FP107

Supporting Climate Resilience and Transformational Change in the Agriculture Sector (GCF-CRA) in Bhutan

Bhutan

May, 2026

Final Evaluation Report

This report presents the Final Evaluation of the Green Climate Fund (GCF)-funded project “Supporting Climate Resilience and Transformational Change in the Agriculture Sector (GCF-CRA) in Bhutan”. The evaluation was independently commissioned by the Accredited Entity (AE), UNDP, and submitted to GCF. GCF assumes no responsibility for the accuracy of the

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United Nations Development Programme

Royal Government of Bhutan

Final Evaluation of the GCF/UNDP Project - Supporting Climate Resilience and Transformational Change in the Agriculture Sector in Bhutan

(GCF ID: FP107; UNDP PIMS ID: 5777)

Executing Entity: *Ministry of Finance*

Other key project partners: *Department of Agriculture, Ministry of Infrastructure and transport, National Center for Hydrology and Meteorology, district and local administrations*

Final report

Timeframe of final FE report: 03.08.2025- 05.05.2026
Region and countries included in the project: Bhutan, South Asia

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The evaluation team visited three project Districts: Dagana, Punakha, and Wangduephodrang. The evaluation team also interviewed the other remaining project district officials remotely. These interviews and FGDs provided an excellent opportunity to assess field conditions, consult local government officials and meet the ultimate beneficiaries of the GCF project. The team also had in-person and virtual discussions with key central agency representatives including members of TACC and project Board, as well as development partners. Their open and frank discussion were very valuable, and the evaluators wish to thank all of them for their support and time.

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Acronyms and Abbreviations

AE	Accredited Entity
AI	Artificial Intelligence
ADB	Asian Development Bank
APR	Annual Performance Report
AEO	Agricultural Extension Office
ARDC	Agricultural Research and Development Centers
AF	Adaptation Fund
BAFRA	Bhutan Agriculture and Food Regulatory Authority
BTN	Bhutanese Ngultrum
BOT	Build–operate–transfer
BAC	Before and After Comparison
BTF	Bhutan Trust Fund
BRH	Bangkok Regional Hub (of UNDP)
BCCI	Bhutan Chamber of Commerce and Industry
CRA	Climate Resilient Agriculture
CCA	Climate change adaptation
CO	Country Office (UNDP)
CSO	Civil Society Organization
CPD	Country Program Document (UNDP)
CNR	College of Natural Resources
CSF	College of Science and Technology
CBO	Community-based Organization
DOA	Department of Agriculture
DOST	Department of Surface Transport
DAMC	Department of Agricultural Marketing and Cooperatives
DO	Direct Observation
DL&D	Disaster Loss and Damage
DOW	Department of Water
DID	Difference-in-Differences Analysis
DAC	Development Assistance Committee (of OECD)
DDM	Department of Disaster Management
DOFPS	Department of Forest and Park Services
DMDF	Department of Macro-Fiscal and Development Finance
DAMC	Department of Agricultural Marketing and Co-operatives
EOP	End of Project
EFRC	Environmentally Friendly Road Construction
EU	European Union
ESMF	Environmental and Social Management Framework
EA	Executing Agency
FGD	Focus Group Discussion
FAA	Funded Activity Agreement
FP	Funding Proposal
FYP	Five Year Plan
FAO	Food and Agriculture Organization
FE	Final Evaluation
F	Finding
FY	Fiscal Year
GAP	Gender Action Plan
GC	Gewog connectivity

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GCF	Green Climate Fund
GEWE	Gender equality and Women' Empowerment
GHG	Green House Gas
GEF	Global Environmental Facility
GBB	Gender-Based Budgeting
GNHC	Gross National Happiness Commission
GoI	Government of India
GSB	Granular Sub-base
HH	Household
HDPE	High-density polyethene
HWC	Human- Wildlife conflict
HQ	Headquarters
IFAD	International Fund for Agricultural Development
IE	Interim Evaluation
IEU	Independent Evaluation Unit (of GCF)
IA	Implementing Agency
IP	Implementing Partner
KII	Key Informant Interview
KM	Knowledge Management
KAP	Knowledge, Awareness and Perceptions
LG	Local Government
LD	Land Degradation
LGBTQI	Lesbian, Gay, Bi-Sexual, Trans-Gender, Questioning/Queer, and Intersex.
LNOB	Leave No One Behind
M&E	Monitoring and Evaluation
MoAL	Ministry of Agriculture and Livestock
MoF	Ministry of Finance
MoH	Ministry of Health
MHEWS	Multi Hazard Early Warning System
MoIT	Ministry of Infrastructure and Transport
NCHM	National Center for Hydrology and Meteorology
NDC	Nationally Determined Contribution
NAP	National Adaptation Plan
NIM	National Implementation Modality
NSSC	National Soil Services Center
NbS	Nature-based Solutions
NGO	Non-government organization
NEC	National Environmental Commission
O&M	Operation and Maintenance
OECD	Organization for Economic Cooperation and Development
PB	Project Board
PAC	Project Advisory Committee
PIMS	Project Information Management System
PwD	Persons with Disabilities
PM	Project Manager
PMU	Project Management Unit
PES	Payment for Ecosystem Services
ProDoc	Project Document
RGoB	Royal Government of Bhutan
RTA	Regional Technical Adviser
RUG	Road Users' Group
RBAP	Regional Bureau for Asia and the Pacific (UNDP)

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RBM	Results Based Management
SDG	Sustainable Development Goal
SNC	Second National Communication
SLM	Sustainable Land Management
SOP	Standard Operating Procedures
SPR	Standard Progress Report
SESP	Social and Environmental Screening Procedure/SES
RSC	Regional Seed Centre
PRF	Project Results Framework
RTA	Regional Technical Advisor (UNDP)
RP	responsible party
SMART	Specific, Measurable, Attainable, Relevant, Time-bound
SDG	Sustainable Development Goal
tCO2	Tonne of Carbon Dioxide
TOR	Terms of Reference
TPR	Third Party Report
TOC	Theory of Change
TWC	Technical Working Committee
TACC	Technical Advisory and Coordination Committee
UNFCCC	UN Framework Convention on Climate Change
UNSDPF	United Nations Sustainable Development Partnership Framework
UNDP	UN Development Programme
UNOPS	United National Office for Project Services
USD	United States Dollar
WUG	Water Users' Group
WUG	Water Users' Association
WB	World Bank
WBM	Water-bound Macadam

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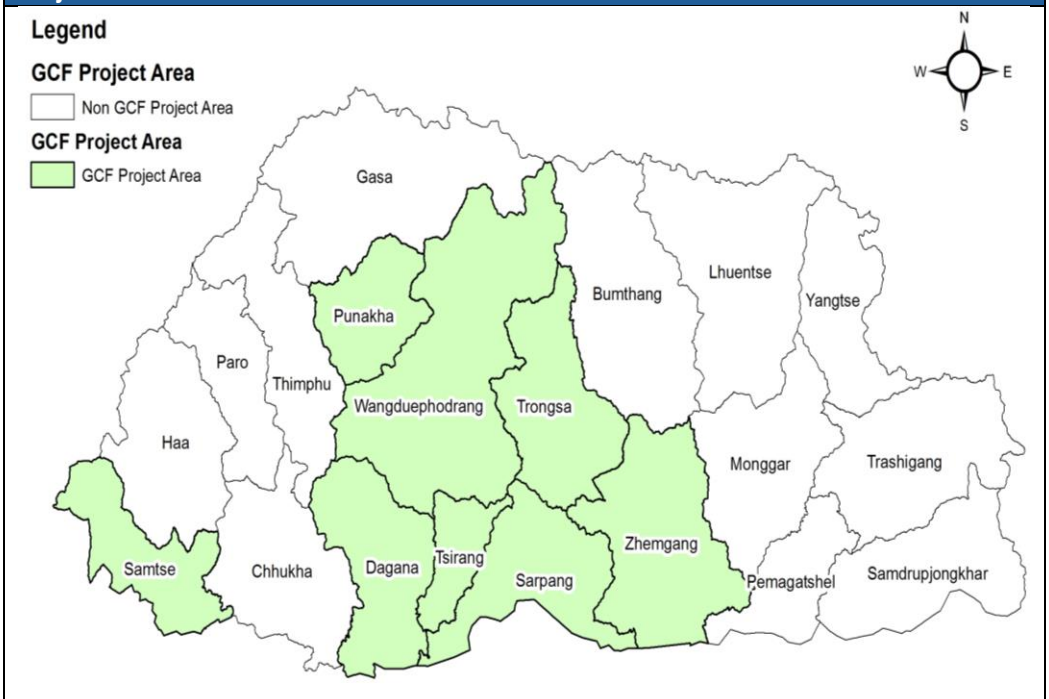
Project Information Table

Project title: Supporting Climate Resilience and Transformational Change in the Agriculture Sector in Bhutan		
Atlas ID: 00093951		
GCF ID: FP107		
PIMS ID: 5777		
Management Arrangements: National Implementation Modality (NIM)		
GCF Results Area:	Increased resilience of: Most vulnerable people and communities, Health and well-being, and food and water security, and Infrastructure and built environment	
Corporate outcome and output at adoption: By 2023, Bhutan's communities and its economy are more resilient to climate-induced and other disasters and biodiversity loss as well as economic vulnerability **UNDP Strategic Plan Output:** 1.3.1 National capacities and evidence-based assessment and planning tools enable gender-responsive and risk-informed development investments, including for response to and recovery from crisis 1.4.1 Solutions scaled up for sustainable management of natural resources, including sustainable commodities and green and inclusive value chains **UNDP outcome 2 (UNSDCF outcome 3). By 2028, Bhutan's environment remains sustainably managed, and its people are more resilient to disaster risks and climate change** Output 2.1. More people in Bhutan, especially the vulnerable, have strengthened capacity to adapt to innovative solutions for resilience to climatic change and disasters; Output 2.2. Mechanisms, innovative partnerships, and financing solutions strengthened for ecosystem resilience that benefits all		
Country: Bhutan		
Region: RBAP		
PAC meeting date: 26 November 2019		
Date project document signed: 27 September 2019		
UNDP Social and Environmental Screening Category: Moderate **UNDP Gender Marker for the project output:** Gen 2		
Project dates	**Start date:** 7 November 2019	**Planned end date:** 7 November 2025
Date project manager hired:	6th April 2020	
Inception Workshop date:	February 3, 2020	
IE date	27.12. 2022	
Project budget GCF (grant): US$ 25,347,194 Government co- financing: US$ 32,668,000 **Total:** **US$ 58,015,194**		
Project expenditure at the time of evaluation: USD 25,315,507.53		
Project co-financing at the time of evaluation: USD 34,450,806.14		
Funding source: Green Climate Fund (GCF)		
Project Locations: 8 districts of Bhutan: Punakha, Wangdue Phodrang, Samtse, Tsirang, Dagana, Sarpang, Trongsa and Zhemgang		
Executing Agency: Department of Macro-Fiscal and Development Finance, Ministry of Finance,		
Other execution partners: Ministry of Agriculture and Livestock, National Centre for Hydrology & Meteorology, Ministry of Infrastructure and Transport		

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Project sites with GIS coordinates for the major irrigation schemes				
Districts	site	Coordinates		
		Latitudes/Y/	Longitudes/X/	Altitude
Punakha	Phendey Yuwa irrigation	N3048181.898m	E227176.156m	1933.126m
	Hokatsho irrigation	N 3058058.549m	E 223137.796m	2263.856m
	Domsimo irrigation	N3055788.135m	E246208.855m	2038.066m
	Jimthang irrigation	N 3053835.749m	E 240986.709m	1508.117m
Dagana	Narikachhu irrigation	N2989240.871m	E247165.029m	1613.661m
	Chukam irrigation	N2980050.205m	E232843.343m	1757.638m
	Tshamzhigosa irrigation	N2961010.129m	E224533.91m	239.598m
Trongsa	Longchhu irrigation	N3035632.702m	E307258.937m	2612.067m
	Creedigang irrigation	N3009101.083m	E297732.631m	1509.760m
	Samcholing Ksameh irrigation	N3033928.293m	E303259.279m	2120.966m
	Yurmung Tsangchhu irrigation	N 3031954.133m	E 310277.871m	2139.376m
Tsirang	Dungkarcholing irrigation	N 2986557.88m	E 263792.558m	1580.991m
	Pemashong-Tashipang irrigation	N2981623.125m	E260379.852m	1094.666m
	Neycheychhu irrigation	N 3003957.508m	E 263056.129m	1843.700m
Sarpang	Gomchula (Pakhey) irrigation	N2976110.561m	E277423.369m	377.194m
	Mahajan (Rejuk) irrigation	N2972871.433m	E270935.614m	347.817m
	Thewar irrigation	N2979387.448m	E304355.796m	442.499m
	Juprey irrigation	N2978702.07m	E294488.37m	481.54m
Wangdue Phodrang	Phangyul irrigation	N3051627.002m	E254910.192m	2139.044m
	Manigang-Kashachelgo irrigation	N3014758.194m	E266278.031m	1286.099m
	Mangchukha irrigation	N 3041858.275m	E 263623.872m	3004.317m
	Ngawangseychhu irrigation	N 3040422.057m	E 246587.355m	2117.644m
	Rukha irrigation	N 3009750.548m	E 272048.494m	1467.400m
	Pangkabji Yuwa irrigation	N 3048437.172m	E 255026.912m	2319.350m
	Lachu Yuwa irrigation	N 3047902.911m	E 267032.908m	2644.135m
	Rinchengang irrigation	N3038103.849m	E237308.833m	1426.135m
Samtse	Lamitar irrigation	N2986626.404m	E150178.195m	729.833m
	Biru-Sipsoo irrigation	N 2997113.106m	E 141427.748m	783.778m
	Gambadara irrigation	N2979562.097m	E157420.735m	436.913m
	Lingthey irrigation	N 2985045.069m	E 147068.431m	443.824m
	Tendutar irrigation	N3003181.963m	E138305.024m	1045.427m
	Tharaykhola irrigation	N2988073.051m	E153567.433m	863.503m
	Balbotey irrigation	N2992344.463m	E139436.524m	537.642m
Zhemgang	Salapong-Tashibi irrigation	N2977819.855m	E334060.025m	1185.752m
	Takabi irrigation	N3002471.112m	E316944.420m	666.171m
	Khomshar irrigation	N 3002749.185m	E 346634.965m	1486.613m

Project districts Bhutan



Source: Project document

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EXECUTIVE SUMMARY

[1] **Introduction.** As part of the Evaluation Plan of the United Nations Development Programme (UNDP) Bhutan Country Office (CO), the Final Evaluation (FE) of the Green Climate Fund (GCF)/UNDP Project – *"Supporting Climate Resilience and Transformational Change in the Agriculture Sector"* (*GCF- CRA* project hereafter) in Bhutan was initiated to assess the achievement of project results against the targets, draw lessons to improve the sustainability of benefits from this project, aid in the overall enhancement of UNDP, GCF and partners' programming, and promote accountability and transparency to donors, partners and stakeholders. This FE used a combination of (1) triangulation (desk review, around two hundred and twenty-five (225) Key Informant Interviews (KIIs), eight (8) Focus Group Discussions (FGDs) and Direct Observations (DOs) (see 1.L: Questionnaires Used) during the site visits in 3 districts (overall the FE sample included 4 districts) and (2) contribution analysis, as the main methodology. The main limitation was that for many indicators the impact assessment (IA) of 2025 (3rd round, IA2025)) was to be the source, but the latter was not clear on several of these indicators, partly because the control group was not kept free from project influence. As a result the IA2025 team to relied on a combination methodologies (Before and After Comparison (BAC) and Difference-in-Differences (DID) analyses), which did not fully address the concern. There were issues with the reporting in the latest Standard Progress Report (SPR)/Project Completion report (PCR) too (partly reflecting these issues). In the cases where the results were not very clear from IA2025 and project reports, enhanced triangulation was used and qualitative validation techniques, and the FE assessed the likely direction of development in the observable future in the light of reforms and trends.

[2] **Project Description.** This project was designed in 2016, through a collaboration of the UNDP and the Royal Government of Bhutan (RGoB). It was approved by the GCF in December 2019 and the Project Document (ProDoc) was signed in January 2020. It lasted, as was expected, six years – 2020-2025. The total budget of USD 58,015,194 included the GCF Grant of USD 25,347,194 administered by UNDP and USD 32,668,000 RGoB co-financing. The *project objective* was to enhance the resilience of smallholder farms to rainfall variability, as well as projected increases in temperatures and monsoonal rainfall, including with a transition from reactive to climate- informed planning. The project targeted two (2) Outcomes (a) Agricultural planning and implementation at the national, sub-national and household (HH) level informed by climate information, and (b) reduced disruption to smallholder farmers, from the impacts of climate change. These were to be achieved with three (3) Outputs: (a) promotion of resilient agricultural practices in the face of changing climate patterns; (b) integration of climate change risks into water and land management practices that affect Smallholders; and (c) reduction of the risk and impact of climate induced landslides during extreme events that disrupt market access. The project was expected to support a paradigm shift '*…away from business-as-usual agricultural production systems to informed, decision-led production systems, complemented by resilience building in the production stage up to marketing of agricultural products to optimize income from value chains. to integrate production with sustained participation in value chains with actions that are designed to reduce vulnerability at various stages…*." (approved Funding proposal (FP)). The project strengthened the capacities of the institutions and farmers, contributing to several Sustainable Development Goals (SDGs). UNDP acted as Accredited Entity (AE) and the Ministry of Finance (MoF) -executing entity(EE), taking over from the Gross National Happiness Commission GNHC), since 2002 the government reorganization.

Concise summary of findings

[3] **Project design.** The project design was overall strong, based on participatory needs assessment and on the underlying analysis of the climate vulnerability related challenges, but missing a solid analysis of the enabling environment for market linkages, especially in the project districts. The combination of the

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building blocks of the project- Climate Resilient Irrigation (CRI), Climate Smart Agriculture (CSA), Sustainable Land Management (SLM), climate proofed roads, regulatory-level support, and capacity building (CB) presented a model that produced important results. It had appropriate Environmental and Social Management Framework (ESMF). The risks related to the sustainable Operation and Maintenance (O&M) of infrastructure and Human Wildlife Conflict (HWC) needed a "High" rating with robust measures to monitor. The Stakeholder Engagement Plan (SEP) needed details and there could have been explicit activities on the engagement with the private sector and strengthening of the Road Users Groups (RUGs) by the government. Some of the indicators from the Results Framework (RF) had issues (e.g., related to the measurement of effectiveness of institutional strengthening). The Gender Action Plans (GAP) was in need of revision and addressing Leave No One Behind (LNOB) was not adequately discussed.

[4] **Project implementation and management.** The project implementation was smooth, with examples of strong adaptive management, e.g.., with working during COVID19 and justified reallocations within the budget lines. Both UNDP and the EE delivered on their respective responsibilities as planned and overall, effectively, with more expected in terms of outreach to wider spectrum of development partners and beyond the direct stakeholders. The latter participated actively in the project. The project budget was executed with strong discipline and as planned, with the actual co-financing surpassing the plans. The ESMF- based Environmental and Social Management plans (ESMPs) were effectively implemented. The M&E Plan had misinterpreted a couple of indicators, especially related to institutional level results of CB; assessing "reach" instead of "adoption" for CSA; "unique" beneficiaries not measured, etc. It was operationalized with one year delay (with hiring of the M&E Officer) mostly adequately, with a strong system of information gathering for the built infrastructure, but issues with the execution of annual impact assessments (IA) (in particular, the timing (IA2024) and contamination of the control group (IA2025)) affecting the quality of the final reporting and the effectiveness of Results-Based-management (RBM). The revised GAP was mostly tailored to address (a) challenges with social norms and (b) women's equality.

Project Results and Impacts.

[5] ***Extent of achievements of targets for indicators for outputs, outcomes, impact):*** Most were achieved or were close/likely to be met. In particular:

- ***the targets for the following were achieved***
  - ✓ *CRI: 31,594 people (15,564 women)* got access to reliable CRI, surpassing the targets [*Impact A1.0, indicator 1.2a*];
  - ✓ *CSA:* 83,159 farmers (53 percent women, slightly below the target) adopted one or more of 23 climate-resilient agricultural practices. [*Impact A1.0, indicator 1.2b*];
  - ✓ *SLM:* the target of 2,380 hectares [*Output indicator 2.5*] was surpassed with 5,023 hectares stabilized benefitting 103,472 smallholder farmers (50 percent women) [*Impact A1.0, indicator 1.2c*];
  - ✓ *Climate Proofed Roads*: 23 farm roads (211 km) were climate proofed and had a potential for higher resiliency (with additional slope stabilization). For the 3 sections of main roads (Reotala, Khagochen and Box-Cut) the geo-technical studies were completed. Khagochen and Box-Cut roadslide mitigation works were completed too (with a temporary solution for Box Cut) and Reotala self-stabilized [*Output indicator 3.1*, and, *Impact A3.0 indicator];*
  - ✓ *The total number of direct beneficiaries* was estimated by the project to be 257,750 (50 percent women), surpassing the target of 118,839 [*Impact A3.0, indicator 3.1];* but this included double-counting of beneficiaries of various activities, since "unique beneficiaries" were not counted;
  - ✓ *The nine (9) climate information products, were delivered as planned, [indicator for Outcome 1a],*

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but helped only part of the farmers to improve decision-making related to farming schedules. These tools were integrated into crop and livestock planning with a potential to enhance adaptive capacity and reduce exposure to climate risks at scale;

- ✓ *Eight (8) district level Participatory SLM Action Plans* were developed and used in implementation planning [*Output Indicator 2.4*];
- ✓ The target of *70 percent increase over the baseline for the "Change in knowledge, awareness and perception (KAP) on role of wetlands and sustainable water use"* [*Output Indicator 2.1*];
- ✓ The Level 4 target for the *"Level of integration of climate related information in national disaster loss and damage (DL&D) database"* [*Output Indicator 3.2*]. The integration was ongoing during the FE, with the enhancement of road damage data collection methodology, and SOPs developed; and
- ✓ *Impact (A2.0) Indicator 2.3 "Number of males and females with year-round access to reliable and safe water supply despite climate shocks and stresses*" with 31,594 reported (15,564 female) against the total target of 14,340 (7350 female);

- ***For the following the targets were FE-assessed as achieved, in the light of the overstated targets***
  - ✓ *6,366 hectares irrigated* including 1,129 Ha fallow land reversion. The 8,000-ha target was an assessment at the approved FP [*Output indicator 2.3*]. Thirty-seven (37) irrigation schemes were completed (including one 20HP Solar water pump); and
  - ✓ *214.6 km of gewog connectivity (GC) roads climate-proofed* against the target of 232.22 km, but the latter was only an initial assessment [*Impact A3.0, indicator 3.1]*
- ***The results for the following indicators were FE-assessed as likely to be achieved in near future***
  - ✓ The target *(60 percent) "Increased institutional capacity for climate-informed agriculture planning*" [*Output Indicator 1.2*]– given the WB- supported crop calendar replication at the FE (with the project-supported medium range weather forecasts as input) [548 NCHM staff (15 planned) were trained);
  - ✓ The "Level 4" target for "*the Level of knowledge and adoption by beneficiary HHs of climate resilient and sustainable crop production practices"* [*Output Indicator 1.3*]. The agricultural extension workers overburdened by other tasks was one of the factors, along with affordability. FE assessment was Level 3, but noting (a) more adoptions of some CSA practices, and part of the farmers managing climate risks well, and (b) more expected in the near future given the promotion by other projects, and expansion of the RGOB cost- sharing scheme;
  - ✓ The target "*Average increase of scores by 60 percent from baseline*", for the Indicator "*technical capacity of members of Water User Groups (WUG), Dzongkhag engineers and agriculture extension officers for climate adaptive water and soil management enhanced*) [Output indicator 2.2] was close/ likely in the near term based on the FGDs/KIIs and more training planned as part of the water sector reforms, with financial guidance. WUGs did need more training, however;
  - ✓ The *target of "6 percent increase in scores"* for the Indicator *"Technical capacity of members of WUGs, Dzongkhag engineers and agriculture extension officers for climate adaptive water and soil management enhanced"* [*Outcome 1b]* was FE-assessed as close due to large numbers trained, positive feedback in FE KIIs./FGDs, and crop calendar replication (no clear reporting, however); and
  - ✓ While it is unclear if the target of *"30 percent increase in crop yield for 70 percent of beneficiaries"* [for the Indicator for Outcome 2] was achieved, given no information for all crops in IA2025, for rice the result in 2025 showed average yield (including production from irrigated, rainfed, mixed and upland areas) increased by 28 percent (improving by a similar magnitude on fully irrigated lands, together with 19 percent increase in production). FE assessment was "Likely" given (a) high rice yields (IA2024, IA2025), (b) feedback in FGDs, and (b) continued expansion irrigated plots.
- ***The target (70 percent) for the share of beneficiaries in targeted dzongkhag accessing improved climate services*** was not achieved (IA2024 and IA2025) [*Output indicator 1.1*]

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[6] The factors affecting the achievement of outputs and outcome included (a) on the enabling side (a) synergies with the WB and JICA; and (b) on the hindering side, COVID, underestimation and escalation of costs, among others. The project overcame the challenges with efficient work planning and implementation and adaptive management.

[7] ***Relevance*** The project was relevant with regards to the country policies and targets (e.g., the consecutive Five-Year Plans (FYPs), the National Adaptation Plan (NAP), Nationally Determined Contributions (NDCs)), country context (especially in relation to its terrain and climate), needs and capacities of the beneficiaries, UNDP Country Programme Documents (CPDs), the UN Sustainable Development Cooperation Frameworks (UNSCDF), and GCF priorities.

[8] ***Coherence:*** The project was complementary to many projects implemented by UNDP (ACREWAS, BIOFIN, SGP, etc.), the RGoB and the development partners. Some of the latter focused on irrigation infrastructure (e.g., funded by the Government of India), others - on supporting marketing, trade and export infrastructure and agrometeorological forecasting (Word Bank), value chain development (Food and Agriculture Organization) FAO), etc. The synergies were not many: with the WB (Agrometeorological Decision Support System (ADSS)), related to crop calendar; JICA (climate information, with NCHM); FAO and Bhutan Trust Fund (BTF)

[9] ***Effectiveness*****:** The project made an important contribution towards its objectives- to more climate resilience of the farmers – with climate-informed planning, equipped with resilient agricultural and water management practices, and facing less disruption for market access through project implemented climate proofed roads. The project contributed to several key targets from the RGoB plans. It was able to demonstrate progress against GCF Investment Criteria, but to a varying degree, including:

- *Impact potential-* medium/High (estimated as Medium/High in the approved Funding Proposal (FP)). The project achieved its target for the total number of direct beneficiaries (27,598 agricultural HHs, 257,750 individuals (51 percent women)), who benefitted from CRI, SLM and CSA (with the adoption rate for the latter somewhat slower than expected at the FE). In terms of indirect beneficiaries, it was estimated in the approved FP to benefit the entire agriculture sector, i.e. 58 percent of livelihoods, engaged in agriculture. The project reported as meeting this target in the narrative of the PCR (plus 82,210 (42 percent women) mainly from the use of roads), but without calculations to back up this claim, and the FE assessment was that this would be somewhat lower, given the (a) somewhat lower, at the FE, rate of CSA adoption; (b) increases for yields notable for fully irrigated lands and for rice only (at the FE), and (c) livelihood indicators improving but with no attribution to the project, etc.). Having said that, there was a potential for a successful scale up from the project in the case for the HDPEs, 9 SLM technologies and participatory SLM planning- with many of these already happening and so the potential benefit to the whole of the agriculture sector was high.
- *Paradigm shift potential- medium/High*, (FP: Medium). This was demonstrated through a shift away from outdated farming methods to climate-informed, resilient agricultural practices, with a strong potential to be scaled up, with transformed landscapes, returning of internal migrants, and farmers moving from subsistence to commercial farming, but the innovativeness was impacted by not addressing the critical gaps in market linkages (as per final design) ;
- *Sustainable development potential-medium*, (FP-High). The project potentially contributed to several Sustainable Development Goals (SDGs), but to a modest extent (especially for SDG 1: (Poverty), SDG

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2 (zero Hunger), SDG 10 (Reduced inequality), SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth)), but more for SDG 13 (Climate Action) and SDG 15 (Life on Land);

- *Needs of the recipient-High* (FP-High). The project concentrated on the regions with high climate vulnerability and poverty; responding to high need in CB, CRI, SLM and CSA and helping the farmers to be more climate resilient also with uninterrupted access to nearby markets;
- *Country ownership-High* (FP- high). This was (a) supported by *inter alia*, close alignment with the national priorities and being based on participatory design, and (b) evidenced by the RGoB providing the committed co-funding, and actively engaging in project implementation; and
- *Efficiency and effectiveness -medium* (FP- Medium): while the project was overall cost-effective and cost -efficient and the expected co-financing materialized, there were risks to financial sustainability and the expectations for the attributable higher yields and higher income to the farmers did not fully materialize.

[10] ***Efficiency*** The project did not experience major delays despite exogeneous challenges (e.g., COVID19 related, cost escalation and government restructuring in 2022). It was cost effective and, overall, cost -efficient, but the latter could have been more pronounced with more synergies utilized. The Interim Evaluation (IE) recommendation on putting more focus on supporting the farmers with marketing and market access, addressing the critical gaps, was not acted on, with the justification that this was not in the final design. The project governance was effective with an active Project Board (PB), Technical Advisory and Coordination Committee (TACC), Project Management Unit (PMU) and an efficient PM; while two (2) district governors never got represented in the PB, they were actively engaged. Challenges included the very strict approach of the funder (GCF) to substantial modifications.

[11] ***Sustainability.*** Financial sustainability prospects varied: (1) likely -for the SLM, drip and sprinkler irrigation (given the strong ownership by the farmers); (2) moderately positive for (a) CRI, with concerns about the full coverage of life-time O&M costs of the piped network in the face of small service fees collected by the WUGs and district budgets (while reforms were being considered by the Department of Water (DOW), with O&M fee guidance and the Payment for Ecosystem Services (PES) scheme was piloted, assurances of these reform plans to be adopted soon were however absent at the FE) and (b) roads, but in this case the challenges were compounded by the more institutional weakness of the Road Users Groups (RUGs), which did not receive the same institution- building support as the Water Users Groups (WUGs), as per design (the roads component was co-funded by the government and the assistance/CB to the RUGs was expected to be part of the Government programs); and (3) with risks in terms of some of the CSA methods, due to the issues with wide-spread adoption mentioned, but with improved prospects. The developed Exit Plan lacked implementation details. There were no political risks to sustainability, but there were socioeconomic risks related to high outward and rural-urban migration. The gender results were likely to be long term in the project areas, but not sustainable in terms of repeat trainings by the district administrations given the lack of plans and budgets for gender activities locally and the lack of implementation of Gender-Based Budgeting (GBB) country-wide. And finally, continuation of research under the Agricultural Research and Development Centers (ARDCs) to the same extent would be unlikely without development project support, which is infrequent.

[12] ***Innovativeness.*** The Innovativeness aspect of the paradigm shift was somewhat reduced by the absence of a market-linkages element from the design (was cut as part of finalization of the approved Funding Proposal (FP), but was part of the formulation of the paradigm shift)– while this was important

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to optimize income from value chains. While the CRI, SLM, CSA methodologies, the Participatory SLM were not completely novel in Bhutan the way how these approaches were contextually adapted, bundled, and scaled within Bhutan's challenging mountain environment was innovative and this helped to enrich the local knowledge about these. Hydroponics, vermi-compost, biochar, smart features-enabled drip, and sprinkler irrigation were novelties, attracting youth in the implementation. There were innovations at the National Center for Hydrology and Meteorology (NCHM) and Department of Surface Transport (DoST), and also non-technical, e.g. (a) Build–operate–transfer (BOT) model; and (b) PMU reporting to the PB and the TACC . Perhaps the project could have put some more focus on introducing more climate resilient varieties of seeds.

[13] ***Unexpected results*** The positive ones included (a) fewer reported livestock deaths attributed to water or forage shortages; (b) fewer car accidents on the improved farm roads; and (c) youth inspired to pursue farming as a business venture with innovative technologies. Increased incidence of Human - Wildlife Conflict (HWCs) in some (at least four visited) communities was to some extent indirectly associated with the project (probably due to increased harvest) with some HHs losing up to 50 percent of yields. The FE observed initial resistance among certain communities to replacing traditional irrigation systems with HDPE alternatives: this was addressed with community consultations to highlight the benefits of the latter.

[14] ***Country ownership*** Country ownership was strong overall, at all levels, with the institutions that were involved directly, actively engaged, and invested. The project would have benefitted from stronger ties with the tangential stakeholders (e.g. Bhutan Chamber of Commerce and Industry members, Bhutan Export Association, among others), which could have been facilitated by the EE/direct stakeholders.

[15] ***Gender Equality and Women's Empowerment (GEWE).*** The Project had more than 50 percent women -beneficiaries, *inter alia*, enabling many women (and men) to shift from subsistence farming to running small farm businesses, and/or enhance their businesses (the numbers of those not monitored however), e.g., within the Green Tea Association. In terms of equality, there were already examples of women taking leadership roles at WUGs, and this was likely to happen more in the project districts, but transformative change country wide, in this regard would have required affecting the deep-rooted social norms more and policy measures on gender, localized at LGs with budgets.

[16] ***Cross-cutting:*** The M&E system, including IAs, did not capture the Leave No-one Behind (LNOB)- i.e., the elderly, Persons with Disabilities (PwD), vulnerable youth, Lesbian, Gay, Bi-Sexual, Trans-Gender, Questioning/Queer, and Intersex (LGBTQI) community, etc. benefiting – systematically, even though the concept of LNOB became prominent with the SDG agenda, in 2015. There was evidence, however, of the project positively affecting them, e.g., the elderly (with dry terracing), returning migrants, vulnerable youth (engaged in infrastructure works), PwDs (as targeted beneficiaries), etc.

[17] ***Replication and Scalability*****:** SLM practices and tail-end sustainable irrigation was likely to be replicated given the strong ownership by the farmers and the RGoB cost-sharing scheme, but noting that this was not happening much for the greenhouses and innovative solutions (hydroponics, biochar, vermi-compost), for several reasons (affordability, the need for more effective knowledge transfer and land fragmentation). For larger- scale SLM schemes and HDPEs the replication was likely (given many donor agencies supporting) but with risks, since, while efforts to mainstream climate resilience across sectors were underway by the RGoB (including in FYPs), adequate and sustainable financing continued to be a

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concern. The enabling factors for replication included: (a) RGOB commitment with the state programs reflecting it and several supportive regulatory acts adopted; (b) the trained specialists sharing their knowledge; (c) the College of Natural Resources (CNR) having the innovations in their curricula (without project's support); and (d) the overall strong "Department of Agriculture (DOA)-ARDCs -district Agricultural officers – extension agents" chain, but which was weakened due to the extension agents being overly busy with other functions and high turnover among them. Factors negatively affecting the likelihood of replication included: (a) limited direct engagement of the project with the remaining 12 Agricultural officers directly in Knowledge Management (KM); and (b) often the unaffordable cost of the innovations for individual households in the face of still not strong and not many farmers organizations. As for GEWE, both sustainability and replication had risks due to the systemic reforms not implemented as yet (gender-based budgeting; local-level plans and budgets for GEWE among them), but noting that there were several reforms planned.

