief Survey Engineer	Department of Survey & Mapping (DoSAM), NLCS	Bhutan
5	Focal point	Tshering Gyeltshen Penjor	Secretary	NLCS	Bhutan
6	Focal point	Samten Dhendup	Director Department of Surveying & Mapping (DOSAM)	NLCS	Bhutan
7	Focal point	Samdrup Dorji	Director, Geoinformatics Division	NLCS	Bhutan
8	Focal point	Chokila	Survey Engineer, DOSAM	NLCS	Bhutan
9	Focal point	Tashi Peldon	Industrial Information Division, DOSAM	NLCS	Bhutan
10	Focal point	Phonesavanh Saysompheng	Director	Disaster Prevention and Risk Reduction Division, Social Welfare Department, MoLSW	Lao PDR
11	Focal point	Phonethavy Thammavongso	Technical Officer of Disaster Prevention Division	Disaster Prevention and Risk Reduction Division, Social Welfare Department, MoLSW	Lao PDR
12	Focal point	Netai Chandra Dey Sarker	Director	MIM, DDM, MoDMR	Bangladesh
13	Focal point	Hafizur Rahman	Assistant Director, GIS	MIM, DDM, MoDMR	Bangladesh
14	Focal point	Md. Zakir Hossain	Construction, Renovation & Development of Mujib Killa Project	MIM, DDM, MoDMR	Bangladesh
15	Focal point	Jalal Ahmed	Construction of Flood Shelter Project	MIM, DDM MoDMR	Bangladesh
16	Focal point	Jonah Stanley	Director of Planning, Strategy and Research	Federal Ministry of Environment	Nigeria
17	Focal point	Mr. Emmanuel Okecho	Disaster Preparedness Officer	Department of Relief, Disaster Preparedness and Management, Office of the Prime Minister	Uganda
18	Beneficiary	Jahanara Sultana	Deputy Assistant Super	SOB	Bangladesh
19	Beneficiary	Md. Abdullah Aziz	Senior Scientific Officer	BRRI	Bangladesh
20	Beneficiary	Md. Ashiq-Ur-Rahman	Professor	Urban & Rural Planning Discipline, Khulna University	Bangladesh
21	Beneficiary	Sonam Tobgay	Land Record and Survey Division, Thimphu Municipality, City Planning Division	Thimphu Thromde	Bhutan
22	Beneficiary	Phuntso	GIS Officer, Urban Planning Division, Thimphu Municipality	Thimphu Thromde	Bhutan
23	Beneficiary	Kinga Norbu	Monitoring and Information Division, Department of Forest and Park Services, Ministry of Energy and Natural Resources	Department of Forest and Park Services, Ministry of Energy and Natural Resources	Bhutan
24	Beneficiary	Dem Kinley	Department of Water, Ministry of Energy and Natural Resources	Department of Water, Ministry of Energy and Natural Resources	Bhutan
25	Beneficiary	Ugyen Tshering	GIS Officer	Energy resource division, Department of Energy	Bhutan
26	Beneficiary	Nima Tshering	MAL, Department of Agriculture, National Soil Service Centre	MAL, Department of Agriculture, National Soil Service Centre	Bhutan
27	Beneficiary	Mim Prasad Phuyel	Jigme Namgyel Engineering College, Royal University of Bhutan	Jigme Namgyel Engineering College	Bhutan
28	Beneficiary	Vinay Singh	Former Director	Ministry of Waterways	Fiji
29	Beneficiary	David Eyre	Former Director	Fiji Rural Electrification Fund	Fiji

#	Type	Name	Position	Organization	Country
30	Beneficiary	Jack Kaobata	Principal water Resource officer	Ministry of Mines and Energy	Solomon Islands
31	Beneficiary	Malivanh Vongsack	Assistant	Ministry of Public Works and Transport (MPWT)	Lao PDR
32	Project team	Luca Dell'Oro	Chief, Disaster Risk Management and Climate Resilience Section	UNOSAT	NA
33	Project team	Olivier Van Damme	Chief, Business Exploration, Strategic Planning and Coordination Section	UNOSAT	NA
34	Project team	Khaled Mashfiq	Specialist & Regional Liaison	UNOSAT	NA
35	Project team	Tashi	Programne officer (in-country expert)	UNOSAT	Bhutan
36	Project team	Murad Billah	Programme officer (in-country expert)	UNOSAT	Bangladesh
37	Project team	Lebaiatelaite Gaunavinaka	Programme officer (in-country expert)	UNOSAT	Fiji
38	Project team	Nair Unnikrishnan	Assistant Director Climate Change	Commonwealth Secretariat	NA
39	Project team	Oldman Koboto	Adviser and Manager, CCFAH	Commonwealth Secretariat	NA
40	Project team	Uzoamaka Nwamarah	Adviser Climate Change Section	Commonwealth Secretariat	NA
41	Project team	Deepa Pullanikattil	Climate Change Advisor	Commonwealth Secretariat	Fiji
42	Project team	Michael Ha'apio	Climate Change Advisor	Commonwealth Secretariat	Solomon Islands

Annex E. Endline Survey

#	Question	Options
1	Have you participated in any of the project's technical training on Geospatial Information Technologies (GIT) tools and/or Climate finance access?	a. Yes b. No
2	Have you applied any of the knowledge/skills acquired from the technical training to your work?	a. Yes b. No
3	How confident are you when using the knowledge and skills from the technical training to your work?	a. Fully confident b. Fairly confident c. Somewhat confident d. Slightly confident e. Not at all confident
4	How often have you applied knowledge/skills from the technical trainings to your work?	a. Daily b. Often c. Sometimes d. Rarely
5	Please provide an example of the knowledge / skills area(s) which you have transferred or applied to your work. Please try to be as specific as possible, indicating what you may have done differently as a result of transferring or applying the knowledge / skills	
6	Please, indicate your agreement or disagreement with the below statements about factors enabling or hindering application of knowledge and skills	I have the opportunity to apply knowledge and skills from the training
		Knowledge and skills from the training are relevant for my tasks and responsibilities
		I am encouraging and / or supported by my supervisor(s) to apply training skills in my work
		The training has given me the necessary confidence to apply the new knowledge and skills autonomously
		New skills are integrated in my organization's systems and processes
		My organization allocates sufficient funds to enable application of knowledge and skills
7	Are you aware of the project's knowledge hub?	a. Yes b. No
8	Have you used the project's knowledge hub?	a. Yes b. No
9	Please describe how you used the project's knowledge hub. Please try to be as concrete as possible, indicating what tangible results or benefits were produced that can be clearly attributed to the project's knowledge hub.	
10	Have you participated in any of the project's awareness-raising events ?(Awareness-raising events include activities aiming at promoting regional or national exchange, thematic meetings, forums, side events, symposiums, webinars, conferences, short lectures.	a. Yes b. No
11	Please indicate your level of agreement to the following statement: I am more aware about the use of Earth Observation and Geographic Information Technology (GIT) in the fields of Disaster Risk Reduction/ Climate Change Adaptation and Natural	a. Strongly agree b. Agree c. Neutral d. Disagree e. Strongly disagree

	Resource Management than prior to attending the project's awareness-raising events.	Please explain how your awareness has changed.
12	Have you requested any technical backstopping support (e.g. imagery, analysis, web-map, on-the-job training, technical products and/or advisory support on climate finance proposals) from the project?	a. Yes, once b. Yes, more than once c. No d. I am not aware of this service but I would like to receive more information
13	Why did you request the project team (UNOSAT-UNITAR) for backstopping support? Select all that apply.	Matter of convenience, i.e. access to support through backstopping is faster/ more convenient than other support sources
		Interest in increasing use of geospatial information
		Internal technical skills capacity issues
		Software or hardware capacity issues
		Funding issues
14	What needs did this request support? If multiple requests, please select all that apply.	Policy-related planning
		Planning for activities or projects
		Coordinating with other agencies and ministries
		Decision-making
		Prepare emergency response plans/interventions
		Responding to emergencies / disasters
		Other (please specify)
15	Did UNOSAT-UNITAR answer the request for technical backstopping support?	a. Yes, and needs were fully addressed b. Yes, but needs were only partially addressed c. No, the request was not addressed If needs were partially or not addressed, could you explain why?
16	How important was the technical backstopping request to addressing the needs you specified above?	a. Essential b. Very important c. Neutral d. Somewhat important e. Not at all important f. Not applicable
17	Please describe how you used the project's backstopping support (e.g. maps) for your work. Please try to be as concrete as possible, indicating what tangible results or benefits were produced that can be clearly attributed to the support (i.e. if the backstopping support was not provided, then the results or benefits would not have been produced).	Open-Ended Response
18	Please estimate the monetary value (in US dollars) of the benefits identified in the previous question, above. For example, if the benefits were staff cost savings for improved coordination or more efficient decision making, what is the estimated US dollar value of those savings? Or if the benefits were material developed for training, what is the estimated US dollar value if the material had to be developed elsewhere? Please provide the aggregate monetary value for all benefits identified.	Monetary value in US dollar
		Please explain if needed

19	If needs were not (fully) addressed, how did you address your technical backstopping needs?	a. I address the needs with support from another organization b. The needs were left unaddressed
		Other (please specify)
20	How confident are you to use the knowledge and skills from the project without relying on additional backstopping services?	a. I am fully confident using geospatial applications without additional backstopping support b. I am somewhat confident to use geospatial applications, but I would prefer additional backstopping support c. I am not confident to use geospatial applications without additional training or backstopping support
		Please explain your answer
21	In the absence of technical backstopping support, how would you obtain products or services to address information needs (i.e. for disaster risk reduction, natural resource management)?	Open-Ended Response
22	Did you use knowledge/skills from the training, awareness-raising, backstopping activities or Web application solutions for mobilizing climate funding?	Yes, from technical training
		Yes, from awareness-raising activities
		Yes, from backstopping activities
		Yes, from web application solutions
		No, please indicate why not
		I am not involved in climate funding applications
23	Have the applications to donors:	a. Been finalized and submitted to donors b. Are likely to be finalized and submitted to donors c. It's too early to tell
		Other (please specify)
24	Please provide an example of the knowledge/skills area(s) acquired through the project which you have used in applying for climate funding. Please try to be as specific as possible, indicating what you may have done differently as a result of transferring or applying the knowledge/skills.	Open-Ended Response
25	Have you improved knowledge through the project on how to include gender and human rights considerations in climate funding proposals?	a. Yes b. No c. Unsure If yes, provide examples
26	Have you received support from the Climate Finance Advisors through the project?	a. Yes b. No
27	If yes, what type of support did you receive?	Support in the access and mobilisation of climate finance
		Support in applying Web application solutions in climate finance applications
		Support in strengthening institutional mechanisms or processes

		Other (please specify)
28	Did you become aware or acquired new skills about collection and application of gender disaggregated data during the project?	a. Yes b. No c. Unsure If yes, please, provide examples
29	Have you or your organization experienced any change as a result of the project (positive or negative) that you did not anticipate?	a. Yes b. No c. Unsure If yes, please, provide examples
30	In case there may be follow-up questions from our end, would you agree to be contacted after submitting this questionnaire to discuss at more length your experience? If yes, kindly provide an email address below.	a. No b. If yes, kindly indicate your email address here

Annex F. Scorecard Template

(InO 2.1.1) High-level stakeholders (focal point organization management) agree that their organizations have increased usage of geospatial applications solutions for decision making linked to the project's outputs					
#	**Question**	**Answer score**	**Baseline Answer**	**Midterm Answer**	**Endline Answer**
1	**Use of GIT**				
A	Geospatial information technology (GIT) tools and solutions provided by the project are not relevant or useful for my organization	0			
B	The project has made my organization aware of the uses of geospatial information technology (GIT)	1			
C	My organization has started to integrate GIT-based tools and solutions proposed by the project in its procedures.	2			
D	GIT-based tools and solutions proposed by the project have been integrated in the organization's procedures	3			
	Score				
Clarifications to the answers above and link to project activities					
Respondents to clarify how are the project's solution relevant/ irrelevant and how are they integrated into institutional procedures					
2	**Institutional service delivery**				
A	My organization does not employ the GIT/ GIS-based solutions proposed by or developed with the project	0			
B	There have not been any changes in service delivery despite employing the GIT/ GIS-based solutions proposed by or developed with the project	1			

C	My organization has somewhat improved service delivery through the systematic employ of GIT/ GIS-based solutions proposed by or developed with the project	2			
D	My organization has significantly improved service delivery through the systematic employ of GIT/ GIS-based solutions	3			
	Score				

<div align="center">Clarifications to the answers above and link to project activities</div>

If not using project solutions respondents to clarify why
If service delivery changes respondents to clarify how

(InO 2.2.1) High-level stakeholders (focal point organization management) agree to having internalize capacity in sustainable manner

3	**Imbedded capacity development**				
A	My organization cannot provide capacity development activities related to the project's GIS/ GIT solutions	0			
B	My organization provides basic capacity development activities related to the project's GIS/ GIT solutions	1			
C	My organization provides regular but insufficient/ incomplete capacity development activities related to the project's GIS/ GIT solutions	2			
D	My organization provides regular and consistent capacity development activities related to the project's GIS/ GIT solutions that ensures their continuity	3			
	Score				

<div align="center">Clarifications to the answers above and link to project activities</div>

If capacities insufficient, respondents to clarify how. If capacity development activities cannot be provided, respondents to clarify why (no resources, no in-house technical capacity, etc)
Respondents to clarify if capacity development activities are funded and maintain within their institutional budget or if they need external support
Respondents to clarify if the training/ capacity development program is linked to the project solutions
Respondents to clarify recipients of capacity development (own staff, other organizations, etc.)

4	**Resources (Sustainability)**				
A	My organization does not have adequate resources/ budget allocation to maintain the functionality of the GIS/ GIT solutions proposed by/ developed with the project	0			
B	My organization have some resources/ budget allocation to partially maintain the functionality of the GIS/ GIT solutions proposed by/ developed with the project	1			
C	My organization has identified/ requested additional resources/ budget allocation to maintain the functionality of the GIS/ GIT solutions proposed by/ developed with the project	2			

D	My organization has secured sufficient resources/ budget allocation to maintain the functionality of the GIS/ GIT solutions proposed by/ developed with the project	3			
	Score				

Clarifications to the answers above and link to project activities

Respondent to clarify sources of resources/ budget allocation (regular government budget, external support, etc)

(InO 2.3.1) Relevant stakeholders agree that there has been an increased likelihood to access additional climate finance likelihood linked to the project's applications and CFA assistance

5a	**Capacity to prepare informed proposals (Fiji, Solomon Islands, Vanuatu)**				
A	Proposals for climate finance are prepared by external help (consultants) at the donor's request or no proposals are being prepared.	0			
B	My organization prepares proposals/ co-develops funding proposals, but project support (CFA or GIT tools) is irrelevant for this purpose	1			
C	My organization prepares proposals/ co-develops funding proposals using some project support (CFA or GIT tools)	2			
D	My organization prepares proposals/ co-develops funding proposals using project support (CFA or GIT tools) systematically	3			
	Score				

Clarifications to the answers above and link to project activities

Respondent to clarify if and to which project solutions are the proposals linked and how is the approval and funding of the proposals decided (within the focal point organization, needs the approval of another government organization or instance)
Respondents to clarify what project support and how is it used in preparing the proposal

5 b	**Increased likelihood of funding (Fiji, Solomon Islands, Vanuatu)**				
A	GIT is irrelevant in the preparation of climate funding proposals/ documents	0			
B	GIT has no effect on climate finance proposals	1			
C	Likelihood of funding has somewhat increased by integration of GIT in proposal formulation	2			
D	Likelihood of funding has significantly increased by integration of GIT in proposal formulation	3			
	Score				

Clarifications to the answers above and link to project activities

Respondent to clarify funding cycle and where proposals are being directed (GEF, AF, GCF, etc.)

Institutional outcome: Stakeholders in member states and regional institutions using geospatial applications for decision making related to improving resilience

(InO 1.1.1) High-level stakeholders (focal point organization management) agree to more efficient and effective delivery of their mandate related to improving resilience (resilience dimensions: DDM, disaster response, sustainable land management, CC adaptation, sustainable urban planning, gender equality) at least partially attributed to the project's application and capacity development					
6	**Use of GIT for decision making and planning for improved resilience**				
A	My organization is not using geospatial applications for decision making related to improving resilience.	0			
B	My organization has started using geospatial applications for decision making related to improving resilience.	1			
C	My organization is using geospatial applications for decision making related to improving resilience, but we have some limitations in implementing GIT-based solutions.	2			
D	My organization is efficiently using geospatial applications for decision making related to improving resilience.	3			
	Score				
Clarifications to the answers above and link to project activities					
Respondents to clarify how they address resilience					
(InO 2.4.1) High-level stakeholders (focal point organization management) agree to have developed or improved gender mainstreaming by improving equal opportunities and collection of disaggregated data.					
7	**Collection and application of gender/ vulnerable groups disaggregated data**				
A	Data in my organization is not disaggregated by gender and it is not considered a priority.	0			
B	Data in my organization is not disaggregated by gender/ vulnerable groups but there is awareness on its importance.	1			
C	Data is sometimes disaggregated by gender/ vulnerable groups in my organization but not systematically.	2			
D	My organization disaggregates data by gender/ vulnerable groups systematically.	3			
	Score				
Clarifications to the answers above and link to project activities					
8	**Institutional mainstreaming of gender/ vulnerable groups** **Gender/ vulnerable groups issues have been incorporated into climate risk and DRR strategies in climate finance proposals**				
A	Gender issues are not incorporated in plans and strategies in my organization.	0			
B	Gender issues have somewhat been incorporated in my organization, but not systematically.	1			
C	Gender issues along with other socially vulnerable groups have been taken into consideration in planning and strategies in my organization.	2			

D	Gender issues along with other socially vulnerable groups are fully incorporated into plans and strategies in my organization.	3			
	Score				

Clarifications to the answers above and link to project activities
Respondents to clarify how gender/ vulnerable groups have been incorporated in strategies and plans

Annex G: Summary of Field Visits

Bangladesh Mission

Venue: Dhaka, Bangladesh
Dates: 10/06/2024- 13/06/2024
Purpose: Data collection (interviews, outcome harvesting, focus group discussion, scorecard completion) and lessons learned brainstorming for the final Evaluation of the "Strengthening Capacities in the Use of Geospatial Information for Improved Resilience in Asia-Pacific and Africa project.

Summary:
As part of the independent final evaluation of the Strengthening Capacities in the Use of Geospatial Information for Improved Resilience in Asia-Pacific and Africa project, the evaluator interviewed relevant stakeholders and beneficiaries from the project's capacity development activities. These included the Director and Assistant Director of the Monitoring & Information Management division of the focal point organization, the Department of Disaster Management Department, as well as five participants in the project's training (4) and awareness-raising activities (1) belonging to four organizations, including the focal point organization. During the interviews, the respondents expressed their views about the capacities acquired through the 's training (4) and awareness-raising activities (1) belonging to four organizations, including the focal point organization. During the interviews, the respondents expressed their views about the capacities acquired through the project and how they are being or will likely be deployed in delivering their organization's services. Moreover, relevant respondents at the focal point organization completed the evaluation's scorecard.'

Bhutan Mission

Venue: Thimphu, Bhutan
Dates: 30/06/2024- 05/07/2024
Purpose: Data collection (interviews, focus group discussion, scorecard completion, and video interviewing) for the final evaluation of the Strengthening Capacities in the Use of Geospatial Information for Improved Resilience in Asia-Pacific and Africa project.

Summary:
Visit of the focal point and beneficiary organizations of the Strengthening Capacities in the Use of Geospatial Information for Improved Resilience in Asia-Pacific and Africa project. During the visit, the evaluation team interviewed several key project stakeholders, including the Secretary (head)

of the National Land Commission, the director of the Department of Survey and Mapping (DOSAM), and leaders and officers of said focal point organization and other government organizations participating from project training and technical assistance, notably the Urban Planning Division of the Thimphu Thromde (Urban Municipality), the Department of Forest and Park Services, and the Water Department of the Ministry of Energy and Natural Resources. Said organizations are currently applying, at least partly, project solutions in the delivery of their mandates.

The evaluation team also liaised with the Office of the Resident Coordinator in Bhutan.

Annex H: List of documents reviewed

Title	Organization	Country
Project inception report Uganda	UNOSAT	Uganda
UGA220.1 (April 2023) Training Evaluation Report	UNOSAT	Uganda
UGA220.3 (May 2023) Training Evaluation Report	UNOSAT	Uganda
Webapp log Uganda	UNOSAT	Uganda
Technical Backstopping log Uganda	UNOSAT	Uganda
Project inception report Bhutan	UNOSAT	Bhutan
BTN 220.1 (January 2023) Introductory Training on Cloud GIS and Web Application Development	UNOSAT	Bhutan
BTN 220.2 (May 2023) Advanced Training on UAV Data Collection, Processing, and Mapping	UNOSAT	Bhutan
BTN.3 (October 2023) Advanced Remote Sensing for Sustainable Land Management	UNOSAT	Bhutan
BTN 220.4 (April 2024) Advanced Training on Geospatial Web Application Development	UNOSAT	Bhutan
BTN 220.5 (January 2024) Web Application Development Part I - Open-Source Solution GeoNode	UNOSAT	Bhutan
BTN 220.6 (April 2024) Foundational Course on GIT for Sustainable Land Management	UNOSAT	Bhutan
Project inception report Solomon Islands	UNOSAT	Solomon Islands
SLB220.1 (November 2022). Training on Data Collection, Management, and Analysis for Disaster Risk Management and Climate Resilience. Training Evaluation Report	UNOSAT	Solomon Islands
SLB220.2 (May 2023). Advanced Training on UAV Data Collection, Processing, and Mapping. Training Evaluation Report	UNOSAT	Solomon Islands
SLB220.3 (May 2023). Training on Hydrological Modelling for Flood Susceptibility Mapping and Coastal Risk Assessment	UNOSAT	Solomon Islands
Technical Backstopping log Solomon Islands		Solomon Islands
Project inception report Fiji	UNOSAT	Fiji
FJI220.1 (December 2022) Introductory Training on Landslide Susceptibility Mapping	UNOSAT	Fiji

Title	Organization	Country
FJI220.2 (December 2022) Advanced Training on Multi-Hazard INFORM Risk Index Development	UNOSAT	Fiji
FJI 220.3 (December 2022) Introductory Training on Cloud GIS and Web Application Development	UNOSAT	Fiji
FJI 220.4 (May 2023) Advanced Training on Web Application Development and Geodata Management Quality Improvement	UNOSAT	Fiji
FJI 220.6 (May-June 2023) Geospatial Training on Flood Susceptibility and Cyclone Exposure Modelling	UNOSAT	Fiji
Webapp log Fiji	UNOSAT	Fiji
Technical Backstopping log Fiji		Fiji
Geo-Information Policy should be adhered to. NLCS implores government agencies to comply with the policy to avoid public confusion and speculation, Business Bhutan, January 3, 2024 https://businessbhutan.bt/geo-information-policy-should-be-adhered-to/	Business Bhutan	Bhutan
Project inception report Bangladesh	UNOSAT	Bangladesh
BDG 220.1 (November 2023), Introductory Training on the Application of GIT for Rapid Response Mapping	UNOSAT	Bangladesh
Webapp log Bangladesh	UNOSAT	Bangladesh
Technical Backstopping log Bangladesh	UNOSAT	Bangladesh
UNOSAT PROJECT QUARTELY REPORTING 31 DEC 2023	Commonwealth Secretariat	NA
Summary on Bhutan	Evaluation team	Bhutan
Preliminary Financial Execution Progress-NORAD	Evaluation team	NA
Summary on Bangladesh	Evaluation team	Bangladesh
Output Delivery Verification Report, Commonwealth Secretariat	Evaluation team	NA
Strengthening capacities in the use of geospatial information for improved resilience in Asia-Pacific and Africa Climate Funding Synthesis	Evaluation team	NA
Summary of web application solutions – WP250	Evaluation team	NA
Training report synthesis	Evaluation team	NA
Yearly Update Report: August 2022- July 2023	UNOSAT	NA
Lessons learned	Evaluation team	NA
Preliminary recommendations per country	Evaluation team	NA
Independent baseline evaluation Strengthening capacities in the use of geospatial information for improved resilience in Asia-Pacific and Africa" project	Evaluation team	NA
Midline Review of the Strengthening Capacities in the Use of Geospatial Information for Improved Resilience in Asia-Pacific and Africa Project	Evaluation team	NA

Title	Organization	Country
NORAD's Theory of change: Climate change adaptation	NORAD	NA
Project inception report Vanuatu	UNOSAT	Vanuatu
Project inception report Lao PDR	UNOSAT	Lao PDR
Project inception report Nigeria	UNOSAT	Nigeria
Agreement between the Norwegian agency of development cooperation (NORAD) and the united nation institute for training and research (UNITAR) regarding support to the project "Strengthening capacities in the use of geospatial information for improved resilience in Asia-Pacific and Africa"	NORAD	NA
August 2022- July 2023 Yearly Update Report. Project Strengthening Capacities in the use of Geospatial Information for Improved Resilience in Asia-Pacific and Africa	UNOSAT	NA
Independent Midline Review – Management Response	UNOSAT	NA
Independent Baseline Evaluation – Management Response	UNOSAT	NA
Use of geo-spatial information for disaster risk reduction and capacity development for improved resilience in Asia and Africa Evaluation report	Evaluation team	NA
Midterm Evaluation of UNOSAT Mapping Service – Evidence-Based Information Support to Humanitarian Assistance, Peace and Security using Satellite Imagery and Geospatial Techniques" project	Evaluation team	NA
JICA evaluation project 2015-17	JICA	Bhutan
Poster: Clean and Green Energy Using UNOSAT Multiple Criteria Decision Analysis Application	UNOSAT	Bhutan
Poster: Introduction of an Open-Source UAV Processing Solution	UNOSAT	Bhutan
Poster: Supported Implementation of Open-Source Platform for Hosting Geospatial Data in NLCS' Infrastructure	UNOSAT	Bhutan
Poster: Land Cover Classification & Change Detection Using Optical and Radar Imagery for Thimphu, Bhutan	UNOSAT	Bhutan
Poster: I TEI QELE APP	UNOSAT	Fiji
Poster: Strengthening Fiji's Climate Resilience	UNOSAT	Fiji
UNOSAT Training Enhances Pre & Post Disaster Assessment After Cyclone Jasper	UNOSAT	Solomon Islands
Poster: Decision Support System For Enhanced Disaster Risk Reduction	UNOSAT	Solomon Islands
Poster: UNOSAT Training Enhances Disaster Response for Pacific Games 2023	UNOSAT	Solomon Islands
Poster: Sea Level Rise Application & Critical Infrastructure	UNOSAT	Solomon Islands
Poster: Technical Trainings	UNOSAT	Solomon Islands
Poster: Clean and Green Energy Using UNOSAT Multiple Criteria Decision Analysis Application	UNOSAT	Vanuatu

Title	Organization	Country
Enhancing Disaster Risk and Resilience Through GIS Capacity Building Initiatives in the Pacific	UNOSAT	Vanuatu
Poster: South Malekula, Malampa, Vanuatu	UNOSAT	Vanuatu
Coherence NORAD (Pacific Countries)	Evaluation team	Fiji, Solomon Islands, Vanuatu
Coherence NORAD (Lao PDR)	Evaluation team	Lao PDR
Coherence NORAD (Bangladesh)	Evaluation team	Bangladesh
Coherence NORAD (Uganda)	Evaluation team	Uganda
Coherence NORAD (Bhutan)	Evaluation team	Bhutan
Coherence NORAD (Nigeria)	Evaluation team	Nigeria
Climate Finance Analysis	Evaluation team	NA
Analysis of disaster data.	Evaluation team	NA
VUT220.1 (November 2022) Geospatial Decision Support for Climate Resilience (GDS4CR)	UNOSAT	Vanuatu
VUT 220.2 (May 2023) Training on Remote Sensing and LiDAR Data processing for Climate Resilience in Vanuatu	UNOSAT	Vanuatu
VUT 220.3 Training on Introduction of GIT and Road Network Digitization	UNOSAT	Vanuatu
WP web solutions log (June 2024)	UNOSAT	Vanuatu
WP web solutions log (June 2024)	UNOSAT	Lao PDR
LAO220.1 (May 2023) Introductory Course on Strengthening Capacities in the Use of Geospatial Information Technology (GIT) for Disaster Risk Management	UNOSAT	Lao PDR
LAO 220.2 (December 2023) Advanced Training on Earth Observation (EO) Applications for Disaster Risk Management	UNOSAT	Lao PDR
LAO 220.3 (March 2024) Advanced Training on Geospatial Information Technologies for Decision-Making in Disaster Risk Reduction	UNOSAT	Lao PDR
Training Self-Evaluations Report Synthesis (June 204)	Evaluation team	All
Training Data (June 2024)	UNOSAT	All
Interim financial statement of income and expenditure the Norwegian agency for development cooperation (NORAD) "Strengthening capacities in the use of geospatial information for improved resilience in Asia-Pacific and Africa". Reporting period: 02 July 2021 - 31 July 2023	UNOSAT	NA
Projected Expenditure by 31 December 2024. The Norwegian Agency for Development Cooperation (NORAD). "Strengthening Capacities in The Use Of Geospatial Information for Improved Resilience In Asia-Pacific And Africa". Reporting Period: 02 July 2021 - 31 December 2024 (ESTIMATED)	UNOSAT	NA
Bhutan Meeting Notes Summary	UNOSAT	Bhutan
Letter of agreement between the Disaster Prevention Division, Social Welfare Department, Ministry of Labour and Social Welfare ("DPD") and the United Nations Institute for Training and Research ("UNITAR")	UNOSAT	Lao PDR
Endline Survey	Evaluation team	All