[18] ***Progress to impact*:** The project contributed to the improvement of the regulatory field related to climate informed adaptation with SOPs, Guides, and contribution to policies and strategies. Its attribution to increased yields (for all crops), sales and incomes, and enhanced livelihoods was likely modest, but higher yields for rice, especially on fully irrigated plots was an important result. There was also some evidence that those beneficiaries with more income spent more on education for their children. The project led to environmental benefits (less water wastage, less soil erosion among these), but these were not well captured. Improvement in drinking water supply led to improved hygiene conditions with potential health benefits. As for community cohesion, this has worked both ways: on one hand working together within the WUGs and on participatory SLM Action plans promoted community cohesion, but on the other, there were several locations, where the project covered only half of the gewogs with irrigation network (for different objective reasons, like the terrain, availability of funding, etc.), leaving the residents, not covered by the project, understandably dissatisfied: the district and local governments had plans to address the gaps. Institution-wise, the support to (a) NCHM - helped to make one more step towards a Multi Hazard Early Warning System (MHEWS); (b) DOA - obtained a replicable model of climate informed CSI/CSA/SLM (with lessons learnt); and (c) DoST - enhanced its capacities for slope management, also got closer to having a system of on-time records on road slope failures along the national highways and Dzongkhags' (with Bhutan Road Watch System), improving its capacity for disaster response with more effective use of the DL&D. The project contributed to more resilience of the infrastructure and built environment.

Conclusions

[19] The project was ***generally well designed,*** multifaceted, (combining CRI, CSA,SLM, climate proofing of roads, addressing the lack of important regulations and capacity building), but not addressing the critical gaps in the market linkages (with the recommended by the IE to act on it not addressed due to it not being in final design) affecting the innovativeness of the "paradigm shift"- its integrated approach ***[see recommendation 3 for future similar projects].*** It incorporated almost all the (a) important lessons from the previous relevant projects, and (b) potential synergies. It had adequate ESMF, but the Gender Assessment, Action Plan (GAAP) needed revisions. The SEP needed details on modes of engagement, and the RF had issues with some of the indicators, and could have captured LNOB. The Risks were correctly identified but two (2) of them needed higher ratings and more active follow up (ensuring sustainable O&M of provided Infrastructure and HWC). The SESP was adequate, but needed monitoring of biodiversity impacts of HDPEs ***[see recommendation 1d].*** And finally, there were discrepancies between the approved FP and the ProDoc which have likely affected the focus that was placed on certain issues, missing in the

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ProDoc, e.g., related to the need for the government to ensure the development of the regulations to guarantee the financial sustainability of built infrastructure. With these caveats in mind, the project design was otherwise strong.

[20] ***Project implementation*** was effective overall (with a proactive PMU, a very efficient PM, effective support from UNDP and the government) despite negative exogeneous factors (challenging terrain, COVID, currency depreciation, cost escalation, and government reorganization), completing it on-time and on budget (with co-financing by the RGOB surpassing the target), with adequate adaptive management (with necessary adjustments in consultation with GCF), active participation by direct stakeholders, and in coherence with the projects of development partners. The ESMF implementation was strong with adequately implementing ESMPs. There could have been more active reaching out to tangential stakeholders, and synergy building. Lacking a component on addressing the critical gaps in market linkages, not directly engaging with the private sector (as potential investors, exporters) might have affected the scale of impact in terms of sales/incomes. M&E execution was very strong in capturing immediate outputs for infrastructure but had issues, with (a) interpretation of some of the indicators (especially related to affecting institutional effectiveness) and the (b) Annual Impact assessments (IA), that ended up with activities in the control group, and hence inserting certain concerns about the IA results, even though analyses techniques used by the companies engaged largely mitigated those ***[see recommendation 7 for future in other projects].*** There could have been more focus on direct communication, and more expanded list of attendees of the KM workshops, including other districts' agricultural officers. The revised GAP allowed addressing key constraints but could have included more in-depth approach in supporting GE with gender profiling of value chains for example and addressing the constraints, as well as there could have been mapping of LNOB and more systematically addressing the needs of those at the risk of exclusion and capturing the results, as well as, perhaps, ways found to encourage the beneficiaries (especially women) taking up the government supported literacy classes ***[see recommendation 7 for future projects].*** With these caveats in mind, the project implementation was otherwise strong, and major negative and social risks were avoided. In terms of **Efficiency**, the project not only avoided major delays, despite challenges, but was cost effective and, overall, cost -efficient (the latter could have been more pronounced with more synergies and direct outreach to the private sector)***.***

[21] ***The project was relevant*** (in-line with country's development policies, SDGs, UNDP and GCF priorities), ***internally and externally coherent*** (but noting the caveat of missing critical linkages element), complementary to other UNDP- implemented (e.g. ACREWAS), as well as other development partners' projects and a few synergies (which could have been more), e.g. with the WB, FAO, and BTF. It enjoyed ***strong national ownership***. While the most of the technologies were tested in the country before, the i***nnovativeness*** was the integrated aspect at large scale, which rendered important lessons. The PMU model under the PB and the TACC structure were also innovative, but not complete novelties.

[22] ***Progress towards objective and expected outcomes was satisfactory***. At the FE, the project had achieved the targets for (a) 7 Outputs related to: enhanced awareness on sustainable water use; areas of arable land under assured irrigation and made more stable through SLM practices to the impacts of rainfall variability and related landslides; participatory SLM Action Plans developed for improved livelihoods; and the length of farm- and gewog connectivity roads that have been climate-proofed through upgrading and slope stabilization, and three (3) sections of main roads stabilized and (b) the Outcome on the Level of integration of climate related information in national DL&D. For three (3) Outputs achievements were assessed as close to target: (a) for "*Increased institutional capacity for climate-informed agriculture planning*" – given the replicated at the end of FE process crop calendars (WB-supported, but utilizing the project-supported medium-range weather forecasts), (b) Level of knowledge and adoption by beneficiary HHs of climate resilient and sustainable crop production practices – since there was variability by type,

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with some showing promising level of adoption and accelerated progress with the RGOB cost sharing scheme, since affordability was one of the main obstacles (all of the above together expected to address the slower than expected progress) and (c) Enhanced Technical capacity of members of WUGs, Dzongkhag engineers and agriculture extension officers for climate adaptive water and soil management- in the light of the strong positive feedback in the FGDs/FIIs. The targets for the indicators for (a) *"Outcome 1b project beneficiaries receiving advisories considering them in decision-making* and (b) *Outcome 2 "Strengthened adaptive capacity and reduced exposure to climate risks"* (with the target of 30 percent increase in crop yield for 70 percent of beneficiaries), while not achieved, were likely in the near future given (a) the replication of the crop calendars for the former and the high rice yields for fully irrigated plots (with more plots planned to become as such as per the plans) for the latter. The target for the indicator for Output 1.4 on the "*share of beneficiaries in targeted dzongkhag accessing improved climate services'* was not achieved, as there were inefficiencies in their accessibility and interpretation, highlighting the need to (a) look for additional routes in the future projects, not relying only on extension agents and (b) their continuous training ***[see recommendation (1b), (1c) and (1e) for future projects].*** The enabling governance structure of the project, and efficient PM were among the factors where the targets were achieved.

[23] In the part of the **Impacts,** most of the targets were achieved/surpassed in terms of the number of direct beneficiaries, as per the project reports- for the (A1.0) Increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions, (A2.0) Increased resilience of health and wellbeing, and food and water security, (A3.0) Increased resilience of infrastructure and the built environment to climate change. It should be noted however that because there was no requirement to report on "unique" beneficiaries there was double counting in the "total direct beneficiaries" number. As for the indicator on Indirect impact, it was assessed by the FE as not achieved but likely, given the expected accelerated risk of adoption of CSA and climate forecasts. While there was no significant attributable impact on farmers' sales, incomes, nutrition and asset ownership in the IA2025, the FGDs reflected subsistence farmers turning to businesses (including women), with even if-not large increases incomes for some, allowing them to spend the extra on the school-age children and reinvest in small machinery. Irrigation supported asset accumulation and slightly improved access to credit and digital services, but market access emerged as a growing constraint among irrigation users. Overall, the project had a considerable influence on the smallholder farming communities, in some places completely revitalizing the landscape, and returning migrants, with the approach already replicated by the RGOB and the development partners. The project had a positive environmental impact -eliminating water wastage, and reducing soil erosion, but these were not well captured. There was some evidence that roads' stabilization were effective in mitigating deterioration in access. Capacities were built both in terms of experts and institutionally: with NCHM once step closer to having a MHEWS and enabling expanded application of crop-based insurance [***see Recommendation 5]*** and DoST - improved capacities for disaster response. For the district and gewog administrations this was a valuable expansion of the experience in Participatory SLM planning and Implementation. The project enabled pursuing LDN targets forcefully and expanded use of Nature-based Solutions (NbS), and tacking enhanced agroforestry (***see Recommendation 4]***. The project demonstrated integrated drinking and irrigation water supply, with important lessons learned (that could be expanded ***[see Recommendation 4].*** Farmers, working together within the WUGs/RUGs and farmers' groups (needing further support) and as part of participatory SLM planning, contributed to community -led decision making and community cohesion. Youth got engaged in novel methods, e.g. small-scale irrigation with smart features, which was important both in terms of addressing their migration and a step in Artificial Intelligence (AI) in agriculture. With the above, the project was aligned with the expected rating along the GCF Investment criteria (Impact potential- medium/High, Paradigm

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shift potential- medium/High, Sustainable development potential-medium, Needs of the recipient-High, Country ownership-High, Efficiency and effectiveness -medium) and several SDGs.

[24] ***Cross-Cutting:*** Women started taking leadership positions at the WUGs. Overall, there was a shift in the mindsets of both men and women. For women, there could have been more focus on supporting women-dominated value chains, based on gender profiling. The vulnerable residents at the risk of exclusion (especially PwDs, elderly and vulnerable youth) benefitted and there was a focus on them, but systematically gathered data was absent. In terms of **Unexpected results**, the positive ones included fewer reported livestock deaths (attributed to water or forage shortages) and car accidents on the improved farm roads, as well as youth inspired to pursue farming as a business venture with innovative technologies. Increased incidence of (HWCs) in some communities was to some extent indirectly associated with the project (due to increased harvest) with HHs losing up to 50 percent of the harvest.

[25] The adoption by the Government of several regulations and guides, (e.g. on SLM Best Practices, SOPs for road slope data collection induced by slope failures and on dissemination of climate and climate risk information) was very important in improving the regulatory framework for climate informed agriculture (**Impact**), and as contributing factor for both **sustainability and replication.** The other building blocks for these two (2) criteria included both individual and institutional capacities build, but there was a need for this to continue ***[see Recommendation (2a) and (2c)]***, including for applied research **[see *Recommendation (2a) and (2c*)**. There was an Exit Strategy developed which was also important for both Sustainability and Replication, but it lacked details. In terms of ***sustainability***, the main concern was related to the assurances of the coverage of life-time O&M costs for HDPE irrigation infrastructure (pipework) provided. The approved FA stipulated that the government would develop estimates and financial guidance, as well as a PES schemes for that, but while the DOW was considering reforms, none was implemented at the FE (***see Recommendation 1a***]. This concerns applied also to the O&M costs for farm roads, with weaker RUGs (with the planned study into the institutional aspects of the RUGs not produced ***[see Recommendation 1b].*** Several results of the project were already being ***replicated*** by the RGoB and the development partners (e.g., use of the HDPE pipes, and solar-lift irrigation, SLM technologies), and farmers themselves (e.g. for the tail-end small scale irrigation) with a contribution from the RGoB cost-sharing scheme. So, the project had a solid replication potential, but while the efforts to mainstream climate resilience across sectors were underway by the RGoB, the financing continued to be a concern.

Final Evaluation Ratings Table

Criterion	Rating*
Monitoring and evaluation (M&E)	
- M&E design at entry	Moderately Satisfactory
- M&E plan implementation	Moderately Satisfactory
Overall quality of M&E	Moderately Satisfactory
Implementation/oversight and execution	
- Quality of UNDP implementation/oversight	Satisfactory
- Quality of implementing partner execution	Satisfactory
Overall quality of implementation/ oversight and execution	Satisfactory
Assessment of outcomes	
- Relevance	Highly Satisfactory
- Effectiveness	Satisfactory
- Efficiency	satisfactory
Overall project outcome	**Satisfactory**
Sustainability	
- Financial	Moderately likely
- Socio-political	Likely
- Institutional framework and governance	likely
- Environmental	Likely
Overall likelihood of sustainability	**Likely**
Overall performance	**Satisfactory**
See Project 'FE Rating scales, TOR	

[Performance rating.

[26] The performance ratings are summarized in the table below. Overall, the FE rated the project's performance as **satisfactory**. The primary reasons for the project not achieving rating of Highly satisfactory were: (a) for several indicators the results were not fully achieved at the project close; (b) the concerns about the sustainability of the O&M of the provided infrastructure,

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(c) the visibility and communication, outreach to tangential stakeholder and synergy building leaving to desire more, and (d) IAs execution issues that affected the quality of reporting/RBM and made the FE assessing the achievement of end-of project targets challenging.

Lessons Learned and Recommendations

	Lessons learned
	• Outcome model worked overall well, but the lack of the market linkages component mattered • The project demonstrated the effectiveness of two strong governance models: independent PMU and the TACC. • Participatory planning enhances ownership • Project designs require comprehensive approaches to sustainability- financial, institutional, HR, environmental. • Adequate, well elaborated and costed mechanisms are needed to foster the engagement with the private sector • Promotion of innovations requires innovative KM, knowledge transfer and communication strategies and engagement with the private sector. • The SEPs require thoughtful planning and an equally diligent implementation coupled with an effective Communications Plan. • Effectively changing the status quo for women and persons at risk of left behind requires careful design and targeted approaches • Control-group based IAs are important to allow for rigorous conclusions on the impacts that could be attributed to the project, but these need to be very well planned and implemented from the outset. • Assessing the effectiveness of the capacity building for the institutions requires using special tools.
	Recommendations
1	**Enhance uptake and sustainability prospects for the projects results.** This should include: (a) Institutionalization of climate-resilient irrigation infrastructure and O&M standards into national guidelines and operational manuals (together with financing guidelines) and establishment of dedicated budgets (*corrective*, ***(DoW, MoIT, MoF, UNDP- to follow up);*** (b) Produce the planned study on the role and impacts of RUG on the sustainability of farm roads in Bhutan (DOST), (c) Promote the CSA methods more actively using various channels and not only the agricultural extension officers – to further stimulate the uptake and replication (***corrective, MoAL, UNDP- support with existing and future projects)***: (d) Expand the reach of climate-tailored products and ensure regular training for stakeholders to interpret and apply this information effectively (***NCHM, MoF, UNDP- support with existing and future projects)***; (e) Establish post-project monitoring of potential environmental and biodiversity risks and health impacts (when used for drinking of HDPE infrastructure ***(MoF, NEC, MoH, DOW, UNDP- support with existing and future projects)***, and (e) Explore alternative dissemination channels for weather forecasts ***(NCHM, DOA, UNDP- support with existing and future projects).***
2	**Provide consistent capacity building for the key institutions and WUGs/RUGs. (DOA, MOIT, DOW, UNDP- support with existing and future projects).** In particular, (a) Introduce refresher training and mentorship programs to reinforce learning and retain institutional knowledge (including for extension workers), identifying Identify the best entity/entities as the repository of the training materials developed under the project **(*Corrective);*** (b) UNDP to support the DOA developing a project proposal to pursue establishment of a range of '*Agri-food Innovation Support and Brokering Services*' (integrated into Extension network/ARDCs); (c) Provide continued capacity building for the WUGs important in the light of the potential reforms in irrigation water pricing) and RUGs.
3	**Promote integrated drinking and irrigation water supply systems from the design stage and ensure that irrigation-focused projects include market system development components (*DoA/MoIT/DoW/DAMC/UNDP- with a potential project proposal).*** One unplanned benefit of the project was the improved access to drinking water. Future projects should integrate the improvement of drinking water systems with irrigation investments from the outset. There could be a project proposal (UNDP) on scaled up implementation of integrated approaches to drinking water supply and irrigation (piloted in the GCF project jointly with the ACREWAS project), that could include using the concepts of Results Based Financing. Linked to this, relaxing the very stringent GCF approach to modifications in the approved project designs might allow for better responding to changing needs on (may) the ground (GCF): in this case the project perceived it impossible to include substantial market linkages elements mid project, as it had not ended up in the final design
4	**Promote larger scale adoption of Nature- based Solutions (NbS) in rural settings, based on the successful demonstrations from the project (*DoA, UNDP with a project proposal*).** There could be a project proposal on this, along with assistance to the RGoB on achieving the upcoming revised Land Degradation Neutrality (LDN) targets. And finally, this proposal could also include a focus on integrated approaches to CCA and CCM, with in particular, scaled- up application of solar water pumps and green hydrogen.
5	**Given the importance and progress made through this and other projects in integrating climate data in agriculture planning, UNDP could support the promotion of MHEWS by NCHM** such as with integrating climate data and forecasts in crop and livestock insurance, crop and livestock loss and damage, *inter alia*, drawing lessons from other existing projects supporting early warning and addressing climate induced loss and damage in coordination with MoF and MoAL. For the NCHM the natural next step would be the establishment of the MHEWS. There could be support with the advancement in the application of the concept of index-based Crop Insurance in the country *(MoAL/UNDP)*, expanding on the current WFP- led project with the Adaptation Fund- in 4 districts
6	**In similar projects (CCA focused), employ substantive interventions for women to gain competitive edge as men in the projects more and find ways to encourage residents taking up literacy classes *(UNDP).*** Address LNOB with special substantive interventions based on a mapping of the vulnerable groups (UNDP). Tailor capacity building to special needs of women more, supported by gender-friendly/women-friendly farm tools, technologies, and mechanization, coupled with more focus on addressing social stereotypes and promoting women's leadership.
7	**Properly design and plan impact evaluations if these are part of the project designs *(UNDP).*** For designing rigorous impact evaluations (common for GCF projects), external expertise should be mobilized early in the process. The designs and implementation should ensure the quality standards are met, for example, ensuring the necessary sample sizes, eliminating the risk of contamination of the control group, and not altering the identified timing annually.

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1. INTRODUCTION

1.1. Purpose and objective of the FE

1. As part of the Evaluation Plan of the United Nations Development Programme (UNDP) Bhutan Country Office (CO), the Final Evaluation (FE) of the Green Climate Fund (GCF)/UNDP Project – *"Supporting Climate Resilience and Transformational Change in the Agriculture Sector in Bhutan"* (*GCF- CRA* project, or, the project, hereafter) was initiated to assess the achievement of project results against the targets, draw lessons to improve the sustainability of benefits from this project, aid in the overall enhancement of UNDP, GCF and partners' programming, and promote accountability and transparency to the donors, partners and stakeholders.

1.2. Scope

2. In its alignment with the Funded Activity Agreement (FAA) obligations and the UNDP project document (ProDoc), the FE covered the following evaluation criteria from the UNDP Evaluation Guidelines, GCF Independent Evaluation Unit (IEU) Terms of reference (TOR),[1] GCF Evaluation Policy, and the guidance by the Organization for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC): *relevance; coherence; effectiveness; efficiency; impact and sustainability*. In addition, the FE utilized the following criteria: *Adaptive Management; Stakeholder Participation, Monitoring & Evaluation (M&E), Accredited Entity (AE) oversight and Executing Entity (EE) execution, Risk Management (including Social and Environmental Standards (SES)), Coherence in climate finance delivery with other multilateral entities, Gender equity and women's empowerment (GEWE), Country ownership, Innovativeness in results areas, Replication and scalability, Unexpected results, and Progress to Impact*. Further, the FE utilized the six (6) GCF Investment Criteria, as evaluation criteria: *Impact potential, Paradigm-shift potential, Sustainable Development potential, Needs of the recipient, Country Ownership, Efficiency and Effectiveness and GCF Policy on Co-financing.* The FE covered the entire project duration, all eight (8) implementation districts, and all the activities under three outputs of this project.

1.3. Methodology

3. ***Approach.*** The FE complied with the guidance from: *OECD DAC*[2], the *United Nations Evaluation Group (UNEG) Norms and Standards for Evaluation in the UN System* (2016),[3] *GCF's Evaluation Policy*[4]*,* and the *UNDP Evaluation Guidelines* (2021).[5] The approach was participatory, transparent, and respectful of diverse perspectives, ensuring balanced, credible, and unbiased findings. Maximum effort was put in place to ensure the inclusion of women and vulnerable groups, in the Key Informant Interviews (KII) and Focus Group Discussions (FGD).

[1] GCF/B.06/06, https://ieu.greenclimate.fund/document/ieu-tor
[2] along with guidance provided by the Organization for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC), and the UNDP Evaluation Guidelines.
[3] United Nations Evaluation Group (UNEG) Norms and Standards for Evaluation in the UN System (2016) https://www.unevaluation.org/uneg_publications/uneg-norms-and-standards-evaluation-un-system,
[4] https://ieu.greenclimate.fund/sites/default/files/document/evaluation-policy-gcf.pdf
[5] AC_Accountability_UNDP_Evaluation_Guidelines.pdf

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4. ***Mixed-methods** design* was used**,** integrating both qualitative and quantitative analysis methods. The FE systematically integrated the Human Rights-Based Approach (HRBA) and cross-cutting themes of GEWE, social inclusion (SI)/Leaving No One Behind (LNOB) and SDGs into the report. And finally, the FE applied a systematic approach to assessing the effectiveness to capacity building (CB). *Triangulation* was the key analysis technique, allowing to increase the reliability of findings by using multiple sources of information, and perspectives from diverse stakeholder groups, namely: (a) Document review (see Annex 1.G: List of documents reviewed); (b) KIIs, FGDs and Direct observations (DO) (see Annex 1.F: List of persons interviewed and Annex 1.L. **Error! Reference source not found.**) and (c) the results of the annual (starting 2023) Impact Assessment (IA). In the assessments of the outcomes, the FE attributed the results to the project when feasible, and contribution analysis was used- where not.[6] Evaluation data collection followed three stages. First, the FE team conducted FGDs with local leaders, sector heads, and stakeholders to gather perspectives on implementation, results, and challenges. Second, KIIs with selected individuals provided deeper insights into emerging issues and project performance. Separate discussions were held with women and men to ensure safe spaces and capture the voices of women leaders, female beneficiaries, women-headed households (HHs), youth, and other underrepresented groups. Third, the FE team conducted site visits/DOs. Interviews followed with local leaders, the PMU, and state officials to validate the information gathered from their perspectives and assess implementation. At the central level, data were collected primarily through in-person interviews with key focal persons and technical divisions, including those responsible for gender and social inclusion. For most of the FGDs and KIIs participants were purposively selected based on their involvement in and knowledge of the interventions/community dynamics, but there were other FGD that included people who responded to the call to attend: this was also informative to capture the level of awareness about the project. Although not statistically representative, this approach covered key stakeholder groups and diverse perspectives. It enabled assessment of overall project performance and gender-differentiated experiences, strengthening the inclusiveness of the findings.

5. ***Sampling:*** As per the TOR, the FE team was expected to conduct field missions to at least three (3) out of the eight (8) project districts. To be representative, in addition to visiting three (3) districts (Punakha, Dagana, Wangduephodran)**,** Trongsa district was also covered comprehensively, but remotely. This selection reflected: (a) different agricultural and climatic conditions, (b) diverse range of activities; and (b) inclusion (or not) of the districts covered by the Interim Evaluation (IE)[7]. There were also virtual interviews with the key counterparts from the other 4 remaining project's districts. Thus, the FE provided a representative review of funded initiatives covering all project districts. In total, 225 respondents were covered outnumbering the 120 planned (see Annex 1.B. Sampling)

1.4. Data Collection and Analysis

6. Data analysis was an iterative process throughout the FE, where initial findings were tested with stakeholders to ensure their validity. Both qualitative and quantitative analysis was used. For Quality control, data was cross-checked across multiple sources, and the FE team members reviewed individual contributions. Several evaluation criteria (as stipulated in the TOR, were rated, see Annex 1.M for the Rating guide. Table1 describes the project related documents reviewed (by evaluation

[6] Based on John Mayne, "Addressing Attribution Through Contribution Analysis: Using Performance Measures Sensibly', The Canadian Journal of Program Evaluation Vol. 16 No. 1 Canadian Evaluation Society, 2001.

[7] This provided with an opportunity to see the progress since the IE, for the districts visited by the IE team (and some of the same sites were covered)

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criteria), with the information from those triangulated with information from the FGDs, KIIs and third-party reports (TPRs) (see 1.H. Evaluations Questions Matrix):

Table1: Documents reviewed and triangulated with information from the FGDs, KIIs and TPRs by evaluation criteria

Evaluation Criteria	Appropriate Documents reviewed
Project design	Project Concept Note; Project Document and all annexes; Funding proposal (2019).
Project implementation	Final Project Document and all annexes; Annual Performance Report (2021-2024); Annual Work Plan (2020-2025); Project Operational Manual (2020); Inception report, and inception workshop Report (2020), SPRs and PCR
Progress towards objective and expected outcomes	Project Combined Delivery Report (2020-2025); Standard Progress Reports (2020-2025).
Relevance	UNDP Country Programme Documents -Draft (2024-2028); Annual Work Plan (2020-2025); Bhutan's Development plan documents (13th FYP and 12th FYP); Dzongkhag Development Plans; Bhutan Second NDC (2021); Project ProDoc; Inception report, project inception workshop Report (2020).
Coherence	Annual Work Plan (2020-2025); Bhutan's Development plan documents (13th FYP and 12th FYP); Dzongkhag Development Plans; Final Project Document and all annexes; Project ProDoc
Effectiveness	Project ProDoc; Impact Evaluation: Baseline Report (2021): Follow-up Survey Report (2023); Project Interim Evaluation Report, (2012); Project training and Workshops Reports'; Project Combined Delivery Report (2020-2025); Project Risk Log; UNDP Office Audit Report (2023).
Efficiency	Project Economic Analysis; Project ProDoc; Project Combined Delivery Report (2020-2025); Project Audit Reports (Spot Check); Standard Progress Reports (2020-2025); Co-Financing and Fund Disbursement letters and Documents Annual Work Plan (2020-2025)'; Annual Performance Report (2021-2024); Funding Activity Agreement, September (2019).
Assessment of impact of COVID-19	Project ProDoc; Annual Work Plan (2020-2025); Project Risk Log
Sustainability	Project ProDoc; Project Economic Analysis; Project Operational Manual (2020); Project Audit Reports (Spot Check); Standard Progress Reports (2020-2025); Project Exit Strategy/Sustainability Plan (2025).
Innovativeness in results areas	Guideline on the Cost-Sharing Mechanism for the RNR Sector in Bhutan (2019); Minutes of the Board Meetings (1st- 12th Board meetings minutes
Unexpected results,	Project ProDoc; Annual Performance Report (2021-2024); Impact Evaluation: Baseline Report (2021): Follow-up Survey Report (2023); Standard Progress Reports (2020-2025)
Country ownership	Project ProDoc; UNDP Country Programme Documents -Draft (2024-2028); Bhutan's Development plan documents (13th FYP and 12th FYP); Dzongkhag Development Plans; Project Exit Strategy/Sustainability Plan (2025); Minutes of the Board Meetings (1st- 12th Board meetings minutes); Co-Financing and Fund Disbursement letters and Documents; Guideline on the Cost-Sharing Mechanism for the RNR Sector in Bhutan (2019)
GEWE	Project ProDoc; Gender Action plans (2019), UNDP; Grievances Redressal Mechanism; Gender Training Reports
Cross-cutting Issues	Project ProDoc; Gender Action plans (2019); Environmental and Social Management Plans; Community Engagement Report and Stakeholder Engagement Plan; Annual Work Plan (2020-2025)
Replication and Scalability	Project ProDoc; Bylaws for RUGs and WUGs; Project Exit Strategy/Sustainability Plan (2025); Bhutan's Development plan documents (13th FYP and 12th FYP); Dzongkhag Development Plans
Progress to Impact	Project ProDoc; Annual Performance Report (2021-2024); Project Operational Manual (2020); Standard Progress Reports (2020-2025)

1.5. Ethics

7. The FE adhered to *GCF guidance on conflicts of interest in evaluation,*[8] and the *UNEG Ethical Guidelines for Evaluation*. This included ensuring (a) informed consent, protecting privacy, confidentiality, and anonymity of respondents; (b) cultural sensitivity and respecting the autonomy of respondents; (c) fair consultation with stakeholders, including women and groups at risk of various vulnerabilities; and (d) evaluation results not harming the respondents or their communities. Free, Prior and Informed Consent (FPIC) principle was applied, implying (a) no coercion, intimidation, or manipulation; (b) obtaining consent prior to interviews; (c) informing the interviewees sufficiently about the purpose of the interviews and the future use of the results of the evaluation.

[8] https://www.greenclimate.fund/document/policy-ethics-and-conflicts-interest-external-members-green-climate-fund-panels-and-groups

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8. The FE team were to report to Head of Strategic Planning and Partnership of UNDP Bhutan -also the evaluation lead of the country office, but the person left UNDP Bhutan at the start of the FE and was replaced with the new Partnership specialist when the first draft of the FE report was ready. In the meantime, the Portfolio Manager of the Environment and Livelihood Unit, along with the Project Technical Specialist, Project Manager, and the Program Analyst (who was in charge of supervision of the project), provided the necessary facilitation and support to enable the FE team to conduct the final evaluation successfully. This combination assured the mitigation of biases.

1.6. Limitations to the evaluation

9. The following points cover the main limitations faced by FE:

   a) The FE was expected to compare findings with the ex-ante economic analysis (see Annex A. Terms of Reference) but it was not possible, given that the latter was based on different impact indicators[9], except for the yields. For the latter seventeen (17) percent increase in yield was assumed, with the investments considered still economically feasible in case only two (2) percent increase (approved Funding Proposal (FP), p.49): there was no information for all crops, but there was 28 percent yield gain *for rice,* (including production from irrigated, rainfed, mixed and upland areas and the yield on irrigated plots improved by a similar magnitude (IA2025);
   b) Conducting cost-effectiveness and cost-efficiency analysis robustly is a separate research task and not possible in the framework of this FE. Hence this was done in a light-touch manner; and
   c) By design, the findings from the IA2025 (third round of the Impact assessment) were to be the source for several indicators for the project, but it faced a limitation in terms of survey timing, the methodology used, and data collection (as highlighted in IA2025), making it not a truly rigorous impact evaluation. The IA2025 had to use a combination of methods: Before and After Comparison (BAC), and Difference-in-Differences (DID) analysis, but taken together, it did not fully mitigate the concern. And finally, the information contained in the final version of the IA2025 was not clear on some of the End of project (EoP) results, for which the IA2025 was expected to be the source. Hence both the IA20205 and FE team think that the findings of the IA2025 need to be treated with caution. The FE also faced a limitation in that the latest Standard Progress Report (SPR) provided to the FE team and the PCR did not have clear reporting against a several indicators as per the project end or referred to the 2nd stage Impact report (but this too had issues in terms of the timing when it was conducted). The FE used the findings from the IA2025 (where possible), latest SPR and the PCR reports (where there was data that could be used), and additional sources, where none of these sufficed) as well as feedback during the FGDs and KIIs, using enhanced triangulation (including an extensive review of third- party reports (TPRs) and administrative data and national statistics). The FE team also examined carefully the likelihood of achieving the targets in the near future in the light of the trends in Government financed and development projects and reforms. In only a couple of cases, where data and information were unclear or insufficient, the FE noted the reduced level of confidence.

1.7. Structure of the FE report

10. The report proceeds as follows: Chapter 2 contains a brief description of the project and the Methodology, Chapter 3- presents the Findings, along the evaluation criteria; and Chapter 4 -the Conclusions, Lessons Learned, and Recommendations

[9] cost saved with respect to monsoon restoration cost, travel time cost, vehicle operating cost and operation and maintenance cost, as well as the gross operating surplus and labour compensation triggered by project costs in Bhutan's construction sector.

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2. PROJECT DESCRIPTION

2.1. Project start and duration, including milestones

11. The project was designed in 2016, through a collaborative effort of UNDP and the Royal Government of Bhutan (RGoB). It was approved by the GCF in 2019 with the Local Project Appraisal Committee (LPAC) meeting on the 26th of November, 2019, followed by the sensitization workshop (December 2019). The ProDoc was signed between the EE and UNDP on 10th of January 2020. The project lasted, as was expected, six years: 2020-2025. The total budget of USD 58,015,194 included the GCF Grant of USD 25,347,194 administered by UNDP and USD 32,668,000 RGoB co-financing. The Interim Evaluation was conducted in December 2022.

12. There have been important changes between the original Concept note and the ProDoc. In particular, the grant and co-financing amounts were reduced from USD 62.37 million and USD 174.484 million, to USD 25.347 million and USD 32.668 million, respectively (a reduction of 59.5 percent in grants and 81.1 percent in co-financing). Programmatically, this implied lesser number of irrigations schemes, an elimination of the component on livestock (except for the policy matters) and of activities in support of strengthening market linkages.

2.2. Development context

13. The Kingdom of Bhutan is a small landlocked country in the eastern Himalayas with a population of 735,553 persons (2025)[5], of whom 62.2 percent rural. Bhutan is divided into 20 Dzongkhags (districts), divided into 205 Gewogs (blocks) and further divided into clusters of Chiwogs (villages) consisting of several small communities. Bhutan is a democratic constitutional monarchy. The policies are aligned with the philosophy of Gross National Happiness (GNH). Bhutan has (a) maintained stable economic growth, with Gross Domestic Product (GDP) per capita increasing at an annual rate of 5 percent from 1990 to 2019, with a contraction by 10.2 percent during 2020–2021 due to the COVID-19 pandemic followed by 5.5 percent growth in 2024, with 7.6 percent forecasted for fiscal year 2025/26; and (b) national poverty rate reduced to 12.4 percent in 2022, with 87 percent of the poor residing in rural areas. However, unemployment rose from 3.0 percent during 2015–2019 to 3.5 percent in 2024, more pronounced for youth (increasing from 12.3 percent in 2017 to 19.0 percent in 2024) and urban areas. Bhutan graduated from the Least Developed Country (LDC) Category in December 2023.

14. Bhutan has an estimated total land area of 38,394 square kilometers with (a) altitudes ranging from 150 to 7,500 meters above sea level,[10] predominantly made up of fragile mountain ecosystems with large areas of snow and glaciers, and (b) 71 percent under forest cover (with only 7.3 percent of this under commercial management), [11] and thus, highly vulnerable to the adverse effects of climate change (especially water resources, agriculture, forestry, biodiversity, and hydropower), e.g. affecting the timing, frequency, and intensity of rainfall (runoff and erosion), and temperatures, in turn affecting altitudes at which crops can grow.[12] In 2024 only 7.8 percent of total land was arable (664,000 acres) and 2.93 percent cultivated (of which only 24 percent with mechanization[13]) with

[10] Statistic Year Book of Bhutan, 2025. National Statistic of Bhutan, Royal Government of Bhutan. Thimphu, Bhutan
[11] Department of Forests and Park Services, Ministry of Energy and Natural Resources, Royal Government of Bhutan https://www.dofps.gov.bt/
[12] Royal Government of Bhutan (2023): Bhutan's Long term Greenhouse Gas Emission and Climate Resilient Development Strategy Department of Environment and Climate Change Ministry of Energy and Natural Resources Thimphu: Bhutan, https://unfccc.int/sites/default/files/resource/LTS%20Report_final%20print_copy.pdf
[13] Housing Census of Bhutan (PHCB), Bhutan Voluntary National review (VNR) 2025

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66,120 acres of fallow land (2019) and only 29 percent of wetland irrigated.[14] Both the frequency and intensity of extreme climate events were projected to increase.[157] In dry years there was inadequate on-farm water supply, conflicts over water sharing, low labor productivity, and low crop yields, while in times of excess rainfall, e.g. monsoon seasons, high rainfall, flash floods and landslides blocked or damaged irrigation schemes[16], disrupting flow of water to farmers through seepage-induced water loss and water conveyance losses. With more than 31 percent of agricultural land on slopes greater than 50 percent, traditional farming resulted in huge soil losses of 8.6 tons/ha due to erosion, reducing agricultural yields, water retention capacity and soil aggregate stability. All of the above placed smallholder farms (58 percent of the country's livelihoods) under risk. Bhutan is one of the few carbon- negative countries in the world, but agriculture and livestock were the largest source of emissions, excluding the land use, land-use change, and forestry (LULUCF) sector.