Title	Organization	Country
No-Cost Extension Request for the project "Strengthening Capacities in the Use of Geospatial Information for Improved Resilience om Asia and the Pacific and in Africa"	UNOSAT	NA
Scorecard results 1 (question scores and progress)	Evaluation team	All
Scorecard results 1 (country scores and progress)	Evaluation team	All
Scorecard results 2 (question (averaged across countries) scores and progress)	Evaluation team	All
Scorecard results 3 (institutional outcome per country)	Evaluation team	All
Scorecard results 4 (institutional outcomes)	Evaluation team	All

Annex I: Logframe measures – output level

Outputs	Indicator	Country	Target Y3	Baseline	Midline	Endline	Means of verification	Observations
(OP 1.1) In-country capacity development trainings delivered to technical officials	(OP 1.1.1) Number of in-Country Technical Trainings delivered per year	BGD	1 training (face-to-face, distance learning, or blended) per year	0	0	2023: 1 2024: 3 **Total: 4**	(OP 1.1.1) post-training evaluation reports	
		BTN	1 training (face-to-face, distance learning, or blended) per year	0	2023: 2 **Total: 2**	2023: 3 2024:3 **Total: 6**		
		FJI	1 training (face-to-face, distance learning, or blended) per year	0	2022: 3 2023: 2 **Total: 5**	2022: 3 2023: 3 2024: 1 **Total: 7**		
		LAO	1 training (face-to-face, distance learning, or blended) per year	0	2023: 1 **Total: 1**	2023: 2 2024: 1 **Total: 3**		
		NGA	1 training (face-to-face, distance learning, or blended) per year	0	0	2024: 3 **Total: 3**		

Outputs	Indicator	Country	Target Y3	Baseline	Midline	Endline	Means of verification	Observations
		SLB	1 training (face-to-face, distance learning, or blended) per year	0	2022: 1 2023: 2 **Total: 3**	2022: 1 2023: 2 2024: 1 **Total: 4**		
		UGA	1 training (face-to-face, distance learning, or blended) per year	0	2023: 2 **Total: 2**	2023: 2 **Total: 2**		
		VUT	1 training (face-to-face, distance learning, or blended) per year	0	2022: 1 2023: 1 **Total: 2**	2022: 1 2023: 5 2024: 1 **Total: 7**		
		TOTAL	**8 training per year**	**0**	**2022: 5 2023: 10 TOTAL: 15**	**2022: 5 2023: 18 2024: 13 TOTAL: 36**		
	(OP 1.1.2) Number of key national/regional institutions targeted as beneficiaries per training	BGD	6	0	0	8	(OP 1.1.2) emails, meeting minutes Training reports, list of participants	See the disaggregated data of institutions and participants in the endline report. These do not include the focal point organizations, only beneficiaries.
		BTN	6	0	1	7		
		FJI	6	0	1	17		
		LAO	6	0	1	9		
		NGA	3	0	0	0		
		SLB	6	0	1	11		
		UGA	3	0	1	4		
		VUT	6	0	0	7		

Outputs	Indicator	Country	Target Y3	Baseline	Midline	Endline	Means of verification	Observations
		TOTAL	**Africa: 6** **Asia-Pacific: 36**	**0**	**5**	**63**		
	(OP 1.1.3) Number of participants per training	BGD	**16 participants** per training **Female:** 8 **Male:** 8	0	0	2023:16 2024: 73 **Total: 89**	(OP 1.1.3) emails, meeting minutes Training reports, list of participants	Equal participation of men and women was not reached for most of the countries. See the figure 2 on the report.
		BTN	**16 participants** per training **Female:** 8 **Male:** 8	0	2023: 38 **Total: 38**	2023: 58 2024: 51 **Total: 109**		
		FJI	**16 participants** per training **Female:** 8 **Male:** 8	0	2022: 47 2023: 23 **Total: 70**	2022: 47 2023: 39 2024: 17 **Total: 103**		
		LAO	**16 participants** per training **Female:** 8 **Male:** 8	0	2023: 22 **Total: 22**	2023: 43 2024: 22 **Total: 65**		
		NGA	**16 participants** per training **Female:** 8 **Male:** 8	0	0	2024: 59 **Total: 59**		

Outputs	Indicator	Country	Target Y3	Baseline	Midline	Endline	Means of verification	Observations
		SLB	**16 participants** per training **Female:** 8 **Male:** 8	0	2022: 28 2023: 40 **Total: 68**	2022: 28 2023: 40 2024: 26 **Total: 94**		
		UGA	**16 participants** per training **Female:** 8 **Male:** 8	0	2023: 52 **Total: 52**	2023: 52 **Total: 52**		
		VUT	**16 participants** per training **Female:** 8 **Male:** 8	0	2022: 19 2023: 19 **Total: 38**	2022: 19 2023: 35 2024: 13 **Total: 67**		
		TOTAL	**128 participants per year**	**0**	**2022: 94** **2023: 194** **TOTAL: 288**	**2022: 94** **2023: 283** **2024: 261** **TOTAL: 638**		
(OP 1.2) Awareness raising events delivered to stakeholders	(OP 1.2.1) Number of awareness raising events organized or attended by project management team per year	BGD	4 events per year	0	2023: 1 **Total: 1**	2023: 2 **Total: 2**	(OP 1.2.1) invitations to be speakers at events	Although the MoV specified in the logframe is invitations to be speakers at events, to correspond to the indicator, the measure was built based on the number of awareness raising events organized or attended by the project management team, including in-country experts, as recorded by project management.
		BTN		0	2023: 1 **Total: 1**	2023: 3 **Total: 3**		
		FJI		0	2021: 6 2022: 10 2023: 13 **Total: 29**	2021: 6 2022: 10 2023: 37 2024: 16 **Total: 69**		
		LAO		0	2022: 1 **Total: 1**	2022: 1 **Total: 1**		
		NGA		0	0	0		

Outputs	Indicator	Country	Target Y3	Baseline	Midline	Endline	Means of verification	Observations
		SLB		0	2021: 1 2022: 6 2023: 5 **Total: 12**	2021: 1 2022: 6 2023: 7 2024: 2 **Total: 16**		
		UGA		0	2023: 1 **Total: 1**	2023: 2 2024: 2 **Total: 4**		
		VUT		0	2022: 8 2023: 2 **Total: 10**	2022: 8 2023: 5 2024: 2 **Total: 15**		
		Regional	1 per sub-regional hub (West Africa, East Africa, Pacific Asia)	0	2021: 6 2022: 10 2023: 1 **Total: 17**	2021: 6 2022: 10 2023: 6 **Total: 22**		
		TOTAL		**0**	**2021: 13** **2022: 35** **2023: 24** **TOTAL: 72**	**2021: 13** **2022: 35** **2023: 62** **2024: 22** **TOTAL: 132**		
	(OP 1.2.2) Number of key national/regional agencies or institutions at each event	BGD	10	0	1	2	(OP 1.2.2) invitations to be speakers at events	For Fiji and Solomon Islands: Information on the number of agencies that participated is not complete (for 2021 and 2022) or not detailed (for all the years) by name of organization. This is an approximation based on the names that the file shows.
		BTN	10	0	4	4		
		FJI	10	0	13	77		
		LAO	10	0	7	7		
		NGA	10	0	0	0		
		SLB	10	0	14	30		
		UGA	10	0	1	3		
		VUT	10	0	ND	ND		
		Regional	ND	0	ND	ND		
		TOTAL	**80**	**0**	**40**	**123**		

Outputs	Indicator	Country	Target Y3	Baseline	Midline	Endline	Means of verification	Observations
	(OP 1.2.3) Number of attendees at each event	BGD	**30** attendees per event **Female:** 15 **Male:** 15	0	F: 0 M: 20 **Total: 20**	F: 17 M: 53 **Total: 70**	(OP 1.2.3) invitations to be speakers at events	Several raising awareness event did not register male or female participations, nor totals. Therefore, the actual number might be higher than those indicated here. The information is to be updated by PM.
		BTN	**30** attendees per event **Female:** 15 **Male:** 15	0	F: 1 M: 6 **Total: 7**	F: 12 M: 47 **Total: 59**		
		FJI	**30** attendees per event **Female:** 15 **Male:** 15	0	F: 583 M: 721 **Total: 1304**	F: 1502 M: 2005 **Total: 3507**		
		LAO	**30** attendees per event **Female:** 15 **Male:** 15	0	F: 1 M: 18 **Total: 19**	F: 1 M: 18 **Total: 19**		
		NGA	**30** attendees per event **Female:** 15 **Male:** 15	0	0	0		
		SLB	**30** attendees per event **Female:** 15 **Male:** 15	0	F: 73 M: 209 **Total: 282**	F: 110 M: 257 **Total: 367**		

Outputs	Indicator	Country	Target Y3	Baseline	Midline	Endline	Means of verification	Observations
		UGA	**30** attendees per event **Female:** 15 **Male:** 15	0	F: 32 M: 8 **Total: 40**	F: 175 M: 102 **Total: 277**		
		VUT	**30** attendees per event **Female:** 15 **Male:** 15	0	F: 65 M: 78 **Total: 143**	F: 74 M: 84 **Total: 158**		
		Regional		0	F: 645 M: 709 Total disaggregated: 1354 **Total without disaggregation: 8025**	F: 659 M: 723 Total disaggregated: 1382 **Total without disaggregation: 8303**		
		TOTAL		**0**	**F: 1400 M: 1769 Total disaggregated: 3169 Total including those not disaggregated: 9840**	**F: 2550 M: 3289 Total disaggregated: 5839 Total including those not disaggregated: 12760**		
(OP 1.3) Outreach highlights accomplishments of the project	(OP 1.3.1) Number of articles published on the NORAD project	NA	3 articles per year	0	3	13	(OP 1.3.1) Articles published on the NORAD project	The endline indicator related to the "Average number of impressions on NORAD tweets and Facebook" cannot be collected because of the changed policy of X
	(OP 1.3.2) Total number of views	NA	100 views	0	277	2,029	(OP 1.3.2) Views on NORAD articles	

Outputs	Indicator	Country	Target Y3	Baseline	Midline	Endline	Means of verification	Observations
	on NORAD articles							(formerly known as Twitter) and FB
	(OP 1.3.3) Average number of impressions on NORAD tweets	NA	750 impressions	0	24000 impressions	582 average impressions per post	(OP 1.3.3) Impressions on NORAD tweets	
	(OP 1.3.4) Engagement rate	NA	2% average engagement strategy	0	7%	ND	(OP 1.3.4) Engagement rate on twitter	
	(OP 1.3.5) Number of people reached on Facebook	NA	350 impressions on FB	0	1,333	ND	(OP 1.3.5) Impressions on Facebook	
	(OP 1.3.6) Average engagement on Facebook	NA	20% engagement on FB	0	9%	ND	(OP 1.3.6) Engagement on Facebook	
	(OP 1.3.7) Number of videos produced on the project	NA	1 video by the end of the project period	0	ND	3 videos produced, 8 small videos and 8 GIFs	(OP 1.3.7) Videos produced on the project	
(OP 2.1) Thematic geospatial platforms implemented to support decision making	(OP 2.1.1) Number of geospatial platforms or solutions implemented	BGD	1	0	1	2	(OP 2.1.1) Web-platform statistics	The number of apps for Fiji and Solomon Islands varies from the mid-line report since it is including pre-released apps until July 2023.
		BTN	1	0	1	3		
		FJI	1	0	4	6		
		LAO	1	0	0	3		
		NGA	1	0	0	1		
		SLB	1	0	1	3		
		UGA	1	0	0	1		
		VUT	1	0	1	4		
		TOTAL	**8**	**0**	**8**	**23**		

Outputs	Indicator	Country	Target Y3	Baseline	Midline	Endline	Means of verification	Observations
	(OP 2.1.2) Number of views to the geospatial platforms	BGD	100 views	0	**BGD250.1:** 522 views	**BGD250.1:** 3170 views **BGD250.2:** 280 views	(OP 2.1.2) Web-platform statistics	The mid-line data is based on progress reports of the project. For the applications: BTN250.1: statistics are unavailable because the product serves as an entry point to produce maps. BTN250.4: statistics are not available because the system has been integrated into the government's structure. Statistics are updated until 14 August.
		BTN	100 views	0	ND	**BTN250.1:** NA **BTN250.3:** 332 views **BTN250.4:** NA		
		FJI	100 views	0	**FJI250.1.1:** 210 views **FJI250.1.2:** 43 views **FJI250.2:** 1296 views **FJI250.3:** 24 views	**FJI250.1.1:** 856 views **FJI250.1.2:** 73 views **FJI250.2:** 134 views **FJI250.3:** 390 views **FJI250.4:** 312 views **FJI250.5:** NA **FJI250.6:** 1568 views		
		LAO	100 views	0	ND	**Lao250.1:** 188 views **Lao250.2:** 146 views **Lao250.3:** 137 views		