15. In 2024, the agricultural sector contributed 14.96 percent of GDP employing 43.5 percent of the workforce, with a growing trend of men leaving agriculture, in search of off-farm employment, resulting in an increasing feminization of the agriculture sector. Strategies, plans, programmes and guidelines did not adequately reflect gender aspects despite having clear policy. Women's participation in decision-making was very low. Most of the existing financial institutions did not have rural women-centric schemes. Low financial literacy amongst rural women aggravated their accessibility. Villages in remote gewogs were underserved by the extension centres, making access challenging for women. There was a low-level awareness on gender mainstreaming among the decision-makers and general public alike, and a lack of gender-sensitive interventions in agri-food value chains.[17] There was aging population, disability prevalence at 2.1 per cent (of whom 80 percent in rural areas);[18] and young people in eastern Bhutan feeling abandoned by development.[19] UN in Bhutan called for urgent policy responses.[20] In recent years, Bhutan made progress, adopting *National Policy for Persons with Disabilities (2019)*, *supporting the UN-led surge initiative (2024)* to accelerate disability inclusion, ratifying the *UN Convention on the Rights of Persons with Disabilities (PwDs)* in 2023, strengthening social protection, and launching the *National Policy for Senior Citizens (2023).*[21] Despite reforms, and growing recognition of the compounded nature of exclusion, many structural barriers persisted, with, e.g. lack of sign language interpretation, visual alert systems in disaster preparedness affecting the deaf (VNR 2025)), and a lack of disaggregated budget allocations.

2.3. Problems that the project sought to address

16. The project aimed to address the following three barriers: (1) limited awareness, data, and knowledge for climate risk- informed planning and implementation that affected the agriculture sector; (2) weak institutional and community capacities for climate resilient water and soil management; and (3) insufficient technical and financial capacity to cope with disruption to smallholder livelihoods due to extreme events including landslides (hindering the generation and use of advisories to support

[14] Royal Government of Bhutan (2023): National Land Use Report
[15] Royal Government of Bhutan (2021) Bhutan Second NDC, Bhutan Second NDC | UNFCCC
[16] The efficiency and resilience of existing irrigation systems to extreme weather events was low and roads were not climate proofed given the financial barrier of higher investment costs needed for this
[17] FAO. 2023. National gender profile of agriculture and rural livelihoods – Bhutan. Country gender assessment series. Thimphu. FAO. https://doi.org/10.4060/cc5273en; "Supporting Climate Resilience and Transformational Change in the Agriculture Sector in Bhutan; Gender Action Plan Analysis" Report (2022), as well as the Voluntary National Review of the SDGs (VNR) 2025)
[18] UNDP CPD 2024-2028
[19] https://bhutan.un.org/en/299014-bhutan-moves-forward-inclusion
[20] Ibid
[21] National Policy for Senior Citizens 2023 Bhutan

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farmers with appropriate local actions and leading to poorly designed and managed irrigation structures, vulnerable to climate risks)

2.4. Project Description and Strategy

17. *Objective, expected Outcomes and Outputs:* The project objective was to enhance the resilience of smallholder farms to rainfall variability, as well as projected increases in temperature and monsoonal rainfall, including with a transition from reactive to climate- informed planning. The project's outcomes and outputs are presented in Table 2.

Table 2: Project outcomes and outputs from the Project Document

Outcome 1: Agricultural planning and implementation at the national, sub-national and household level informed by climate information	**Outcome 2:** Reduced disruption to smallholder farmers, from the impacts of climate change (i.e., impacts of landslides on irrigation, agriculture, and market access reduced)
Output 1. Promote resilient agricultural practices in the face of changing climate patterns	
Output 2. Integrate climate change risks into water and land management practices that affect smallholders	
Output 3. Reduce the risk and impact of climate induced landslides during extreme events that disrupt market access	

18. The achievement of the project outcomes was to be evidenced by (a) improved use by vulnerable households (HH), communities, businesses, and public-sector services of GCF - supported tools, instruments, strategies, and activities to respond to climate change and variability sectors; (b) better average yields/productivity due to reduced loss of irrigation and (c) higher farmer incomes due to resilient road networks for offtake of produce. The project was expected to benefit more than 7,598 farming HHs, i.e. 118,800 people (118,823)[22] in eight (8) dzongkhags (districts): Dagana, Punakha, Trongsa, Tsirang, Sarpang, Samtse, Wangdue Phodrang and Zhemgang (see the cover table on page 7 for the list with the GIS coordinates) from climate resilient irrigation (CRI), Sustainable Land Management (SLM) practices, climate-smart agriculture (CSA) and climate resilient roads. According to the approved FP (Annex to the ProDoc), these sites were selected by the RGoB based on their vulnerability to climate change and priority for the RGoB in the context of the Sustainable Development Goals (SDG)' targets, especially given the moderate-to-high poverty incidence that prevailed, with districts with those above 10 percent prioritized.[23]

2.5. Project Implementation Arrangements

19. The project was implemented following UNDP's National Implementation Modality (NIM), according to the Standard Basic Assistance Agreement between UNDP and the RGoB, and the United Nations Sustainable Development Partnership Framework (UNSDPF). The UNDP CO provided project assurance supported by the UNDP Regional Technical Advisor (RTA) from the Bangkok Office with additional support from the UNDP headquarters (see **Error! Reference source not found.**). Initially, the *Gross National Happiness Commission (GNHC)* was the Executing Entity (EE) for this project-responsible and accountable for managing it, including the monitoring and evaluation (M&E), achieving project outcomes, and for the efficient use of GCF resources. During the government reorganization in 2022, the resource mobilization function of the GNHC went to the Department of Macro-Fiscal and Development Finance of Ministry of Finance (MoF), and so it assumed the EE role.

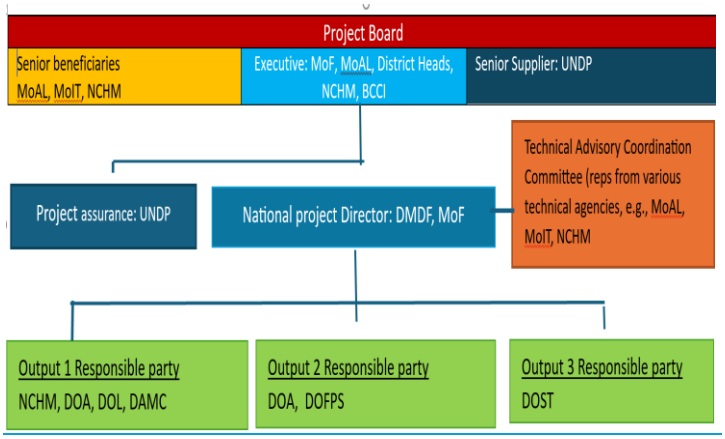
[22] Direct beneficiaries of the project represent 46.5percent of the rural population of Bhutan.

[23] Dagana had the highest poverty of 33.3 percent, followed by Zhemgang, Trongsa, Samtse and Sarpnag as per the 2017 Poverty Report which was way above the national poverty rate of 8.2 percent during the time. Punakha, Wangdue and Tsirang Dzongkhags who had poverty rate below national poverty rate (8.2 percent) but were selected because of severe water shortage for agriculture farming while they had the largest paddy fields amongst the Dzongkhags in the country and high potential for vegetable production; this was to increase and ensure food self-sufficiency in terms of grains

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20. The implementation was led by a 10 members (9 male and 1 female) Project Board (PB), composed of the executive, senior supplier, and senior beneficiaries, with civil society represented by the Bhutan Ecological Society (BES), private sector - by the Bhutan Chamber of Commerce & Industry (BCCI) and beneficiary groups - by two Dzongdas on a rotational basis. The executive was ultimately responsible for the project, supported by the Senior Beneficiaries (the Director General of Surface Transport, Directors of Department of Agriculture (DoA), National Center for Hydrology and Meteorology (NCHM) and Dzongda (District Administrators) of project Dzongkhags)), and Senior Supplier (the Resident Representative (RR) of UNDP representing the interests of the funders. Directly answerable to the PB, was the independent Project Management Unit (PMU), composed of a Project Manager (PM), M&E specialist, an Engineer and two Surveyors as technical assistants. The Technical Advisory and Coordination Committee (TACC) provided technical and strategic support to the PMU primarily of engineering nature, before reaching the PB. The responsible parties (RP) in the districts /sub-districts were represented by extension and local officials. The PMU, with the component managers/focal persons at the central beneficiary/RP agencies and District Agriculture Sector (DAS) with District Agriculture Officers (DAOs) at the Dzongkhag level, formed the management team. The project was to be implemented in close partnership with (a) relevant Civil society Organizations (CSOs)/non-governmental organizations (NGOs); and (b) the private sector (see Section 27 for discussion)

Figure 1 Project management arrangements



Source: Modified from the ProDoc

3. FINDINGS

3.1. Project Design/Formulation

3.1.1. Analysis of Results Framework, project logic, strategy and Theory of Change

21. ***Finding 1. The objectives and components of the project were clear and feasible, expected to allow addressing the objectives. It was country driven and the context was, overall, well analyzed.***[24] The objectives included, *inter alia*, reversing the pattern of high internal and external migration - an RGOB priority. The context analysis could have included also an in-depth analyses of: (a) market linkages scene and reforms, since improvements of the roads to reach the nearby markets was only one aspect of it; (b) the situation and trends with the farmers' groups and efforts to stimulate, since this was important for several aspects along the value chains; and (c) the expected life-time O&M expenses of the infrastructure to-be-provided.

22. ***Finding 2. The outputs and expected outcomes were consistent with the Theory Change (TOC) presented in the ProDoc, which had three (3) lines of integrated action (resilient agriculture, water***

[24] Evaluation question 1

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and land management, and road rehabilitation/slope stabilization), but missing (a) an element on addressing the critical gaps in market linkages in the project locations, expected to be addressed by other projects and (b) a few assumptions.[25] The Results Chain in the ProDoc (see Annex 1.I. Results Chain: From the ProDoc **Error! Reference source not found.**), was in lieu of the TOC, but the best practice is for the TOC to be described with words too (see **Error! Reference source not found.**, by the FE team, this was used in this FE to assess the project's causal pathways). The causal pathways had to address the needs of smallholder farmers from production to post-harvest resilience, benefiting the whole value chain, but the post-harvest resilience was meant to be supported with only roads' component, relying on other projects for the rest. This affected the "innovativeness" of the paradigm shift and potentially- the scale of impact. The list of assumptions was present in the Results Framework (RF) only (see in **Error! Reference source not found.**, not-underlined). The revised Results Chain by the FE team (see 2**Error! Reference source not found.**) includes three (3) more assumptions (underlined in **Error! Reference source not found.**), including the one on well-functioning support system for market linkages present/sufficiently addressed by other initiatives [NB: There was, however also a deliberate choice of focusing on the "production" side by the DoA in particular, especially given the need to reduce the scope in the final design (post Concept Note)]. In a few instances, there was a divergence between the ProDoc and approved FP (that needed to be avoided), e.g., with a few targets and requirements related to specific actions (e.g. for the RGOB to develop lifetime O&M costs assessments and guidance to ensure was not in the ProDoc per se, with potentially less focus by the project team).

23. ***Finding 3: The RF had several issues in terms of capturing the intended results and the assessment methods,***[26]***but had mostly SMART (Specific, Measurable, Achievable/Attainable, Relevant, and Time-bound) indicators and specified conducting baseline and annual Knowledge, Awareness and Perceptions (KAP) surveys. There could have been indicators to track the progress for several important results.*** *1.N,* presents the RF and the analysis of the SMART-ness of all the indicators. The issues with the RF mentioned above included, *inter alia,* the following:
    a. For *Output indicator 1.2* "*Increased institutional capacity for climate-informed agriculture planning*" a *score* was used for the target with no guidance on what kind of process will include the assessment, interpreted by the PMU as to be assessed with the IAs (against the End-of-project (EOP) target of "*Average increase of scores by 60 percent from baseline*"). For capturing changed institutional performance, methods like outcome mapping/harvesting/(self) assessment tools for the IPs could have been used, but not control-group based IAs, especially since the focus was on planning;
    b. For *Outcome 1 indicator "Use of climate information, climate-informed analyses in decision-making in sectors impacted by climate change",* there were two EoP targets. (a) Tailored products to inform climate-resilient agriculture planning", and (b) "60 percent of project beneficiaries receiving advisories consider them in decision-making": the latter was interpreted as applying to only beneficiary HHs, while the district administrations were also beneficiaries, expected to improve their planning and decision making with the use of improved weather forecasts (e.g., with crop calendars);
    c. For the *Impact "A1.0 Increased resilience and enhanced livelihoods of the most vulnerable people, communities, and regions", Indicator 1.2* "*Number of males and females benefiting from the adoption of diversified, climate- resilient livelihood options"* was misinterpreted for CSA as "Reach", which is different from "adoption". Plus, *there was no requirement to track and report on the unique' farmers assisted,* i.e. the reporting was on the number of farmers benefiting from a particular activity, and

[25] Evaluation questions 2 and 3

[26] Evaluation question 10

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given that the same farmers have likely benefited from several, there *was double-counting in "Total number of direct beneficiaries"*;

d. The project was expected to lead to *GHG emission reduction* (as agriculture is one the most emitting sector in the country), but despite the recommendation from the approved FP, there was no reporting on mitigation co-benefits of the project. Having said that, tracking would have been possible if the baseline was established (and this would have been challenging); and
e. The following information could have been captured: LNOB, extent of soil erosion, improvements in water quality, water retention in degraded lands, relative prevalence of various types of irrigation systems in given communities; and the number of beneficiaries starting businesses and job creation.

Box 1: Reconstructed Theory of Change

Project Rationale: Climate change impacting smallholder farmers in Bhutan (58percent of households) increased temperatures and variation in rainfall are impacting crop suitability, water availability and soil conditions, extreme events such as flash floods, land slips, and landslides projected to increase, damaging crops, irrigation infrastructure, and roads disrupting market access

Barriers: (a) *Limited awareness, data, and knowledge for climate risk- informed planning and implementation that affects the agriculture sector; (b) Weak institutional and community capacities for climate resilient water and soil management, (c) Insufficient technical and financial capacity to cope with disruption to smallholder livelihoods due to extreme events including landslides; (d) High lending rates; € Underdeveloped support infrastructure for market linkages; (f) Fragmentation of land plots, lack of cooperatives/farmers groups*

Project objective: enhance the resilience of smallholder farms to rainfall variability, as well as increases in temperature and projected increases in monsoonal rainfall, including with a transition from reactive to climate- informed planning.

Outcome- Impact Causal Pathways: (1) Improved Agricultural planning and implementation at the national, sub-national and household level informed by climate information combined with (2) Reduced disruption to smallholder farmers, from the impacts of climate change (i.e., impacts of landslides on irrigation, agriculture, and market access reduced) will contribute to the project objectives

Activity to Outputs Causal Pathways:

- a) institutional capacity building on modelling, forecasting and effectively disseminating climate information to subnational levels to guide planning as well as the tailoring of climate information for agricultural advisories to meet smallholder needs for climate-informed decision- making related to agriculture practices., (b) investments in climate-resilient practices involving alternative cultivation techniques, organic farming, and integrated pest management will also be made to support smallholders and (c) training is delivered to farmers to build awareness on value chains and build capacity on agricultural marketing to promote market linkages will contribute to *resilient agricultural practices in the face of changing climate patterns (**Output 1**)* . captured with the following 3 *output 1 indicators*.; (1.1). % of beneficiaries in targeted dzongkhag accessing improved climate services; (1.2) Increased institutional capacity for climate-informed agriculture planning; (1.3). Level of knowledge and adoption by beneficiary households of climate resilient and sustainable crop production practices
- (a) enhancing institutional and community capacities in water and soil management, and (b) technical and financial capacity to cope with disruption to smallholder livelihoods due to extreme events-induced landslides barriers will support *Integration of climate change risks into water and land management practices that affect smallholders (**Output 2**) contributing to scaling up climate resilient practices supporting sustainable water management and soil stability, and improving smallholder agricultural productivity*.; captured by the following Output 2 indicators (2.1) Change in KAP on role of wetlands and sustainable water use; (2.2) Technical capacity of members of WUGs , Dzongkhag engineers and agriculture extension officers for climate adaptive water and soil management is enhanced; (2.3) Area of arable land under assured irrigation in targeted dzongkhags; (2.4) Number of district level Participatory SLM Action Plan for improved livelihoods; and (2.5) Number of hectares made more stable through SLM practices, to the impacts of rainfall variability and related landslides
- (a) Designing and implementing slope stabilization interventions across key sections of roads that are crucial for market access (complementing the RGoB's investment in climate resilient roads) and (b) supporting improvements in road damage monitoring methodology and (c) training on post- monsoon road assessment will contribute to climate-resilient planning, the project will also review and enhance *reducing the impact of climate-induced landslides on smallholder market access, **(output 3),*** captured by the following *Output 3 indicators:* (3.1) Number of kilometers of farm roads and gewog connectivity roads that have been climate-proofed through upgrading and slope stabilization and sections of main road stabilized; (3.2). Level of integration of climate related information in national disaster loss and damage database

Outputs to Outcomes Causal Pathways: These Outputs, together will contribute addressing 3 key barriers: (a) limited awareness, data and knowledge for climate risk informed planning and implementation in agriculture; (b) weak institutional and community capacities for climate resilient water and soil management; and (c) insufficient technical and financial capacity to cope with disruption to smallholder livelihoods due to extreme events influenced landslides. They were to contribute to 2 outcomes

- **Outcome 1:** Increased generation and use of climate information in decision-making – with indicators (a) Outcome 1a tailored products to inform climate-resilient agriculture planning and Outcome 1b project beneficiaries receiving advisories considering them in decision-making
- **Outcome 2:** Strengthened adaptive capacity and reduced exposure to climate risks with the indicator- Strengthened adaptive capacity and reduced exposure to climate risks

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Outcomes to overall Impact/goal of "Enhanced Resilience of smallholder farms to climate change, especially variation in rainfall and frequent occurrence of extreme climate events", with GCF-level impacts as

- *A1.0 Increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions……*1.2 Number of males and females benefiting from the adoption of diversified, climate- resilient livelihood options (including fisheries, agriculture, tourism, etc. [27]
- *A2.0 Increased resilience of health and wellbeing, and food and water security.,*.2.3 Number of males and females with year-round access to reliable and safe water supply despite climate shocks and stresses[51]
- *A3.0 Increased resilience of infrastructure and the built environment to climate change.,*3.1 Number and resilience of infrastructure and the built environment to climate change

IF

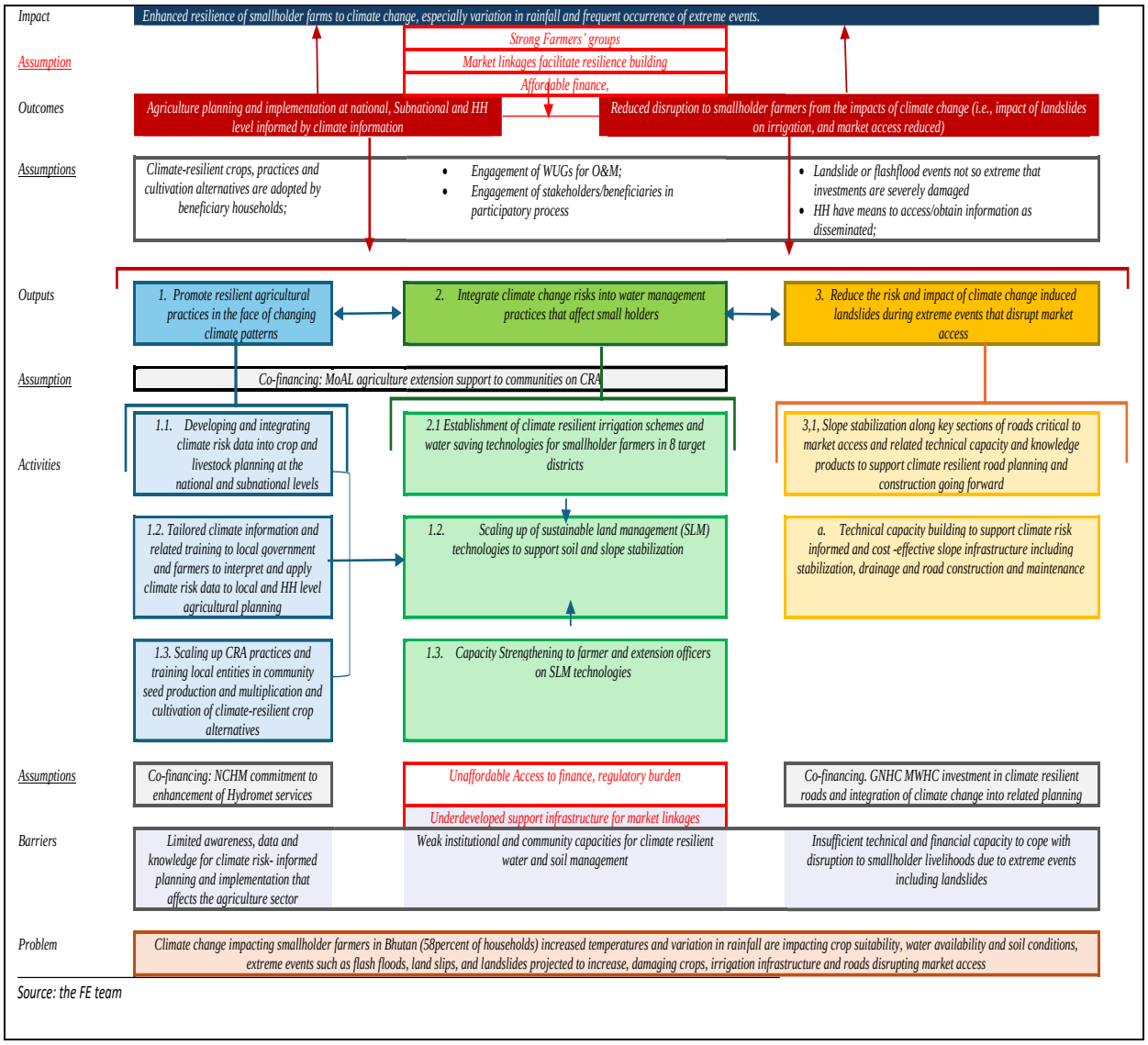
- Government is committed to (a) carry out education and outreach activities at all levels (b) climate-informed planning related to road infrastructure are present; and (c) co- financing is secured and applied to climate-resilient roads work in target area, and related O&M;
- HHs have means to access/obtain information as disseminated and adopt Climate-resilient crops, practices and cultivation alternatives;
- There is sufficient Engagement of (a) stakeholders/beneficiaries in participatory process' and (b) WUGs for O&M;
- Landslide or flashflood events not so extreme that investments are severely damaged;
- Market linkages and support capacity facilitate resilience building;
- Formation of farmers groups is progressing well; and
- There is affordable finance available to farmers

source: FE team

Figure 2: revised Results Chain

27 Distribution between men and women based on the 2015 Agriculture Statistics for the 8 project dzongkhags

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Source: the FE team

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3.1.2. Risks and Assumptions

24. ***Finding 4:*** ***There was an appropriate risk management mechanism and the risks were well identified, but missing two (2)- potential financial shocks and the weakness of the Road Users Groups (RUGs). Higher risk ratings would have been more appropriate for (a) the full coverage of O&M costs of the provided built environment and (2) Human-wildlife conflict (HWC). There were a few missing assumptions.***[28] In addition to the *missing assumption* on adequate (critical) market linkages and support systems in place (covered in the previous finding), there were two more: 1) availability of affordable and accessible finance (historically low, although significant government efforts were underway)[29], and 2) sufficient number of farmers' groups and cooperatives at the project conception (it was low and this was important as land fragmentation was an obstacle for agricultural development). As for the *risks,* the approved FP identified six (6): (1) Long term sustainability of investments, e.g., irrigation, road enhancements; (2) Environmental risks associated with irrigation, SLM interventions, and climate-proofing of existing roads; (3) Project interventions not preventing the ongoing rural-urban migration, and declining trend of overall agriculture productivity continuing; (4) Staff turnover or lack of technical capacity within the EE; (5) Extreme events, such as climate-related natural hazards, disrupting implementation or damaging investments, resulting in delays and additional costs; and (6) Crop loss due to other factors, impacting project intervention and results, e.g. by large mammals and primates, e.g. HWC. The FE noted no discussion on (a) potential risks related to financial shocks, e.g., drastic changes in the exchange rates- a risk that materialized during the project implementation;[30] and (b) Risk emanating from the institutional weakness of the RUGs. The FE concurred with the risk ratings, except for two (2): (a) No 1, rated as "Medium", but was "High" (measures were foreseen under the approved FP, see Section 3.4.8.2 on Financial Sustainability), and (b) the "Low" rating for HWC risk, which was also "high", with no project-specific measures for this (addressed by the government at all levels (reflecting limited available finances) and a few development partners); while not in the design, the project could have at least had monitoring measures in place to capture well the true extent of impact on/connection to project results. Not rating the two risks mentioned as "High" potentially affected the scope of monitoring and/or mitigation measures put in place. Otherwise, risks management strategies (with field visits, including by the UNDP staff member in the supervisory role, independent from the project management team), adherence to Social and Environmental Screening (SES) and Environmental and Social Management Framework (ESMF), PMU under the PB, TACC review of technical matters) were adequate.

25. ***Finding 5.*** ***The ProDoc had (a) an adequate ESMF, with an appropriate Grievance Redress Mechanism (GRM) and SES, but the latter could have included monitoring for the biodiversity risks of the of high-density polyethylene (HDPE) network.***[31] The project conducted extensive stakeholder consultations and assessments of projected adverse environmental and social impacts and developed appropriate mitigation measures. The ESMF (annexed to the ProDoc), listed the environmental and social objectives of the project as to: improve water supply and conservation; encourage good management practices; minimize the pollution of land, air, and water; protect native ecosystems; ensure gender equality and inclusion; and comply with the applicable legal framework, and standards; and minimize environmental impact. With the SES (Annex VI (a) of the ProDoc) the project was screened against the UNDP's Social and Environmental Standards Procedure (SESP) and deemed

28 Evaluation question 4
29 According to the NFIS 2018-2019, Access to finance (loan) in Bhutan was just 22%. Source: National Financial Inclusion Strategy 2018-2023.pdf
30 E.g. the Ngultrum depreciated by 10 % between 2016/17 and 04/2025), raising local currency costs for USD-denominated inputs
31 Evaluation questions 5

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it a "Moderate Risk"[32] not requiring any land acquisition and/or resettlement, and triggering four standards.[33] The FE concurred, but SES could have discussed measures related to the maintenance of the springs used before.[34] While the project did not require a Free, Prior and Informed Consent (FPIC) (or an Indigenous Peoples' Planning Framework),[35] stakeholder consultations were informed by its standards, endorsed by the RGoB. The project was assessed as having the potential for environmental and social impacts: both beneficial (more productive soil with less erosion and chemicals, improved water quality, more resilient crops to the impacts of climate change, and healthy ecosystems) and negative, mostly minor, and temporary, related to the construction works, with appropriate actions proposed. The FE concurred with the original/final "Moderate" risk rating in the SES. The potential negative impact on biodiversity of HDPE pipes was not discussed, however, while they existed, even of not significant.[36]

3.1.3. Lessons from other relevant projects incorporated into project design

26. ***Finding 6:*** ***The Project design built on lessons learned (LL) from several initiatives in Bhutan. A few lessons could have been addressed better, e.g., the need for business planning around each SLM/CSA technology.***[37] There were lessons related to (a) climate-resilient livelihood options through diversification from SLM/CSA/CRI (UNDP/GEF/LDCF "Enhancing Sustainability and Climate Resilience of Forest and Agricultural Landscapes and Community Livelihoods" (2017-2021)); (b) water management in watersheds (Bhutan for Life (BFL, 2018-2032, GCF/RGoB/World Wildlife Fund (WWF))[38]; (c) CB to prepare for and respond to multi-hazards (UNDP project on "Addressing the Risk of Climate-Induced Disasters through Enhanced National and Local Capacity in Bhutan (2014-2018)"[39]; (d) large-scale community- led SLM (World Bank (WB) "Bhutan-SLM" (2006 –2013)); (e) strengthening agricultural systems and the climate resilience of community livelihoods (UNDP/GEF "Enhancing Sustainability and Climate Resilience of Forest and Agricultural Landscape and Community Livelihoods in Bhutan project (2017-2023)"[40]; and (f) reducing and early warning mechanisms for climate change-induced risks and vulnerabilities from glacial lake outbursts ("Reducing Climate Change-induced Risks and Vulnerabilities from Glacial Lake Outburst Floods in the Punakha-Wangdi and Chamkhar Valleys (2008-2013)"[41]. These lessons informed the project design. At the same time, a few lessons could have been addressed better, e.g., the need for business planning around each SLM/CSA technology, i.e., analyzing which private sector actors (their unions) could

[32] World Bank/International Finance Corporation Category B

[33] No 1-Biodiversity Conservation and Sustainable Natural Resource Management; No 3- Community Health, Safety and Working Conditions; No 6-Indigenous Peoples; and No 7- Pollution Prevention and Resource Efficiency.

[34] "*Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management: (a) Water use and related development (i.e., irrigation) must be informed by the water budget to ensure sustainable water use; and (b) Similarly development planning must consider fragile wetlands and ecosystem services to avoid fragmentation and ensure continued functionality of ecosystems*." The measures focused on "*Training to government staff and communities on wetlands and sustainable water use to help ensure that project implementation minimizes impacts to wetlands"*

[35] All people within Bhutan are considered Indigenous People. There are many smaller ethnic groups integrated into the major ethnic groups

[36] this was acknowledged by the leadership of National Soil Service Center (NSSC) and TACC Chair, TACC for the project).

[37] Evaluation question 6

[38] https://www.worldwildlife.org/our-work/funds/wwf-and-gcf/projects/bhutan-for-life/

[39] UNDP 2022 Addressing the Risk of Climate-Induced Disasters through Enhanced National and Local Capacity in Bhutan, https://www.adaptation-undp.org/projects/ldcf-enhanced--capacity-bhutan

[40] UNDP 2022, 'Enhancing Sustainability and Climate Resilience of Forest and Agricultural Landscape and Community Livelihoods in Bhutan' project (2017-2023) https://www.adaptation-undp.org/projects/enhancing-sustainability-agricultural-landscape-community-livelihoods-bhutan

[41] UNDP 2022 Reducing Climate Change-induced Risks and Vulnerabilities from Glacial Lake Outburst Floods in the Punakha-Wangdi and Chamkhar Valleys https://www.adaptation-undp.org/projects/ldcf-glof-bhutan

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have been targeted for the uptake, in the context of the associated value chains in each area (in consultation with the business platforms/ organizations from the Stakeholder Engagement Plan (SEP), but not engaged with).

3.1.4.Gender/Leave No One Behind

27. ***Finding 7. The project design was satisfactory in terms of GEWE, with a Gender Assessment, Action Plan (GAAP) and Budget based on a consultative process well-received by the beneficiaries, but in need of revision. There was no sufficient discussion of LNOB.***[42] Gender disaggregated indicators and data were mainstreamed under project objective and outputs for measuring progress, qualifying it as *gender-sensitive* (GEN2) by UNDP Gender Marker.[43] The GAAP (Annex to the ProDoc),[44] was multifaceted[45], but lacked, *inter alia*: (a) better identification of the barriers and best practices, (b) clearly identified initiatives, targeting specifically women in relation to their rights, livelihoods, jobs, etc.; (c) focus on involving the heads of the HHs to facilitate decision making; (d) more attention to gender mainstreaming (e.g., in the statutes of the WUGs), and (e) more efforts to facilitate forming women's groups.[46]

3.1.5.Planned Stakeholder Participation

28. ***Finding 8: The SEP did not explicitly describe the expected roles of each agency listed, the modes of engagement and missed several important agencies.***[47] The SEP (Annex I of the ProDoc) missed , for example, (a) the *College of Natural Resources (CNR*) -important from the sustainability perspective; (b) Farm Machinery Corporation Limited (FMCL), assembling greenhouses, renting out small agricultural machinery, and trading in seeds[48] (engagement could have supported the scaling up of the project, especially in the light of the need for more mechanization in agriculture); and (c) Food Corporation of Bhutan Ltd. (FCB)[49], with the mandate of ensuring availability, affordability, and accessibility of quality food for all, by providing a marketing platform and distribution chain for farm produce and essential commodities.

3.1.6. Linkages between the project and other interventions in the sector

29. ***Finding 9: The ProDoc stipulated establishing linkages with BFL and NAP Readiness projects, but several other major related development projects were omitted.***[50] The following were missing, for example: (a) Food and Agriculture Organization (FAO) project on "Provision of Technical Assistance for Food Security and Agriculture Productivity Project (TA-FSAPP)" (2017- 2024); (b) International Fund for Agricultural Development (IFAD)'s "Commercial Agriculture and Resilient Livelihoods Enhancement Programme" (2015-2025); (c) the European Union

[42] Evaluation question 9
[43] UN Gender Marker
[44] Participants in consultations for construction and renovation included women; of irrigation schemes (58.5 percent), road sections (69 percent) and project baseline survey (54 percent) were women.
[45] (a) increasing the role of women in agriculture; (b) tailoring CB needs for women to building entrepreneurial skills; (c) ensuring support directed to women and men was practical and strategic; (d) ensuring women have access to information on markets, pricing and climate ; (g) sharing good practices from promoting GEWE for policy/decision making at all levels; (h) identifying gaps in gender equality through sex-disaggregated surveys; and (i) incorporating gender issues in advocacy and awareness programs.
[46] UNDP (2022) "Gender Action Plan Analysis Report"
[47] Evaluation question 7
[48] https://fmcl.bt/public/aboutus
[49] https://www.fcbl.bt/
[50] Evaluation question 8

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(EU)’s 'Rural Development and Climate Change Response Programme' (2017-2022), and (d) the projects by Bhutan Trust Fund (BTF), among others.

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3.2. Project Implementation

3.2.1. Adaptive Management

30. ***Finding 10:*** ***The project demonstrated strong adaptive management, but opportunities to introduce changes needed were somewhat limited, due to the funder's relatively strict guidelines. The IE recommendations were implemented partly, especially with regards to critical engagement in strengthening market linkages.***[51] Several adaptive changes were managed well in communication with the GCF. For example, in the case of Reotala road landslide section, a period of observation was undertaken which resulted in reduction of area to be stabilized. During COVID, the project managed to stay open, with changes to some of the training modalities to online. Also, there was reallocation within the SLM budget to increase the amount available for terracing, with its popularity among the farmers growing after the start of the project, due to the use of machinery, etc. The limited opportunities to introduce changes in response to evolving needs could be demonstrated, for example, with the HWC: its severity increased over time, after the project started, but no budget reallocations were perceived to be possible. Plus, sticking to the identified nine (9) SLM methods, could have potentially limited the extent of addressing the emerging new opportunities for innovations. The perception of this strictness was the main reason cited for not acting on the IE recommendation on the need for critical engagement in strengthening market linkages, as this was not in the final design.

31. The PB was effective in ensuring smooth implementation of the project. The IE noted that the project needed to increase participation of beneficiaries in the PB (recommendation No 3), to strengthen the beneficiary engagement and voice, and that while the beneficiary communities were represented in the PB through the Governors (NB: 2 governors, on a rotating basis), the existing mechanism needed to be enhanced with direct representation of beneficiary communities in the PB, but also acknowledging that for practical reasons, it was unlikely that a representative approach could be found. The FE concurred. The rotating governors' representation in the PB had worked overall well. While the two (2) districts were never represented in the PB; the governors were closely engaged. Plus, the PM/PMU staff and the IPs visited the locations often and had their focal points at the district level. Hence, taken together, these arrangements worked well.

3.2.2. Actual Stakeholder participation and partnership Arrangements

3.2.2.1. Stakeholder participation and partnership building

32. ***Finding 11:*** ***The project was mostly successful in developing and leveraging necessary partnerships, but mostly with the actively involved direct stakeholders, and much less so with the tangential ones,***[52]***including Civil Society organizations (CSOs) and the private sector.***[53] ***There were, however, challenges related to stakeholder engagement***. The SEP was never revised, while there was a need, given the long duration of the project and the government restructuring in 2022. Overall, there was an active engagement with/participation by the direct

[51] Evaluation questions 13 and 14
[52] Evaluation questions 15 and 16
[53] Evaluation question 48

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stakeholders, as expected, but not so in relation to tangential ones. The challenges to stakeholder engagement included: COVID; Government restructuring, and the tendency for some agencies to work in silos. To summarize:

- *Local, district, and national government*: The directly involved *national government agencies* (MoF, DoA, DoST, NCHM, MoIT) had an active role in project decision-making, but there was weak engagement with the Department of Agricultural Marketing and Cooperatives (DAMC) (mainly at the level of the Economic development Officers locally), the Department of Water (DoW) after 2023 (needed in the part of guidelines envisioned for the life-time coverage of O&M of infrastructure and watershed management),[54] and the MoAL - to ensure a shared vision among the departments. The *District administrations* supported achieving the objectives of the project actively, and monitored the progress. *The Local governments (LG)* facilitated smooth implementation, with logistics support and community mobilization.
- *NGOs/private sector*. BCCI (not in the SEP, while it was expected to connect farmers' produce to domestic and international markets) had identified potential economic activities for 20 districts with the private sector (ProDoc). The project could have engaged with the (a) BCCI's 19 District Business Development Committees (DBDC) and directly with BCCI membership to promote potential investments in CSA, rather than rely on the BCCI leadership (not a structured way), and (b) Bhutan Export Association. Direct engagement with the private sector happened only with a few middlemen, but those were farmers themselves. Bhutan Ecological Society (BES) was engaged only as a PB Member.
- *Academia*: the SEP did not specify what was meant under "Research *and Development Services*" . Although the project engaged with research institutes under the RGoB (such as the National Soil Services Centre (NSSC) under the DoA), it would have been beneficial to leverage the capacity and expertise of other research institutes and universities.
- *Farmers Groups and cooperatives*: The project supported 33 of these, plus the WUGs, and the Road User groups (RUGs) were also a form of farmers groups. The support to and engagement with the WUGs was very strong, but not so for the RUGs, as it was assumed that this would happen under the RGoB regular mandate (see Section 3.4.8.4 for further discussion)

3.2.2.2. Communication and Stakeholder Engagement efforts

33. ***Finding 12:*** ***The project had a rich website and was active in media (print, electronic, social), including with impact stories. The project would have benefitted from having its own communication plan and person. There were limitations to stakeholder awareness when it came to tangential ones, due to the lack of direct communication - with potentially missed opportunities for more scale up*** [55]. ESMF envisioned a Communications person, but this was not in the ProDoc *per se* and not budgeted. The UNDP CO Communications Officer provided guidance, within the UNDP CO Bhutan's broad Communication Strategy and yearly Communication Plans since 2019: focusing on media coverage, impact stories, producing newsletters and booklets, the project website, national and social media (e.g., UNDP CO Bhutan Facebook, Instagram, and

[54] DoW was created after the reform in 2022-2023. Before that DoFPS and Watershed Management were under then Ministry of Agriculture and Forestry (at the FE they were under Ministry of Energy and Natural Resources). In 2022 Watershed Management Division was merged under DoW. Irrigation mandate was under the Agriculture Engineering Division of DoA of MoAL. Policy related to irrigation is under MoAL.

[55] Evaluation question 17 and 18

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LinkedIn pages), among other ways. The project had a rich website at the FE,[56] but after the government restructuring, for 1.5 years it was not operational and was re-established partially by the PM in 2023; the number of website viewers since that (for 1.5 years) from Bhutan was lower than could be anticipated.[57] The communication products included; (a) a brochure (2024) capturing key findings of the project IAs; (b) two (2) project impact videos (produced with the GCF communications team following the GCF Executive Director's visit in 2024, later selected among the key products for GCF's 10th anniversary (GCF100)) and screened on the national TV by the Bhutan Broadcasting Service (BBS); (c) a photo story from the Phangyul irrigation scheme launch, which won Best Photo (Inequality category) in the UNDP Global Digital Awards 2024; (d) media and communication pieces published on the digital channels of not just UNDP Bhutan, but also of UNDP Asia-Pacific, UNDP Global, UNDP Climate, UNDP Adaptation and (e) Quarterly newsletters. While the list was impressive, a targeted distribution list (email and/or in print) would have maximized the reach and ensured that all potential partners, direct or tangential, received the relevant information, along with more of in-person meetings to promote not only awareness but also synergies (occasional visits by the PM /district agriculture officers took place, but a systematic and targeted approach was lacking (see also Section 3.4.9)).

34. ***Finding 13. The project appropriately acted on the IE recommendation to enhance its efforts related to GEWE to be able to address better the challenges with the socio-cultural norms. GEWE was promoted deeper that in the original plan, with the revised Gender Action Plan (GAP), but could have included a more targeted approach to women's empowerment.***[58] Gender equality (GE) was a cross-cutting theme across all project outputs. The Project's revised GAP required five (5) GE awareness and training programmes spread across the Project. The UNDP CO and UNDP BRH provided support with GEWE activities. The UNDP CO Gender Specialist rendered technical support as and when required, such as for gender training, updating the GAP and for conducting joint oversight monitoring for implementation and safeguards. The PMU (a) engaged an independent gender expert, and experts from RENEW[59] and the UNDP BRC Hub for delivering trainings, and this has worked well (while coordination between them could have been better), (b) invested systematic efforts to include women farmers groups, as well as (c) targeted specific sub-sectors more dominated by women. There could have been more targeted initiatives for women, including with gender profiling of selected values chains and targeting opportunities for job creation for women.[60] Gender consultants were hired (one of them -on several assignments), as mentioned, and not a full -time staff as per GAAP.

3.2.3. Project Finance and Co-Finance

35. ***Finding 14. The project's financial planning demonstrated full alignment between the planned budget, as outlined in the ProDoc, and expenditures, highlighting robust budgeting accuracy, disciplined execution, and strong governance over project resources. Most of the***

[56] https://bhutangcf.gov.bt/supporting-climate-resilient-and-transformational-change-in-the-agriculture-sector-in-bhutan/
[57] The statistics on the website, showed 55,065 total website views with 38,314 from the USA, 12639 from India, 834 from Japan, 588 from Australia, 424 from Bhutan, 401 from the UK, 377 from Singapore, 360 from France, 206 from Hong Kong, and 168 from China;
[58] Evaluation question 18 and 38
[59] https://renew.org.bt/
[60] (FE FGDs, the project- supported "Gender Participation and Promotion of gender Equality in agriculture Sector in Bhutan" (2025) report

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budget-to-expenditure variances were due to during implementation, planned and actual for GCF and USD 32,668,000.00 for co-financing, Most of GCF grant funding was on Output 2, while The overall actual expenditures exceeded budget be primarily attributed to: (a) government salary personnel costs; (b) higher-than-anticipated factors, such as currency exchange fluctuations The following were the main additional drivers higher-than-expected technical staff and O&M rising parts and service expenses (Output 1); support (Output 2) and policy-driven changes spending stayed controlled. Transparent

Table 3: Budget and Expenditure Variation-Actual

Output		GCF	Co-Financing
Output 1	Budget	3,361,774.00	7,115,000.0
	Exp	3,162,754.69	7,435,788.16
	Balance	199,019.31	- 320,788.16
Output 2	Budget	18,185,448.00	1,726,000.00
	Exp	18,223,269.98	3,114,137.84
	Balance	- 37,821.98	- 1,388,137.84
Output 3	Budget	2,783,374.00	22,358,000.00
	Exp	2,747,583.21	21,548,312.09
	Balance	35,790.79	809,687.91
PMU	Budget	1,016,598.00	1,469,000.00
	Exp	1,016,574.19	2,352,568.05
	Balance	23.81	- 883,568.05

Source: FE, based on ProDoc and information from the PMU/UNDP

external factors.[61] For the allocations figures stood at USD 25,347,194.00 with no discrepancies[62] (see Table 3). most of co-financing was on Output 3. allocations across outputs. This could revisions in 2023, which increased O&M requirements; and (c) external impacting co-financing in Output 3.[63] for budget-expenditure variations: costs for weather monitoring due to expanded need for technical advisory across PMC activities. The overall budgeting and reporting enabled stable financial performance despite external challenges. Fund allocations across all outputs reflected implementation priorities, and regular tracking of GCF and co-financing ensured transparent oversight. There was strong financial performance for the grant component, with 99.87 percent budget utilization (GCF budget: USD 25,347,194.0; expenditures: USD 25,315,507.53; additional PO commitment -USD 16,993.82) at the FE.

[61] Evaluation question 19

[62] The FE conducted an analysis of a breakdown of the project's planned and actual budget allocations, mapped to each output over the six-year implementation period. Each year's planned and actual budget figures for both the GCF and co-financing components were perfectly aligned,

[63] the Ngultrum depreciated by 10.01 % (USD: Nu. 65 in 2016/2017 to USD: Nu. 85.71 by April 2025), raising local currency costs for USD-denominated inputs. More Ngultrum was needed to meet co-financing targets

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36. ***Finding 15. Budget utilization by code was within limits, with minor internal adjustments.***[64] The expenditure for Output 2 reached 489 percent of the initial allocation, however. This was primarily due to government's 2023 salary revision and exchange rate fluctuation, but additionally, the associated operating costs exceeded the plans significantly, due to large number of government staff attending training abroad: in such cases inviting specialists to Bhutan might have been more justified. Overall, fund disbursements closely matched the ProDoc plan, reflecting disciplined budgeting, adherence to timelines, and transparent procurement. Compliance with UNDP's agreements by the GNHC, MoF, MOAL and DoR were consistently monitored. Governance and internal controls were strong, with effective use of electronic Public Expenditure Management System (e-PEMS) and using government Letter of Credit account. Balances matched bookkeeping and bank records. There was traceability from the ledger to Funding Authorization and Certificate of Expenditures (FACE) forms and compliance with Harmonized Approach to Cash Transfers (HACT) and regulatory requirements. The May 2024 audit covering 2023 supported these findings. Overall, there was efficient, compliant, and transparent financial management.

Table 4: Planned and Actual Co-financing, USD (as of December 2024.)

	Activity	Agreed	Materialized FE
Output 1	*MOAF (In-kind)*	6,873,000.0	6,873,000.0
	NCHM (in-kind)	242,000.0	562,788.2
	Co-financing Total	**7,115,000.0**	**7,435,788.16**
Output 2	*MOAF (In-kind)*	758,000.0	1,462,160.8
	MOAF (cash)	968,000.0	1,651,977.0
	Co-financing Total	**1,726,000.0**	**3,114,137.8**
Output 3	*MOWHS (cash)*	1,990,000.0	1,725,528.63
	MOAF (In-kind)	502,000.0	801,541.8
	GNHC (cash)	19,866,000.0	19,021,241.7
	Co-financing Total	**22,358,000.0**	**21,548,312.09**
PMC	*MOAF (In-kind)*	919,000.0	1,750,639.4
	MOWHS (in-kind)	550,000.0	601,928.7
	Co-financing Total	**1,469,000.0**	**2,352,568.1**
Co-financing Total		**32,668,000.0**	**34,450,806.14**

Source: PMU

37. ***Finding 16: Materialized co-financing amounts***[65]***.*** Table 4 demonstrates ***has surpassed the planned*** slight underachievement for Output 3, the overachievement in total, with for Output 2. Both the commitment and but significantly exceeding the plans were supported with letters and there allocations related to co-financing coordination. was a strong co-financing

3.3. Monitoring and Evaluation

3.3.1. M&E design at entry

38. ***Finding 17: The M&E plan from the ProDoc was, overall, satisfactory: the concerns were mainly about the interpretation of several indicators, as was discussed.***[66] ***Also, the details were not elaborated in the Inception report, but one year later.*** The M&E Plan detailed the oversight and monitoring responsibilities of the PM, PB, Project IPs, and UNDP's CO/UNDP GEF RTA/UNDP GEF Directorate.[67] The concerns with a few of the indicators, their interpretation and measurement were discussed earlier, as part of the assessment of the RF, in the Section 3.1.1. The M&E budget was, overall, sufficient, but with no budget lines for the IAs (the FE budget was partly used for that). The same information as in the M&E Plan, was repeated in the Inception Workshop Report, with (a) no further details on the means of verification, the monitoring plan, the national/regional institutes to be involved, (b) the

[64] Evaluation question 20
[65] Evaluation question 21
[66] Evaluation question 10, 11 and 12
[67] of the PM, PB, Project IPs, and UNDP CO, UNDP-GEF Regional Technical Advisor (RTA) and the UNDP-GEF Directorate as needed

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baseline conditions, methodology, logistics, and time frames not well articulated; and (c) no explanation how project's M&E could support national monitoring of SDG indicators as relevant. All of these were developed one year after the start of the project, when the M&E expert was hired.

3.3.2. M&E implementation

39. ***Finding 18: The M&E plan was sufficiently funded during project implementation***. ***The* M&E was strong *in capturing the immediate results of built infrastructure and the perspectives of men and women, with active on-the-ground participatory monitoring, but there were issues with capturing the effectiveness of institutional capacity building and with the execution of the annual IAs.***[68] Project-level M&E was compliant with the requirements.[69] M&E instruments, developed with the M&E Officer hiring (i.e., after one (1) year from the project start), included a well elaborated database, allowing to track and verify all the deliverables linked to financial expenditure- a best practice, likely to be used by the UNDP CO. Overall, the project used inclusive, innovative, and participatory monitoring systems with frequent field visits. This contributed to the fact that the planned project results were mostly achieved/likely. The annual control-group-based IAs (2023, 2024, 2025), were carried out, but had issues, discussed in Section 1.6 on Limitations. Missing information from these reports on some indicators (or issues with these) affected reporting quality (see below) and the effectiveness of Results-Based Management (RBM). In a few instances the reporting was not aligned with the format of the indicator, e.g. for Outcome 2 Indicator on "*Strengthened adaptive capacity and reduced exposure to climate risks*", the End of Project (EOP) target was "30 percent increase in crop yield for 70 percent of beneficiaries": the reporting did not address the part on "70 percent"

40. ***Finding 19. The project complied with the progress and financial reporting requirements, but the quality of reporting could have been better.***[70] ***The Results from the project were disseminated via the project website, media, and annual Knowledge Management (KM) events, but the latter included only the direct stakeholders***. The project complied with the progress and financial reporting requirements. Annual Project Reports (APRs) on 1 March each year (with inputs from the PM, the UNDP CO, and the UNDP-GEF RTA) and included, *inter alia*, reporting on environmental and social risks and related management plans, gender, co-financing, and financial commitments. The APRs submitted to the GCF were also shared with the PB, and the National Designated Authority (NDA). APR findings were overall consistent with FE findings, with the exception of several results from the IA2025. The quality of reporting, especially the final SPR and the PCR was impacted by the issues related with the IA2025.

3.3.2.1. Overall assessment of M&E

41. In the light of the discussion above, both "M&E Design at entry" and "M&E plan implementation" are rated as ***Moderately Satisfactory,*** and hence so is the "Overall quality of M&E"

[68] Evaluation question 22, 23, 24, 25, 26, 27

[69] in compliance with UNDP requirements as outlined in the UNDP POPP and UNDP Evaluation Policy. Additional mandatory GCF-specific M&E requirements were undertaken in accordance with relevant GCF policies.

[70] Evaluation question 28 and 29

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3.3.3. Project Implementation Oversight, Execution and Coordination

42. ***Finding 20. UNDP delivered effectively on its three – tier implementation/oversight roles, involving UNDP CO, UNDP BRH and UNDP HQ staff, with somewhat more expected in outreach to larger development community and ensuring adequate/heightened attention to monitoring and mitigating the risks with life-time costs coverage for O&M of infrastructure. Project assurance was independent of the project management function.***[71] UNDP delivered effectively on its roles (supervision, oversight and quality assurance), funded by the agency fee.[72] In addition, UNDP took charge of the procurement of consulting services, based on the RGoB request, to capitalize on the large UNDP experts' network (this was challenging at times, having to re-announce tenders due to the limited local consulting market). The areas where more could have been expected, included (a) more outreach/visibility and synergy building with the development partners, (b) advising the PMU on the need to capture LNOB and complexities of rigorous impact assessments; (c) ensuring no discrepancy between the ProDoc and the Approved FP; and (d) close follow up with the IPs to ensure that the development of the agreed upon (in the approved FP) papers to support the sustainability of the O&M of the infrastructure were delivered (see Section 3.4.8.2 under Financial Sustainability).

43. ***Finding 21. The GNHC/MoF as the IPs, delivered effectively on their EE role, ensuring efficient use of GCF resources,***[73] ***strong level of coordination among the main IPs, and together with UNDP- the smoot flow of funds, despite several challenges. The project would have benefitted from an active facilitation of (a) interaction/synergy building between all the development projects working on climate resilient agriculture and (b) experience sharing directly with the non-project districts.***[74] Regarding the facilitation of the synergy building, it is understood that this was affected by the fact that Bhutan Climate Platform, established to coordinate national climate actions, was going through transformation, while the reorganized National Environment Commission (NEC) was partly assuming that role.[75] Hiring the M&E Officer late delayed the operationalization of the M&E Plan. The project execution faced several challenges, including with certain silos in government offices' work; and a high level of turnover among the civil service (around 30 percent at the FE (FE KIIs)). Together with the UNDP, PB, the PMU and TACC many of these challenges were overcome (see Section 3.4.5 on Efficiency).

44. In the light of the discussion above***, both "Quality of UNDP implementation/oversight"*** and ***" Quality of implementing partner execution" were rated as Satisfactory***, and hence, so was the ***"Overall quality of implementation/oversight and execution.***"

[71] Evaluation question 30.
[72] Covering quality assurance of project budget and financial transactions; Monitoring of the implementation of the project procurement plan; Corporate level policy functions, Quality assurance of annual work plans and reports, day to day project oversight supervision covering the start-up and implementation; and oversight of project completion; and reporting. .
[73] The IP was responsible for: (a) Approving and signing the multiyear workplan; (b) Approving and signing the combined delivery report at the end of the year; and (c). Signing the financial reports or the funding authorization and certificates of expenditures. The EE managed and administered the project's day-to-day activities under the overall oversight and supervision of UNDP (for all 3 mentioned functions).
[74] Evaluation question 31
[75] Also supporting the NCCC was the Department of Environment and Climate Change (DECC) under the MoEN

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3.3.4. Project and Environmental Risk Management

45. ***Finding 22. ESMF-based Environmental and Social Management Plans (ESMPs) for each irrigation scheme and three (3) sections of road slope stabilization works, were developed and effectively implemented. SES and Risks were managed according to plan and the weaknesses in mitigation were mostly related to the ratings.***[76] The safeguards management was, overall, effective and in compliance with the local legislation. Site specific ESMPs were supervised by the GNHC/ MoF. A two-tier GRM was effective, utilizing the established grievance mechanisms of the district administrations, together with a publicized telephone number. The PM also played the roles of the (envisioned in the ESMF) Communications officer and Safeguards and Gender Manager. All materials were in English and Dzongkha (National Language). Field Officers inspected the construction sites daily, while the contractors kept environmental records, and inspection checklists. Concerns raised were advised to the UNDP/ GNHC (MoF). Project personnel and contractors attended an induction on health, safety, environment, and cultural requirements.[77] No revisions to original SES took place and the necessary clearances (social/public, forestry, and environment) were obtained.[78] At times this was not easy, as there were cases, when the project- supported irrigation network covered only parts of the gewogs (for objective reasons, e.g., terrain), causing dissatisfaction of the residents of the remaining parts. The risks' log was maintained adequately at the UNDP CO, with the project supervisor updating it, including with annual visits to the project sites, in consultation with the Project Technical Advisor and the PM. The risks were reflected in the APRs (and hence the PB was kept informed). In the Risk Log at the FE only two risks were marked as substantial – related to the delay in funds' transfer and Cost escalation. The risk ratings did not change, including for the sustainability of the built infrastructure and HWC, despite developments (delayed reforms at the DOW, and escalating HWC, with the latter clearly affecting the farm incomes). Some of the risks did affect project implementation *per se*, e.g. with cost escalation, leading to modifications with mitigation measures and budgetary lines' reallocations (with, *inter alia*, fewer international consultants). The risks related to the RGOB co-financing delays did not materialize: RGoB could be commended for that, especially in the context of fiscal constraints.

3.4. Project Results and Impacts

3.4.1. Progress towards objective and expected Outcomes

46. Table 11 Extent of achievement of Output and Outcome targets, in Annex 1.C summarizes the information in this Section.

3.4.1.1. Extent of Achievement of Outputs

47. ***Finding 23. The targets for most of the Outputs were either achieved or were most likely/anticipated to be achieved in the near term: in the latter case a straightforward FE assessment was complicated by the challenges of the IAs and reporting, and so enhanced triangulation was***

[76] Evaluation questions 32, 33, 34
[77] A Report on ESMP sensitization to laborer and contractor for the construction Dungkarcholing irrigation in Tsirang Dzongkhag; and Report on ESMP training to site engineers, contractors and labourers of Khagochen road – shared on 9th October 2025
[78] all activities for irrigations and roads obtained clearances (social/ public clearances, forestry, and environment)

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used as well as the likely developments taken into account in the context of reforms. The target for only one (1) output was clearly not achieved.[79]

Output 1. Promote resilient agricultural practices in the face of changing climate patterns

48. **Output indicator 1.1, Indicator "Share (%) of beneficiaries in targeted dzongkhag accessing improved climate services",** ***EOP target - "70 percent of project beneficiaries in targeted dzongkhag accessing improved climate services"***, was not achieved (based on both PCR (54.7 percent, IA2024 and IA 2025 (38 percent (p<0.001)), with uneven farmers' access to weather and climate services, but with dissemination systems expanding considerably, with substantially higher frequency of weather updates[80] (daily or weekly) and farmers generally valuing those—especially for planning harvest days (IA2025, FE FGDs, and NCHM own survey among the users of its forecasts, that showed mostly satisfaction with the timeliness and accuracy (2024)). Low education levels of part of the farmers hindered a proper understanding of this information and limiting the use of the weather app (even though there were also voice messages by the extension service).

49. **Output indicator 1.2 "Increased institutional capacity for climate-informed agriculture planning Average increase of scores by 60 percent from baseline",** ***EOP target - Increased institutional capacity for climate-informed agriculture planning (*****Output Indicator 1.2).** There was no reporting, against this, aligned with the indicator. This was about *institutional capacity*, and not about staff capacities built at NCHM and MoAL with training, with PCR reporting many trained[81], above the internal targets - notable but not reflecting the indicator. [82] No clear assessment was present in the IA2025, but with a note on lagging improvements in the quality and clarity of the information—particularly its interpretation at the local level. FE assessment: while the target was likely not achieved it was likely to be achieved soon, given (***1***) the WB-supported pilot on the crop calendars replicated at the time of this report in all the districts and hence enhancing climate informed planning at Dzongkhags, and ***(2)*** enhanced capacities at NCHM with (a) improvements in crop and livestock loss methodologies against climate change variability and impact, (b) the National Agricultural Drought Watch with the capability to provide location specific forecasts, developed and being tested (with ICIMOD Nepal); (c) hydrometeorological instruments and sensors calibrated as per the standards of the World Meteorological Organization (WMO), to monitor the compliance and quality of observation data for better forecast accuracy, (d) "Stevenson screen box" of meteorological stations upgraded, (e) Climate Database being enhanced and integrated for wider use, and (f) NCHM website enhanced for improved dissemination of climate information and services.[83]

[79] Evaluation question 42

[80] negative coefficient (-0.65, p<0.001); based on scores (1 = daily, 5 = seasonal or longer).

[81] 548 NCHM staff (32 percent women were trained against the plans of 90 (40 percent women). 1015 staff from NCHM, and 150 MoAL staff were trained to (a) combine local, regional/global information, disaster database and data from climate monitoring stations, (b) model/forecast climate, flood, drought, and water resource information (on daily, seasonal, medium to long term timescales).

[82] The assessment of capacities and needs of the relevant stakeholders formed a basis.

[83] The NCHM profile video: https://www.facebook.com/watch/?v=24025311193783397&ref=sharing; Overview of Agromet services video is uploaded on https://www.facebook.com/watch/?v=351951630525510&ref=sharing Education materials/video featured on the FB page.

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50. **Output indicator 1.3 "Level[84] of knowledge and adoption by beneficiary households of climate resilient and sustainable crop production practices", EOP target – Level 4**. PCR reported on 5637 HHs reached through CSA practices- notable, but not reflecting the indicator, and the latest SPR rated it at Level 4, based on IA2024.[85] IA2025 pointed to clear improvements in awareness and exposure to CSA technologies, but a limited translation into sustained adoption (corroborated by the FE FGDs), indicating that training and dissemination activities were not as effective as was expected, with many framers not participating in trainings on the mulching, bokashi or biochar (IA2025 FGDs). FE rated the result at **Level 3,** but assessed the achievement of the "target level 4 as likely in the near term", given the following factors: (a) farmers progressively combining traditional and modern agriculture management practices, likely as a response to improved knowledge (IA 2025); (b) a wider adoption of double cropping for rice present, and while the intensification in terms of cultivated area per farm overall, across all crops, had not yet materialized, farmers were beginning to experiment on small plots before expanding the practice more broadly (IA2025);[86] and (c) RGOB successfully promoting farmers groups, including with the RGOB cost sharing scheme, expected to address affordability.

Output 2. Integrate CC risks into water and land management practices that affect smallholders

51. **Indicator 2.1 "Change in KAP on role of wetlands and sustainable water use", *EOP-70 percent increase over baseline***. 81.2 percent of the beneficiaries with adequate KAP was reported in the PCR (based on IA2024). According to IA2025, the share of HHs reporting awareness increased slightly - by 1.5 percent between 2024 and 2025 (with a positive but statistically insignificant coefficient (+0.015, p=0.27), but with no information about the change between 2021-2025 to compare with the EoP Target. FE assessment: the average awareness level remained high at around 80 percent (based on IA2024 and FE FGDs), and so the target was achieved.

52. **Indicator 2.2 Technical capacity of members of WUGs, Dzongkhag engineers and agriculture extension officers for climate adaptive water and soil management is enhanced, *EOP target - Average increase of scores by 60 percent from baseline.*** Latest SPR rating was "satisfactory", based on IA2024, (not aligned with the indicator) and the PCR- "0" (noting *"No formal surveys …done but informal feedback at the end of the trainings showed that most of the participants felt they have acquired new knowledge and ideas").* There was no quantified result in the IA2025 but it mentioned "*Improvement of female members in WUA linked to enhancements in institutional capacity (p.7) and institutionalization of WUA*" (p.50). The claims from the project reports that WUG's technical capacity for climate adaptive water and soil management was enhanced were corroborated by the FE FGDs and KIIs. However, there was no financial guidance available to them (see Section 3.4.8.2 under Financial Sustainability) and FGDs and KIIs indicated an insufficient level of training in several locations/WUGs. FE assessment: while the EOP

[84] Level of adoption based on a scale where 1 = limited to no practice of climate-resilient sustainable crop production; Level 2 = households aware of practices and know how/where to get related technical support; Level 3 = households engaged with support activities and applying practices partially; Level 4 = households knowledgeable about climate-resilient practices and fully applying practices in their fields

[85] Biochar (52.1%), Bokashi (47 %) and Mulching (47.1 %), bench terracing (61.7%), Terrace consolidation (38.0%) orchard terracing (29.6%), contour hedgerows (78.1 percent), stone bunds (30.2 percent), check dams/buffer zone (18.9 percent), creation/plantation (52.6 %), land stabilization (46.1 %) water source protection (67.7 %).

[86] IA2025 FGDs found that farmers (a) were generally not accustomed to practicing double cropping, with a concern that it might not yield good results/the harvest would be eaten by birds.; and (b) wanted to see others in different locations successfully practicing it before adopting

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result was likely not achieved, it would be close, based on the FGDs/KIIs and IA2025, and also in the light of more training planned for them with the reforms in water sector and conducted by other projects).

53. **Indicator 2.3. "Area of arable land under assured irrigation in targeted dzongkhags", *EOP- 8,000 ha*[87] *of farmland with reliable irrigation, schemes constructed to be resilient to the impacts of climate change.*** The project reported on 37 irrigation schemes, one more than planned, including 4 new, with the total length of 288.42 km, with 6,366.15 Ha of arable land under assured irrigation. While this was formally below the target, the latter was set without exact measurement. Hence the FE rated this as "achieved". See *Box 5 Transformative Impact of the Phangyul-Kazhi Irrigation Scheme in Wangdue Phodrang Dzongkhag* for the case of the biggest irrigation system – Phangyul (34km) and *Box 6 Solar Lift irrigation at Jara village under Toewang Gewog* in *1.D. Case Studies***Error! Reference source not found.**) - on 20HP Solar water pump (an important pilot, prioritized by the RGOB, already replicated by the RGoB and ICIMOD). The project installed (a) 250 water harvesting schemes through construction of small earthen check dams and ponds, and earthen storage tanks as small-scale reservoirs for irrigation water supply during dry periods and drought, and (b) 546 drip and 1212 sprinklers irrigations for high value crops such as vegetables and horticulture crops, both within greenhouses and in the open fields. The plan (not in the RF) for 8 drip irrigation and 24 sprinkler irrigation schemes were surpassed. Both the local experts and farmers thought that more such schemes were needed (FE FGDs). In Wangdue Phodrang in one of the gewogs, the agricultural officers and local farmers supported these technologies with smart features.

54. **Indicator 2.4 "Number of district level Participatory SLM Action Plan for improved livelihoods". *EOP target- 8* district level Participatory SLM Action Plans.** Three (3) Integrated S*LM Participatory Action Plan*s were completed and implemented, covering all eight (08) Dzongkhags, and hence the target was achieved. These benefitted 14,030 farmers (Male-7532, Female-6498, project records).

55. **Indicator 2.5: Number of hectares made more stable through SLM practices, to the impacts of rainfall variability and related landslides**. ***EOP target*- 2380 ha of farmland slopes made more stabilize through SLM measures.** The project reported on SLM measures on 5,023.07 ha, largely surpassing the EoP target of 2,380 ha (overachievement of 211 percent), upscaling the proven set of 9 effective (already tested in Bhutan) set of SLM practices, facilitating the inclusion of local knowledge in the decision-making and community ownership, following the *Participatory SLM Action Planning* methodology. The communities were supported with the implementation, including with the technical capacity building of 120 DoA extension officers, selected by MoAF. Regular monitoring (twice annually) of soil conditions and soil stability to inform planning and policies related to soil management was carried out to support the sustainability of the investments, and highlight areas needing more care.

Output 3. Reduce the risk and impact of climate induced landslides during extreme events that disrupt market access..

56. **Indicator 3.1. Number of kilometers of farm roads and gewog connectivity roads that have been climate-proofed through upgrading and slope stabilization and sections of main road stabilized. *EOP Targets:* 170.24 km of farm roads, 232.22 km of GC roads, 3 sections of main road.** (1) The target for the *farm roads* was achieved with 211 km. (2) The target for the 9 *GC roads,* was also assessed by the FE as achieved,

[87] Includes 4 new irrigation schemes, 32 existing irrigation schemes made more resilient to climate change and drip/sprinkler irrigation

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even though 214.6 km (actual length verified) was climate proofed (blacktopped) as per the commitment of the RGoB; 232 km was an initial estimate. (3) As *for main roads* the target was achieved (with a caveat that the solution for the Bix-Cut Road was a temporary one): (a) Technical studies and designs for slope stabilization interventions for three stretches of main roads, regularly incurring damages due to increased intensity of monsoon and disrupting market access, were needed to validate existing specifications that were based on roads work for similar conditions. At the FE, the geo-technical studies for Reotala, Khagochen and Box-cut were completed; (b) Slope stabilization of three (3) sections of main road was achieved: completed as planned for Khagochen roadslide (for an example where the project helped to mitigate the risks of flooding during monsoon season, see *Box 7 From Isolation to Connectivity: The Khagochen Landslide Mitigation That Reconnected Dagana* in *1.D. Case Studies***Error! Reference source not found.**); and self-stabilized for the complex[88] Reotala landslide, [89] and hence the measures proposed in the geotechnical studies deemed not necessary with the DOR committed to continue monitoring and implementing any required maintenance works going forward); and, the DPR and mitigation of Box-cut completed, even if this was a temporary solution (see *Box 8: Box-Cut Road*in *1.D. Case Studies***Error! Reference source not found.**). So, to summarize, all the targets for this indicators were assessed as achieved by the FE.

57. **Output Indicator 3.2: Level[90] of integration of climate related information in national disaster loss and damage (DL&D) database, *EOP target- Level 4.*** This was reported as "level 4" (PCR; absent in the latest SPR). The "*SOP for road slope data collection induced by slope failures"* was the first of the kind and expected to enhance road slope management. Fifteen (15) DoR national and sub-national engineers were trained on the utilization of the SOPs and have initiated updating the roads' database.[91] The trainings delivered by the lecturers at the Engineering College as well as private companies, including abroad (e.g., in Bangkok,) were very effective. At the FE, the DoST under the MoIT has started (a) the integration of climate related information in the national DL&D, and (b) launched the *Road Slope Failure Database (RSFD) System* (September 2025), comprised of both a web-based platform and a mobile application, with the web module integrated under the *Bhutan Road Watch System*. The latter was aimed at (a) ensuring proper management of road slopes (systematically recording road slope failures due to heavy rainfall and snowfalls, along the national highways and Dzongkhags' roads and sharing with the Department of Disaster Management and the public for planning and safety), and (b) supporting effective record-keeping and prioritizing budgets for mitigation measures. Additionally, *a training on post-monsoon assessment of farm roads, including repair cost estimation* was conducted by the DoST primarily targeting the district and LG relevant staff (less so - the RUGs, as they were perceived to be institutionally weak, see Section 3.4.8.4 on Institutional Risks to Sustainability). These activities, cumulatively contributed to MoIT staff enabled to mainstream climate resilience road features and construction into infrastructure planning. The FE assessment: the target was achieved.

[88] The complex nature of Reotala landslide was due to an area of 112,977 m2 with a max length of 636 m and width of 315 m, and the debris deposit that could slide down to the highway is 44,239 m2. Following geotechnical studies, the implementation of several measures was proposed in the ESMP, but the road section appeared to have stabilized with limited disruptions over the three (3) monsoon seasons in 2020, 2021 and 2022 (DOR Report) and plummeted maintenance cost

[89] DOR spent around US $17,252 (2020); US$ 12,322 (2021) and US$ 1,232 (2022) during monsoons for the maintenance.

[90] Level of integration based on a scale where 1 = limited to no integration; Level 2 = Impact assessment-based monitoring and documentation is collected and RUGs estimate road damages for farm roads and input into the disaster database; Level 3 = Climate relevant evidence is used to make the economic case for climate resilient road planning; Level 4 = Increased investment in climate resilient road planning options

[91]being upgraded at FE to handle the national DL&D database with JICA support) .