Outputs	Indicator	Country	Target Y3	Baseline	Midline	Endline	Means of verification	Observations
		NGA	100 views	0	ND	**NGA250.3:** 47 views		
		SLB	100 views	0	**SLB250.1:** 1243 views	**SLB250.1:** 505 views **SLB250.2:** 352 views **SLB250.3:** 168 views		
		UGA	100 views	0	ND	**UGA250.4:** 191 views		
		VUT	100 views	0	ND	**VUT250.1:** 422 views **VUT250.2:** 340 views **VUT250.3:** 152 views **VUT250.4:** 107 views		
		TOTAL	**800 views**	**0**	**ND**	**9870**		
	(OP 2.1.3) Number of visitors to the geospatial platforms	BGD	50 visitors	0	**BGD250.1:** 292 visitors	**BGD250.1:** 1216 visitors **BGD250.2:** 52 visitors	(OP 2.1.3) Web-platform statistics	Data was last modified on 14th August 2024, for all the countries.
		BTN	50 visitors	0	ND	**BTN250.1:** NA **BTN250.3:** 92 visitors **BTN250.4:** NA		

Outputs	Indicator	Country	Target Y3	Baseline	Midline	Endline	Means of verification	Observations
		FJI	50 visitors	0	**FJI250.1.1:** 69 visitors **FJI250.1.2:** 7 visitors **FJI250.2:** 629 visitors **FJI250.3:** 1 visitor	**FJI250.1.1:** 313 visitors **FJI250.1.2:** 9 visitors **FJI250.2:** 74 visitors **FJI250.3:** 180 visitors **FJI250.4:** NA **FJI250.5:** NA **FJI250.6:** NA		
		LAO	50 visitors	0	ND	**Lao250.1:** 54 visitors **Lao250.2:** 44 visitors **Lao250.3:** 39 visitors		
		NGA	50 visitors	0	ND	**NGA250.3:** 20 visitors		
		SLB	50 visitors	0	**SLB250.1:** 435 visitors	**SLB250.1:** 171 visitors **SLB250.2:** 122 visitors **SLB250.3:** 66 visitors		

Outputs	Indicator	Country	Target Y3	Baseline	Midline	Endline	Means of verification	Observations
		UGA	50 visitors	0	ND	**UGA250.4:** 26 visitors		
		VUT	50 visitors	0	ND	**VUT250.1:** 122 visitors **VUT250.2:** NA **VUT250.3:** 48 visitors **VUT250.4:** 36 visitors		
		TOTAL	**400 visitors**	**0**	**ND**	**2684**		
(OP 2.2) Ad-hoc technical backstopping provided to stakeholders in the two regions	(OP 2.2.1) Number of ad-hoc technical backstopping provided to national/regional key stakeholders per year	BGD	8	0	2022: 5 2023: 3 **Total: 8**	2022: 5 2023: 4 **Total: 9**	(OP 2.2.1) Project activity reports, users feedback reports	
		BTN	8	0	2022: 5 2023: 7 **Total: 12**	2022: 5 2023: 10 2024: 2 **Total: 17**		
		FJI	8	0	2022: 23 2023: 3 **Total: 26**	2022: 25 2023: 7 2024: 6 **Total: 38**		
		LAO	8	0	2022: 5 2023: 3 **Total: 8**	2022: 5 2023: 4 2024: 1 **Total: 10**		
		NGA	8	0	0	0		
		SLB	8	0	2022: 17 2023: 25 **Total: 42**	2022: 17 2023: 44 2024: 10 **Total: 71**		

Outputs	Indicator	Country	Target Y3	Baseline	Midline	Endline	Means of verification	Observations
		UGA	8	0	2022: 6 2023: 9 **Total: 15**	2022: 6 2023: 20 2024: 3 **Total: 29**		
		VUT	8	0	2022: 3 2023: 5 **Total: 8**	2022: 3 2023: 16 2024: 3 **Total: 22**		
		TOTAL	**64**	**0**	**119**	**196**		
(OP 2.2) A knowledge hub is created, acting as the portal for training resources and the Community of Practice	(OP 2.2.2) Knowledge hub and community of practice are established for cross regional collaboration	NA	1 Knowledge platform established	NA	No	Yes	(OP 2.3.1) Project activity reports, users feedback reports, website statistics on the knowledge hub	https://knowledgehub.unosat.org/
(OP 3.1) Stakeholders in the Pacific are provided technical support in applying for climate funds	(OP 3.1.1) Number of proposals prepared with the support of climate finance advisors	FJI	2	0	3	3	(OP 3.1.1) Proposals prepared with the support of climate finance advisors	The number of project proposals developed in the mid-line presented in this table varies in 1 for Fiji (-) and Solomon Islands (+) from the mid-line report. It is based on the project progress report.
		SLB	2	0	3	2		
		VUT	2	0	2	2		
		TOTAL	**6**	**0**	**8**	**7**		
(OP 4.1) Gender is mainstreamed in the project's activities	(OP 4.1.1) Gender responsive approaches have been taken to ensure equity of the project's activities	BGD	Y/N	NA	No	No	(OP 4.1.1) Gender responsive approaches have been taken to ensure equity of the project's activities	
		BTN	Y/N	NA	No	No		
		FJI	Y/N	NA	No	No		
		LAO	Y/N	NA	No	No		
		NGA	Y/N	NA	No	No		
		SLB	Y/N	NA	No	No		
		UGA	Y/N	NA	No	No		
		VUT	Y/N	NA	No	No		

NA= The indicator does not apply to the category /   ND= The indicator is non-defined, but it applies to the category. It was not collected or filled.

Annex J: Output Delivery Verification Matrix

Outcome/ objective	Update on outcomes	Outputs	Update on outputs	Reasons for variation, if any (below / above target)	Recommendations and proposed action(s)
Impact: To improve access to climate finance funds Outcomes: Strengthen knowledge and skills on accessing climate finance. To improve efforts towards attaining gender equity in the project's activities	For measuring the impact, the associated outputs are the number of donor-approved project proposals or concept notes that were developed with the support of the Climate Fund Advisors (CFAs) and the number of newly GCF accredited agencies received CFA support. In this regard, 3 project proposals have been developed and approved with 1 in Fiji and 2 in Solomon Islands. 6 project proposals under development with 2 in each country. With respect to the accredited agencies, there has been 1 accredited entity supported, 1 delayed Development Bank of Solomon Islands (DBSI) and 1 in Vanuatu	Stakeholders in the Pacific are provided technical support in applying for climate funds. Mainstream gender in the project activities	1. Technical support in applying for funds is provided primarily through the writeshops, knowledge sharing sessions and accompaniment during the accreditation process. This output is measured by the numbers of proposals prepared with the support of climate finance advisors, which during the period have been 9: 3 in Fiji (2 got approval, 1 under development), 4 in Solomon Islands (2 got approval and 2 under development) and 2 in Vanuatu. The target (6 proposals) was overpassed. **Fiji:** 1. Strengthening the Adaptive Capacity of Coastal Communities of Fiji to Climate Change through Nature-Based Seawalls (Concept note accepted in April 2023, Project proposal submitted). 2. Decarbonization of Public Bus Transport in Fiji (Project proposal submitted in March 2023). 3.Fiji Rural Electrification Fund Support Programme (Full proposal under development).	Most of the targets have been over-achieved or are on development to be achieved, with exception of equal gender participation in writeshops. It was noted that in Vanuatu two further training activities which were earlier planned for 2023 could not be completed during this period due to time constraints of preparation for COP 28 and the departure of the Commonwealth National Climate Finance Adviser.	<u>For UNITAR-UNOSAT:</u> There is a need for UNOSAT to allocate additional financial resources for enhanced public awareness activities in-country to enhance the uptake of the use of the platform. Consider the target audience gender equity when setting the targets for these indicators. <u>For Commonwealth Secretariat (CS):</u> Ensure to provide full list of annexes to narrative report and the financial report and respecting the timelines.

Outcome/ objective	Update on outcomes	Outputs	Update on outputs	Reasons for variation, if any (below / above target)	Recommendations and proposed action(s)
	reassigned to a different institution Global Green Growth Institute (GGGI). For measuring the third and fourth outcome 4 indicators and 1 indicator, respectively, were developed and the progress is as follows: u 3.a. Of all the trained participants, 65% confirmed an increase in knowledge on climate finance access. **Solomon Islands:** During the second Climate Finance Writeshop held in April 2023: a)55% participants were female and 45% participants male. b)69% of the participants appreciate the training and confirmed useful for work applications. **Vanuatu:** Participants from the trainings that was run in		**Solomon Islands:** 2 proposals got approval: 1.Honiara intra city bus project (Budget: 6 million USD). CCFAH is preparing a proposal to scale up the project). 2.Readiness 3 (Budget: 1 million USD) 2 under development: 1.National Adaptation Plan (Budget: 3 million USD). Proposal needs to be resubmitted after responding the GCF queries. 2.The Forestry re-generation Project (30 million USD) **Vanuatu:** 2 proposals developed: 1. Energy Security for Schools in Vanuatu (Budget: 10 millions). Put on hold because the Scottish Government is designing a bigger programme on Resilience Hubs in Vanuatu. 2.Identifying Nature Based-Solutions through the Development of Community Resilience Profiles for Communities in the SHEFA province of Vanuatu. Decision awaiting. Gender responsive approaches have been incorporated into the		

Outcome/ objective	Update on outcomes	Outputs	Update on outputs	Reasons for variation, if any (below / above target)	Recommendations and proposed action(s)
	collaboration with UNOSAT earlier confirmed an increase in knowledge on how to access climate funds. The majority of participants were male. 3.b. Four Climate Finance Writeshops: 1 in Fiji, 2 in Solomon Islands and 1 joint writeshop in Vanuatu. 3.c. 2 technical papers under development: "Application of UNOSAT GIS platform for effective development of concept notes and proposal development", and "Analysis of barriers to long-term adaptation in the Solomon Islands". 3.d. Four knowledge sharing sessions: 1 in Fiji and 3 meetings in Vanuatu (in April 2021,		activities listed in the submitted climate fund proposals to ensure that 50% of the beneficiaries of the projects are female. Equal female participation, though, was not achieved in 3 out of 4 writeshops because the target audience is dominated by males. However, in Solomon Islands, during the Climate Finance Writeshop of 2023, there was an attendance of 55% females and 45% males. More than 50% of participants were also early professionals with age ranges of 25 to 34 years old.		

Outcome/ objective	Update on outcomes	Outputs	Update on outputs	Reasons for variation, if any (below / above target)	Recommendations and proposed action(s)
	August 2022 and April 2023). 4.a. There has been a progress in female participation, especially in the second writeshop on climate finance in Vanuatu where 55% of participants were females. More specifications on the females achievement of learning objectives is not given on the narrative reports.				

Annex K: Impact analysis

Disaster

Storms, droughts, floods, and landslides are the main natural hazards driving disaster mortality in the five subregions of interest: Melanesia, Polynesia, Southeast Asia, South Asia, and Sub-Saharan Africa.

The baseline evaluation identified five counterfactual countries *based on similar hazard, exposure, and vulnerability values or biodiversity mainstreaming and ecological characteristics to the (eight) target countries and with similar baseline values in using geospatial information (https://unitar.org/results-evidence-learning/evaluation/independent-baseline-evaluation-strengthening-capacities-use-geospatial-information-improved).*

For the Pacific, the identified counterfactual countries belonged to a different sub-region (Polynesia) than the project countries belonging to the Melanesian sub-region. However, these regions differ on significant biogeographical characteristics, with the Polynesian sub-region dominated by smaller high islands and low-lying atolls and higher island chains being dominant in the Melanesian sub-region, which explains their different disaster profiles. Note that the regions have been adopted from the EM-DAT database and might differ from other regional definitions. For instance, the Melanesian and Polynesian sub-region includes territories such as New Calédonie and French Polynesia (French dependencies), and the South Asia region comprises Iran (generally regarded as part of the Northern Africa and the Middle East region). However, the sub-regional division coincides with the SDG indicator regional groupings (https://unstats.un.org/sdgs/indicators/regional-groups/), except for including territories. Some Polynesian countries, namely the Cook Islands (New Zealand dependency), Nauru, Niue and Tokelau, and African countries, such as Equatorial Guinea and Sudan, were excluded from the analysis because of lacking disaster or population and gross domestic product data necessary to calculate mortality and damage rates, which are the basis for the SDG 13 indicators aligned to this project's impact.

Despite regional differences, storms, droughts, floods, and landslides have been the deadliest and costliest disasters in the five regions of interest.

However, the data have noticeable biases. The Disaster Database EM-DAT is currently the most comprehensive source of disaster quality data. Yet, while the chosen 25-year period (years 2000 to 2024) includes better-reported causalities and damages than in previous decades, damages and affected people are better reported in some countries than others (https://doc.emdat.be/docs/known-issues-and-limitations/specific-biases/#accounting-biases). For instance, damages are underreported for sub-Saharan Africa, although lower asset value may at least partially account for the lesser value of damages reported out of Africa. Moreover, the data is biased towards higher magnitude disasters, which are better reported and bias the statistical analysis. For instance, in Southeast Asia, storms are the deadliest disasters primarily due to a single event: Cyclone Nargis's landing in Myanmar in 2008, which alone caused 138366 casualties.

Based on the sub-regional disaster profiles and setting aside from the get-go geophysical hazards such as earthquakes, biological disasters such as disease and epidemics, this analysis focuses on disasters caused by rapid onset meteorological and hydrological hazards (according to the EMDAT disaster classification system: https://doc.emdat.be/docs/data-structure-and-content/disaster-classification-system/), namely storms, floods and landslides. While droughts are very relevant for all the sub-regions, the slow onset and multiyear duration complicate the attribution of damages and well-being effects. The two parameters this analysis chooses to define the magnitude of the disasters are total deaths and total damages. These parameters are preferred to variables such as households affected or insured damage, as this analysis considers them more prone to biases and sub-regional differences.

There are slight, statistically not significant trends towards lower disaster mortality in all the sub-regions of interest except for sub-Saharan Africa.

Distinct from the absolute number of deaths, which is heavily affected by the number and increase in the exposed population, mortality rates seem to be in decline across Melanesia, Polynesia, and South and Southeast Asia but show a slightly positive trend in Africa. However, the analysis cannot conclude that those trends are real.

Those trends are not detectable when considering disaster damage. Annual disaster damage in the five concerned regions is generally well below 1% of the regional gross domestic Pacific Island countries' economies are very vulnerable to disasters, which occasionally can take up a significant part of the national income. In 2015, Cyclone Pam caused extensive infrastructure destruction at a cost equivalent to 62% of that year's GDP. In 2016, the devastation caused by the cyclone season, including category five cyclone Wilson, cost the country up to 12% of that year's economic output in Fiji.