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3.4.1.2. Contribution to Outcomes

58. ***Finding 24. Out of the 3 EOP targets for 2 indicators for 2 Outcomes: one (1) target was achieved (with 9 tailored products to inform climate-resilient agriculture planning delivered) and 2 (two) were assessed at FE as likely: (a) extent of project beneficiaries receiving advisories, considering them in decision making and (b) increase in yields (a proxy for resilience and adaptive capacity).***[92]

Project Outcome 1: Increased generation and use of climate information in decision- making

59. **For the Indicator "Use of climate information, climate-informed analyses in decision-making in sectors impacted by climate change",** there were ***two (2) EoP targets*:**

a) ***"9 Tailored products to inform climate-resilient agriculture planning" (1 per dzongkhag, 1 national level).*** These included: (a) 24-hour weather forecasts and updates; (b) Dzongkhag 3 days weather forecasts and advisory; (c) medium range (10 days) forecast data and its integration into the existing ADSS (supported by the WB), to produce crop calendars (piloted in 11 districts at the FE and replicated at the time of this report); (d) extended range weather forecast (10 - 30 days); (e) seasonal forecast-rainfall outlook as well as the database enhancement for the integration with the system for generating climate products and services (with training of NHCM staff); (f) Climate Access platform; (g) Drought watch platform system development; (h) Crop weather calendar, and (i) Mobile weather applications for dissemination of weather/climate information - done in 2023 as expected, but revealed technical issues leading to revisions at the time of the FE. Also, a plant protection product management system was developed, expected to aid in tracking and complementing crop pest/diseases surveillance So, the target was achieved.

b) 60 percent of project beneficiaries receiving advisories, consider them in decision making. Based on the latest SPR, 73.5 percent of project beneficiaries that received advisories considered them in decision-making (based on IA2024) [IA2025 was not clear about the EOP result]. Given (a) IA2024 results (surpassing the target), (b) the mostly positive feedback from the FE KIIs and FGDs, (c) large number of beneficiaries trained on the use of tailored climate information (1,488, 38 percent women) as well as well LG and extension officers attending the advocacy and sensitization sessions by the NCHM on weather and climate services (2587 farmers, female-1073) and (d) the replication of the WB supported crop calendar at the time of writing this report, the FE conclusion was that while the target may not have been achieved, it could be close.

Project Outcome 2: Strengthened adaptive capacity and reduced exposure to climate risks.

60. **Indicator for Outcome 2 Use by vulnerable households, communities, businesses and public-sector services of Fund supported tools, instruments, strategies and activities to respond to climate change and variability sectors *EOP target - 30 percent increase in crop yield for 70 percent of beneficiaries***. Latest SPR based on IA2024 cited Yield for paddy cultivation increased by: 36.1 percent for irrigated cultivation, 19.5 percent for rain-fed, 79.5 percent for mixed-type and 182.2 percent for up-land cultivation: the results did not correspond to the EOP target format. According to the IA2025 there was 28 percent yield gain for rice (including production from irrigated, rainfed, mixed and upland areas) and the yield on irrigated plots improved by a similar magnitude, despite moderate-to- statistically insignificant improvements in rice

[92] Evaluation question 43

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production and commercialization among treated HHs; for mixed-type systems, the estimated increase was around 61 percent, although not statistically significant due to the smaller sample size, indicating notable improvements in productivity, particularly on irrigated land, even though total production remained unchanged with limited evidence of yield gains (IA2025). The results suggests that production gains were likely due to the expansion of cultivated areas rather than increased productivity. The IA2025 did not have information on the yields of other crops[93] The FE assessment was that while the target was not achieved, it had a potential to be achieved in the near future, given (a) that both IA2024 and IA2025 noted higher yields for rice and especially for fully irrigated plots, (b) positive feedback in the FGDs (both the FE FGDs and IA2025 FGDs) and (c) plans by district administration to expand the fully irrigated areas.

61. ***Finding 25. The factors affecting the achievement of outputs and outcome included (a) on the enabling side (a)Synergies with the WB (ADSS), and JICA (disaster preparedness with NCHM), enhancing the planned results by the project in the part concerning the use of climate related information (NCHM); and (b) on the hindering side, COVID, HWC, underestimation and escalation of costs, certain issues with the effectiveness of the extension service and affordability constraints, among others. The project overcame some of challenges mentioned above with adaptive management***.[94] The list on the hindering factors included: (a) COVID imposed challenges and implied delays (as in the case with the planned trainings for officials on the use of improved hydrometeorological systems); (b) HWC with estimates of close to half of the harvest destroyed in some locations; (c) Cost underestimation for work related to roads' slope stabilization (a lesson learnt) and Cost escalation (sometimes more than doubled) following COVID and geopolitical situation worldwide, with the disruption of supply logistics, plus significant change in exchange rate, (d) Changing community preferences, sometimes dramatically, implying the need for changes in the initial targets and composition of selected technologies; (e) Certain issues with the extension service (officers busy with other tasks and high attrition), (f) High level of illiteracy among many farmers, especially older age women; and (g) Affordability constraints (e.g. for certain CSA methods in the face of still small (but growing) number of farmers' groups), etc. The project overcame many of the challenges mentioned (where possible), e.g., (a) in the case of escalated costs- by modifications to adaptation measures, that addressed escalating or underestimated costs but did not reduce their impact; (b) certain reallocations within the approved lines of the budgets to meet the changing priorities of the farmers (as in the case with dry beck terracing mentioned); etc. Close partnerships with key IPs, who in turn demonstrated strong national ownership, supported this. As mentioned, the potential partnerships with the tangential stakeholders and a more targeted outreach to the private sector might have enhanced the results even further.

[93] IA2025, did not discuss other crops *per se*, reflected on winter crops.:1) Among the main category of land use, the orchards and upland rice cultivation areas increased by 15 and 12%, respectively, vegetable land increased by 2% while *Kamzhing* and winter crops showed no statistically significant changes over time (p. 7 of IA2025). 2) The DiD results did not indicate a statistically significant project effect on winter crop. The share of HHs reporting two annual rice crops rose by about 13% ($p < 0.001$) (P. 10)

[94] Evaluation question 47

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3.4.2. Relevance

62. ***Finding 26. The project was in line with national development priorities and policies, aiming at addressing climate change, rooted in Bhutan's philosophy of GNH- both at its design stage and during the implementation. It was responsive to political, legal, economic, and institutional changes in the country and to the local communities' needs[95].*** The project was in line with, *inter alia*:

- *Climate Change Policy of the Kingdom of Bhutan 2020*, with the objective of "*A prosperous, resilient and carbon neutral Bhutan*", and the GNH secured under a changing climate;[96]
- *NDCs: (2015, 2021), (a)* seeking to improve climate data and use in policy to respond to climate change threats and remain carbon neutral- a goal set out first in *2012 National Strategy and Action Plan for Low Carbon Development,* with a minimum of 60 percent of forest cover, and (b) highlighting needs in water security, CSA, and enhanced forest adaptation measures;
- the *Low Emission Development Strategy (LEDS) for Food security (2021)*, targeting improved agricultural practices (14,971 ha), followed by the *Long-Term Low Emission and Climate Resilient Development Strategy (LTS, 2023),* which de-coupled the objectives of remaining carbon negative from economic growth, with mitigation and adaptation pathways, including from agriculture;
- *2012 National Adaptation Program of Action (NAPA),* identifying priority adaptation actions, seeking synergies with Multilateral Environmental Agreements (MEAs), followed by *National Adaptation Plan (NAP), 2023,*[97] which focused on reducing climate change vulnerability in medium to long term, with Sectoral Adaptation Roadmaps on Water, Agri-food, and Energy;
- *2014 Food and Nutrition Security Policy of Bhutan, Vision 2020, and 11th FYP*, highlighting the need in (a) expansion and renovation of the irrigation network for food self-sufficiency and shifting from subsistence to commercial production; and (b) reducing soil erosion and increasing crop diversity. This was carried forward with *12th FYP 2018-2023* focusing on mainstreaming environment in sectoral and LG plans, and *13th FYP* setting an ambition to boost agri-commodity exports to Nu. 6 billion, with high-value products and becoming a high-income country by 2029;
- *Food and Nutrition Security Policy of Bhutan 2023* targeting accelerated growth in agriculture and livestock with innovations, and *Bhutan's Agri-Food Strategy 2034 (2025),* with one of the goals on enabling a climate-conscious transition to resilient productivity;
- *Industrial Development Roadmap (2025),* aiming to make Bhutan's industrial sector, including agriculture, resilient and globally competitive, raising its contribution to GDP and exports, a 50 percent increase in crop yields, reduced losses, and vegetable imports by 2035[98]; and
- *GNH framework,* with gender friendly environment for women's participation as one of the key priorities, coupled with *National Gender Equality Policy (NGEP) 2020,* that targeted gender responsive policies, plans, and programs.

[95] Evaluation question 35
[96] National Environment Commission (2020) Climate Change Policy of the Kingdom of Bhutan 2020, https://www.gnhc.gov.bt/en/wp-content/uploads/2020/02/Climate-Change-Policy.pdf
[97] United Nations Framework Convention on Climate Change (UNFCCC) NAP process objectives are (a) to reduce vulnerability to the impacts of climate change by building adaptive capacity and resilience; and (b) to facilitate the integration of climate change adaptation, in a coherent manner, into relevant new and stable environment for availability, accessibility and utilization of food.
[98] Additionally, Bhutan's Foreign Direct Investment (FDI) Rules and Regulations 2025 encourage private-sector participation in agriculture, targets high-potential sectors

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63. The project was responsive to *political, legal, economic, and institutional changes* in the country e.g., with its support for the farmers groups' and WUG's- in line with ongoing reforms. The project was responsive to the *local communities' needs*, especially in relation to reliable and sufficient irrigation, diversification of crops with introduction of stress-tolerant and high-yielding crop varieties (wheat, millet, and minor cereals) to reduce rice dependency, and climate -proofing the roads (critical for a landlocked country). The FE FGDs confirmed that farmers viewed the project as highly relevant, tailored to localities and timely. The project was *relevant in terms of the baseline level of national capacities*, e.g. (a) addressing the need for trained experts for the expanded hydro-met network to inform climate-resilient agriculture planning; (b) delivering the training for the farmers in an accessible format, and (c) promoting voiced- over messages format for short term weather forecasts.

64. ***Finding 27. The project was in line Bhutan's efforts in implementing the UN 2030 Agenda for Sustainable Development 2015- 2030, (several SDGs), TOCs of the UNDP Country Program Documents (CPD) and UNDP Strategic Plans.*** [99]In particular, the project aligned with multiple SDGs (the FE identified more SDGs than in the ProDoc, see *Section 3.4.4 on Effectiveness*). The project was in line with the TOC of UNDP CPDs, both 2019-2023 (Outcome 2) and 2024-2028[100] (Outcome 2). It was also in line with the UNDP Strategic Plan *2018-2021 (Outcomes 1 and 2)* [101]; and UNDP *Signature Solutions* 2022-2025 under Resilience (the latter aiming at "*Supporting countries and communities in building resilience to diverse shocks and crises, including conflict, climate change, disasters and epidemics"). Strong governance, national ownership, and inclusive practices further strengthened the project's relevance".*

3.4.3. Coherence

65. ***Finding 28. The project was internally coherent (with some reservations about the missing element of critical market linkages), with the objectives of the project design (inputs, activities, outputs) and its TOC being, overall, logical, and coherent and the TOC presenting an outcome model, mostly relevant to base the initiatives***. The design issues were discussed in the *Section 3.1* on project design/Formulation.

66. ***Finding 29. The project was externally coherent, with strong complementarities to RGoB programs funded with its budget and/or with several key development agencies, contributing to achieving coherent integration of shift to increased climate resilient sustainable***

[99] Evaluation question 36, 37

[100] **UNDP CPD 2019-2023 Outcome 2**: (UNSDPF Outcome 4): By 2023, Bhutan's vulnerable communities and its economy are more resilient to climate-induced and other disasters and biodiversity loss. Outputs: 4.1. Inclusive, multi-hazard and risk-informed systems and capacities in place to tackle poverty through the sustainable management of natural resources; 4.2. National policies foster innovative financing, inclusive business, and improved livelihoods through climate resilient/nature-based solutions. **UNDP CPD 2024-2028** outcome 2 (UNSDCF outcome 3). By 2028, Bhutan's environment remains sustainably managed, and its people are more resilient to disaster risks and climate change. Output 2.1. More people in Bhutan, especially the vulnerable, have strengthened capacity to adapt to innovative solutions for resilience to climatic change and disasters; Output 2.2. Mechanisms, innovative partnerships, and financing solutions strengthened for ecosystem resilience that benefits all

[101]Outcome 1) Advance poverty eradication in all its forms and dimensions; and (2) Accelerate structural transformations for sustainable development. Outputs: 1.3.1 National capacities and evidence-based assessment and planning tools enable gender-responsive and risk-informed development investments, including for response to and recovery from crisis 1.4.1 Solutions scaled up for sustainable management of natural resources, including sustainable commodities and green and inclusive value chains;

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development; the synergies were few, however. Project- level Coordination happened mostly at the level of the MoF and DoA, and its effectiveness was affected by government restructuring.[102] Complementarities were strong (see *Annex1.K1.K Development projects*

Development partner and project(s)	Key areas of Complementarity
A. WB	
1.Food Security and Agriculture Productivity Project (FSAPP) in Bhutan ***RNR project***, ACCELERATE BHUTAN'S JOB TRANSFORMATION THROUGH RENEWABLE NATURAL RESOURCE VALUE CHAINS PROJECT (2025 – 2031) – World Bank funded project of USD 38.24 million. The RNR project, funded by the World Bank targets tailored value-chain support to raise productivity, boost value-add and jobs; CSA technologies and practices investments (dairy, potato, citrus) for smallholders and processors. 2.Strengthening Risk Information for Disaster Resilience in Bhutan: aims to enhance Bhutan's capacity for risk-informed decision-making and prepare for natural disasters. The project (2021-2025), has three components: developing a multi-hazard risk decision support system, strengthening hydro-met services, and professionalizing the construction industry for resilient infrastructure. Its objective is to improve how Bhutan uses disaster risk information for development planning by fostering better coordination and data sharing among government agencies.	• This project is complemented on the CSA technologies, irrigation and value-chain support, and resilience-building for smallholders; knowledge and technology transferor-investment in irrigation schemes, improved water use efficiency, climate-informed irrigation design, Market systems, and value-chain strengthening. • The WB's advanced data and decision strengthen GCF's climate advisories, (e.g., rainfall variability, hydro-power water allocation) that can inform development planning across sectors (agriculture, infrastructure, water resources), planning, and agricultural investments. Improved data sharing and coordination under the WB project complement GCF's multi-stakeholder approach, ensuring targeted, data-driven support for climate-resilient agriculture.
B. ADB	
1. Bhutan's Water Flagship Program, focused on improving climate resilience and improve water security particularly in Wangdue Phodrang, Zhemgang, and Thimphu. The project includes the Water Flagship Program Support Project (WFSP), which aims to strengthen climate resilience through infrastructure upgrades for drinking water and irrigation 2. Enhancing Food Security through Small Holders' Climate Adaptive Potato Production, focus on food security increase potato production and livelihood of potato producers in Bhutan improved. The project area includes, Bumthang, Haa, Paro, Pemagatsel, and Trashigang. The expected outputs are (i) production of climate-adaptive breeder seeds increased, (ii) certified breeder seeds multiplied, and (iii) capacity of farmers and government staff for post-harvest management and marketing strengthened	• ADB's WFSP complements the GCF/UNDP project by addressing gaps in hydrometeorological services, improving water data availability, strengthening governance for irrigation operation and maintenance, developing tailored climate advisories, and supporting scalable solutions that enhance climate resilience and sustainable water management in agriculture. • Supports investment in seed storage and quality control aligned with district-specific climate risks, Scale-up with market and extension integration, Integrates training on climate-resilient post-harvest practices, loss reduction, and market intelligence (pricing, demand, logistics)
C. FAO	
visit https://www.fao.org/bhutan/projects/en • Sustainable Agri-Food System Intelligence (SASI) – 2023-2027: Objective: Consolidating results of agri-food system assessments, methodology and tools, developing crosscutting analyses and approaches and reinforcing multi-stakeholder collaboration for transitioning to sustainable agri-food systems. • Regional TCP: Fostering agri-food system transformation in Asia through integrated research, extension and agribusiness incubation (Bhutan, Lao PDR, Nepal, and Sri Lanka.) 2025 • Mindful Futures – 2024-2025 – Joint SDG Fund. Objective: Mindful Futures would be implemented under, and governed by, the legal arrangements between the United Nations and the RGoB as set out in the United Nations Sustainable Development Cooperation Framework (2024 – 2028) ("UNSDCF"). • Enabling inclusive and effective blended investment in agri-food systems in the context of the Hand in Hand Initiative (HIH) – 2023-2025 with budget 483,000. Objective: To enhance capacity of the participating countries to upscale and adopt effective innovations and good practices in rural financial services in support of the HIH Initiative in five countries in RAP region. • OCOP: Promote sustainable production, value addition and trade of special agricultural products for food systems transformation and livelihoods improvement in Asia-Pacific countries 2023-2025: Objective: To support target OCOP countries to create an enabling environment for SAPs and envisages evidence-based analysis and innovative approaches to support the transformation of agri-food systems. • Enhancing livestock production efficiency through digitalization and precision farming 2023-2024: Objective: Digitalize livestock value chains; strengthen poultry and piggery through technical support;	• SASI will support Output 1 and Output 2 by consolidating assessments, methodologies, and tools to provide standardized climate risk data and decision-support resources. • Regional TCP activities can scale and validate GCF-supported climate risk information products (Activities 1.1 and 1.2) and irrigation and SLM interventions across comparable contexts. • Mindful Futures initiatives can integrate climate-resilience planning with SDG outcomes, including nutrition, food security, and inclusive growth. This would enhance the policy relevance and impact of Outputs 1 and 2, and support community pilots that test adaptive practices and promote inclusion. • HIH: This initiative complements rural finance and blended investment approaches to facilitate the adoption of climate-resilient practices and strengthen market linkages under Outputs 1 and 2, financial innovations. • The OCOP initiative supports market-ready, climate-resilient SAP value chains by linking climate-smart production with packaging, branding, and market access, complementing Outputs 1 and 2. • The Digital Livestock project digitizes value chains, complements the GCF project by translating climate-adaptive knowledge into actionable farm practices, and integrates livestock data with crop irrigation and climate information to improve resilience.

[102] Evaluation question 40

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Development partner and project(s)	Key areas of Complementarity
enhance dairy production and farm practices; build institutional capacity and quality standards; and boost fish production for import substitution and export.	
D. **BTF**	
Adaptation to Climate-Induced Water Stresses through Integrated Landscape Management (implemented in Dagana, Paro, and Tsirang, including GCF areas) Project components include: Adaptive watershed management for resilient communities; Climate-resilient water infrastructure for reliable drinking and irrigation supply; Climate-smart agriculture and sustainable land management; Stronger local governance for water-focused climate adaptation www.bhutantrustfund.bt	The BTF project complements the GCF project by strengthening adaptive watershed management, climate-resilient water infrastructure, and robust governance. It directly enhances water availability, irrigation reliability, and soil conservation—key gaps identified in the GCF report—ensuring effective, landscape-scale climate adaptation.
E. **MoAL - IFAD**	
1. The Commercial Agriculture and Resilient Livelihoods Enhancement Programme (**CARLEP**) project, implemented by MoAL seeks to transform rural agriculture into a sustainable, market-driven sector by promoting climate-smart practices and strengthening community and institutional capacities. The programme employs a value chain and commercialization approach across selected Gewogs in six eastern Dzongkhags: Lhuentse, Mongar, Pemagatshel, Samdrup Jongkhar, Trashi Yangtse, and Trashigang. 2. **The Building Resilient Commercial Smallholder Agriculture (BRECSA) project,** implemented by the MoAL and funded by GAFSP and WFP, aims to boost rural incomes and employment—especially for women and youth—through sustainable farming, market-oriented production, and value chain development.	CARLEP complements GCF by translating climate resilience investments into sustainable, market-driven value chains. By engaging stakeholders across the value chain and leveraging MOAL's network, CARLEP ensures climate-smart practices are scaled, technical gains are sustained, and long-term impact is achieved beyond project cycles. The GCF project strengthens climate resilience infrastructure and capacities, while BRECSA translates these gains into profitable market opportunities for smallholders—especially women and youth—through targeted value-chain interventions and improved market access. BRECSA ensures that enhanced water and agronomic practices from the GCF project led to sustainable, market-oriented production and broader economic benefits, making the two projects complementary.
F. **GOI**	
The Government of India (GoI) supports Bhutan 13th FYP through a comprehensive portfolio of development programs and grants. Key initiatives include Small Development Projects (SDP) for rural infrastructure, Programme Grants (PG) for direct budgetary support, and Tied Assistance (PTA) funding for High Impact Community Development Projects (HICDP). These programs span sectors such as agriculture, health, education, capacity-building, infrastructure, and energy. The Economic Stimulus Plan (ESP) further revitalizes Bhutan's economy by providing targeted support for agriculture, small industries, tourism, start-ups	The GoI supports Bhutan through a comprehensive portfolio of programs that directly complement and reinforce the GCF initiative. These efforts enhance scale, sustainability, and development outcomes across all project districts, aligning with Bhutan's climate and development priorities.
G. **EU**	
Technical Assistance for Ari-Food System (TAAS): The FAO, in collaboration with the MoAL, is supporting Bhutan's agricultural sector through the EU-funded TAAS project (2023–2028). The project aims to build sustainable, climate-resilient food systems by strengthening the renewable natural resources sector. This initiative is part of the broader EU–Bhutan partnership to promote inclusive, sustainable, and resilient agri-food systems.	TAAS complements the initiatives from GCF. TAAS boosts extension capacity and delivers targeted advisories for farmers, addressing GCF-identified gaps in climate-resilient seed production and soil management. By developing resilient seed varieties, improving seed systems, and promoting soil health practices, TAAS helps implement policy reforms and supports GCF's goal of building local capacity.
H. **KOICA**	
The Korea International Cooperation Agency (KOICA) in Bhutan supports development through technical cooperation and grant aid, focusing on school nutrition and agriculture. In partnership with the MoAL, KOICA has improved school kitchens, enhanced meal diversity with local produce, built farmer-to-school supply chains, and provided training in supply chain management for school feeding programs.	KOICA complements GCF by creating market demand for diverse, climate-resilient crops through school meal programs, which supports farmers adopting improved practices enabled by GCF irrigation and extension. KOICA also strengthens farmer organizations, supply chains, and nutrition resilience, ensuring GCF's agricultural investments translate into lasting economic and human capital gains.
I. **BTFC**	
Financial support from the Adaptation Fund, administered by BTFEC, a five-year (2022–2026) project "Adaptation to Climate-Induced Water Stresses through Integrated Landscape Management in Bhutan is implemented in Paro, Dagana, and Tsirang dzongkhags. The project strengthens resilience and adaptive capacity in water-stressed communities by improving ecosystem health, water management, and information systems.	The BTFC project complements the GCF project by strengthening ecosystem health, water management, and information systems in water-stressed communities. Its integrated landscape management approach supports GCF's focus on hydrometeorological services, advisory systems, and the adoption of climate-resilient practices.

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A. Questionnaires Used

KII Guide

Design:

- Have you been part of project design? What would you have designed differently?
- Were the lessons from previous UNDP related projects taken into account? Please bring examples

Project Implementation:

- Have you been able to comment on the project implementation? If yes, how and have these comments been taken into account?
- Circumstances change YoY: do you think the project has adapted well? If yes how and if not why?
- How would you rate inclusiveness of the project implementation? How was this ensured?
- Do you think the project helped to form lasting partnerships? If yes, how and if not -why? Please elaborate with regards to different types of stakeholders, e.g., private sector, NGOs/, local government, etc.
- What do you think about the performance of the Government as a whole- re its executive role for the project?
- What do you think about the M&E system? Would you have done something differently in hindsight? How did you assure the reliability of data for the logframe reporting? Was the baseline) and follow up) KAP surveys conducted? How did you ensure RBM?
- Were there a communications plan and strategy? What were the main channels used and what do you think about effectiveness of these?
- Did the governance structure and staffing help the project implementation? What were the challenges?
- What were the challenges in financial management? Did you make major changes compared to the plans?

Relevance: what do you think about the relevance of the project? Did it stay relevant, as it is 6 years long project? If yes, how?

t to your/your organization's needs and capacities? If yes, how If not why?

External Coherence: Is the project complementary to other similar, related initiatives led by UNDP? How? Please bring examples. If not why?

Effectiveness:

- What important immediate results of the project can you mention? Where would you expect more? Please elaborate
  In relation to (as applicable to your agency)?
  - ✓ Promotion of resilient agricultural practices in the face of changing climate patterns
  - ✓ Integration of climate change risks into water and land management practices that affect
  - ✓ smallholders
  - ✓ Reduction of the risk and impact of climate induced landslides during extreme events that disrupt market access
- What progress did you see in relation to improvements in
  a. Agricultural planning and
  b. Reduced disruption to smallholder farmers, from the impacts of climate change (i.e., impacts of landslides on irrigation, agriculture, and market access reduced?
- What were the challenges? What barriers remain?
- What were the main objective (external) and subjective (internal) factors affecting the achievements of project? Was the project management successful in addressing the challenges?
- To what extent did the project help build national capacities? Why do you think so? If there were trainings, how would these continue?
- Did the project have noticeable differentiated impact on women and vulnerable? If yes, in what way? If not -why?
- Were there any unexpected results?
- How innovative was the project? In your view are the innovative aspects captured well by the project and disseminated? If yes, how?

Efficiency

- Were there major delays and what were the reasons for these?
- What do you think about cost-effectiveness and cost-efficiency of the project? Why do you think so?
- Were there synergies between the project and other interventions within the sector in relation to your agency? Please elaborate

Sustainability

- How would you rate the strength of national ownership? Why do you think so?
- Will the main results of the projects be sustainable, in your view? If yes, how, and if not – why? Please elaborate in relation to financial, socio-political, institutional and environmental aspects
- Could you please name the main best practices introduced by the project?
- What are the chances that these best practices will be scaled up? If they would- by whom and with what means? If not- why? Are there examples already?

Lessons Learnt: What are the main 3 lessons learnt?

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Recommendations: What should be supported further if there is another project?

Guide for the FGDs with famers

Men/women separately, ensure to include elderly, disabled, minorities

1. How did you hear about this project at the very start? Were you consulted during the conceptualization of the assistance, during project implementation and afterwards? If yes, then at what stages and how?

2. What difference did you see as a result of the project in your life/livelihood? If you had more income, what did you use it for?
   Probe into: income, livelihoods, health, etc.

3. Have you learned new skills from this project? What kind and how? Are you using these skills in your daily life? If yes, in what way? if not then why?

4. If there are later more people like you wanting to learn these skills, how would they learn after the project is finished?
   Probe into the role of the extension services

5. Do you think the assistance provided from this project would be sustainable? If yes, how would this be ensured? What are the risks?
   Probe into engagement of the WUG, support by the local and district governments

6. Have you seen/heard elderly, disabled and other vulnerable benefitting from the project? If yes, how and if not why?

7. Have the project interventions improve women's livelihoods and empower them? If yes, then how and if not why?

8. Have you been approached by farmers from other locations wanting to have the same new opportunities? If yes- how can these be financed you think? If not – why?

9. What could have been done differently?

10. The project still has a couple of months: what should it focus on?

Guide for the DOs

Observation: *Does the site look well- maintained?* Probe into how it is ensured

Observation: *Does the site look well secured? Probe into how it is ensured*

1. For community infrastructure
   - How effective is the project intervention to the community? *If not, probe into the reasons why the project infrastructure is not well used?*
   - Have there been any water conflicts? If so - more or less often than before? *Probe into the ways they used to resolve and now*
   - Do you have any water- by laws developed specifically for this project?
   - *How much is the average O&M cost to maintain the project facility? Who covers those costs? Probe into the extent they perceive it being sufficient and affordable*
   - For water-
     - what sources were used before and now? What are the differences in quality and quantity, availability and reliability of water supply?
     - Was the water source diverted from other activities to feed into this project? If yes, what activity was the water used for before the project.?
     - Are there water re-use systems supported?
   - What energy sources are used (fuel, electricity, solar, etc.)? Has the project changed energy use pattern? if so, how? If not- do you think it is needed?
   - What kind of support are provided by the local administrations (extension services, subsidies, land-use approval, etc.) to effectively implement this project and maximize the benefits from the project? *Probe if they perceive it sufficient*
   - Are there community groups or farmer cooperatives that have formed or were strengthened due to the project? How do they function? *Probe into Road User groups, WUGs, Women' groups, etc.*
   - *What training or technical support has project beneficiaries received? How useful was it? Probe into the actual use*

2. For the crops

Observation See if there are any observable differences with comparable sites. Probe into the project and other possible contributions

   - Have yields, productivity, or livestock production changed since the project began? *Probe into any available figures or quantitative indicators*
   - Has the project affected prices received or cost or production (inputs, labour, energy) for crops or livestock?
   - Has the project influenced the value chain for crops/livestock (processing, storage, transport, aggregation, marketing, etc.)? If yes, how? Where are the weak points still?
   - What energy sources are used for farming activities (fuel, electricity, solar, etc.)? Has the project changed energy use pattern? if so, how? If not- do you think it is needed?
   - *What is used as fertilize, fodder?* Probe into *circularity.*

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- What kind of support are provided by the local administrations (extension services, subsidies, land-use approval, etc.) to effectively implement this project and maximize the benefits from the project? *Prove if they perceive it sufficient*
- Are there community groups or farmer cooperatives that have formed or were strengthened due to the project? How do they function*? Farmers groups, Women groups, etc.*
- What training or technical supports related to crops/livestock has project beneficiaries received? How useful was it? Probe into the actual use

3. Landslides and Floods:
   - Were there changes in the frequency of Landslides and Floods? Do you expect to see differences? If yes, to what extent these could be attributed to the project?
   - Were there any changes in the ways disasters were addressed?

4. Overall: Impact and resilience

Observation See if there are any evident environmental hazards or evidence to the contrary

- Have household incomes change? *Probe into approximate changes and who benefited the most Ask about possible project contribution to this, elaborating the channels (e.g., better access to markets due to better roads, lesser loss of harvest, and livestock, more water for irrigation and more harvest, shift to high- value and/or more productive crops)*
- If you have more income, what do you use the extra for? Has the project impacted your livelihoods in any other way? *Probe into health, potentially well-being, food and water security, water conflicts, elaborating the channels*
- Have practices introduced or promoted by the project improve your resilience to climate variability overall in your view? *Probe into drought, floods, pests, diseases, etc.).*
- Are there any observed environmental impacts (positive or negative) related to project activities, such as soil health, water use, or biodiversity? If not why?
- What kind of future assistance would you most appreciate to sustain or expect gains (training, inputs, financing, market linkage, or infrastructure)?

67.), e.g. (a) with ADB and GoI projects, contributing to CRI; (b) with IFAD/FAO/BTF contributing to larger scale SLM (the RGoB supported this by mandating their use with the formally adopted SLM Guidance) and CSA; (c) with the WB contributing to the climate informed agricultural planning and better disaster preparedness (as discussed in *Section **Error! Reference source not found.***); (d) with many other development partners, contributing to the CB of the civil servants and farmers; and (e) projects which focused on value chain development, e.g., supported by the FAO, and the WB, as well as the efforts of the DAMC. *Coordination by the EE* was aimed to ensure equal spread by districts and no duplication, though regular meetings among development agencies were limited (see also *sub-Section 3.2.2.2* on Communication), especially at the districts' level. Its effectiveness was impacted by government restructuring, as mentioned. The UN Food Systems Coordination Hub, and other platforms under the UN RC helped, but mostly targeted higher than project-level discussions.

68. The project was complementary to many UNDP Bhutan-implemented Projects, namely (a) ACREWAS, with a synergy, which supported integrated water pipe networks for both drinking water and irrigation in Tsirang, (b) BIOFIN Phaze II (2018-2022), that helped introduce crop insurance as a pilot, GCF funded project on "Preparation of NAP" (2019-2023), GEF funded Small Grants Program (2019-2023), among others. *Synergies,* apart from ACREWAS were achieved with: (a) the BFL – with slope stabilization measures in the lower catchment areas (with farm roads); (b) BTF (Adaptation Fund-funded project on CRI), (c) WB project "*Food Security and Agriculture Productivity Project (FSAPP*)" in Dagana (with the FSAPP contributing machinery), (d) the WB project on *"Strengthening Risk Information for Disaster Resilience*," particularly its Agromet Decision Support System (ADSS) component, which, with the project-supported medium range weather forecasts helped produce crop calendars, piloted at the FE and replicated at the time of FE, as mentioned and (e) JICA's support to NCHM with improved weather forecasting, flood warnings, and disaster preparedness.[103] However, stronger synergies with other development partners, such as the EU, IFAD, ADB, and several others,

[103] Key support includes setting up a weather studio, establishing a calibration laboratory for sensors, and providing technical training to improve data accuracy and dissemination, especially for flood-prone river basins

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could have further enhanced cost—efficiency, for example with joint training events. Nonetheless, project implementation was efficient, minimizing overlaps, avoiding beneficiary duplication, and delivering targeted results within allocated resources.

3.4.4. Effectiveness

69. ***Finding 30. The project contributed to GCF Strategic priorities, and GCF Paradigm and was able to demonstrate progress against GCF Investment Criteria (in line with the envisioned scale at the FP).***[104] In part of *GCF strategic priorities*, that evolved to emphasize higher ambition, greater scale, and faster speed, the contribution of the project was with: (a) *Strengthened Adaptive Capacity and Reduced Exposure to Climate Risks*, through the promotion of integrated programming; (b) *Increased Resilience of Infrastructure and Natural Systems*; and (c) *Institutionalization of Climate Information and Governance Systems*. This was demonstrated with the achievements described in *Section 3.4.1* on the Progress in achieving the Output and Outcome targets. The project *contributed to GCF Paradigm,* namely to: (a) *Enhanced resilience of agricultural practices in the face of changing climate patterns promoted,* with accelerated and scaled up use of CRI/SLM practices, project-supported government decrees mandated for future application (see *Section 3.4.15.1* under progress to Impact) and several examples already showcasing scale- up by the RGoB and development partners (see *Section 3.4.14* under Replication); (b) *Climate change risks integrated into water management practices that affect smallholders,* with the use of HDPE pipes mainstreamed by the Government and replicated both under the RGOB funded and the development partners' projects and the use of the small scale technologies such as drip irrigation and sprinklers replicated by the farmers, often with the RGOB cost sharing scheme (see *Section 3.4.14*) and the district and local governments, equipped with weather advisories and crop calendars, enabling climate-informed agricultural planning; (c) *The risk and impact of climate change induced landslides during extreme events reduced with less disruption for the market access -* with climate proofing of the farm roads, with some evidence that roads' stabilization was effective in mitigating deterioration in access; and (d) *A more climate-resilient sustainable development* – with, for example, environmental benefits due to expansion of irrigated agriculture (see *Section 3.4.15* on Progress to Impact).

70. The project *mostly achieved its expected scale by GCF Investment criteria* in the approved FP:

- *Impact potential [Scale: Estimated at Medium/High; approved FP- Medium/High].* The project was expected to reach 47 per cent of the rural population in Bhutan with notable adaptation benefits. Given a somewhat slower than expected adoption rate of CSA, it could be somewhat less (see *Section on* ***Error! Reference source not found.*** on Progress to Impact);
- *Paradigm shift potential* ***[***Scale: *Estimated at – Medium, approved FP - Medium]* - discussed under the *Section 3.4.1* on the Progress in achieving the Output and Outcome targets- through a shift away from outdated farming methods to climate-informed, resilient agricultural practices. With a high potential to be scaled up, but a somewhat slower than expected adoption rate of CSA and (b) given the gaps in critical market linkages (with the latter not addressed by the project) the rating was assessed as "Medium";
- *Sustainable development potential*, [*Scale: estimated as High, approved FP- medium/High]*. (see discussed under the paragraph below on the contribution to SDGs);
- *Needs of the recipient* [*Scale: estimated as High, approved FP- High]* - discussed under the *Section 3.4.2* on Relevance. In summary, the project: (a) focused on the regions with high

[104] Evaluation question 41

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climate vulnerability and poverty; (b) responded to the needs in CB, CRI, climate proofed roads and uninterrupted access to nearby markets; helping farmers to be more climate resilient;

- *Country ownership*. *[Scale: estimated as High, approved FP- High]* - discussed in *Section 3.4.11*, with the project, based on a participatory design, supporting national priorities with the actively engaged RGoB providing the committed co-funding; and
- *Efficiency and effectiveness [Scale: estimated as Medium, approved FP - Medium]***.** See *Section 3.4.1* on the Progress in achieving the Output and Outcome targets, the discussion in this section, and *Section 3.4.5,* on Efficiency.

71. ***Finding 31. The project potentially contributed to many SDGs, but to a small extent.***[105] According to the RF/logframe, the project contributed to the SDG 1, SDG 13, and SDG 15. The FE concluded that links could be established also to SDG 2 (zero Hunger), SDG 5 (Gender Equality), SDG 6 (Clean Water and Sanitation), SDG 8 (Decent Work and Economic Growth), and SDG 10 (Reduced inequality). The points below indicated that the potential contribution for some of these would be small, (see also Section 3.4.15 on Progress to Impact), but stronger for SDG5, SDG13, SDG15 and SDG6:

- ***Economic well-being and growth****: SDG 1: No poverty***.** While the project did not have an impact on HH expenditures (IA2025) with inflation likely contributing to an overall upward shift in nominal terms, it was noteworthy that five (5) districts with higher than national average poverty rates (12 percent) at the baseline [106] were no longer the poorest in the Bhutan Household Income and Expenditure Survey (HIES) 2025, by *Monthly Household Consumption Expenditure by Dzongkhag*.[107] Similarly for *SDG 2: Zero Hunger,* while there was improvement in food security between 2021 and 2025, this was likely driven by wider contextual or seasonal factors (IA2025), it was noteworthy that HIES 2025 data on *Mean Monthly per Capita Food and Non-Food Household Consumption Expenditure,* showed that the project districts were not among the worst performers.[108] *SDG10: Reduced inequality*. The poverty in Bhutan remained largely rural, due to reliance on agriculture, climate risks, and sizeable relative poverty gap between the furthest ahead and furthest behind (for the latter, illiteracy for those above 38 years of age, especially women being among the key factors (VNR 2025)). The project, targeting smallholders in the rural areas possibly contributed to reduced inequalities, but there was no solid data on that. *SDG 8 on Decent Work and Economic Growth.* The project had a potential to contribute, to higher economic growth in the project districts, but at the FE there were no attributable increased sales (IA2025) even though in both IA2025 FGDs and FE FGDs, farmers reflected positively on the question about the sales' increase;
- ***GEWE:*** *SDG 5 Gender Equality*. The project contributed to GEWE (see *Section* ***Error! Reference source not found.***);
- ***Climate and Nature.*** *SDG 13: Climate action*. National capacities were enhanced to (a) advocate on environmental and climate change issues and disaster risk reduction and (b) create enabling environment for inclusive disaster risk management (discussed in the *Section 3.4.1.1); SDG 15: Life on land.* SLM was expected to reduce soil loss and sediment from entering water ways, and contribute to the national goal of 100 percent organic agriculture.[109] There was evidence of

[105] Evaluation question 45
[106] Dagana (25.1 percent), Samtse (22.2 percent), Zhemgang (26.3 percent), Trongsa (14.9 percent) and Tsirang (14.8 percent), Approved FP proposal
[107] https://www.nsb.gov.bt/wp-content/uploads/dlm_uploads/2025/06/Household-Consumpiton-and-Expenditure-Survey-2025.pdf, Figure 4.7.
[108] https://www.nsb.gov.bt/wp-content/uploads/dlm_uploads/2025/06/Household-Consumpiton-and-Expenditure-Survey-2025.pdf; Annex 4.2,
[109] 8http://www.fao.org/organicag/oa-specialfeatures/oa-climatechange/en/

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erosion reduction by the DoA, but as a one-off assessment exercise in 2022. The project supported farmers groups in Organic agriculture, with them expanding their output (see *Box 4 Women at the Helm: How GCF Catalysed a Green Tea Cooperative's Leap in Trongsa, Bhutan* in *E. Case Studies**Error! Reference source not found.**);* and

- ***Water and Sanitation*** *SDG 6 (Clean Water and Sanitation):* The IA2025 analysis confirmed a positive impact of irrigation interventions on the use of protected drinking water sources.

3.4.5. Efficiency

72. ***Finding 32. The outputs were achieved mostly in a timely manner, which was commendable, given that the project was implemented in the middle of COVID19. At times the timely delivery was affected by the lengthy procedure of GCF for the reviews. The resilience was primarily due to adaptive financial management, strong national ownership, an independent PMU and a very efficient PM. The ability to reallocate and adjust funding, as needed, further ensured efficient resource utilization to meet key deliverables within the allocated budget***.[110] There were certain delays, mentioned earlier, but not major. The case with the Box-Cut Road was an example of lengthy GCF procedures, resulting in long delays in reaching solutions. Despite exogenous shocks, such as the pandemic and internal government restructuring, project activities, as well as financial and physical progress, remained on track to achieve the objectives within the planned timeline. The model of the PMU under the PB, as an independent unit working closely with the MoF (contracted by the project), had advantages that supported timely delivery, including: (a) strong coordination between components of the project; (b) focus on day-to-day project delivery and results (being independent from centralized management constraints); and (d) a seamless transition during government restructuring.

73. ***Finding 33. The project was cost- effective, with spending on project management within budget, (at 4.01 percent of the total grant budget, i.e. within the stipulated limits), the majority of the targets achieved or close/likely to be achieved in the near-term and the project mostly relying on the tested technologies, e.g. HDPEs, that have proven to be cost- effective.***[111] The project management expenditure against its budget was at 97.4 percent as of October 2025, as planned. The project demonstrated cost-effectiveness, with the majority of activities and Outputs achieving/surpassing their targets (see the discussion under *Section 3.4.1.1* as well as *Annex 1.D)*, or being close/likely in the near-term. At the FE, the GCF budget utilization for all outputs exceeded 92 percent, with an overall utilization rate of 99.87 percent. Approximately 99.9 percent of the total allocated budget was utilized for the implementation of planned project activities and outputs, indicating a very high budget absorption rate. The use of HDPE pipes for the irrigation system and SLM practices have demonstrated cost-effectiveness and were being used in other similar projects nationwide, including other irrigation projects funded by the RGoB. The project- developed SOPs under NCHM and the DOR were adopted and the 9 SLM technologies were reflected in government regulations, i.e., mandated and used by all concerned parties, plus the solar-powered irrigation system implemented by this project was being scaled up: all of these were indications of cost-effectiveness.

74. ***Finding 34. The project was cost-efficient with (a) efficient management of both human and financial resources, enabling successful implementation despite challenges, (b) resources allocated***

[110] Evaluation question 50, 53
[111] Evaluation question 51

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to priority activities, (c) effectively utilized joint financing arrangements and strong partnerships and coordination with/among directly engaged stakeholders to optimize fund utilization and minimize duplication, enabled by strong PMU and TACC and an active PB.[112] With a total budget of USD 58.01 million—comprising contributions from GCF (USD 25.347 million) and RGoB (USD 32.668 million)—resources were strategically allocated to priority activities, including capacity development. The project effectively utilized joint financing arrangements and leveraged strong coordination between UNDP CO, RGoB, and local stakeholders to optimize fund utilization and minimize duplication. The financial management was rigorous, ensuring maximum impact for every dollar spent. The regular cross-sectoral collaboration under the TACC, particularly, of the agencies directly involved in the project, helped to guide its implementation, facilitating, *inter alia,* the inter-ministerial dialogue necessary for policy making and smooth implementation and ensuring close oversight over the cost-efficiency. Close partnerships with the agencies directly involved in the project were also conducive to the delivery of project's outputs and Outcomes (see the Section on National Ownership in *Section 3.4.11*).

75. ***Finding 35. The strong monitoring database for built infrastructure and frequent site visits were conducive for transparent and efficient management. Combined with a hand- on style of management of a very active PM, and the independent PMU model with TACC oversight and independent -from the project supervision by UNDP, supported efficiency***. The feedback from the farmers was gathered regularly by the PMU/PM during the frequent site-visits. The PMU demonstrated a truly hands-on management style which was highly appreciated by the beneficiaries in the FE FGDs and KIIs. The PMU would have benefitted from having a Deputy PM (could have combined also the communications expert function), given the vastness of the project. As for the planned Gender officer, having a full-time person with more availability could have allowed for more attention to not only gender but also LNOB issues, including with monitoring.

76. ***Finding 36. Issues with the M&E, affecting, inter alia, the opportunities for RBM, combined with not acting on IE recommendation on addressing the critical gaps with market linkages, limited the potential for evolving with the changing development landscape: the perception of too strict GCF procedures for changes played a role too. Nonetheless, the adaptive management within the approved scope of the project was strong.*** As mentioned the IE noted that as farmers production increased [collective] marketing of farmers' products needed to be supported, together with the opportunities to add value to production through reduction of post-harvest losses, conservation, and processing of products which would increase farmers' incomes, strengthening their climate resilience further: the FE concurred.[113] The project addressed the IE recommendation with one generic training, on "*Sensitization of Agriculture and Livestock Marketing Policy, Strategy, Market Information and Pricing to the Responsible Parties*" (2025): most of the participants reported that this was an eye-opener, especially in terms of understanding the government's priorities in agriculture and livestock market and the critical mandate to support the farmers, especially with technical expertise. In the FE FGDs, many small farmers expressed a strong desire to get support with market linkages (see Box 2). This adds to the discussion on Project Design, highlighting the gaps in the market linkages and questions the validity of the claim from the value chain analyses for climate resilient agriculture products, as part of the project conceptualization, that market access as a key constraint was due to interruptions related to impassable roads blocked by landslides. The assumption that the gaps were addressed by other projects did not fully materialize. While market competition was not substantial

[112] Evaluation question 53 and 54
[113] Evaluation question 54 and 55

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for the time being overall, (since Bhutan imported more staple crops than it produced),[114] there were gaps and the needs were more in certain locations, where there was a lack of middleman and facilities and where the farmers relied on the local markets to sell with competition growing, including also due to the project's positive results in terms of more produce [NB: there was also a risk to competitiveness of domestic products, such as rice, compared to imports from India]. While the Department of Agriculture Marketing and Co-operatives (DAMC) had several initiatives to address the gaps and the progress was noticeable the FE revealed many gaps (lack of "middlemen", marketing skills, underdeveloped value chains; and infrastructure (hard and soft) for post-harvest management and export), The perception of strict GCF processes regarding changes were cited as the reason for not adding more substantial elements to the training mentioned. This factor potentially affected the scope of evolving with the changing development landscape in other respects too (e.g. innovations, HWC), as was discussed,.

Box 2 Quotes: need for support with critical gaps with market linkages/marketing training and support

- *"…I need training in marketing; I want to grow more …"*
- *"…we face more competition now in the nearby markets, as many people grow more…. we need help to sell…"*
- *"… we have to take our produce to the markets, since while there are middlemen, there are not many of them and they do not visit often… or* they offer low *prices and choose who to buy from… plus, we do not have a car, and the taxis cost at least Nu.1000 to go to the market" ….*
- *".. I now produce 5 time more, around 800 kg, I reinvest some of the earned money - bought a power tiller with a 10.5 percent interest loan…but also, I have large expenses, especially for transport to take products to market…. No one comes to collect…"*

Source: FE FGDs

3.4.6. Overall Outcome

77. In the light of the discussion above***, "Relevance"*** was rated as ***"Highly Satisfactory***, and ***"Effectiveness"*** and ***"Efficiency"*** and hence the ***Overall Outcome -"Satisfactory***"

3.4.7. Assessment of impact of COVID-19 on project implementation

78. ***Finding 37. During the COVID-19 pandemic, under lockdowns, the project continued to implement the activities. Meetings/trainings were conducted either in small groups or virtually.***[115] Activities in the Dzongkhags were carried out as normal because it was within their community and there were no restrictions. Some delays in infrastructure materials supply were observed but the project managed to complete the infrastructure related works without much delays because government coordinated the supply. The RGoB's strong management of COVID was also a contributing factor.[116]

3.4.8. Sustainability

3.4.8.1. Exit Strategy

79. ***Finding 38. There was an Exit Strategy for the project, developed collaboratively with key government agencies and stakeholders, fostering ownership and accountability, closely aligned with national policy and budgeting, aimed to support sustainability and replication through regular government funding and integration into FYPs. It lacked important details, however.***[117] The strategy covered essential areas such as CSA, CRI, SLM, describing measures for technical solutions and institutional mechanisms to remain effective after the project ends. Although this was commendable,

[114] In 2024, Bhutan's total cereal production in 2024 was 72,177 metric tonnes; exports worth USD 0.12 million, while imports stood at USD 50.282 million (Bhutan Trade Statistics 2024. Page: 6 and 7 for Cereal) around 163 000 metric tonnes (FAO) https://www.fao.org/giews/countrybrief/country.jsp?code=BTN&lang=ar with imports outpacing exports by roughly 419 and production – more than twice

[115] Evaluation question 47

[116] UNDP Bhutan CPD 2024-2028

[117] Evaluation question 60

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the strategy lacked detailed provisions, e.g., for post-closure M&E frameworks, defined performance targets, comprehensive asset management protocols, contingency planning for emerging risks, and assured funding sources for the continued life-time O&M of climate-resilient irrigation systems and enhanced road infrastructure (see the Subsection below). FE recommends that the Exit Strategy be revised into a practical, costed, and accountable sustainability plan.

3.4.8.2. Financial Sustainability

80. ***Finding 39. The likelihood of financial sustainability varied: (a) likely for SLM and somewhat less for CSA (supported by the RGOB cost sharing scheme, but with risks due to HWC and limited access to affordable finance); and (b) with risks for piped CRI, linked to the coverage of lifetime O&M expenses (while the RGOB was considering reforms, there was no certainty at the FE), and similar – for climate proofed farm roads (but with RUGs not receiving much training).***[118]

- *Piped CRI: coverage of life-time O&M costs of irrigation pipes.* This has been acknowledged by the project itself in the risk log, as discussed. WUGs collected modest service fees (in accordance with their respective by-laws, based on collective agreements among members, and varied by WUG),[119] likely representing a marginal contribution to O&M costs, not supporting long-term sustainability. Plus, public funding for O&M was constrained at the district and LG levels.[120] While HDPE piped irrigation systems have reduced requirements (approx. 1 day), compared to open canals (20–25 days annually and more so in remote or mountainous areas), for routine maintenance, i.e. for cleaning and sediment removal, for HDPE pipes, joint connections and fittings are susceptible to ground movement, landslides, soil shifts, and extreme weather, potentially increasing repair costs: a detailed comparison study was not available for Bhutan. The Exit strategy simply mentioned that the sustainability will be assured through FYPs and relevant policies (especially the National Irrigation Policy (2022), acts, and by-laws and that the MoIT, through the Irrigation Division of the Department of Infrastructure and the Ministry of Energy and Natural Resources through the Water Division of the DoW, should implement the strategies at the national level and the LGs and WUGs- at the community level. The approved FP (para 87) stipulated that the government would identify viable future revenue streams (i.e. payment for ecosystem services (PES), changes in the tax code, etc.,) - critical for the WUGs to effectively fulfill their role, and that the project would support scaling up of interventions piloted under the UNDP/GEF/LDCF project *"Enhancing Sustainability and Climate Resilience of Forest and Agriculture Landscape and Community Livelihoods*", namely PES. [NB: None of these were reflected in the ProDoc *per se*]. Potential reforms in irrigation pricing (including the options for financing O&M), were under consideration by the DOW at the FE. Plus, the government was piloting the PES scheme in Bhutan, with debates about the feasibility of sustainability and scaling up. The PES schemes (normally applied to the zones of special ecological interest) are no substitutes for financial regulations on WUG membership fees/financing sources - to ensure lifetime O&M costs are covered. If the considered measures by the DOW were to be adopted soon, this would alleviate the concerns greatly, provided the WUGs continue to be supported. At the FE, however, there was no clear timeline and assurances [NB: this type of reform is normally a politically charged process in all countries]. On the positive note, at the FE there were two (2)

[118] Evaluation question 58

[119] In the FE KIIs, five (5) WUGs reported: (i) Nu. 600 per year per HH; (ii) Fees set contingent on land size (e.g., a HH owning 5 acres would be charged Nu. 1,000 per year), but not yet collected; (iii) Nu. 200 per HH for dryland and Nu. 100 per HH for orchards; (iv) Nu. 200 per HH per year; (v) Nu. 150 per HH per year, consistent with fees collected by the RUGs.

[120] The FE team's interviews with two local administrations revealed FY 2024/2025 budgets in the range of USD 80,000–90,000. Local leaders indicated a lack of additional funds earmarked for O&M maintenance: this underscored the risk to the long-term sustainability.

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local producers of HDPE pipes and spare parts - an important factor from the point of view of sustainability.

- *coverage of life-time O&M costs of climate- proofed roads.* The same risk (as in the case of the pipes) applied to the O&M of the rehabilitated climate proofed roads, but there were nuances. The Exit Strategy, simply mentioned that the sustainability would be assured through FYPs and relevant policies, acts, and by-laws and that the MoIT should implement the strategies at the national level and the LGs and RUGs - at the community level, to ensure the continuity of the operation.[121] However, district budgets did not guarantee timely coverage of O&M costs for farm roads, especially when immediate funding was needed (FE KIIs). However, district budgets did not guarantee timely coverage of O&M costs for farm roads, especially when immediate funding was needed (FE KIIs). PMU data indicated that the estimated annual repair cost was approximately USD 1,552 (Nu. 139,730), while reported budget allocations remain limited (USD 15,400 according to one interview). In this context, the evolving roles and responsibilities of RUGs were particularly significant. Historically, RUGs have been primarily responsible for routine minor maintenance, including clearing vegetation, removing blockages from drains, and conducting minor repairs.[122] With the increased demand for properly paved / black topped roads, the O&M of roads was getting carried out through contracts as it required huge budget allocations, skilled manpower, advanced equipment, not feasible for RUGs, and hence in 2024, maintenance of all GC roads was pulled under the central DoST, with the justification that the LGs lacked technical competency and resource.[123] Thus, RUG's role was reduced, given that O&M of roads were taken care by Gewog Administration and DoST [NB: A similar trajectory may also emerge for WUGs (FE KII)]. Meanwhile, farm road O&M remained under district administrations, which also faced financial constraints.
- *CSA/small scale SLM.* FF FGDs indicated that the farmers, who adopted the measures, reinvested increased income—such as by purchasing power tillers (part with the help of the RGOB cost sharing scheme). This showed that there is interest on behalf of the farmers and, with more promotion the likelihood of sustainability will be higher, provided the farmers generate income that allowed spending on the continued application, and hence the measures to boost farmers income were important from this perspective also. To ensure sustained revenue from agriculture, progress in market linkages was needed—both hard infrastructure (post-harvest services, cold storages, refrigerated transport, digital access to sales opportunities) and soft infrastructure (export facilitation, networks of middlemen, and financial products like crop insurance and affordable loans for farmers and agribusinesses). At the FE, DAMC was advancing these efforts with some development partner support, but additional focus on post-harvest management and export facilitation was needed (see the discussion under Sub-Section 3.3.8.2)

3.4.8.3. Socio-economic risks to sustainability

81. ***Finding 40. There were no major political risks and no risk of insufficient stakeholder ownership to hinder the project outcomes/benefits to be sustained. There was one socio- economic risk to sustainability: labor shortage at the farms due to rural-urban migration, but this was reduced in project locations. At the FE, GEWE results achieved in the project districts were likely to be sustained (with some systemic risks).***[124] This assessment regarding *GEWE* results was based on, (a) high level of women leadership in dairy, vegetable, and other farmers' groups and cooperatives;[125] (b) many

[121] Project Exit Strategy/Sustainability Plans (Page. 5)
[122] Farm-Road-Maintenance-Manual-2023-DoST-2.pdf
[123] Department of Surface Transport to take over GC road maintenance - BBSCL
[124] Evaluation question 59
[125] Project report on ", GAP Analysis Report (2022) and VNR 2025

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women-farmers committed to expanding their farm businesses (FE FGDs), (c) women's engagement in the WUGs' management growing (FE FGDs); (d) the AE with plans to apply more tailored strategies in future projects to further enhance women's participation (PCR) and (e) several key government programs in place guided by the *NGEP (2020)*,[126] including a recent *National Action Plan to Promote Gender Equality in Public Administration in Bhutan (2025)*, aimed to increase women's representation in the civil service to 45 percent and in decision-making roles to 30 percent by 2029. At the same time the lack of dedicated gender budgets and action plans at district administrations and LGs, introduced risks (see also the sections on GEWE under Replication, *Section 3.4.14*, and the *Section 3.4.12* on GEWE *per se*). *As for migration*, there was a trend noticed in its reduction in the project's districts (see Table 6 IA2025/FE FGDs), and even reversal (FE FGDs).

3.4.8.4. Institutional risks to sustainability

82. ***Finding 41. The built institutional capacities was an important sustainability-boosting factor**, **but the high level of outmigration of the trained staff by the project was a risk**. **The project also helped to make the availability of resilient seeds more sustainable***.[127] Institutional Capacities were built with regulations, frameworks, policies (see *Section 3.4.15.1* under Impact), training, and other measures, for example: new modelling techniques (e.g. at NCHM), new type of data becoming available for climate-informed agricultural planning and new tools for communication (e.g., mobile app), sharing know-how (e.g. with the learning-by-doing with the engagement of LG staff in assessment processes and planning). In the FE FGDs, district officers were well aware of the project closure and that they had to enhance the systems in place to see the results continuously. The CNR curricula included the innovative CSA/SLM topics, and so new graduates were entering their professional careers with that knowledge- an important building block for sustainability, and the same was in the case with the CNF, regarding the engineers with the knowledge of CRI. [NB: only because most of these innovations were known in Bhutan before, i.e. without the engagement of the project with the CNR or CNF]: this was important for the sustainability prospects too. However, the *high level of outmigration of the trained staff/new hires was an important risk to sustainability*, requiring that the project assured continuity of the training provision, with at least the availability of the training modules developed. Adopted government regulations (with embedded innovations) would serve as a basis for training for the new hires, assuring at least partial knowledge transfer post-project. In this regard, it would be advised to find "homes" for training manuals.

83. ***Finding 42. Strengthening the WUGs was an important sustainability enhancing mechanism, making the continued operation of the piped irrigation network more likely- provided the financial sustainability of the O&M was assured.***[128] The performance of the WUGs and understanding by them of their responsibilities varied widely (IA2025), but the FE assessment was that overall there was good progress. That could not be said for the RUGs: training was planned for RUGs and LGs (on post-monsoon assessment of farm roads), but DoST targeted the district/LG engineers rather than the RUGs (with the justification that the LG engineers were the main actors in terms of post-monsoon restoration and assessment of farm roads. While the project engaged RUG engineers in a few trainings this was clearly not enough. According to the approved FP there was to be a study about the role and impacts of RUG on the sustainability of farm roads in Bhutan: no such Study was produced, while it was very much needed. Even in the case of the WUGs, they needed continued capacity building and

[126] For example, at the FE, Bhutan was working on the follow-up report of the CEDAW (Convention on the Elimination of All Forms of Discrimination against Women) Committee's review (2023) on the Concluding Observations from the 10th Interim Progress Report Review

[127] Evaluation question 46 and 60

[128] Evaluation question 60

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regulations to guide the service fee levels (extent of contribution from other sources) to ensure sustainable operation of the irrigation networks, as discussed. The project supported also the Seed Growers Group which was important for ensuring continued availability of climate resilient varieties of seeds. But the financial operation of this Group was somewhat affected by the competing pricing/purchasing logistics schemes by the National Seed Center (NSC) on one hand and the FCML, the other, with different purchase capacities, leaving the members confused, longing for clarity, and requiring more awareness in terms of market competition**.** And finally, there was some risk to the sustainability of **"**DoA- ARDCs- Agricultural Officers- Extension agents" system, given the insufficient funding and high level of attrition, especially at the level of the Extension service.

3.4.8.5. Environmental risks to sustainability

84. ***Finding 43. The likelihood of sustainability of environmental benefits was high, due to, for example new piped network (a) eliminating 30-40 percent of water losses, typical for open canals, and hence contributing to more sustainable use of water resources, and (b) reducing soil erosion and waterlogging, negatively affecting the soil quality.***[129] There were *no major environmental risks to sustainability*, but there were certain risks related to HDPE pipes, that needed to be monitored, namely: (a) flammability, sensitivity to extreme cold (becoming brittle) or high heat (expansion/deformation), and susceptibility to stress cracking from certain chemicals (solvents, strong acids, detergents) or prolonged stress, potentially leading to leaks, and (b) biodiversity impact, given less availability of the water for the fauna in the locations (even if this risk is minor.

3.4.8.6. Overall likelihood of Sustainability

85. ***Finding 44. In the light of the discussion above, "Overall likelihood of Sustainability" was rated as "Likely" with the prospects for "Financial Sustainability" rated as Moderately Likely, while the prospects for "Sociopolitical", "Institutional framework and governance" and "Environmental" Sustainability- as "Likely".***[130] ***Measures were needed to alleviate the existing sustainability constraints, including with the support for the dedicated transition team within the DMDF.*** Measures were needed especially to address the financial and institutional risks. The need to revise the Exit Strategy was also mentioned. A dedicated transition team (with two (2) officers) within the Department of Macro-Fiscal and Development Finance (DMDF)was expected to manage post-closure responsibilities: the team needed to be adequately supported through the necessary measures to ensure a smooth and sustainable transition.

3.4.9. Innovativeness

86. ***Finding 45: The project was not an innovative one in terms of activities and technologies, with some exceptions. The innovativeness was in the integrated nature of activities, shifting the Business- as- usual paradigm to the one with climate informed and climate resilient one, from farm to market, but the latter link of the chain was assumed to be covered by other projects, while on the ground there were critical gaps.***[131] The effects of the latter was discussed in several sections of this report, so not covered here. There were a few genuine innovations for Bhutan: smart features-enabled sprinkler irrigation, hydroponics, and vermi- compost promoted, with grants to individual entrepreneurs in the for the last two, given the weaknesses of farmers groups (but the numbers of these growing), which would have been a better option**.** However, communities benefitted, e.g., manure for vermi-compost was purchased from the communities and the community members were

[129] Evaluation question 61
[130] Evaluation question 57
[131] Evaluation question 62

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trained also. There were non-technical innovations too, including the (a) Introduction of the Built-Operate-Transfer (BOT) model; (b) the model of the independent PMU, under the PB and the TACC (although first established under an earlier WB project, the model matured under this project). Perhaps the project could have put even more focus on introducing more climate resilient varieties of seeds (KIIs).

87. ***Finding 46. The successful case studies and lessons learned from the project were disseminated locally and globally. Globally, the best practices were shared on WOCAT. The enabling environment to foster exchange of knowledge and ideas for innovative solutions to climate change impacts, was strengthened locally, but the effectiveness was affected by several factors.***[132] The latter included (a) affordability (with the limited number and the nascent nature of most of the farmers groups as an important constraint); (b) lack of market-led agricultural development, as it is in competition with more advanced technologies (e.g., through the exposure to export opportunities) that the innovations truly accelerate, and (c) reliance on the extension service for the knowledge transfer. According to the M&E Plan, the results from the project were to be disseminated within and beyond the project intervention area, including other projects of similar focus in the country. These were disseminated, using the website and the social media, while directly it happened only with the direct stakeholders (see Section 3.2.2.2 on Communication) and, for example the agricultural officers from other districts were not invited to the annual KM events; this was potentially, a missed opportunity. In terms of dissemination globally, Bhutan has registered 45 measures, including 19 SLM (9 of which those promoted by the project) and other measures (HDPE pipes and SLM Action Planning among these), under WOCAT.

3.4.10. Unexpected results

88. ***Finding 47: The project was both adaptive and responsive towards the opportunities that emerged which were not planned, seizing these to enhance the impact of the project. Several unexpected positive consequences of the project's interventions were observed. Increased incidence of HWC in some communities was to some extent indirectly associated with the positive results of the project.***[133]***.*** The *positive ones included*: (a) In Phangyul, significant *livestock losses due to water and forage scarcity were reduced* following the irrigation and water harvesting interventions; (b) improved farm roads due to project *lowered the incident of car accidents* (FGDs in Dagana district); and (c) the introduction of new and modern farming technologies—such as hydroponics, drip irrigation, and sprinklers—*inspired youth to pursue farming as a business venture*, thereby contributing to alleviating youth unemployment and outmigration and supporting the integration of the Artificial intelligence (AI) in agriculture. *As for the negative*, increased incidence of HWCs in some communities was to some extent indirectly associated with the project (due to increased harvest with the HHs losing up to 50 percent of yields).

3.4.11. Country ownership

89. ***Finding 48. Country ownership was, overall, strong based on the alignment with the priorities of the national partners and the farmers, manifested in the RGOB financing approximately 56 percent of the project, despite fiscal constraints, and active participation by the government at all levels.***[134] The strong alignment of the project with national strategies, and sub-national policies was discussed

[132] Evaluation question 62
[133] Evaluation question 49
[134] Evaluation question 56

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both under the *Section 3.4.2* on Relevance and *Section 3.4.8* on Sustainability. This was an important factor for strong country ownership, and so was the relevance of the project in relation to local priorities (discussed in *Section 3.4.2*). Strong county ownership was evident not only in the form of the surpassing of the co-financing targets, but also by active participation of the government structures/officials at all levels in project governance, coordination and consultation mechanisms, e.g.,: (a) in terms of forming the TACC, (b) assigning a significant level of independence to the PMU, (c) PB structure having representatives both from the business and NGO sectors, and district governors; and (d) regular public meetings at the local level, discussing the planned measures and issues. Country level systems for project management were utilized, e.g., the district level GRM. At the same time there was no evidence of utilizing the local system of SDG[135] monitoring (see for example the methodology used for the VNR(2025)). The modes of delivery of the outputs were overall appropriate to support national ownership, e.g., by relying a great deal on the system of extension services/ARDCs for knowledge dissemination, while at the same time strengthening them with strong engagement with and training of the local gender points of the NCWC. Having said that, a broader engagement with the agencies included in the SEP was needed, as discussed. There were a few instances where the national ownership could have been stronger, e.g., with (a) a swifter restoration of the website after the government restructuring, and (b) facilitating stronger ties with the tangential governmental stakeholders and coordination among the development projects with this one. Also, the role of the MoA could have been stronger in facilitating a shared vision for the project between the DAMC and the DoA, and stronger engagement of the DAMC. Finally, a few of the beneficiaries engaged in innovative technologies, indicated that they would have liked to see more visits from the DoA/MoAL.

3.4.12. Gender equality and women's empowerment

90. ***Finding 49. All planned GEWE actions were assessed by the project team as implemented and most gender targets achieved (PCR),***[136] ***with (a) large number of officials trained, with continuously improved attendance by women, (b) improved technical knowledge and confidence of women - beneficiaries, with more active participation in the WUGs/at community level: FE concurred. The project planned and implemented activities targeting women specifically, but there could have been more of this.***[137] The project trained 2,425 stakeholders in GEWE,[138] with overlapping audiences: sector officials, RP representatives, focal persons, LG officials and farmers (43 percent women), among them. The GAP's requirement to have at least 25 female participants in each programme was not met, because of limited number of females in the appointed civil service and elected official positions, both at the central and local level. Having said that more recently it was observed that (based on project reports), (a) gender inclusion improved among government staff at all levels, for instance at the DoA and NCHM (which began also routinely including gender-disaggregated data in their reports), and (b) LGs adopted more inclusive practices, such as ensuring that invitations to community events were extended to both husbands and wives, rather than only to male heads of HHs, as before. The maximum number of attendees of the GE awareness trainings were from the Project's direct beneficiaries, especially the WUG members, followed by the LG functionaries, followed by the Project's RP members. Men were more represented in CB activities, indicating a need for targeted

[135] GNH indicator monitoring system, which supplements the SDG monitoring system (all indicators in SDG are in GNH)
[136] GCF-CRA project (2025): "Gender Participation and Promotion of gender Equality in agriculture Sector in Bhutan"
[137] Evaluation question 63
[138] 4 gender workshops in 2023- 2024 (for NCHM and MoAL officials, including from the districts); 7 gender mainstreaming trainings for officials/Local leaders from 8 districts. More than 96 female district engineers were trained. Also, 61 % of women farmers were engaged in the formation of WUA in the communities after the completion of the irrigation projects.

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outreach to encourage greater female participation, and the FE noted such effort by the project. These trainings empowered women with technical knowledge, but also enhanced their confidence and leadership within HHs and at community-level (FE FGDs), creating a foundation for continued advocacy and action on GE in climate resilient agricultural development. The effectiveness of GEWE trainings was captured in the Project's report (2022) with examples on pre- and post-training answers to questions, indicating their effectiveness.[139] By the end of the project, 50 percent of 257,750 reported direct beneficiaries were women (NB, note the issue with this number in *Section 3.4.15.2* as part of the discussion on the achievement of impact targets). Men outnumbered women among the beneficiaries of irrigation schemes and improved roads, but only slightly, while women slightly outnumbered men in public consultations on irrigation schemes, and the share of direct beneficiaries of CSA and SLM was higher for women [140] (especially with regards to animal husbandry, nutrition, and farm hygiene practices). In activities and planning the project did account for local gender dynamics, working closely with the gender focal points of the district administrations. The revised GAP, suggested, *inter alia,* strengthening the targeted nature for training, tailor-made to agronomic and cultural settings. This was acted upon. The project planned and implemented activities targeting women specifically. For example, it supported the Women-only Green Tea Group, among a few others (see *Box 4 Women at the Helm: How GCF Catalysed a Green Tea Cooperative's Leap in Trongsa, Bhutan* in *Annex E. Case Studies***Error! Reference source not found.**) with impressive results, but there was a need for more of it, e.g., with more focus on crops, value chains and employment schemes with predominantly women's participation, with gender profiling preceding that, as well as, designing opportunities for local engagement in the project works to be suitable for women. For example, the GCF-CRA (2025) report found that there was a significant gender disparity in the employment through *Local Community Engagement in Irrigation Works*, with men significantly outnumbering women, suggesting a need for targeted strategies to involve more women in these. In the FE FGDs women were overall satisfied with the project, but requested support in marketing and strengthened market linkages, as described earlier (see also *Box 3*).