However, examination and comparison of the project countries with the identified the absence of defined trends and the limited timeframe and funding envelope of this project make it impossible to attribute any changes in disaster mortality or damages to this project.

However, as indicated by several project counterparts, the project has brought capacities that are allowing government organizations in charge of disaster preparedness, disaster risk management, and relief to introduce systemic changes that can significantly influence the next years.

During the project implementation timeframe, several disasters affected the project countries. In the case of Lao PDR, Uganda, and Vanuatu, the project's focal point organizations, in charge of national disaster management and response, put into action project capacities to map out and guide relief measures, including aid distribution and relocations.

In Melanesia, between 2021 and 2023, at least seven tropical storms affected the project countries of Fiji, Solomon Islands and Vanuatu. Vanuatu was particularly affected by the double category four cyclones Judy and Kevin, landing within two days on February 28th and March 3rd, respectively. In contrast, for the 2017-2020 period, six tropical storms affected the same countries, including the infamous tropical cyclone Harold, which caused at least 48 deaths in Vanuatu, where it landed in April 2020 as a category five tropical cyclone. All considered, the mean storm magnitude for the three years before the project was higher than the next three years, which might explain the drop in the disaster mortality rate. However, the short periods and the limited data points mean these differences are not statistically significant.

Moreover, those countries, Vanuatu, in particular, suffered volcanic eruptions, earthquakes and other minor intensity and slower onset hazards, including drought and disease outbreaks that interact with the main disasters depicted.

In Southeast Asia, Lao PDR is affected yearly by heavy monsoonal rains, occasionally compounded by tropical storms, despite being landlocked. In 2018, at least 136 people died from flash floods following a dam break during heavy monsoon rain. In 2023, floods and landslides caused severe damage estimated at more than USD 7 million and seven casualties.

In South Asia, Bangladesh is regularly affected by monsoon rain-linked flooding compounded by cyclone landings. Disaster damages have averaged annual costs equivalent to 0.1% of the national economy, costing the lives of an average of 134 people every year. While far from the figures attained some decades ago, disasters still challenge the country's resources and population, especially in the poorest rural communities. However, the recent political developments in Bangladesh also reveal the higher risks associated with weak democratic institutions and how political disruptions can have more severe mortality and damage effects than most disasters driven by natural causes.

Uganda sustains relatively high disaster mortality rates and damages caused by floods and landslides linked to the annual monsoon rains. In April 2024, *49 people died, 28 are still missing, and 296 others were injured. In addition, almost 18,500 people were displaced, and 39,185 were affected across more than 15 districts of the country (*https://reliefweb.int/disaster/fl-2024-000075-uga*)*.

No disaster mortality or damage trend can be established for project countries or baseline-identified counterfactuals. In some cases, there is some apparent decrease in disaster mortality rates for the project's Melanesian countries when comparing the 2017-2020 and the 2021-2023 period. However, such difference might also be attributed to changes in the magnitude of the hazards to which the islands were exposed during these two periods.

In conclusion, the available data does not allow the establishment of trends or changes in disaster mortality or damage for the 2000-2024 period or any sub-period therein. The effect of any given project on changing the trends at this level of aggregated mortality and damage indicators, which are driven by different forces, including hazard magnitude, exposed population, and assets beyond the national risk management and response capacities, cannot be detected. However, project stakeholders in Lao PDR, Uganda, and Vanuatu confirmed using the project's solutions to address emergencies in 2023.

Climate finance

This analysis heavily relies on three crucial sources: the project baseline evaluation report, OECD official development aid (ODA) data, and the databases of the climate change-focused funds and facilities Green Climate Fund (GCF), Global Environmental Facility (GEF), and the Adaptation Fund (AF). These sources provide the backbone for evaluating climate finance for Pacific small island states. The OECD makes official development aid (ODA) figures available up to 2022, including Development Assistance Committee (DAC) and non-DAC bilateral actors, multilateral actors and international (such as the World Bank Group) and regional (such as the Asian Development Bank) financial institutions, to recipient countries and by sector. However, OECD data does not disclose the sector amounts per recipient country. Moreover, the OECD data (or information from prominent donors, such as Australia; https://www.dfat.gov.au/sites/default/files/development-cooperation-fact-sheet-fiji.pdf) does not identify ODA amounts dedicated to climate change adaptation and mitigation, which together with the absence of sector amounts for any recipient countries, means that this source does not enable following the recent evolution of climate finance. OECD data only compares ODA amounts among the three project countries, Fiji, Solomon Island and Vanuatu, and the two counterfactuals identified during the project's baseline evaluation, Samoa and Tonga.

ODA amounts, together with national income data from the World Bank and population data (various sources), enable the appraisal of the countries' relative dependency on foreign assistance and its magnitude compared with three relevant regional means: Melanesia (Fiji, Papua New Guinea, New Caledonia (French territory), Solomon Islands and Vanuatu; excludes Indonesian West Papua), Polynesia (Cook Islands, French Polynesia (French territory), Niue, Samoa, Tokelau, Tonga, and Wallis and Futuna (French territory), and Micronesia (Kiribati, Marshall Islands, Federated States of Micronesia, Nauru, Northern Mariana Islands (US territory) and Palau). The project countries belong to the former, and the counterfactuals belong to the second region. Micronesia is included here to complete and compare all three Pacific small island state (SIDS) regions. Biogeographical, climatic and cultural differences are assumed not to play a significant role in ODA or climate finance. All Pacific SIDS are exposed to many meteorological hazards and need climate funding flows to ensure resilience and adaptation.

Despite representing only, a small fraction of the total ODA received by the concerned countries, the GCF, GEF, and AF project databases play a significant role in this analysis. These funds identify funds directed towards climate finance. For the GCF and AF, all finance is climate finance, whereas, for the GEF, only

those projects under the focal area of climate change were considered (including multi-area projects). Moreover, the project databases cover the complete period of interest, allowing the examination of fluctuations in climate for the 2012-2024, completely covering the project's implementation timeframe. While several of the project-supported proposals are yet in the pipelines or need to be submitted, including to other finance sources as the three funds here considered, the project's impact cannot be detected directly in changes in climate finance flows from these three entities. Yet, they allow us to compare the current climate finance flows with the foreseen magnitude of the project set up to mobilize under the assumption that the project proposals are more robust as they include better spatial information than other proposals prepared in the concerned countries.

Total official development aid from all actors represents a significant proportion of the national economies in Fiji, the Solomon Islands and Vanuatu. For 2012-2022, the three countries received a total of USD 6 billion, or USD 606 yearly on average, amounting to almost half (43%) of the total ODA received in the Melanesian region. In absolute terms, the Solomon Islands have received the most ODA, at USD 2.5 billion, followed by Fiji at USD 2 billion, and Vanuatu at USD 1.5 billion. In contrast, Samoa and Tonga have received USD 2.5 billion as ODA (63% of the funds allocated to Polynesia) for the same 2012-22 period.

As noted in the baseline evaluation (https://unitar.org/results-evidence-learning/evaluation/independent-baseline-evaluation-strengthening-capacities-use-geospatial-information-improved), ODA flows present a pseudo-cyclical inter-annual variation caused by the different donor's and project implementation timeframe and replenishment cycles.

The three project countries and counterfactuals have significant differences in population and the size of their economies. In per capita terms, Vanuatu heads the list, with USD 460 ODA per capita, followed by the Solomon Islands at USD 358 and Fiji at USD 204. In contrast, the per capita amounts perceived by Tonga and Samoa reach USD 1,079 and 557, respectively. In fact, on a per capita basis, the ODA allocated to the Pacific subregions of Micronesia and Polynesia is significantly higher than for Melanesia. Melanesian countries are considerably more populated and have more extensive surface areas than their Micronesian and Polynesian counterparts.

Considering ODA as % of the national income (GDP), the ODA received Vanuatu and Solomon Islands has represented 16% of their GDP in average for the 2012-2022 period, but only 4%, on average for Fiji. Polynesian countries Samoa and Tonga have similar dependencies on ODA, amounting to 14 and 24% respectively of their 2012-2022 national income on average.

The main donors for the concerned countries are the governments of Australia, Japan, and New Zealand, as well as the World Bank and Asian Development Bank. However, there are very significant differences among the three project countries regarding the amounts received and the significance of the different donors. Thus, Fiji and Vanuatu have Australia as the primary development partner, with a magnitude of USD 60 million annually. In contrast, Australia does not contribute to the Solomon Islands but is Samoa and Tonga's most important development partner. Japan consistently supports all concerned countries, albeit in the USD 10-20 million annually. However, these averages hide the vast interannual differences in ODA flows, which show the different donor cycles for each country, i.e. ODA flows depend on the various agreements struck by the various national governments with other donors, with no apparent coordination. Besides bilateral partners, multilateral financial institutions, namely the World Bank and the Asian Development Bank, are essential partners of the five countries.

In conclusion, project and counterfactual Pacific countries have a high dependency on 3 or 4 development partners, mostly Australia, Japan, the World Bank and the Asian Development Bank, and receive ODAs equivalent to 10-24% of their national economies, according to the funding partners' finance cycles under the different, and not coordinated, agreements with their national governments.

The data on official development assistance delivered by these countries' main development partners does not identify projects specifically meant for climate change. While supplying assistance one or two orders of magnitude lower than the main development partners in financial terms, climate funds and facilities, such

as the Green Climate Fund, the Global Environmental Facility and the Adaptation Fund enable examining the evaluation of specific climate change projects between 2012 and 2024.

These funds have disbursed or committed a total of USD 364 million for the project countries (Fiji, USD 63 million, Solomon Island USD 167 million, Vanuatu USD 135 million) and USD 148 million for the counterfactuals (Samoa USD 83 million, Tonga USD 65 million) for the 2012-2024 period.

Projects financed by the GCF, AF and GEF have a 5-7-year implementation timeframe. The funding envelope of GCF project is generally one order of magnitude greater than AF and specially GEF projects. However, GEF projects are more numerous and work with a greater number of national partners, as they intend to catalyze innovative solutions to climate change (and for the other GEF focal areas).

In consequence, GCF projects represent at least two-thirds of the here identified climate finance flows for all concerned countries.

As in the case of ODA, funding amounts vary from year to year depending on the replenishment and proposal preparation and approval cycles of the three different funds and facility, rather than linked to specific national needs. There are no significant differences between the project and counterfactual countries or between periods. The apparent difference, with more funding for the 2014-2018 period is caused by the agencies funding cycles.

The implementing agencies, that is, the fund-accredited international entities receiving and disbursing the funds, and the executing agencies depend on accreditation processes, and the relationship between the accredited agencies and their national governments, which changes through time as countries introduce changes in their government organigrams and priorities in response to political adjustments and cycles.

Annex L: Logframe measures- Institutional Outcomes

Institutional Outcome (1)	Indicator	Country	Baseline	Midline	Endline	Means of verification	Observations
(InO 1.1) Stakeholders in member states and regional institutions using geospatial applications for decision-making related to improving resilience	(InO 1.1.1) High-level stakeholders (focal point organization management) agree to more efficient and effective delivery of their mandate related to improving resilience (resilience dimensions: DDM, disaster response, sustainable land management, CC adaptation, sustainable urban planning, gender equality) at least partially attributed to the project's application and capacity development	BGD	2	3	3	(InO 1.1.1.1) **Scorecard question 6** score, qualified with examples and comments in scorecard	
		BTN	2	3	3		
		FJI	2	4	3		
		LAO	2	4	4		
		NGA	3	ND	3		
		SLB	1	2	ND		
		UGA	ND	1	ND		
		VUT	1	2	ND		
		TOTAL	**1.86**	**2.71**	**3.20**		

Institutional Outcome (2)	Indicator	Country	Baseline	Midline	Endline	Means of verification	Observations
(InO 2.1) Enhanced evidence-based decision making in disaster risk and land management, using geospatial applications	(InO 2.1.1) High-level stakeholders (focal point organization management) agree that their organizations have increased usage of geospatial applications solutions for decision making linked to the project's outputs	BGD	1.5	2.0	3.0	(InO 2.1.1.1) **Scorecard questions 1 and 2** score, qualified with examples and comments in scorecard	The score is calculated as the mean of two scorecard questions: question 1 and question 2, per country, per reporting period.
		BTN	2.0	2.5	3.0		
		FJI	3.0	4.0	4.0		
		LAO	2.0	4.0	4.0		
		NGA	2.0	ND	3.5		
		SLB	2.5	3.0	ND		
		UGA	ND	1.5	ND		
		VUT	1.0	2.5	ND		
		TOTAL	**1.99**	**2.80**	**3.49**		
(InO 2.2) Embedding geospatial applications in stakeholder's organizations	(InO 2.2.1) High-level stakeholders (focal point organization management) agree to having internalized capacity in a sustainable manner	BGD	1.5	1.5	2.5	(InO 2.2.1.1) **Scorecard questions 3 and 4** score, qualified with examples and comments in scorecard	The score is calculated as the mean of two scorecard questions: question 3 and question 4, per country, for the reporting period. For
		BTN	2.0	2.5	2.5		
		FJI	1.0	4.0	3.0		
		LAO	1.0	3.5	4.0		

		NGA	2.5	ND	3.5		the **midline evaluation report**, this indicator was calculated based on Q3, therefore, its data might differ from the previous report and this one.
		SLB	1.5	2.5	ND		
		UGA	ND	0.0	ND		
		VUT	1.5	2.5	ND		
		TOTAL	**1.57**	**2.36**	**3.10**		
(InO 2.3.) Improved access to climate finance in the target countries in the Pacific	(InO 2.3.1) Relevant stakeholders agree that there has been an increased likelihood to access additional climate finance funds linked to the project's applications and CFA assistance	FJI	3.0	4.0	3.5	(InO 2.3.1.1) **Scorecard question 5** score, qualified with examples and comments in scorecard	The scores for this indicator are from question 5a and 5b. For the midline and baseline evaluation, only Q5a was formulated; therefore, the data here might differ from the previous report.
		SLB	2.0	3.0	ND		
		VUT	1.0	2.0	ND		
		TOTAL	**1.87**	**2.34**	**3.37**		
(InO 2.4) Gender is mainstreamed in beneficiary organizations' activities and outcomes	(InO 2.4.1) High-level stakeholders (focal point organization management) agree to have developed or improved gender mainstreaming by improving equal opportunities and collection of disaggregated data.	BGD	4.0	4.0	ND	(InO 2.4.1.1) **Scorecard questions 7 and 8** score, qualified with examples and comments in scorecard	The score is calculated as the mean of two scorecard questions: question 7 and question 8, per country, per reporting period.
		BTN	2.0	2.0	2.0		
		FJI	4.0	4.0	3.5		
		LAO	2.5	2.0	4.0		
		NGA	2.0	ND	3.5		
		SLB	2.0	2.5	ND		
		UGA	ND	1.5	ND		
		VUT	2.0	3.0	ND		
		TOTAL	**2.64**	**2.71**	**3.25**		

Annex M: Scorecard results

Question	Country	Baseline	Midline	Endline	Midline progress	Endline progress (From baseline)	Endline progress (From midline)
1	BGD	2	2	3	0%	50%	50%
	BTN	2	3	3	50%	50%	0%
	FJI	2	4	4	100%	100%	0%
	LAO	1	4	4	300%	300%	0%
	NGA	2	ND	3	ND	50%	ND
	SLB	3	3	ND	0%	ND	ND
	UGA	ND	2	ND	ND	ND	ND
	VUT	1	3	ND	200%	ND	ND
2	BGD	1	2	3	100%	200%	50%
	BTN	2	2	3	0%	50%	50%
	FJI	4	4	4	0%	0%	0%
	LAO	3	4	4	33%	33%	0%
	NGA	2	ND	4	ND	100%	ND
	SLB	2	3	ND	50%	ND	ND
	UGA	ND	1	ND	ND	ND	ND
	VUT	1	2	ND	100%	ND	ND
3	BGD	1	1	3	0%	200%	200%
	BTN	2	3	3	50%	50%	0%
	FJI	1	4	4	300%	300%	0%
	LAO	1	4	4	300%	300%	0%
	NGA	3	ND	4	ND	33%	ND
	SLB	2	3	ND	50%	ND	ND
	UGA	ND	0	ND	ND	ND	ND
	VUT	2	3	ND	50%	ND	ND
4	BGD	2	2	2	0%	0%	0%
	BTN	2	2	2	0%	0%	0%
	FJI	1	4	2	300%	-100%	-50%
	LAO	1	3	4	200%	300%	33%
	NGA	2	ND	3	ND	50%	ND
	SLB	1	2	ND	100%	ND	ND
	UGA	ND	0	ND	ND	ND	ND
	VUT	1	2	ND	100%	ND	ND
5a	FJI	3	4	4	33%	33%	0%
	SLB	2	3	ND	50%	ND	ND
	VUT	1	2	ND	100%	ND	ND
5b	FJI	ND	ND	3	ND	ND	ND
	SLB	ND	ND	ND	ND	ND	ND
	VUT	ND	ND	ND	ND	ND	ND
6	BGD	2	3	3	50%	50%	0%
	BTN	2	3	3	50%	50%	0%
	FJI	2	4	3	100%	50%	-25%
	LAO	2	4	4	100%	100%	0%
	NGA	3	ND	3	ND	0%	ND
	SLB	1	2	ND	100%	ND	ND
	UGA	ND	1	ND	ND	ND	ND
	VUT	1	2	ND	100%	ND	ND
7	BGD	4	4	ND	0%	ND	ND
	BTN	1	1	1	0%	0%	0%
	FJI	4	4	4	0%	0%	0%
	LAO	1	1	4	0%	300%	300%

	NGA	2	ND	3	NA	50%	ND
	SLB	2	3	ND	50%	ND	ND
	UGA	ND	2	ND	ND	ND	ND
	VUT	2	3	ND	50%	ND	ND
8	BGD	4	4	ND	0%	ND	ND
	BTN	3	3	3	0%	0%	0%
	FJI	4	4	3	0%	-25%	-25%
	LAO	4	3	4	-25%	0%	33%
	NGA	2	ND	4	ND	100%	ND
	SLB	2	2	ND	0%	ND	ND
	UGA	ND	1	ND	ND	ND	ND
	VUT	2	3	ND	50%	ND	ND

Annex N: Case Studies Bhutan and Bangladesh

Case Study: Implementation of the "Strengthening Capacities in the Use of Geospatial Information for Improved Resilience in Asia-Pacific and Africa" project in Bhutan

Country background

Bhutan, the world's first carbon-negative country, faces the significant challenge of managing its limited land resources amidst growing demand for development, placing pressure on food security, climate, biodiversity and environmental wellbeing. While unsustainable land management impacts everyone, it disproportionately affects vulnerable groups of people. In Bhutan, only about 7 per cent of land is arable, and there is a rising demand for land for urbanisation, agriculture, and economic development. A key challenge of Bhutanese development planning and policy is to sustainably manage the limited land resources and this when new cities are being planned, when energy sources are being diversified or when forests and the environment are being protected which is close to the heart of all Bhutanese.

Policy

Bhutan's 2018 Geo information (GI) policy aims to institute an inclusive institutional and legal framework; to enhance data discovery, accessibility and sharing mechanism without ensuing duplication or silos in operation; and to promote sustainable and optimal use of GI and technologies. The policy seeks to achieve these goals through reducing duplication of efforts and costs, enhancing capacity to keep pace with rapidly changing technology, ensuring the availability of reliable GI through a robust data repository, promoting data discovery, accessibility, and sharing mechanisms without duplication or operation in silos.

This policy shall be based on the action plan developed by the Center for Geographic Information System Coordination, administratively under the National Land Commission Secretariat (NLCS), the project's focal point organization.

The focal point organization

The project's focal point organization, the NLCS, was established in 2007 as an autonomous agency with 11 Commission members by the National Assembly. The NLCS vision of "Spatially Enabled Nation with Par Excellence Land Governance by 2034" aims to integrate geospatial technologies into governance and government operations for land governance systems and sustainable development. The NLCS is responsible for managing and regulating land ownership and use for socio-economic development, as well as facilitating land market operations and conservation efforts. As such, it produces topographic base maps, thematic maps, cadastral maps, and large-scale maps for projects. Within NLCS, the Center for Geo-Information (CGI), established under GI Policy 2018, sits in the **Geo-Informatics Division** under the Department of Survey and Mapping and plays a crucial role in managing geographic data and employing

advanced technologies such as Geographic Information System (GIS), Remote Sensing (RS), and Surveying Technology.

NLCS aims to become a Geospatial Centre for Excellence in the Region on the future. It has made significant progress in implementing its strategic plan by e.g. digitalizing cadastral work and moving away from paper-based approaches which has significantly increased its efficiency.

Project activities in Bhutan

The Strengthening Geospatial Information Capacities Project in Bhutan, implemented with support from the Norwegian Agency for Development Cooperation (NORAD), aimed to address critical land management and environmental sustainability gaps. The project aligned with Bhutan's Geo-Information Policy (2018), which emphasized the optimal use of geospatial data for decision-making. Bhutan's NLCS was the central agency for this initiative, given its mandate to manage land resources and improve national land-use policies.

The project was designed to respond to NLCS' demands for enhanced capacity to manage geospatial data and land use, as identified in the project Inception Report. Said needs are confirmed by the UN Common Country Assessment (CCA), highlighting the need for enhanced data-sharing mechanisms and integrated geospatial systems across sectors. Previous interventions, such as JICA's Data Infrastructure Project, contributed to improving Bhutan's spatial data management but were focused more on infrastructure than capacity building, but together with other interventions, notably previous geospatial training efforts provided by UNOSAT, laid the groundwork for the broader geospatial landscape in Bhutan.

The project focused on building Geospatial Information Technology (GIT) capacities for effective planning and decision-making through targeted technical training, backstopping services, awareness raising, and development of web-based GIT applications, including geospatial Decision Support Systems (DSS) and a knowledge platform. In Bhutan specifically, the project aimed to contribute to enhanced evidence-based decision making in disaster risk and land management, using geospatial applications.

Technical training

In Bhutan, six training events were delivered in 2023 and 2024, half of them (50 per cent) were "advanced" trainings on Unmanned Aerial Vehicle (UAV)Data and Remote Sensing while the other half were "introductory" on GIT and GIS (33 per cent) and on web application development (17 per cent) as part of the project. The total participants of the training activities at the time this evaluation was conducted[21] were 63, 12 women and 51 men, representing a distribution of 19 per cent and 81 per cent, respectively.[22]

According to self-evaluations administered by the project team, **100 per cent[23] of the participants agree or strongly agree that information acquired was new, relevant to their job, overall useful and that they intent to use knowledge and skills**. In addition, an assessment of knowledge and skills before and after the training showed **good progress in knowledge acquisition**.

Knowledge and skills before and after the training
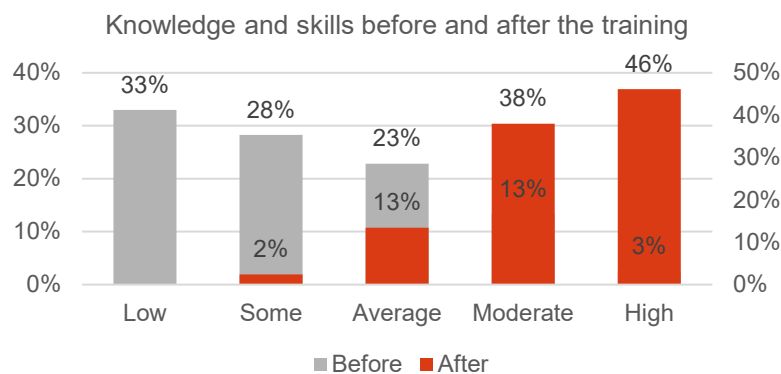
A survey undertaken as part of the independent evaluation reveals that **90 per cent of the respondents from Bhutan have applied knowledge and skills** from the technical training to their work with varying confidence levels (from slightly confident to fully confident) and frequency of application ranging from sometimes to often. By April 2024, participants expressed that the training significantly enhanced their capacity for land use planning, urban development, and energy resource management.

"The training was very well-organized, and the content was directly relevant to my work. I particularly appreciated the hands-on UAV exercises, which I've been able to apply in my daily tasks for land use mapping."

"The GIS training has enhanced my ability to process spatial data much faster. The knowledge gained has allowed me to perform better in my role, especially in analyzing land use patterns."

Web applications

Three web applications to improve geospatial data processing and decision-making were developed and released for Bhutan. These include
the **UAV Processing Tool**, which allows for real-time processing of UAV data for land use monitoring, the **Multi-Criteria Decision Analysis (MCDA)** tool for evaluating land suitability for energy and urban projects, and the **GeoNode Data Hub**, which facilitates data sharing across government agencies. These applications were key in enabling agencies like the NLCS, the

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[21] The Final Project Narrative Report 2024 reported approximately 109 attendees on average, with a gender distribution of 31% female and 78% male.

[22] Unique beneficiaries were 44, 9 women and 35 men, representing a distribution of 20.5% and 79.5%.

[23] This is much higher than the UNITAR average values which can be found here: unitar.org/sites/default/files/media/publication/doc/Results-Report-2023.pdf

Department for Energy and the Thimphu Thromde City Planning Division to make more informed decisions based on up-to-date geospatial data. The web applications were widely adopted, with user satisfaction indicating they significantly improved efficiency in handling land management tasks.

An example of how different project activities interrelate includes the use of the MCDA s during the training "Advanced Remote Sensing for Sustainable Land Management" to identify suitable locations for **solar energy plants in Bhutan.** This exercise was conceived given the reliance of Bhutan on one energy source (hydroelectric). Transitioning to solar energy presents a viable solution for Bhutan to diversify its energy sources, reduce dependence on hydro power, enhance energy security, and mitigate environmental impacts.

"The GeoNode platform has been incredibly useful for sharing data across departments. Before, we had challenges accessing updated spatial data, but now, everything is centralized, and we can easily upload and share information."

"The MCDA tool has allowed us to quickly analyze different sites for renewable energy projects. It's easy to use, and we can now make decisions based on multiple criteria, which speeds up the planning process."

Backstopping support

A total of 20 technical backstopping requests were submitted over the duration of the project. Backstopping requests were frequent, covering a range of technical support areas. These included:

- **ArcGIS Enterprise Installation:** Institutions like the NLCS requested support for installing and customizing the ArcGIS Enterprise platform to enhance geospatial data processing.

- **Geospatial Data Sharing via Application Programming Interfaces (APIs):** Several agencies requested help sharing cadastral data across departments using APIs to streamline data access and usage.

- **Web Application Development:** Requests were made for assistance in developing web apps to manage and share spatial data, particularly for urban planning in Thimphu Thromde.

- **Land Cover Classification and Change Detection:** Support was requested to conduct land cover classification for critical cities and create tools to compare land cover changes over time.

- **Forest Canopy Mapping:** The Department of Forests and Park Services sought backstopping to develop forest canopy density maps using UAV and satellite imagery.

- **Disaster Risk Management:** After a flood in Lhuentse, technical support was provided to develop a flash flood prediction tool for future risk mitigation.

Several institutions, including the **Thimphu Urban Planning Division, NLCS, and Department of Forests**, benefited from ongoing technical support, which enabled them to streamline urban planning processes and make data-driven decisions.

"The backstopping support helped us integrate APIs for sharing cadastral data, which was a game-changer in how we coordinate between departments."

"Without the technical support for the ArcGIS Enterprise setup, we would not have been able to process the large amounts of data we handle daily. It's become a core tool in our land management work."

Seventeen backstopping requests were completed between September 2022 and March 2024. 13 (76 per cent) of them were classified as high priority, 3 (18 per cent) as low priority and 1 (6 per cent) as medium priority.