91. ***Finding 50. The scale of the GEWE results was affected by (a) still prevalent negative social norms, despite the significant input to address this by the project, (b) lack of skill- building in marketing and support with market linkages; and (c) low literacy rate among the older age women. The effectiveness and potential for sustainability locally was also affected by the lack of local formalized gender action plans, monitoring forms and dedicated budgets.***[141] The increased awareness among women contributed to more informed decision-making at the HH level, particularly in adapting to climate-related risks, and women starting to take leadership roles in the WUG management. In the post-training survey of the participants of the *Sensitization on Gender Mainstreaming for 36 WUGs*, many participants noted that the experience gained through WUG involvement could empower women to take on higher levels of leadership, including positions within LGs in the future. Women had a fair share of decision-making authority within the HHs, with spouses jointly making decisions on expenditures for key HH items, but gendered roles were still prevalent, partly owing to cultural norms and stereotypes.[142] The project engaged with RENEW, but the effectiveness in terms of share of women taking active role in community structures in leadership roles and raising their voice in community matters was still affected, by (a) deep-rooted social norms and (b) high illiteracy- for the middle aged- older women especially. More focus on economic empowerment of women, could have

[139] GCF-CRA report (2022):" Gender Action Plan Analysis Report"
[140] ibid
[141] Evaluation question 63
[142] GCF-CRA project (2025): "Gender Participation and Promotion of gender Equality in agriculture Sector in Bhutan"

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triggered more active engagement in the community life and it was still possible, with time and the results solidifying. GCF-CRA project report (2025) found a general lack of education with more women without any education or less women with formal education as factors that could trigger gender biasness or gender inequality towards women. FE FGDs revealed that illiterate women in particular, faced challenges in using the mobile apps for payments and often needed to transfer the payments from sales to the bank accounts of their husbands, as they could not manage those, etc. They risked falling behind increasingly more, given the current digitalization drive in Bhutan, unless they learned to read and write. This was corroborated by VNR (2025), as mentioned before. The RGoB organized literacy trainings through the Community Centers (with plans to modify the curricula, amending a focus on digital tools, while continuing with basic literacy training); future projects might look into the options of encouraging women (and men) to attend the literacy trainings.

92. The PB had 10 percent women in the initial stage and zero in later years, stemming from the overall small share of women at the state institutions. Although, this was not necessarily a cause of biased decisions, inclusion of a women's representative (or a gender specialist) from relevant institutions, such as the NCWC would have contributed to a more gender balanced decision-making by the PB. The management team was also underrepresented with only 11 percent women.[143] Out of a total of 1,2954 staff at different levels of RP agencies, only 15 percent were women. The central level RP agencies had a total of 157 staff, with only 24 percent women. The shares of men and women's representation at the Dzongkhag and Gewog levels were 86 percent and 14 percent, respectively.[144]

Box 3: Quotes- gender empowerment

- *"… we now compete with men."*
- *"…we were afraid to go after being the chairperson of the WUG… it was new… but next year could be different..."*
- *'…Having more money that I earned myself has made me feel more comfortable and not so much depending on what my husband earns…"*

Women, participants in FGDs

Source: FE FGDs

3.4.13. Cross-cutting Issues

93. ***Finding 51.*** ***The project adhered and contributed to human-right based approach (HRBA) significantly, with capacity building of (a) farmers, empowering them as rights-holders; and (b) institutions empowering them as duty-bearers. The project contributed to addressing the bidirectional Poverty-Environmental nexus with integrated strategy.***[145] The project was in line with the constitutional mandate in regards to human rights and employed a HRBA in its delivery of goods and services, e.g. with the (a) focus on the districts with higher poverty rates, along with climate vulnerability,[146] and (b) strong focus on GEWE (see Section 3.4.12). Such key principles *as equality, non-discrimination* and *transparent decision making* (e.g. in the selection of grant recipients), along with meaningful and inclusive participation of all stakeholders, especially the poorer farmers, in decision-making processes (e.g., with SLM Participatory Action Planning) and accountability, e.g. by ensuring information was accessible to enable oversight (for example with the publicly available APRs on the website) were promoted.

94. ***Finding 52.*** ***The project Dzongkhags were selected, based on the poverty rate, and this was one way***

[143] "ibid
[144] ibid
[145] Evaluation question 65
[146] consistent with: (a) the Constitution of the Kingdom of Bhutan, which stipulated "fundamental rights of all Bhutanese citizens to be treated equal and effective protection under the law and shall not be discriminated against on the ground of race, sex, language, religion, politics or another status;" (b) the Rural Economy Advancement Programme (REAP)- part of the 10th FYP and the subsequent FYPs aiming at vulnerable HHs to reduce food insecurity, hunger, malnutrition, and poverty and (c) GNH framework (1972), aimed at holistic development, though a comprehensive social protection policy

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how the LNOB was addressed in more general terms. Specific plans and monitoring of LNOB was lacking, affected by the fact that UNDP Bhutan's LNOB strategy was not-formalized yet. But there was anecdotal evidence of these groups targeted with engagement (e.g., vulnerable youth), or benefitting (elderly, PwD).[147] At the FE, the development of the UNDP Bhutan's LNOB strategy was in the making,[148,] with only a few sentences present in the latest CPD on the need to ensure that marginalized groups benefit from development efforts, with, *inter alia,* integration of LNOB principles into projects' design. The project's M&E system did not capture the extent to which these groups – at risk of exclusion, benefitted from the Project. The FE, through the FGDs captured some of that, only with anecdotal evidence, indicating that the project contributed to addressing LNOB, with e.g., (a) women headed HHs, who according to the GCF-CRA (2025) report[149] constituted a notable share were engaged and benefited, (b) dry-bench terracing allowing the elderly to attend their crops, (c) examples of PwDs and returning migrants benefitting from the project, and (c) vulnerable youth engaged in infrastructure works. These findings highlighted the project's effectiveness in expanding benefits to marginalized groups and improving livelihoods for HHs facing physical and socio-economic barriers.

3.4.14. Replication and Scalability

95. ***Finding 53. The potential for replication was high for CRI, with the integration in the state budget and donor support and emerged local manufacturers of HDPEs. The replication was already happening, along with the replication of the solar pump (RCOB, ICIMOD) and small scale-irrigation (with RGOB cost sharing scheme). Climate proofing the roads was likely to be replicated but at slow pace, given the budget constraints.*** [150]The Exit Strategy anticipated the upscaling through FYPs and relevant policies and programs (especially the revised *National Irrigation Policy (2022), Water Act of Bhutan (2011). HDPE piped irrigation:* At the FE, out of the 2000 irrigations systems in Bhutan only around 200 were already with piped systems (including with GCF support).[151] There were many planned (at least 31 in the 13th FYP, according to the Irrigation Division) with the development community having pledged and delivering support. The presence of two (2) local companies producing these pipes together with the spare parts was a strong contributing factor to the potential for replication.[152] Having said that, the needs were very large – both in remaining districts and in the same 8 districts, compared to the RGoB's own resources. The need for a robust framework to ensure the sustainability of the O&M was discussed under the Section 3.4.8: this would be important for replication too, as the lack of such mechanism might deter the potential development partners from investing. On the positive note, as mentioned, the scheme with solar lift (identified as one of the key priorities of the DoA in the near future), was already being replicated (two (2) with ICIMOD funding and three (3) with RGoB funding). *Small-scale CRI*. There was already evidence of replication, e.g., in the case of water harvesting ponds (by the Gewog administrations - around 30 additional ones), and drip Irrigation and sprinklers (with the RGoB cost-sharing scheme). [FE KIIs; and IA2025 (p.17) , with the latter also noting, a modest but statistically significant increase between 2021 and 2025 (coefficient = 0.027, $p<0.001$, but with no reflection on predominant irrigation methods]. In the Exit Strategy, *slope stabilization of road sections and improvements of farm roads using climate-resilient features* were expected to be replicated through the FYPs, enabled in part by the regulatory

[147] Evaluation question 64

[148] In 12/2024, the RGoB formally endorsed its *National Global Accelerator Roadmap for Acceleration on Jobs and Social Protection for a Just Transition*- a milestone as a pathfinder country and developed (with UN support) the *National roadmap for the Global Accelerator*.

[149] GCF-CRA project (2025): "Gender Participation and Promotion of gender Equality in agriculture Sector in Bhutan"

[150] Evaluation question 68

[151] Interview with the Irrigation Department of the MoIT

[152] there was likely to be one more local company established to produce these HDPE pipes (FE KII).

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frameworks, some of which developed with the help of the project. The MoIT, through DoST was expected to implement the strategy both at the national and dzongkhag levels in close coordination with the LGs, and the latter were expected to implement the climate -proofing of the farm roads at community level. The limited budgets available to the district administrations implied significant challenges for the wide-scale replication of climate proofing of farm roads (while for the GCs this was under the DoST at the FE, as was mentioned). The adoption of the SOPs by the DoR on slope stabilization was an important factor for replication.

96. ***Finding 54. The potential for replication of SLM/CSA was increasing, but in the case of CSA needed more focus in efforts to address the lagging adoption. The use of Climate/weather information by the farmers needed additional mechanisms for reach, but the potential of replication of the climate informed planning institutionally was high, and happening -with the WB supported crop calendars replicated in all districts (all 205 gewogs, with a manual for the extension services too), with an input of project-supported mid-range weather forecasts.***[153] The Exit strategy relied on the incorporation of the SLM and CSA interventions into FYPs for replication, with the MoAL through the NSSC of the DoA implementing this strategy at the national level and the LGs – locally in compliance with the "*SLM: Guideline and Best Practices (2021)"* and other guidelines,[154] **Error! Reference source not found.**the adoption of which was an important replication- boosting factor in itself. For the CSA, the replication was also likely, including with the RGoB cost sharing mechanism and development partners' support, but perhaps at the slower pace in the light of IA2025 findings on lower-than expected level of adoption. Having said that, the affordability was a constraint for some of these for individual farm HHs, and the notable trend in the growing number of farmers groups was an enabling factor. Note that the project supported 33 farmers groups and cooperatives - a smaller number that the plan in the ESMF, namely 25 cooperatives and 74 farmers groups, but this was rather a reflection of the overall small number of these (725 registered Farmer Groups and 126 Cooperatives with three (3) of the districts (Punakha, Tsirang and Samtse) having none, at the FE). The project support to these 33 was very important regardless, since farmers had very small land plots, impacting the financial viability of renting/buying equipment and cold storage space, export opportunities, and decisions to adopt new technologies, especially those at high price points. As mentioned, the government was facilitating group formation by offering more favorable terms for group applicants for the government cost sharing scheme: as of July 2025, this mechanism offered rates of 50:50 for subsistence farms and 60:40 for large-scale farmers and groups, incentivizing land pooling, and the formation of farmer groups. Their number was growing (notable between 2021 and 2025, based on IA2025) and the recent Bhutan Cooperative and Farmer's Bill (December 2025)[155], would likely facilitate this more. Boosting the replication of the CSA technologies would need to be supported also by diversifying the mechanisms for knowledge transfer rather than relying on the extension service (overburdened by other tasks (e.g. seeds' distribution) and with high level of attrition among them (IA2025, FE FGDs)).

97. *Replication of the climate informed decision making by farmers and district administrations*. The Exit

[153] Evaluation question 68

[154] The Cooperatives Act of Bhutan 2009; The Seeds Act of Bhutan 2000; Seed Rules and Regulations of Bhutan 2025; RNR Marketing Policy of the Kingdom of Bhutan 2018; Policy Brief: Soil Fertility Management in Bhutan – Improving Crop Production Levels and Enhancing National Food Self-Sufficiency; Guidelines on Cost Sharing Mechanism for the Agri-food Sector 2025; Guideline on Framework for Organic Farming in Bhutan 2006; Guidebook on Vegetable Cultivation 2021; Guidebook on Fruit Cultivation 2021; Canopy Management Guide for Citrus Mandarin in Bhutan 2019; Organic Material – Biochar Guide; Organic Material – Bokashi Guide; Vegetable Cultivation Land Preparation Guide; Guide to Water Harvesting Pond; Vegetable Cultivation – Mulching Guide; Orchard Management Guidelines' Biodigester Guidelines; Polyhouse Construction Guidelines; Integrated Pest Management Guidelines

[155] National Assembly adopts Cooperatives and Farmer Groups Bill of Bhutan 2025, shifts registration to districts - BBSCL

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strategy relied on (a) the NCHM, for generation and dissemination of weather and climate data, with, *inter alia,* the adoption of centralized data management system (CDMS)- with more stations, upgraded server and the flood forecasting system- to serve as the main integrated system for managing hydromet information to generate weather and climate products, and (b) the DoA – with crop calendars using the weather and climate data for planning both at the national and local levels. There were several important policies and regulatory acts to support this[156] and critical weather forecast data became available to inform planning all over the country. The replication *at the district levels* via the WB-supported ADSS- enabled crop calendars was piloted at the FE and replicated at the time of writing this report in all district administrations (205 gewogs). These developments also enabled the NCHM moving closer to having a modern Multi-Hazard Early Warning System (MHEWS), with the Roadmap for that already in place[157] (developed with the WB support and prospects for getting development agency funding for it). The crop calendars were expected to inform and improve *HH-level decision making using climate information too,* but for this and also for short -term forecasts, additional to extension agents' knowledge brokers/dissemination channels were needed (as with CSA).

98. ***Finding 55. The potential for replication of the knowledge generation and dissemination by the project, had a strong aspect in terms of being based on the formal channels (via ARDCs/extension agents) but (a) the formal channel was in need of strengthening and diversifying[158] and (b) there was limited funding for agricultural research***. As mentioned, the project involved specialists from the other districts directly only to a limited extent: in the training for the road engineers and also invited the agricultural officers to the launch of the largest irrigation scheme. Other than that, there was a reliance on ARDCs and the DOA, via the extension network for the in-person modality. The expected replication relied on the same channel (plus the annual road shows organized by the DOA, around the ARDCs for the farmers). There was an overall strong replication potential for the knowledge transfer for already tested technologies, but with a caveat that (a) additional channels were added, given the busy schedules of the extension agents (with seed distribution, for example) and high attrition rate among them and (b) continued CB of extension officers was assured. For new knowledge generation, however, the replication potential was low, as continued significant support to the ARDCs looked unlikely, due to the limited resources by the state annually for that and the limited willingness by the development partners to fund research [note that the project supported a number of innovations via the ARDCs, e.g., hydroponics, biochar].

99. ***Finding 56. CNR graduating agricultural specialists with the knowledge of the CSA practices and the CST -water engineers with the knowledge of CRI, supported not only sustainability, but also replication prospects***. ***There was evidence that in some cases (e.g. with NCWH and DoST) trained (by the project) specialists passed on the knowledge. There was a need for a more structured approach for the further use of the project-produced training manuals. The rapid pace of digitalization (including in Bhutan)/progress with the AI supported the potential for replication too.[159]*** At the same time there was no clear system for the training of the new staff joining the government agencies (especially important given the high levels of attrition). The FE team was assured that every agency maintained the training materials and this happened in-house, but this argument lacked a systemic approach. Ideally there should have been a collaboration established with a certain

[156] Livestock Act of Bhutan 2001; Livestock Rules and Regulation 2022; Crop and Livestock Damage and Loss Insurance Policy 2025; Crop and Livestock Damage and Loss Assessment 2021

[157] Institutional Strengthening and Modernization of Hydromet and Multi-hazard Early Warning Services in Bhutan A Road Map for 2024–2034),

[158] Evaluation question 68

[159] Evaluation question 68

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institution (e.g. the Royal Civil Service Commission (RCSC)), at least for it to be the "home" for all the training materials and modules developed (including online availability).[160] This was especially important since training abroad of the water engineers and agricultural officers, unless supported by development projects, was unlikely to be replicated at scale with RGoB funding only. On a positive note, there was evidence that the specialists trained by the project, facilitated the replication of some of the innovations under the project.[161]

100. ***Finding 57. The actions and results that were less likely to be replicated (or not significantly) at the FE included GEWE, but there were a few positive signals.***[162] In 2025, 53 percent females were engaged in farming, as opposed to 35.8 percent male (but still, with access to livelihood and other socio-economic opportunities slightly limited compared to men).[163] This looked positive, but replication required, *inter alia,* funding, e.g. for training, while the district administrations did not have separate budgets for GEWE, distinct gender action plans and monitoring systems, at least as yet, and although there were plans and policies in place for GBB, it was not yet implemented (as discussed in *Section 3.3.12* on GEWE).[164] VNR (2025) also highlighted the important need for enhanced integration of gender-responsive public finance management. NCWC monitored the progress of the institutes, based on the gender indicator handbook through the gender focal points of the various agencies and levels (source: GAAP), but for a strong replication potential of GEWE results country-wide, institutional changes were needed. There was a positive development with the adoption of the recent National Action Plan to Promote Gender Equality in Public Administration in Bhutan (2025), aimed to increase women's representation in the civil service to 45 percent and in decision-making roles - to 30 percent by 2029. But while Bhutan made efforts to mainstream gender across environmental and climate action with the *Climate Change Policy (2020)* gender-mainstreamed, more and stronger steps were needed.

101. ***Finding 58. The key factors contributing positively to the likelihood of replication, included country commitments under national and international plans and fora, strong national ownership and support by the development partners, as well as the presence of the extension system, even if the latter needed strengthening. The risks were related to the institutional weakness of the RUGs, slow pace of gender reforms, outward migration, and limited fiscal space***[165]. The role of the MoF and DoA in supporting the replication was very strong, e.g., closely working with development partners, ensuring that these follow the same guidance and cover the districts of Bhutan more or less evenly, The presence of the extension network was also a contributing factor, even if it was in need of strengthening.

[160] The Royal Civil Service Commission (RCSC) of Bhutan plays a pivotal role in guiding Human Resources (HR) officers across Bhutan's civil service. The RCSC, inter alia, implements programs to strengthen skills, including technical, and ensures uniform training

[161] For example: (a) 12 irrigation schemes were designed using CRI design (2024 – 2025) by the Irrigation Division under Department of Infrastructure Development, MoIT (by the trained Dzongkhag engineers); (b) trained extension officers in Tsirang Dzongkhag initiating integrated agriculture farming (e.g. cowshed, bio-digester, sprinklers, vermi-compost at Tashiyangjong village. (c) 32 road engineers trained on Civil 3D software for road design ensured DoST transition plans from Max Road to Civil 3D with a course for DoST engineers planned), and (d) the trained NCHM staff (on Basic aviation metrology and Advanced Metrology in India) contributed to the timely weather information country-wide

[162] Evaluation question 68

[163] Labor Force Survey Q3 2025, National Statistics Bureau and GCF-CRA project (2025): "Gender Participation and Promotion of gender Equality in agriculture Sector in Bhutan"

[164] The MoF, with the WB support in 2022 initiated the development of the Gender Responsive and Participatory Budgeting (GRPB) guidelines, but there were no reforms on gender responsive public financial management (GRPFM) after this, see Public Expenditure and Financial Accountability (PEFA) Study (2023) and the ADA/WB/EU: PEFA Assessment of Gender Responsive Public Financial Management (2023); https://www.pefa.org/sites/default/files/2023-10/BU-Jun23-GRPFM-Public%20with%20PEFA%20Check_0.pdf

[165] Evaluation question 68

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3.4.15. Progress to Impact

3.4.15.1. Impact on policies and capacities

102. ***Finding 59. The project has made a significant contribution to changes in policy/legal/regulatory frameworks and institutional capacities***. The ones that the project supported directly, included: Crop and Livestock Damage and Loss Assessment (2021); Climate Resilient Farm Road Maintenance Manual (2021); Road Slope Failure Database (2025), SOP for Road Slope Data Collection Induced by Slope Failures (2021); Climate-resilient Road construction and maintenance activities shall be incorporated into the five-year plans; Bylaws for WUGs; SLM: Guideline and Best Practices (2021), etc. The project also contributed to drafting of several others. This helped shifting towards embedding climate risk management into Bhutan's agriculture and infrastructure planning, and was important for sustainability and replication too, as discussed. Several pieces of legislation/policies, mentioned in the approved FP were not developed, e.g. the PES schemes, (but this was developed by Watershed Management Division under the Department of Forest and Park Service) and the regulations on the financing of O&M of irrigation as was discussed (noting the ongoing reform deliberations).

3.4.15.2. Extent of Achievement of Impact targets

103. ***Finding 60. The project reported as directly benefiting 257,750 individuals, with 51 percent female. This figure, however included double-counting, as there was no requirement to count "unique" beneficiaries. Based on the PCR, the project met all the impact targets, except for the share of women for SLM.***[166] But this statement needed to be qualified:

- **A1.0 Increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions.** ***Indicator 1.2: Number of males and females benefiting from the adoption of diversified, climate- resilient livelihood options (including fisheries, agriculture, tourism, etc.). EOP Targets:*** *(a) CRI 14,340 (Male: 7,050 Female: 7,350) (b) SLM: 103,346 (Male: 50,601, Female: 52,745 (c) CSA: 64,591 (Male: 31,626, Female 32,965).* Based on the PCR, all the targets for the number of beneficiaries for CRI, SLM, CSA and Total Direct and Total Indirect beneficiaries were achieved (slightly below the target for women under SLM), see *AnnexD*, on the Extent of the Achievement of the Output, Outcome and Impact targets, and *Table 5*. For total direct number, the reported 257,750 figure (surpassing the target) included double-counting of beneficiaries of various activities, as there was no requirement to count "unique beneficiaries" (discussed in the *Section 3.1.1* on the RF). Given that the target was twice less, at 118,839 people, it is likely that the target was met in terms of unique beneficiaries too. As for Total Indirect beneficiaries, it was estimated in the approved FP that since the Project beneficiaries represented 46.5 percent of the rural population in Bhutan, the tailored climate information will inform CSA planning, benefiting the entire agriculture sector, or 58 percent of livelihoods engaged in agriculture. The project reported the same, with no calculation to back up, plus 82,210 (42 percent women) mainly from the use of roads. Given the slow pace of CSA adoption (IA2025), this FE assessment was that this would be somewhat less, but with a potential, given, *inter alia*, the growing number of farmers groups.
- **A2.0 Increased resilience of health and wellbeing, and food and water security.** ***Indicator 2.3 Number of males and females with year-round access to reliable and safe water supply despite climate shocks and stresses***[51]***. EOP target Total: 14,340 (Male: 7,050, Female: 7,350***.) The latest SPR reported. 31,594 beneficiaries (Male: 16,030 Female: 15,564), same as for CRI against the target of 14340 (Male 7050, female -7350). [NB: there was no reporting on this in the PCR}. There were integrated drinking water and irrigation water systems in 2 districts - Tsirang and Punakha (with

[166] Evaluation question 44

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ACREWAS), but also tanks for the irrigation system provided by the project were adapted by communities and LGs to provide drinking water by using the overflow. There was 11 percent increase in the share of HHs using protected sources for drinking water between 2021 and 2025 (IA2025). Improved drinking water supply and had important co-benefits, including improved hygiene practices and eliminating the time needed to collect water (approximately 30 minutes) and costs related to buying water filter / boiler (FE FGDs). As an example, 77 HHs benefited in Punakha District. In the FE FGDs there was a strong perception by the farmers that this allowed the HHs to improve their hygiene practices (potentially leading also to reduced incidences of water-borne diseases as per the systematic reviews that show reduction in the risk of diarrheal diseases by up to 50 percent).[167] Having said that the recent research highlighted the necessity of paying greater attention to the chemical and cascading microbial issues arising from the leaching of plastic pipes into drinking water, and of conducting a more comprehensive assessment of the associated potential health risks.[168] This is an area that could be monitored.

- **A3.0 Increased resilience of infrastructure and the built environment to climate change**. ***Indicator 3.1 Number and resilience of infrastructure and the built environment to climate change****. EOP targets: Climate resilience enhanced for: (a) 170.24 km of farm roads , (b) 232.22 km of GC roads (c) 3 sections of main roads stabilized, 32 irrigation schemes (USD 8.192 million).* Targets were achieved, as discussed in *Section 3.4.1,* with 23 farm and 9 GC roads climate -proofed, and the planned measures for the 3 sections of the main roads implemented). See *AnnexD*, on the Extent of the Achievement of the Output, Outcome and Impact targets, and *Table 5*

Table 5: Number of beneficiaries as in the PCR	
CRI	Total: 31,594, Male: 16,030; Female: 15,564
SLM	5,022.92 Ha, Total: 103,472., Male-51,571, Female-51,901
CSA	Total: 83,159, Male: 39,150 , Female: 44,009
Total direct	257,750 (50 % women) [NB: double-counting of beneficiaries of various activities, due to not counting of "unique beneficiaries"
Total Indirect	58 % Bhutan's livelihoods (as planned), plus 82,210 (42 % women) mainly from the use of roads (FE assessment: somewhat less)

Source: PCR

3.4.15.3. Impact on Resilience

104. ***Finding 61. The project contributed to increased resilience of built environment. There was some evidence that roads' stabilization was effective in mitigating deterioration in access and reducing the negative impacts of road disruptions. There was evidence of enhanced smallholder resilience, but only in terms of (a) higher yields for fully irrigated rice production (and potentially, also certain small increase in the area under rice cultivation; and incomes), but the improvements in increased HH expenditures, foot security, better nutrition and asset ownership/quality (with the likely exception of faster internet connectivity), could not be attributed to the project. For rice fallow areas the project impact in terms of reduction was not statistically significant. Community cohesion was enhanced. Increased availability of clean drinking water improved hygiene practices with theoretically possible potential for positive health impact.[169]*** These are discussed below

- ***Impact in terms of resilient and sustainable of infrastructure*** ***(***1) **HDPEs:** Based on the accumulated experience worldwide,[170] HDPE pipes exhibit (a) high resilience due to their

[167] See for example, Wolf et al, " Effectiveness of interventions to improve drinking water, sanitation, and handwashing with soap on risk of diarrheal disease in children in low-income and middle-income settings: a systematic review and meta-analysis", Lancet, July 2022, https://pubmed.ncbi.nlm.nih.gov/35780792/

[168] plastic pipes continuously release dissolved organic matter (DOM), which profoundly reshape microbial communities. The conventional drinking water safety assessments that separate chemical contamination from microbial risk are challenged. See for example, Fan et al: "Unveiling Chemical-Microbial Cascade Risk Factors from Plastic Pipe Leaching in Drinking Water", Environmental Science & Technology Vol 59/Issue 42 https://pubs.acs.org/doi/full/10.1021/acs.est.5c10244

[169] Evaluation question 69

[170] see for example: https://engineeringcivil.org/articles/building-materials/hdpe-pipes-building-resilient-infrastructure/

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flexibility, which allows them to withstand ground movement from earthquakes and soil shifts without breaking; and (b) resistance to corrosion, abrasion, and extreme temperatures, and are leak-proof. Hence, they are durable and reliable for long-term use in various challenging environments. But there are also risks in terms of environmental hazards like flammability and issues such as cracking in cold temperatures or from stress. (2) **Roads.** There was some evidence that roads' stabilization was effective in mitigating deterioration in access (IA2005);

- ***Impact on livelihoods.***[171] There was no evidence that the irrigation project had an impact on the extent of fallow land, including for rice, but there was increase in the area under rice cultivation; (IA2025) [NB: IA 2025 report did not discuss the changes in crop losses except in the context of HWC; the latter was the most frequently cited constraint to rice production in 2024, see *Table 6*].[172] The *average rice yield indicated improvements especially for fully irrigated land*, even though total production remained unchanged with *moderate improvements in rice production and commercialization among HHs, but up by 19 percent for fully irrigated plots (IA2025)*. In the FE FGDs the farmers predominantly reflected on higher yields. The gains in net income, gross income, and sales from 2021 to 2025 were statistically insignificant,[173] but farmers in the FGDs consistently reported increases in sales and income [FE FGDs[174] and IA2025 FGDs}. While income diversification improved substantially during the period, the change could not be attributed specifically to the irrigation project. Market access emerged as a growing constraint among irrigation users. There was no impact of the irrigation intervention on expenditures either and nutrition (with inflation likely contributing to an overall upward shift in nominal terms), HH asset ownership and quality (increased considerably, but appeared to reflect broader dynamics), and HHs' engagement with formal financial institutions or insurance providers (improvements likely reflecting broader systemic trends), but the reduction in productive credit pointed to persisting structural constraints that limited the capacity of smallholders to access or sustain investment-oriented finance. While there were no statistically significant treatment effects for internet connection at home, and ownership of a television, HHs in irrigation beneficiary villages improved their digital connectivity somewhat faster (IA2025). [NB: IA 2025 did not discuss (a) land use modalities in terms of asset ownership (but in terms of cultivated crops), (b) the use of middleman and (c) the effects on the use of types of fertilizer and local seeds].
- ***Impact on Community Cohesion*** *Return of residents* to previously depopulated (due to water scarcity) villages- one of the objectives of this project - was evident, especially in Phangyul Gewog, restarting farming, leading to revitalization of these villages; with subsistence farmers (often selling their labor for living) turning into profitable small businesses (see *Box 9: Transformation - Nabchhed* **villageBox 8: Box-Cut Road** in *AnnexE Case Studies***Error! Reference source not found.**); The project contributed to trust-building, strengthening conflict resolution (e.g. reduction in water conflicts) , and enhancing community harmony (see *Box 5 Transformative Impact of the Phangyul-Kazhi Irrigation Scheme in Wangdue Phodrang Dzongkhag* in *AnnexE. Case Studies*). The FE FGDs revealed a strong perception that the formation of WUGs and participatory SLM planning promoted collective responsibility, enabling community members to collaborate and resolve issues in a fair, rule-based manner. However, the fact that in some gewogs part of the residents was still without piped irrigation, was a source

[171] irrigation project did not lead to an expansion of cultivated land. The rice cultivation area increased, (orchards contracted)– likely transitional effect. For rice fallow areas, contraction was not statistically significant (IA2025 DiD.(p.32))
[172] IA2025 (P. 22)
[173] IA2025 findings based on the DiD model, indicated statistically insignificant
[174] one female participant reported approximately Nu 60,000 (USD 705) in sales, while another cited net earnings of around USD 2,000. It is important to note, however, that these are anecdotal accounts and may represent outliers rather than broader trends.

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of tension: expansion and coverage of the whole gewogs would provide an opportunity to address this and the district and local governments had plans in place.

105. ***Finding 62 The project has likely led to positive impact on environment, with saved water, farmland stabilization with SLM, reduced erosion, and significant increase in the use of both organic and chemical fertilizers between 2021 and 2025: but some of these results were not captured well (e.g. erosion and water saving).***[175] It has likely led to *saving water wasted* previously by using the open canals, estimated at 30-40 percent and reduced waterlogging: this has likely led to reduction of negative impact on the ecosystem but there were no estimates (e.g., change in population of endangered species, forest stock, water retention in degraded lands, etc.) and the DOA data on less erosion was from 2022. Installation of drip and sprinkler irrigation systems also promoted efficient water use, reducing pressure on natural water sources. *Stabilization of 5,023 hectares of farmland using SLM technologie*s, has likely contributed positively to soil-water dynamics, and reduced soil loss. Promoted organic farming also potentially contributed to both soil health and carbon sequestration. Construction of 172 small earthen check dams and ponds, has likely reduced water runoff. Protection of water sources and wetlands through community-led interventions, has likely contributed to long-term ecosystem health. Beside civil works, bioengineering, nature-based solutions (NbS), and plantation works were carried out for slope stabilizations, restoring and rehabilitating several acres of land around the slide areas. The farmers were progressively combining traditional and modern soil fertility management practices, likely as a response to improved knowledge, training, and market availability of agricultural inputs.[176] While these improvements cannot be conclusively attributed to the project, as the IA2025 did not sufficiently account for spillover effects, there was a contribution. [NB: IA2025 did not discuss changes in the occurrence of Natural hazards and modes of adaptation to hazards].

Table 6: Constraints reported by the farmers

	Share of HHs, %	
Constraint	2021	2025
Seed quality and availability	23.6	19.9
Pesticide quality and availability	24.0	24.3
Fertilizer quality and availability	19.1	8.4
Wildlife depredation	69.5	60.2
Labor scarcity	42.3	28.0
Irrigation facility	56.1	40.6
Market access	9.8	6.6
Extension recommendations	3.5	1.5
Other constraints	5.8	11.5

Source: IA2025

106. ***Finding 63. The observed impacts were likely to be long term, given the strong alignment with the Government plans, growing number of farmers groups, and development partner support for similar projects, with already present examples of replication, along with the positive growth forecasts indicating a certain easing of the fiscal constraints.***[177] Note that the share of HHs citing *lack of* irrigation facility as a constraint reduced by 16.5 percent between 2021 and 2025, Seed quality and availability - by 3.7 percent, Fertilizer quality and availability- by 10.7 percent, Labor scarcity- 14.3 percent, and Extension recommendations – 2 percent (see Table 6). This was an indication of longevity. The barriers and risks that might still prevent further progress towards long-term impact were discussed in the report, but the *main ones* were: the risk from narrow fiscal space by the government; continued immigration, especially of the working age adults, lack of affordable finance

[175] Evaluation question 70

[176] IA2025 (BAC, Table 17, p. ,37), indicated a strong and statistically significant increase in the reported use of both organic and chemical fertilizers between 2021 and 2025: the proportion of HHs reporting greater use of farmyard manure (FYM) rose most by about 71 percentage points ($p < 0.001$),, bio- fertilizers - by 57 percentage points ($p < 0.001$), chemical fertilizers - by 35 percentage points ($p < 0.001$).

[177] Evaluation question 71.

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options (interest rates ranging from 8 to 10.5 percent)[178], persisting negative social norms affecting the rights of women, as well as HWC.

4. MAIN FINDINGS, CONCLUSIONS, LESSONS LEARNED, AND RECOMMENDATIONS

A. Main Findings

107. Annex J. Summary of Main Findings by Evaluation Criteria summarizes main findings of the FE report along the evaluation criteria.

B. Conclusions

108. ***The project was, overall, well designed,*** with clear and feasible TOC **(**Finding 1 (F1), F2). with three (3) lines of integrated action (resilient agriculture, water and land management, and road rehabilitation/slope stabilization), but it lacked (a) an element on addressing the critical gap in market linkages in project areas, expected to be addressed by other projects, affecting the innovativeness of the "paradigm shift", and (b) few other assumptions ***[see Recommendation 3 for future similar projects].*** It incorporated many lessons from the previous projects (F6), and spelled out the potential synergies (F9). The initial GAP needed revisions, the LNOB was not captured well (F6) and the SEP needed details on modes of engagement (F8). The Risks were correctly identified but two (2) of them needed higher ratings (on sustainable O&M of built Infrastructure and addressing HWC) (F4). It had adequate ESMF and SES, but needed monitoring of biodiversity impacts of HDPEs (F5) [***see recommendation 1d***]. The RF had several issues, despite having mostly SMART indicators.

109. ***Project implementation was effective, overall,*** with adaptive management (F10), (with limited opportunities due to very strict GCF processes), a proactive PMU/PM, mitigating many of the exogeneous challenges (e.g. COVID related and its aftermath (F37), currency depreciation, cost escalation and government reorganization), completing it on-time and on budget, with co-financing by the RGOB surpassing the target (F16), supported by strong partnerships with and active participation by direct stakeholders unlike the tangential ones (F11). The budget and expenditures aligned highlighting budgeting accuracy, disciplined execution, and strong governance over project resources (F14), with budget utilization by code within limits (F15). The project had a rich website and presence in the media, but lacked direct outreach to the latter and larger circle of development partners for more synergies, and stronger business outcomes (F12). The M&E Plan was budgeted appropriately, but had issues with interpretation of several indicators, especially related to capturing changes in institutional effectiveness (F17). M&E execution was strong in capturing immediate outputs for built infrastructure but had issues with capturing the CB results at the institutional level and with the IAs, (F18) ***[see recommendation 7 for future in other projects],*** which affected the quality of otherwise strong reporting (F19). The revised GAP allowed addressing key constraints for GEWE but could have had more focus on women-dominated value chains/underrepresented employment schemes. Addressing LNOB needed a more systematic approach enabled by LNOB mapping (and capturing the results) and perhaps ways found to encourage the beneficiaries (especially older women) taking up the government-supported literacy classes (F13) ***[see recommendation 7 for future projects].*** The ESMF implementation was strong with adequately

[178] To improve access for small-scale farmers, the RGoB recently introduced an Economic Stimulus Plan (ESP) with loans to priority sectors, including agriculture, at a reduced interest rate of about 4 percent. Despite this intervention, access to credit for smallholders remained a significant concern (given stringent collateral requirements), a point consistently highlighted by farmers and local authorities during the FGDs, as constraining their ability to finance climate-resilient technologies and productivity-enhancing measures.