Technical Backstopping Requests by Thematic and Sub-Thematic Area
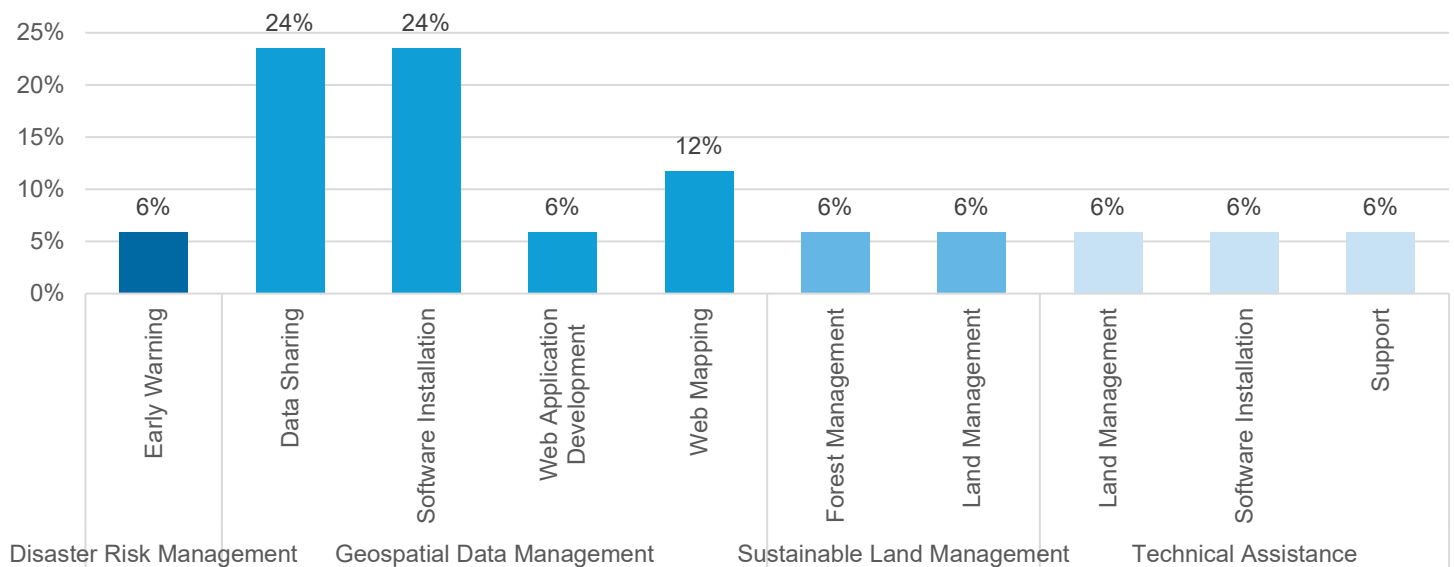
The backstopping requests were related to Disaster Risk Management (6 per cent), Geospatial Data Management (65 per cent), Sustainable Land Management (12 per cent) and Technical Assistance (17 per cent). These requests also corresponded to specific sub-categories such as: Early warning, Data sharing, Software installation, Web application development, Web mapping, Forest management, Land management, and Support.

The average time for providing an answer to the *high priority* requests was 16 days, not considering the requests that took more than two months in answering, which were related to data preparation and for deploying a GeoNode.

Number of days for answering High Priority BR
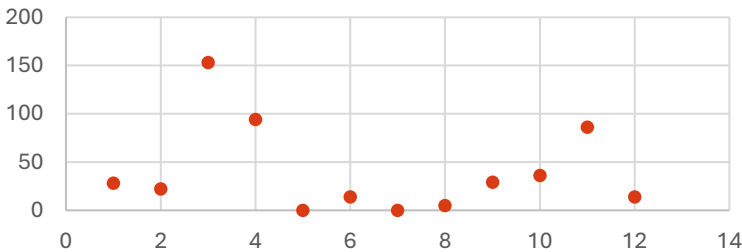
Results

In Bhutan, these activities combined with well-established institutions and motivated training participants have led to a number of results. Through a scorecard used by the independent evaluation it was assessed that there was good progress made for Bhutan when it comes to high-level stakeholders (focal point organization management) agreeing that their organizations have increased usage of geospatial applications solutions for decision making linked to the project's outputs.[24]

The project's results are visible in several sectors, most notably in **land management**, **urban planning**, and **environmental** projects such as **energy development, gender** and **cross-agency collaboration**:

Strengthened land management and planning capacities in the National Land Commission Secretariat

NLCS: The NLCS' land **use monitoring** and **decision-making** capacity was significantly enhanced with drone data processing, which can have many applications, particularly in a country with a topography of Bhutan. Interviewees from the NLCS mentioned that geospatial and drone processing training improved their ability to process cadastral surveys, reducing the time and cost involved in land administration. Moreover, it contributes to increased transparency in providing reliable data to citizens via the geoinformation portal. Furthermore, additional time and resources were saved by using drones instead of surveyors in the field. Moreover, the project's web applications, such as the **GeoNode Data Hub**, facilitated data sharing among agencies, directly supporting NLCS' mandate under the Geo-Information Policy. As a consequence, NLCS was able to observe Increased data-driven decision-making. The project also applied the MCDA tool to a major project on land use zoning by digitalizing the National Land Use zoning baseline report,[25] the first deliverable of the national land use zoning framework which addresses conflicting preferred land uses by different government agencies and private actors. As a result, this web application can be used by decision-makers. The land use cover map for 2025 was developed using better imagery and enhanced skills thanks to the project.

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[24] Baseline rating: 2 on a scale of 0 to 3 with 3 being the highest; Midline rating: 2,5 Endline rating: 3
[25] National Land Use Zoning Baseline Report 2023 launched - BBSCL

"The GIS training really improved our ability to process cadastral surveys. Now, we can finish what used to take days in just a few hours. This is saving us time and resources."
"With the training, we can now handle remote sensing and mapping more effectively. We've used drones for surveying, which helps reduce field time."
"The GeoNode platform allows us to share data seamlessly with other agencies, which wasn't possible before. This directly supports our mandate."

Urban planning in the city of Thimphu

Thimphu City: The **Thimphu Urban Planning Division** benefited significantly from the project's **GIS tools** and **web application development**. These tools helped streamline the city's zoning process for the Thimphu structural plan implementation and manage urban planning and growth. Thanks to the use of processed drone data, the 1,300 street signs could successfully be saved in the database for Thimphu in just 3 months and led to improved postal delivery services. For the 1,300 signs it took them 3 months to create the database. The division applied GIS technologies in the planning process. This is particularly important in managing the city's rapid urbanization, where the need for timely and accurate spatial data has become crucial for infrastructure development, land-use decisions, and disaster risk mitigation.

Another example is the city's use of the training on remote sensing to make Thimphu city more resilient by developing an urban heat map for Thimphu. Given that Thimphu is surrounded by mountains, it was important to understand the impact from urban heat. Moreover, 15 per cent of the Bhutanese population live in Thimphu and urbanization

rapidly increases. The next step will be vulnerability assessment of urban heat and a mitigation plan to define actions to reduce urban heat and the adverse effects of climate change.

The **backstopping support** also played a key role, as the **Thimphu Urban Planning Division** sought assistance with ArcGIS Enterprise setup with NLCS, ways for them to utilize their own spatial database with open-source web-mapping systems and data sharing between departments. The integration of GIS allowed the city to visualize real-time data, enhancing coordination between departments and speeding up decision-making for projects like road development and urban resilience planning. The capacity-building efforts ensured that planners could utilize geospatial data for immediate needs and long-term sustainability goals.

This is also beautifully illustrated through this impact story: UNOSAT - Geospatial Information Technology for Evidence Based Decision Making | UNITAR

"Without the technical support for the ArcGIS Enterprise setup, we would not have been able to process the large amounts of data we handle daily. It's become a core tool in our land management work."

"The GIS support allowed us to create layers for urban planning, which improved coordination between departments. We now visualize projects in real-time."

Gelephu Mindfulness City planning

Gelephu Mindfulness City Project: The Gelephu Mindfulness City project, a royal initiative that will cover some 2.5 per cent of the country near the town of Gelephu, along Bhutan's southern border with India, benefited from integrating geospatial tools developed through the project. This urban development plan promotes sustainable tourism and mindfulness, requiring careful planning and data management and will serve as an economic hub and gateway for tourists. The project's web application development support was critical in this initiative, as it enabled the creation of interactive GIS dashboards (Land Dashboard System) that assist in decision-making processes for urban growth and infrastructure planning. The project's technical backstopping helped ensure that spatial data was accessible, up-to-date, and integrated into high-level decisions.

This is also beautifully illustrated through this story: <u>Leading Geospatial Advancements in Bhutan | UNITAR</u>
"Our department has developed the dashboards whereby the interactive dashboards in the ArcGIS Enterprise platform are helping in decision-making for the Gelephu Mindfulness City Project."

Environment and Forestry projects in line with Bhutan's ambition for forest coverage and exclusive use of renewable energies

1. <u>Energy</u>: In the context of Bhutan's energy diversification goals, the **MCDA tool** helped identify suitable locations for small-scale **solar photovoltaic projects**, aligning with the national focus on renewable energy development beyond hydropower. Stakeholders from the **Department of Energy** noted that the geospatial tools provided by the project were crucial for conducting feasibility studies on solar plant sites.
2. <u>Forestry</u>: Forests are crucial for Bhutan as the country's constitution requires at least 60 per cent of forest coverage. Knowledge and skills from the training were successfully used to pave the way for planning projects related to national parks and botanical gardens in the **Department of Forestry**. As such the construction of an eco-trail for birds was prepared through a mapping based on a combination of drone and GIS data that the interviewee masters thanks to the technical training and web applications provided by the project.
3. <u>Water</u>: In the **Department of Water**, GIS skills from the technical training were used for area calculation, map preparation, delineating watersheds, slope calculation in the area of water, development of dynamic maps for the suitability of crops for farmers in the area of agriculture
4. <u>Agriculture</u>: GIS skills from the Advanced Remote Sensing for Sustainable Land Management Training inspired the **Ministry of Agriculture** to start developing a dashboard on soil and crop suitability.

"I don't know if it is relevant enough but I have been able to get some idea after attending the technical training. Right now, on my own, with whatever GIS day program or a week program that I got, I'm trying to develop a dynamic map for the suitability of crops in our country. I got this idea from the analytical dash board like that which was taught during the training time, esp putting in the key factors for landslide areas and generating a possible area after analysis as to counter measure those problems before arising."

"We relied heavily on the MCDA tool for the solar project. It helped us quickly assess different sites and rank them based on multiple factors."

Gender inclusion

The project also made some strides in **gender inclusion**, though challenges remain. Female participation in technical roles was lower than desired. Still, there were notable examples, such as female staff from the NLCS applying geospatial skills in both land use, cadastral work and training others. The gender imbalance reflects a broader issue in the technical geospatial field, which the project started to address through capacity-building efforts.

"Being part of this project as a woman in tech has been empowering. It's encouraging to see more female representation in geospatial technology."

Established institutional capacity and collaboration between institutions

The theme of inter-agency collaboration emerged as a vital component for the success of geospatial initiatives in Bhutan. Stakeholders identified the tendency for government agencies to operate in silos as a significant barrier to effective land management. However, the NLCS' efforts to foster collaboration through training and shared resources have begun to dismantle these barriers. For example, the establishment of a coordinated body within the geospatial community represents a positive step towards enhancing cooperation among various stakeholders, including academia and other government agencies. This collaborative approach not only facilitates knowledge sharing but also strengthens the overall capacity of agencies to utilize geospatial information effectively, thereby improving land management outcomes. As such, NLCS is also creating physical infrastructure to be able to provide GIS training to other government agencies and possibly beyond by establishing a dedicated training room. The project's training activities have contributed to providing additional opportunities for exchanges between ministries/agencies, local government (city) and academia. The sharing of ArcGIS licenses between institutions as well as the close collaboration with academia to take on board graduates from relevant GIS studies are tangible examples of increased collaboration. It also led to indirect beneficiaries benefitting from the project's training activities as insights from the training have been incorporated into Royal University of Bhutan courses in geoinformatics including remote sensing, surveying models, GIS, field computation, UAV for both bachelor's and diploma degrees. These skills then again were used by students for their academic projects.

Recommendations

1. **Expand Training and Follow-up**: Future training sessions should focus on more **advanced technical skills** and include extended follow-up to ensure that participants can apply the skills effectively. Consider artificial intelligence and automation as future training subjects to further expand NLCS' expertise and capacity. Special attention should be given to **tailored, hands-on training** that reflects the specific needs of agencies such as the NLCS and urban planning divisions and includes user cases and real-world challenges. Moreover, divide future training events into beginner and advance levels to cater to varying skill levels.

2. **Sustainability Measures**: To address the risk of staff turnover, the NLCS and government should consider creating **incentive structures** that retain trained individuals. Formalizing a **national geospatial hub** within the NLCS could also help institutionalize knowledge and ensure ongoing capacity development. Support NLCS in strengthening its role as a knowledge hub for long-term sustainability of the project's results and in becoming a regional centre of excellence in geospatial analysis.

3. Enhance Gender Focus: While gender inclusion was addressed in some areas, the project should take more substantial steps to ensure **female participation** in future trainings. Gender-sensitive programming and outreach should be incorporated into training and capacity-building activities.

4. Further Integration with Energy and Urban Planning: Geospatial tools like the MCDA and GeoNode should be more closely integrated into Bhutan's national development strategies, particularly in urban planning and renewable energy. This could ensure that Bhutan's land and energy resources are used sustainably and efficiently.

5. Showcase examples of engagements with **decision-makers using of data** for decision-making.

6. Coordinate with the Resident Coordinator Office and other government agencies, particularly when it comes to the Gelephu mindfulness city.

Case Study: Strengthening Capacities in the Use of Geospatial Information for Improved Resilience in Bangladesh

Background

The **Strengthening Capacities in the Use of Geospatial Information for Improved Resilience in Asia-Pacific and Africa** project, funded by the Norwegian Agency for Development Cooperation (**NORAD)**, aimed to improve geospatial technologies for Disaster Risk Management (DRM) capacities in Bangladesh, thereby boosting the country's resilience and its ability to mitigate future hazards. The primary focus was on equipping the **Department of Disaster Management (DDM)**, under the **Ministry of Disaster Management and Relief (MoDMR)**, with advanced geospatial tools to enhance preparedness and response to natural hazards. The project aligned with Bangladesh's national policies and global frameworks, including the **National Plan for Disaster Risk Management (2021-2025)** and the **Sendai Framework for Disaster Risk Reduction (2015-2030)**.

Bangladesh is highly vulnerable to climate and weather-related and geophysical hazards due to its geographic location and topography. Its flat topography, geophysical characteristics and climatic conditions combined with its population density and socio-economic profile make the risk profile very high. The majority of the population is exposed to multitude of hazards like floods, earthquakes, and droughts, and cyclones. On average, the country experiences severe tropical cyclone every three years, and about 25 per cent of the land mass is inundated with flood water every year. Severe flooding occurs every 4-5 years and covers 60 per cent of the land mass. Following the devastating cyclones of 1970 and 1991, Bangladesh has made significant efforts to reduce its disaster vulnerability and is today considered as a global leader in coastal resilience due to its significant long-term investments in protecting lives. However, the 2021 IPCC Report projects that climate change is intensifying the water cycle that will bring more intense rainfall with associated flooding and more extreme droughts. Bangladesh's rapid economic development and increasing population also further aggravate the risk. Harnessing geospatial technologies in Disaster Risk Management (DRM) needs to be a priority to subdue future risk, reduce existing risk, and support the development of a resilient Bangladesh.[26]

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[26] UNOSAT Inception report

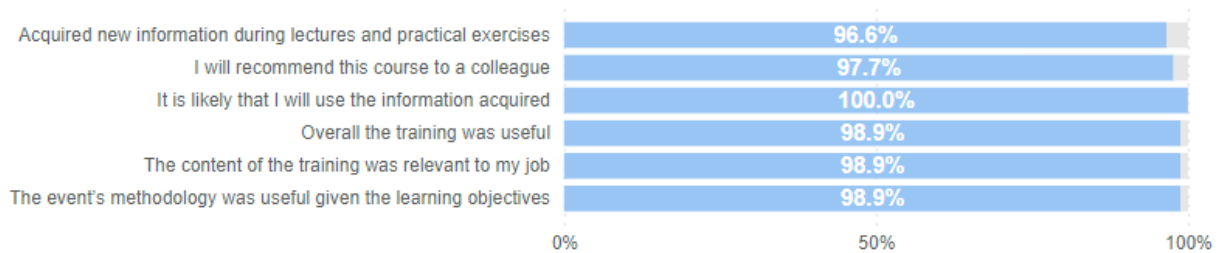**Project activities in Bangladesh**
Technical training
The project delivered four technical training sessions aimed at enhancing participants' skills in Geospatial Information Technology (GIT):

o **Introductory Training on GIT for Rapid Response Mapping** (2023): This training provided foundational knowledge on Geographic Information Systems (GIS), remote sensing, and flood mapping. According to training reports, **100 per cent** of participants stated that the training was relevant to their jobs, 94 per cent indicated that information was new, 94 per cent that the information was useful and 100 per cent that they intent to use the knowledge/skills acquired. Women responded slightly more positive regarding new information from and usefulness of the training. The training was held between the 19-23 and 26-30 November 2023 with the attendance of 13 male and 3 female participants.

o **Advanced GIT Training for Disaster Risk Reduction (DRR)**: Focused on decision-making, disaster preparedness, and data visualization using geospatial tools.

o **Web Application Utilization Training**: This training helped participants use web-based applications to manage disaster risk data and monitor hazards in real time.

o **Training on the Application of GIT for Rapid Response Mapping.**

"Actually the training was very interesting and interactive […]. [F]or more skill[s] in GIS, arrange advance level training next."
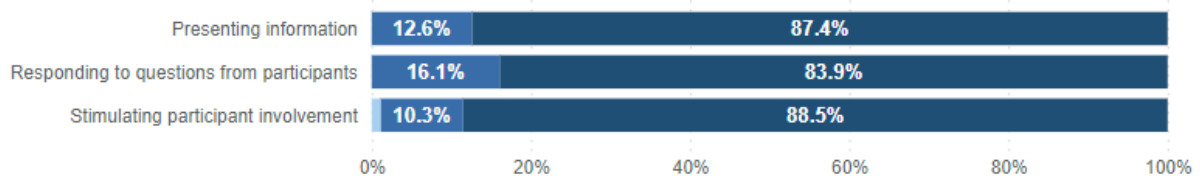
KPIs

Agree
● 4 & Strongly Agree   ● Other
5

Acquired new information during lectures and practical exercises	96.6%
I will recommend this course to a colleague	97.7%
It is likely that I will use the information acquired	100.0%
Overall the training was useful	98.9%
The content of the training was relevant to my job	98.9%
The event's methodology was useful given the learning objectives	98.9%

0%   50%   100%

Trainers/Facilitators were effective at

● 3. Neutral   ● 4. Agree   ● 5. Strongly Agree

Presenting information	12.6%	87.4%
Responding to questions from participants	16.1%	83.9%
Stimulating participant involvement	10.3%	88.5%

0%   20%   40%   60%   80%   100%

Self-Evaluation Knowledge Before & After the Training

● 1. Low   ● 2. Some   ● 3. Average   ● 4. Moderate   ● 5. High

BEFORE	54.0%	21.3%	13.1%	8.2%
AFTER	44.7%	50.6%		

0%   20%   40%   60%   80%   100%
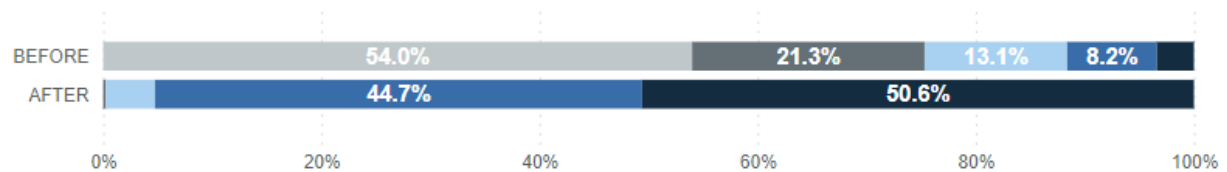
Learning Objectives Relevance

● 2. Partially   ● 3. More or Less   ● 4. Mostly   ● 5. Fully

LO Relevance	37.2%	59.0%

0%   50%   100%

Would you be interested in participating in more advanced UNITAR-UNOSAT training?

2 (2.3%)

● Yes
● No

85 (97.7%)

Self-Evaluation Achievement of Learning Objectives

● 2. Partially   ● 3. More or Less   ● 4. Mostly   ● 5. Fully

LO Self-evaluation	38.0%	57.7%

0%   50%   100%
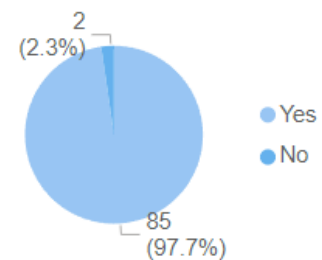
Web Application Development

Two web applications were developed and released for Bangladesh:

o [FloodAI Monitoring Dashboard](): Developed to provide real-time flood monitoring and hazard mapping, this tool integrates satellite imagery and population exposure data, assisting **DDM** in managing flood response.

o **Multi** [Hazard Risk and Vulnerability Assessment Tool]() **(MRVA)**: A web-based tool designed to assist non-technical users in evaluating multiple hazards.

Backstopping Support

Between January 2022 and July 2024, the project provided support through ten backstopping requests. These requests came from **DDM**, the **World Food Programme (WFP)**, and **Bangladesh Space Research and Remote Sensing Organization (SPARRSO)**. Key backstopping areas included:

o **Earthquake Fault Mapping**: Assistance provided to map seismic fault lines and raise awareness of earthquake risks.

o **Air Pollution Monitoring**: Collaboration with a2i to develop satellite-based air pollution monitoring in Dhaka

o **Cyclone Mocha Response**: Support for rapid mapping and damage assessment during Cyclone Mocha to help emergency response

The backstopping requests were related to Disaster Risk Management (Geospatial Data Management, Preparedness, and Response), Environment and Environmental Conservation.

Backstopping requests by type

A national level experience sharing workshop (16 July 2024) was organized in July 2024. It aimed to provide an interactive forum for high level offcicials to reflect on project's impact, to

address areas of concerns such as GIT innovation, technological change and to consider possible areas for future joint collaborations. Specifically, this event aimed to:

- Facilitate knowledge exchange in utilising geospatial information and earth observation for disaster risk management.

- Demonstrate project's outcome in collaboration with Department of Disaster Management (DDM) & UNOSAT and showcase the various geospatial web applications developed.

This National Level Experience Sharing Workshop was designed to familiarize the higher-level government officials with the activities accomplished through the project and to showcase the impacts of the activities in the long run. Workshop participants gained experience through live demonstration of the web applications developed through this project. The participants were also introduced to other technologies and application those are possible to develop in future (i.e. MCDA) for the enhancement of disaster management and response initiatives. The first part of the workshop covered the live demonstrations and showcases of geospatial web applications developed by UNITAR-UNOSAT in Collaboration with the Department of Disaster Management. Then there was a discussion session on the applications. In the second part UNITAR-UNOSAT demonstrated a prototype Multi Criteria Decision Analysis (MCDA) tool to sensitize the participants regarding the strength of GIT and to explore avenues this technology can be utilized for various sectors where the stakeholders are involved. The participants praised the project's outcomes, and the applications developed. They gave some of their valuable feedback to further improve the web applications. They were very much interested about the MCDA as the tool has the ability to be utilized in many ways. There were 41 participants from the Ministry of Disaster Management (MoDMR) and the Department of Disaster Management (DDM). All the participants were the highest-level officials of the ministry and the department. The workshop was headed by the Director General.

Results
The project significantly strengthened the application of geospatial tools in disaster management, particularly in the areas of flood and cyclone response.

"I have prepared flood map of 2022 after getting the training."

"Identifying and analyzing hazard and risk map at flood prone areas in Bangladesh"

Department of Disaster Management (DDM)

Participants applied their newly acquired skills in GIS and remote sensing to enhance DDM's capacity for managing flood risks and responding to natural disasters. The tools provided by the project, such as the **FloodAI Monitoring Dashboard**, were particularly useful for managing flood response and preparedness.

"The participants (of the training) expressed after the training that this kind of knowledge is very important for them, and they gained a lot from the comprehensive and need-based training."

Disaster Management Information Centers (DMICs)

The project trained officials working in some of the country's **64 DMICs** in Bangladesh's districts. These centers are now equipped to act as hubs for disaster risk management, with district-level staff applying geospatial tools to assess risks and coordinate responses. While staff from three DMICs participated in the trainings, the DDM is acutely aware of the need of expanding GIS/ GIT training programmes to all DMICs.

"The knowledge gained from this project could play a vital role for our staff to run the DMICs and work with geospatial information technologies at district level."

Synergies with IFAD Project

The project's activities can create synergies with the IFAD-**funded project "Promoting Resilience of Vulnerable Through Access to Infrastructure, Improved Skills, and Information (PROVATi3)"** (2017-2026). However, political instability since June 2024 has raised concerns about continued project implementation. The IFAD project plans to acquire Unmanned Aerial Vehicles (UAV) which are deemed critical, together with other GIT imagery sources, to

prevent biases in disaster assessments, ensuring objective damage evaluation and appropriate emergency response to affected areas.

Uncertainty and Sustainability

While the project has delivered tangible benefits, the long-term sustainability of these outcomes remains uncertain. Recent developments since **June 2024** have raised concerns about maintaining the tools and skills acquired through the project. Continuous support from **UNOSAT** will be necessary to ensure that the tools and applications remain updated and relevant for future disaster scenarios.

"The knowledge achieved through this technology will definitely sustain, but we will require continuous support from UNOSAT for developing new applications."

Recommendations

1. **Ongoing Technical Support**:

   To ensure the sustainability of the tools developed, continued technical support and refresher training sessions are recommended. This will ensure that DDM and other stakeholders can maintain the web applications and stay updated on new technologies.

2. **Advanced Training Modules**:

   Future training programmes should focus on advanced **remote sensing techniques** including UAVs for accurate field disaster assessments. Including district officials (from DMICs) is deemed critical.

Annex O: Evaluation consultant agreement form

Annex: Evaluation Consultant Code of Conduct and Agreement Form

The evaluator:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Is responsible for his/her performance and his/her product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study limitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form[1]

Agreement to abide by the Code of Conduct for Evaluation in the UN System

Name of Consultant: __Jose Antonio Cabo Bujan_____

Name of Consultancy Organization (where relevant): _____

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation and I declare that any past experience, of myself, my immediate family or close friends or associates, does not give rise to a potential conflict of interest.

Signed at *Ciudad de México* on *18/10/2021*

Signature: _____

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[1] www.unevaluation.org/unegcodeofconduct

ETHICAL GUIDELINES FOR EVALUATION
PLEDGE OF ETHICAL CONDUCT IN EVALUATION

UNEG
United Nations Evaluation Group

By signing this pledge, I hereby commit to discussing and applying the UNEG Ethical Guidelines for Evaluation and to adopting the associated ethical behaviours.

INTEGRITY

I will actively adhere to the moral values and professional standards of evaluation practice as outlined in the UNEG Ethical Guidelines for Evaluation and following the values of the United Nations. Specifically, I will be:

- **Honest and truthful** in my communication and actions.
- **Professional,** engaging in credible and trustworthy behaviour, alongside competence, commitment and ongoing reflective practice.
- **Independent, impartial and incorruptible.**

ACCOUNTABILITY

I will be answerable for all decisions made and actions taken and responsible for honouring commitments, without qualification or exception; I will report potential or actual harms observed. Specifically, I will be:

- **Transparent** regarding evaluation purpose and actions taken, establishing trust and increasing accountability for performance to the public, particularly those populations affected by the evaluation.
- **Responsive** as questions or events arise, adapting plans as required and referring to appropriate channels where corruption, fraud, sexual exploitation or abuse or other misconduct or waste of resources is identified.
- **Responsible** for meeting the evaluation purpose and for actions taken and for ensuring redress and recognition as needed.

RESPECT

I will engage with all stakeholders of an evaluation in a way that honours their dignity, well-being, personal agency and characteristics. Specifically, I will ensure:

- **Access to** the evaluation process and products by all relevant stakeholders – whether powerless or powerful – with due attention to factors that could impede access such as sex, gender, race, language, country of origin, LGBTQ status, age, background, religion, ethnicity and ability.
- **Meaningful participation and equitable treatment** of all relevant stakeholders in the evaluation processes, from design to dissemination. This includes engaging various stakeholders, particularly affected people, so they can actively inform the evaluation approach and products rather than being solely a subject of data collection.
- **Fair representation** of different voices and perspectives in evaluation products (reports, webinars, etc.).

BENEFICENCE

I will strive to do good for people and planet while minimizing harm arising from evaluation as an intervention. Specifically, I will ensure:

- **Explicit and ongoing consideration** of risks and benefits from evaluation processes.
- **Maximum benefits** at systemic (including environmental), organizational and programmatic levels.
- **No harm.** I will not proceed where harm cannot be mitigated.
- **Evaluation makes an overall positive contribution** to human and natural systems and the mission of the United Nations.

I commit to playing my part in ensuring that evaluations are conducted according to the Charter of the United Nations and the ethical requirements laid down above and contained within the UNEG Ethical Guidelines for Evaluation. When this is not possible, I will report the situation to my supervisor, designated focal points or channels and will actively seek an appropriate response.

José Antonio Cabo Buján   01/11/2021   (Signature and Date)