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implemented ESMPs, SES and risks' monitoring; the few mitigation issues were partly due to the ratings (F22). Major negative and social risks were avoided. In terms of **Efficiency**, the project avoided major delays (F32), despite challenges (due to, *inter alia*, strong national ownership, independent PMU and efficient PM (F35)): certain delays occurred due to lengthy GCF review processes. It was cost effective (F33) and, overall, cost -efficient (F34); the latter could have been more pronounced with more synergies**.** UNDP delivered effectively on its three – tier roles (with independent from the project management function on project supervision), and the GNHC/MoF as the IPs for this project, managed it effectively, ensuring efficient use of GCF resources, strong level of coordination among the main IPs, and together with UNDP, the smoot flow of funds (F21). The project's synergies and experience sharing directly with the non-project districts and larger circle of development partners, could have been more actively facilitated. Not acting on the IE recommendation on addressing the critical gaps in market linkages (due to it not being in the final design) and not directly engaging with the private sector (as potential investors/exporters) might have affected the scale of impact in terms of sales/incomes. (F36)

110. ***The project was relevant*** (in-line with the country policies, SDGs, UNDP and GCF priorities (F27 and F28), and ***internally and externally coherent***, with strong complementarities to other UNDP implemented (F21), and other projects, and RGOB programs, contributing to an integrated climate finance, but with only few synergies (WB, FAO, and BTF) (F22). It enjoyed ***strong national ownership*** (F48). Despite using already tested technologies, it was ***mostly*** i***nnovative, with an integrative approach at large scale*** (F45). Sharing the LL *locally* could have included direct experience sharing in the KM workshops with the other districts. The enabling environment for this was strengthened, but affected by too much reliance on extension services with busy, by other tasks, extension agents (with high level of attrition among them too). Globally, experience sharing relied on WOCAT (F46)

111. ***Progress towards expected Outputs (F23) and outcomes (F24) was satisfactory***. The targets for 6 *Outputs* were achieved with: improved KAP on sustainable water use (Indicator 2.1), 6366 ha of farmland with reliable CRI (2.3)), eight (8) district level Participatory SLM Action Plans (2.4), 5023 ha of farmland slopes stabilized with SLM measures (double the target (2.5)); 211km of farm- and 214.6 km of GC roads climate proofed and mitigation measures of 2 sections of main roads (with 1 self-stabilized) (3.1)), and the integration of climate related information in national DL&D database progressed (3.2)). The targets for the following 3 output indicators were assessed by the FE as close to target/likely to be achieved in the near future: (a) Increased institutional capacity for climate-informed agriculture planning (1.2), given the replicated crop calendars (WB, with the project supported medium-range weather forecast as input); (b) Level of knowledge and adoption by beneficiary HHs of climate resilient and sustainable crop production practices (1.3), given that the slow adoption was only for part of technologies promoted (IA2025), likely to pick up the pace with the ongoing growth of farmers' groups, and (c) enhanced technical capacity of members of WUGs, Dzongkhag engineers and agriculture extension officers for climate adaptive water and soil management (2.2)– in the light of positive feedback in FE FGDs/KIIs and other projects present/plans with training with planned water sector reforms (but more needed). The target for one of the indicators (1.1) was not achieved, with the share (%) of beneficiaries in targeted dzongkhag accessing improved climate services below the target of 70 percent. *Outcome 1.* Nine (9) tailored products to inform climate-resilient agriculture planning (outcome indicator 1a) were produced as planned (target achieved), and were assessed by the FE as "*likely influencing the beneficiaries' decision making"* (Outcome indicator 1b) given 73.5 percent reported in IA2024 for HHs (although missing in IA2025 and with access issues related the effectiveness of the extension service and high illiteracy)

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and the crop calendars replicated at the time of this report and (large numbers of staff and farmers trained. For Outcome (2) Strengthened adaptive capacity and reduced exposure to climate risks, - the increased yields stood as an indicator- given that higher yields were recorded for rice and especially fully irrigated land plots (IA2024, IA2025), and in the light of more irrigation systems expected in those locations (even though information was lacking for all crops). ***[See recommendation (1b), (1c) and (1e) for future projects].*** The factors affecting the achievement of outputs and outcome included (1) on the enabling side-synergies (e.g. WB (ADSS), and JICA, use of climate related information for enhanced disaster preparedness), and strong national ownership among others; and (2) on the hindering side: COVID, underestimation and escalation of costs, issues with the extension services, illiteracy among many farmers, especially older age women; affordability (e.g. for certain CSA methods in the face of still small (but growing) number of farmers' groups), etc. The project overcame many of the mentioned challenges (where possible, e.g. with escalated costs) with adaptive and efficient management (F25). The project was ***effective*** in contributing to GCF Strategic priorities, GCF Paradigm shift potential and demonstrated progress by GCF Investment Criteria (as in the approved FP) (F30), namely: Impact potential- medium/High, Paradigm shift potential- medium/High, Sustainable development potential-medium, Needs of the recipient-High, Country Ownership-High, Efficiency and effectiveness -medium**.** The project potentially contributed to many SDGs, but likely to a small extent (F31)

112. Most ***GEWE*** targets were achieved, improving women's technical knowledge (with many starting small farm businesses) and confidence, with more active participation in the WUG management (F49). The scale of the GEWE results was affected by (a) still prevalent negative social norms, despite project efforts, (b) insufficient support by Dzongkhags/LGs with marketing/market linkages; and (d) large illiteracy rate among the older age women. (F50). ***Cross-Cutting***. The project contributed to HRBA significantly, with capacity building of both farmers (rights-holders) and institutions (as duty-bearers). (F51) The bidirectional poverty-environmental nexus was tackled with integrated approach. The project Dzongkhags were selected, based on the poverty rate, and this was one way how the LNOB was addressed. There was anecdotal evidence of elderly and PwD benefiting, and vulnerable youth targeted with employment in the construction works (F52). Systematically gathered data was lacking, however, affected by the fact that UN Bhutan LNOB strategy was still in the making. In terms of ***unexpected results***, the positive ones included (a) fewer livestock deaths attributed to water or forage shortages; (b) fewer car accidents on the improved farm roads; and (c) youth inspired to pursue farming as a business venture with innovative technologies. Increased incidence of HWCs in some communities was to some extent indirectly associated with the project (due to increased harvest), with the HHs losing up to 50 percent of yields. The project was both adaptive and responsive towards the opportunities that emerged (F47)

113. There was an *Exit Strategy* with a dedicated transition team within the DMDF to manage post-closure responsibilities, to support sustainability through regular government funding and integration into FYPs and facilitate replication. While commendable, it lacked important details (F38). The adoption by the Government of several key regulations, were very important not only in terms of improving the regulatory framework for climate resilient agriculture, but also for ***sustainability and replication.*** Both individual and institutional capacities built was another building block that was important for both (F41), Given high level of outmigration of the staff trained by the project, it was important to have measures for the continued training [*see* ***Recommendation (2a) and (2c***)*]*, including for applied research *[see* ***Recommendation (2a) and (2c***)*]*. ***Overall Sustainability was Likely*** (F44). The risks to financial sustainability varied (F39). SLM/ CSA investments were likely to yield benefits to the farmers

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sustainably (supported by the RGOB cost-sharing scheme), but the damage caused by HWC and limited access to affordable finance. were risks. For the piped CRI, there were risks with the coverage of lifetime O&M expenses and while the RGOB was considering reforms to address, there was no certainty at the FE. The latter risk applied to the climate proofed roads too, but with (a) RUGs not receiving as much training as the WUGs (assumed to happen under the regular mandate of the government) and (b) no similar to water sector reforms planned; here however, there was a recent development, with the government taking over from the LGs the responsibility for O&M for GC road. The ability of the ARDCs to carry out research sustainably had financial risks *[see **Recommendation 1a***]. There were *no major political risks* and no risk of insufficient stakeholder ownership to hinder the project outcomes/benefits to be sustained. There was only one *socio- economic risk* to sustainability- shortage of farm labor due to rural-urban migration, but there was a perception among the HHs of this severity of this barrier reducing in the project locations.[179] In terms of countering institutional risks to sustainability, strengthening the WUGs was very important, making the sustainable operation of the piped irrigation network more likely. Similarly important was the support to thirty (33) farmers groups, supported by the Bhutan Cooperative and Farmer's Bill, (2025)[180], aimed to promote these (F42). The likelihood of *sustainability of environmental benefits* was high (F43), e.g. with (a) the new piped network eliminating the 30-40 percent water losses typical for open canals, and hence contributing to more sustainable use of water resources, and (b) reducing soil erosion and waterlogging, negatively affecting the soil quality. At the FE, the GEWE results in the project districts were likely to be long term (F40), but the potential sustainability was affected by the lack of mandated local formalized gender action plans, monitoring forms and dedicated budgets.

114. The project had a ***solid r*eplication *potential,*** but while there were efforts to mainstream climate resilience across sectors by the RGoB, the financing continued to be a concern. The potential for replication was high *for CRI*, with the integration in the state budget and donor support and emerged local manufacturers of HDPEs (with examples already at the FE), along with the replication of the solar pump (RGOB, ICIMOD) and small scale-irrigation (RGOB cost sharing scheme). *Climate proofing the roads* was likely to be replicated but at slow pace due to financial constraints (F53). The potential for replication was increasing for (a) SLM/CSA, with examples for SLM already happening (RGOB/development partners' funding), but in the case of CSA this needed more efforts to address the lagging adoption ***[****see **Recommendation 2c]***: there were positive signals with the newly adopted Cooperatives Act; and (b) the use of Climate/weather information by the farmers, with the replication of the WB supported crop calendars in all districts not only addressing this institutionally but also, likely, soon at the HH level **(**F54). CNR graduating agricultural specialists with CSA knowledge and the CST -water engineers with CRI knowledge supported the replication prospects. There was evidence that in some cases (e.g. with NCWH and DoST) trained (by the project) specialists passed on the knowledge. There was a need for a more structured approach to assure the continued use of the project-produced training manuals (F56) *[see **Recommendation 2a].*** The potential for replication of the knowledge generation and dissemination, while supported by the existence of the formal channel (via ARDCs/extension agents) was (a) in need of strengthening and diversifying in relation to extension services. and (b) was constrained by the limited funding for agricultural research (F55). *[see **Recommendation 2b].*** GEWE-related results were less likely to be replicated significantly, given the lack of GBB, and mandared local gender action plans and dedicated budget lines (F57), but there were certain positive signals, e.g., with the Government setting targets on women's engagement in

[179] During the FE it was learned that the RGoB has introduced an initiative of bringing in labor migrants from India but it was too early to see the results of such initiative.

[180] National Assembly adopts Cooperatives and Farmer Groups Bill of Bhutan 2025, shifts registration to districts - BBSCL

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civil service[181] and positive GE results gaining attention. The key factors contributing to the likelihood of replication, included, *inter alia*: country commitments (national and international), strong national ownership and support by the development partners, and the risks factors - slow pace of gender reforms; outward migration, and limited/narrow fiscal space (F58)

115. In the part of the **Impacts,** at policy level the project- strengthened frameworks, policies and processes improved the overall regulatory framework for climate resilient agriculture (F59). On the ground, the project reported as having met almost all the impact targets for components under impacts (A1.0) "Increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions", (A2.0) Increased resilience of health and wellbeing, and food and water security, and (A3.0) Increased resilience of infrastructure and the built environment to climate change. It reported as *directly* benefiting 258,456 individuals, with 51 percent female (NB: with double counting, with no requirement to count "unique beneficiaries", but it was likely that with this too the target would have been achieved (given that the reported figures is twice the target). As for the *total Indirect beneficiaries*, the target was assessed by the FE as not achieved (with the project reporting it as achieved) but likely/with a potential, given the expected accelerated adoption of CSA and climate forecasts. The project contributed to increased resilience of the built environment. There was some evidence that roads' stabilization was effective in mitigating deterioration in access and reducing the negative impacts of road disruptions. Beneficiaries achieved higher yields for rice (especially on fully irrigated lands) and irrigation also supported asset accumulation and slightly improved access to credit and digital services, but market access emerged as a growing constraint among irrigation users. There was perhaps small increase in the attributable incomes, but increases/improvements in HH expenditure, foot security, nutrition and asset ownership/quality (with the likely exception of faster internet connectivity), could not be attributed to the project. Increased availability of clean drinking water improved hygiene practices with potential positive health impact theoretically (F61), demonstrating the benefits of integrated approach to irrigation and drinking water supply *[see **Recommendation 4].*** Community cohesion was enhanced with collective decision making/planning/strengthened WUGs. The project had positive environmental impact -eliminating water wastage, and reducing soil erosion (not well captured), land stabilization, as well as with the increased use of organic and chemical fertilizers (F62). Capacities were built both in terms of individual experts and institutionally: with NCHM one step closer to having a MHEWS and enabling further progress for the expanded application of crop-based insurance *[see **Recommendation 5]***, and the DoST - a better system of on-time records on road slope failures (with Bhutan Road Watch System), more effective use of the DL&D, and overall, improved capacities for disaster response. For the district and gewog administrations this was a valuable expansion of the experience in Participatory SLM planning and Implementation. The project enabled pursuing LDN targets more forcefully and expanded use of NbS, and tackling enhanced agroforestry ***[see Recommendation 4]***. The observed impacts were likely to be long term, given the strong alignment with the Government plans and development partner support, with already present examples of replication, supported by the regulations developed, accelerated growth of the number of farmers groups, along with the positive growth forecasts (F63). The main barriers and risks that may still prevent further progress towards long-term impact included: the risk of narrow fiscal space by the government; continued immigration, especially of the working age adults, lack of affordable finance options, and persisting negative social norms affecting the rights of women, as well as HWC

[181] National Action Plan to Promote Gender Equality in Public Administration in Bhutan (2025), aimed to increase women's representation in the civil service to 45 percent and in decision-making roles to 30 percent by 2029

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C. Lessons Learned

116. The list the Lessons learnt is presented in Table 7.

Table 7: Lessons Learnt

Lesson	Explanation
1: ***Outcome model worked overall well, but the lack of the market linkages component mattered.***	The project's success depended on several key factors within the local context and enabling environment. Most importantly, it was demonstrated that combining solutions on CSI, CSA and SLM with improved road infrastructure, improved weather forecasting and capacity building could lead to important results, with climate finance catalyzing systemic transformation. But while there is a debate, including within the MOAL, whether the agricultural planning should be production- or market -led and it could be argued that a 6-year long project could not have covered meaningfully both aspects, the lesson for the future projects is, however, to take a holistic view that would incorporate both production and market -support parts into account, at least in the way of linking the production part to marketing and sales opportunities and other projects supporting the government with strengthening of critical gaps in market linkages.
2: ***The project demonstrated the effectiveness of two governance models: independent PMU and TACC***	TACC as an oversight mechanism concentrating on the engineering aspects and the model of the independent PMU presented positive exampled to replicate: this was happening among the development projects in Bhutan, but could be used in other countries too for the GEF/GCF/AF projects, i.e., with a similar set up, as well as for the projects with other development partners
3. ***Participatory planning enhances ownership***	Farmers were not just beneficiaries of the project, but also co-designers of solutions. The project placed strong emphasis on community participation, especially in activities related to SLM (the use of Participatory SLM Action Planning across all eight districts ensured that interventions were community-driven and contextually relevant), irrigation, and climate-resilient farming. Local governments and community groups were actively involved in planning and implementing interventions, ensuring that indigenous knowledge and traditional practices were respected.
4: ***Project designs require comprehensive approaches to sustainability- financial, institutional, HR, environmental***	Specific measures need to be planned, and followed through the implementation to enhance the likelihood of sustainability in all aspects: Financial, institutional, Social, Human resource, and environmental. For this project this in particular applied to sustainability elements for the O&M of the infrastructure provided, as well as working with the higher educational institutions to ensure that the curricula reflect the innovations introduced
5: ***Well elaborated and costed mechanisms are needed to foster the private sector engagement***	While inclusion of the BCCI in the PB was important, mechanisms needed to be planned/used and budgeted to reach out to the private sector/businesses directly, at all levels of project implementation
6: ***Promotion of innovations requires equally innovative KM and communication strategies***	There was little evidence of widespread uptake of the promoted, innovative CSA technologies. While there were many reasons behind that (affordability, land fragmentation, and issues with the extension service among them), communication and KM also played a role. Having a Communications Plan with targeted distribution on the LL, including outside the immediate scope of the project stakeholders, a dedicated Communications person at PMU, plus a more proactive and direct experience sharing with other districts, and engagement with the private sector would have been beneficial.
7: ***The SEPs require thoughtful planning and an equally diligent implementation coupled with an effective Communications Plan.***	Active involvement of key stakeholders is essential for projects of this scale to ensure informed decision-making, alignment with objectives, and maximum utilization of potential synergies. In future initiatives, it is important to implement structured stakeholder engagement from the outset, with clear roles, regular consultations, and coordinated collaboration with all partners, including the tangential ones. DOW and DAMC, key stakeholders were not actively engaged throughout the process. Similarly, CNR and CST were not involved during the design, consultation, and implementation phases. Proactive measures were needed to reach out to development partners for synergies- at all levels. Engaging diverse development partners at the Dzongkhag level would enhance synergies and cost-efficiency. Future initiatives should establish a structured donor coordination mechanism at the district level, including regular meetings, a transparent communication channel and a shared repository of planned activities for coherent program design, optimized resource use, and strengthened long-term impact.
8. Effectively changing the status quo for women and persons at risk of left behind requires careful design and targeted approaches.	Gender responsive adaptation to climate-change needs to be strategic, in line with increasing women's involvement and roles in agriculture. Initiatives in three directions need to go hand-in hand: (a) target women- dominated value chains with in-depth support, (b) facilitating women's more active engagement with local employment schemes; (c) awareness raising about women's rights and (d) encouraging women taking literacy classed with inducements incorporated in project design. The same applies to the persons at risk of being left behind: changing the status quo requires careful design and targeted approaches.
9. ***Control-group based IAs are important to allow for***	Impact evaluations must be carefully planned from the outset, beginning with an evaluability assessment that includes a field mission to define the most appropriate design and data requirements. It should not

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rigorous conclusions on the impacts that could be attributed to the project, but these need to be very well planned and implemented	be assumed that all households living in a beneficiary chiwog are actual beneficiaries of the intervention, as occurred in this project. Survey timing must also be harmonized, with data collection rounds conducted in the same agricultural season (for comparability) with adequate time between infrastructure completion and data collection to allow for at least one full production cycle. Plot-wise information rather than aggregated data by crop production typology should be collected.. To properly design and implement rigorous impact evaluations, external expertise (including local) should be mobilized early in the process.
10. ***Assessing the effectiveness of the capacity building for the institutions requires using special tools.***	Assessing the effectiveness of the CB efforts could not be done using rigorous IAs. Nor this could be measured by checklists with immediate pre-and post -questions to the trainees: this requires using methods like outcome harvesting, Outcome mapping, or at least self-assessment tools for the key partner institutions (with verification mechanisms applied later) which was not implemented for this project.

D. Recommendations

117. Recommendations are presented in Table 8 below.

Table 8: Recommendations

Recommendation	Explanation
1: Enhance uptake and sustainability prospects for the projects results.	**a)** Institutionalization of climate-resilient irrigation infrastructure and O&M standards into national guidelines and operational manuals (together with financing guidelines) and establishment of dedicated budgets (***corrective, the revision of the Exit Strategy is recommended***), (**DoW, MoIT, MoF, UNDP- to follow up);** b) Produce the planned study on the role and impacts of RUG on the sustainability of farm roads in Bhutan (DOST) c) Promote the CSA methods more actively using various channels (e.g., village volunteers, faith-based organization, etc.) and not only the agricultural extension officers – to further to stimulate the uptake and replication (**corrective, MoAL, UNDP- with existing and future projects**). ***d)*** Expand the reach of climate-tailored products and ensure regular training for stakeholders to interpret and apply this information effectively (**NCHM, MoF, UNDP- support with existing and future projects);** ***e)*** Establish post-project monitoring of potential environmental and biodiversity risks of HDPE infrastructure and health impacts in the case of using water without filtration for drinking (**MoF, NEC, MoH, DOW, UNDP- support with existing and future projects), and** f) explore alternative dissemination channels for weather forecasts (**NCHM, DOA, UNDP- support with existing and future projects).**
2: Provide consistent capacity building for the key institutions and WUGs/RUGs. (DOA, MOIT, DOW, UNDP- support with existing and future projects)	***a)*** Introduce refresher training and mentorship programs to reinforce learning and retain institutional knowledge. Monitor capacity gaps regularly and tailor training accordingly***. with the guidelines and manuals from the DoA, DoA and DOID – MoIT. Identify the best entity/entities as the repository of the training materials developed under the project. Corrective -*** b) provide refresher regular training for extension workers- needed to ensure continued outreach to farmers (alternative knowledge dissemination channels should also be explored, such as involving village volunteers, health workers, and faith-based organizations). There could be a proposal (for UNDP to pursue) for the (a) establishment of a range of '*Agri-food Innovation Support and Brokering Services*' (integrated into Extension network/ARDCs) that could play a crucial role in galvanizing local knowledge and capacities, mobilizing public and private funding, and scaling-up of climate-smart investments to respond to the current and future needs of farmers and agri-businesses, and support the climate-resilience of rural livelihoods; and (b) practical realization of innovative projects at 'farm level', targeting primarily smallholder and family farmers, farmer cooperatives, and micro-agri-business, which will allow piloting and demonstrating ways of achieving mitigation, adaptation.[182] c) Provide continued capacity building for the WUGs, as they play a crucial role in ensuring the sustainability of irrigation schemes. The IA2025 and the FE found that their performance and understanding of responsibilities varied widely. Future projects should allocate sufficient resources for continuous capacity building of WUGs. This is especially important in the light of the potential reforms in irrigation water pricing and financial regulations related to assuring that the

[182] Such a project with EU funding was successfully implemented in Uzbekistan https://www.undp.org/uzbekistan/projects/supporting-inclusive-transition-green-economy-agri-food-sector-and-development-climate-smart-uzbek-agriculture-knowledge-and

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	life-time costs of O&M of irrigation infrastructure are covered. Graduation-based approaches to capacity development should be prioritized over simply meeting numerical training targets. The same applied to RUGs
3: Promote integrated drinking and irrigation water supply systems from the design stage and ensure that irrigation-focused projects include market system development components (DoA/MoIT/DoW/DAMC/UNDP-with a potential project proposal).	a) One unplanned benefit of the project was the improved access to drinking water. Both direct observations, focus group discussions, and the quantitative analysis confirmed this additional gain. In several irrigation schemes, local communities made investments to connect the overflow from upstream irrigation tanks to downstream households—an initiative not initially planned. Future projects should therefore integrate the improvement of drinking water systems with irrigation investments from the outset. This represents a low-hanging fruit that provides substantial benefits to community well-being while also contributing to climate change adaptation. There could be a project proposal (**UNDP**) on scaled up implementation of integrated approaches to drinking water supply and irrigation (piloted in the GCF project jointly with the ACREWAS project), in the context of improved approaches to Integrated Water Resources Management and application of digitalized solutions (e.g., for water flow measurement, etc.). This could include using the concepts of Results Based Financing, e.g., Performance -Based irrigation - a method for evaluating and optimizing irrigation systems based on various performance indicators, such as efficiency, equity, and productivity. It involves using data and analysis to improve water management in areas like planning, O&M, often leveraging technologies like smart controllers, sensors, and satellite imagery to achieve goals like higher crop yields and better water resource utilization. [183] The application of the AI and results-based irrigation (Precise irrigation) in Bhutan could also be promoted. b) Importantly, future irrigation -focused projects - should include market system development components (addressing critical needs in the project locations) within their interventions. Linked to this, relaxing the very stringent GCF approach to modifications in the approved project designs might allow for better responding to changing needs on the ground (GCF): in this case the project team perceived it impossible to include substantial market linkages and HWC elements mid project
4: Promote larger scale adoption of Nature- based Solutions (NbS) in rural settings, based on the successful demonstrations from the project (DoA. UNDP- with a potential project proposal).	Promotion of the NbSs is the next big priority for the country in the upcoming 3rd NDC (based on a FE KII) along with the development of agroforestry. These two could be promoted in conjunction in the rural settings at scale and utilize the lessons from the GCF project, as many SLM measures are NbSs. There could be a project proposal on this, along with assistance to the RGoB on achieving the upcoming revised Land Degradation Neutrality (LDN) targets. And finally, this proposal could also include a focus on integrated approaches to CCA and CCM, with in particular, scaled- up application of solar water pumps and green hydrogen.
5: Given the importance and progress made through this and other projects in integrating climate data in agriculture planning, UNDP could support the promotion of MHEWS by NCHM, building on this such as with integrating climate data and forecasts in crop and livestock insurance and loss and damage, supporting early warning and addressing climate induced disaster response in coordination with MoF and MoAL	For the NCHM the natural next step would be the establishment of the MHEWS, combining the principles articulated in the Global Framework with a "value-chain" approach to target specific weaknesses in the delivery of early warning services. This could emphasize the "impact-based" approach to MHEWS based on the socio-economic risk-modelling and could explore the application of elements of forecast-based financing as an innovative approach to the use of climate data in decision making. The advancement of the MHEWS could be coupled with supporting the advancement in the application of the concept of index-based Crop Insurance in the country ***(MoAL/UNDP).*** There is currently a WFP- led project with the Adaptation Fund- funding it in 4 districts: this could be advanced and scaled up. Towards this, the project had prepared/drafted the crop and livestock loss and damage SOP- a critical and first step to have proper collection and assessment methodology for crop and livestock loss and damage compensation under the insurance scheme. Bhutan recently launched the National Crop and Livestock Insurance Scheme (NCLIS) in November 2025, a significant initiative to protect farmers from climate, wildlife, pest, and diseases risks. MoAL also launched a USD 34.7 Million Project to transform rural Economy. These all constitute a good basis for a potential project
6: In similar projects (CCA focused), employ substantive interventions for women to gain competitive edge as men in the projects more and find ways to encourage residents taking up literacy classes (UNDP). Address LNOB with special substantive interventions based on a mapping of the vulnerable groups (UNDP).	In future similar projects, UNDP should, among other measures, tailor capacity building to special needs of women, supported by gender-friendly/women-friendly farm tools, technologies, and mechanization, for example, by promoting investment in small-scale mechanization (supported by the findings of IA2025 and this FE), as it not only contributes to higher productivity but also to greater women's independence. UNDP should also address stereotypes, attitudes and mindsets that undermine women's leadership capability and roles with tailored project designs and strengthen gender equality in project-supported activities, while carrying out qualitative assessments on the gender-specific benefits from the project interventions. UNDP should promote women's leadership through women-led agriculture works more explicitly and foster partnerships with local women's groups and community leaders to enhance outreach, promote local ownership of gender initiatives, and ensure visibility of women-led activities. UNDP should explore creative ways to encourage the illiterate residents taking up literacy classes. To effectively reach and address the needs of the people at the risk of exclusion in the context of projects, as a start a mapping is needed to understand these

[183] See for example here https://blogs.worldbank.org/en/ppps/performance-based-contracts-offer-a-pathway-to-efficient-water-m

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	groups and how could the project address their needs with the project initiatives. The progress along the LNOB needs to be monitored with indicators specifically capturing the benefits to this group
Properly design and plan impact evaluations if these are part of the project designs **(UNDP)**	For designing rigorous impact evaluations (common for GCF projects),, external or local expertise should be mobilized early in the process. The designs and implementation should ensure the quality standards are met, for example, ensuring the necessary sample sizes, eliminating the risk of contamination of the control group, and not altering the identified planned timing annually.

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Annexes

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B. Terms of Reference

UNITED NATIONS DEVELOPMENT PROGRAMME

Final Evaluation of the Project - Supporting Climate Resilience and Transformational Change in the Agriculture Sector in Bhutan (FP 107)
Terms of Reference

GENERAL INFORMATION

Services/Work Description	Final Evaluation (FE) of the Project
Project/Program Title	Final Evaluation (FE) of the Project
Consultancy Type	Individual Consultant (IC) - International
Duty Station	Remote and Onsite, Thimphu, Bhutan
Expected Places of Travel	In-country Travel where necessary
Duration	**30** Working Days stretched over 9 months (Aug 2025 till April 2026
Expected Start Date	Immediately after Signing the Contract Agreement (1st August 2025)

PROJECT BACKGROUND AND CONTEXT

Given its geographic location and mountainous terrain, Bhutan is particularly vulnerable to changes in climate which affect the timing, frequency and intensity of rainfall (with consequent changes in runoff and erosional processes), as well as changes in temperatures which affect the altitude at which crops can grow and evaporation from soils. Water availability and management is challenging, with remote areas experiencing scarcity in dry years. Monsoon seasons experiencing high rainfall, flash floods and landslides have damaged existing irrigation schemes and disrupted market access for many smallholders' farmers. These impacts have a major bearing on smallholder farms in a sector that is critical for the Royal Government of Bhutan's (RGoB's) goals of food self-sufficiency and inclusive green socio-economic development. These climate-induced impacts on agricultural infrastructure, production and supply place at risk 58% of the country's livelihoods, predominantly older farmers whose livelihood options are compromised. The increasing costs of recovery strain limited public resources, jeopardizing hard-won development gains within this least developed country. With only 7.8% of land arable, it is critical to ensure that the country's limited agriculture potential is resilient to climate change. Consequently, the RGoB seeks support to enhance the resilience of smallholder farms to rainfall variability, as well as increases in temperature and projected increases in monsoonal rainfall. Enhancing the resilience of the population engaged in agriculture, including the transition from reactive to climate-informed planning is fundamental to meeting the RGoB's aspirations on climate resilient, low carbon development. Given the specific climate change challenges confronting smallholders in vulnerable regions in Bhutan, a priority for the RGoB, the project seeks to enhance the resilience of smallholder farms to climate change, especially variation in rainfall and frequent occurrence of extreme events, through three complementary Outputs:

- Promote resilient agricultural practices in the face of changing climate patterns
- Integrate climate change risks into water and land management practices that affect smallholders
- Reduce the risk and impact of climate change induced landslides during extreme events that disrupt market access

The project will benefit more than 118,000 people in eight dzongkhags (districts) across Bhutan: Dagana, Punakha, Trongsa, Tsirang, Sarpang, Samtse, Wangdue Phodrang and Zhemgang. These sites were selected by the RGoB given their vulnerability to climate change and priority for Government in the context of their SDG targets, especially given the moderate-to-high poverty incidence rates that prevail. The project is fully aligned with the RGoB's national adaptation priorities as per the Nationally Determined Contribution. Further, the project is in line with RGoB's work programme with the GCF and is also in the selected Accredited Entity (UNDP) work programme.

Project/outcome title: *Supporting Climate Resilience and Transformational Change in the Agriculture Sector in Bhutan"* (Reference No. FP 107)
Atlas ID: 00093951
Corporate outcome and output
Country: Bhutan
Region: RBAP
Date project document signed: 27 September 2019

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Project dates	**Start date: 7 November 2019**	**Planned end date: 7 November 2025**
Project budget		
GCF (grant):	US$ 25,347,194	
Government co- financing:	US$ 32,668,000	
Total:	**US$ 58,015,194**	
Project expenditure at the time of evaluation		
Funding source: Green Climate Fund (GCF)		
Implementing Party: Ministry of Finance, Ministry of Agriculture and Livestock, National Centre for Hydrology & Meteorology, Ministry of Infrastructure and Transport		
Project Locations: 8 districts of Bhutan namely Punakha, Wangduephodrang, Samtse, Tsirang, Dagana, Sarpang, Trongsa and Zhemgang		

OBJECTIVES AND PURPOSE OF THE EVALUATION

As part of the CO's evaluation plan, this FE is planned to provide an assessment of the achievement of project results against the project's targets and draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP and the GCF programming. The FE seeks to promote accountability and transparency to the donors, partners and stakeholders. The findings of the FE will be used by the GCF, UNDP and national stakeholders for designing other relevant interventions in the future, ensuring national ownership and sustainability of project results. In addition to that, lessons learnt and recommendations from this FE will be used by the Country Programme Board during its annual review and final review of the country programme (2024-2028), for proper adjustments and improvement of other project/programme design, implementation and evaluation. In assessing implementation of the project and its alignment with FAA obligations and the UNDP project document, the FE will take into consideration assessment of the project in line with the following evaluation criteria from the UNDP Evaluation Guidelines, GCF IEU TOR (GCF/B.06/06) and GCF Evaluation Policy, along with guidance provided by the Organization for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC), and the UNDP Evaluation Guidelines.

The evaluation questions is grouped according to the six OECD-DAC evaluation criteria: (a) relevance; **(b) coherence, (c) effectiveness; (d) efficiency; (e) impact and (f) sustainability**. In addition, the FE should also utilize the following criteria for the evaluation, as applicable.

1. Adaptive management
2. Stakeholder Participation
3. Monitoring & Evaluation
4. Accredited Entity (AE) oversight and Executing Entity (EE) execution
5. Risk Management, including Social and Environmental Standards
6. Coherence in climate finance delivery with other multilateral entities
7. Gender equity
8. Country ownership
9. Innovativeness in results areas - extent to which interventions may lead to paradigm shift towards low-emission and climate resilient development pathways
10. Replication and scalability – the extent to which the activities can be scaled up in other locations within the country or replicated in other countries (this criterion, which is considered in document GCF/B.05/03 in the context of measuring performance could also be incorporated in independent evaluations)
11. Unexpected results, both positive and negative.
12. Progress to Impact

Further, the evaluation should utilize the GCF Investment Criteria (Impact Potential; Paradigm Shift Potential; Sustainable Development Potential; Needs of the Recipient; Country Ownership; and Efficiency and Effectiveness) as complementary evaluation criteria. In the Funding Proposal package, an economic analysis is included in which a stream of benefits expected to be generated from the project is presented. Collect verifiable, quantifiable benefits from the project and compare with the ex-ante economic analysis.

The final evaluation process will begin at least three months before operational closure of the project on 1st August 2025, allowing the evaluation mission to proceed while the project team is still in place, yet ensuring the project is close enough to completion for the evaluation team to reach conclusions on key aspects such as project sustainability. The consultants to be hired to undertake the assignment will be independent of the organizations that were involved in designing, executing or advising on the project.

The FE report will be consulted with the Project Board and approved by both UNDP Bhutan Country Office and the UNDP Climate and Vertical Fund Hubs. The FE report will be published in English on the UNDP Evaluation Resource Center (ERC).

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FE APPROACH & METHODOLOGY

The FE will be aligned with the principles established in GCF's Evaluation Policy and GCF guidance on conflicts of interest in evaluation, UNDP Evaluation Guidelines, and UNEG Code of Conduct for Evaluations, that include but are not limited to impartiality, objectivity, independence, relevance, utility, credibility, measurability, transparency, ethics, and partnerships. The FE team must substantiate findings, results, conclusions and observations with qualitative and quantitative data and evidence. The FE team is expected to follow an inclusive, participatory and consultative approach ensuring close engagement with the Project Team, Implementing Partners, NDA focal point, government counterparts, the UNDP Country Office, the Regional Technical Advisor in BRH, direct beneficiaries and other principal stakeholders.

During the FE process, the FE team is expected to apply the following approaches for data collection, analysis and triangulation of evidence for validation:

- **Desk review** of relevant documents including, but not limited to: Approved Funding Proposal (submitted to the GCF), UNDP Project Document (incl. UNDP Social and Environmental Screening Procedure/SESP), baseline studies, FAA, all Annual Performance Reports (APRs), safeguards documents (e.g., ESMP), quarterly progress reports, Independent Interim Evaluation, project budget revisions, co-financing figures, records of surveys conducted, national strategic and legal documents, stakeholder maps, Note-to-Files submitted to the GCF Secretariat and any other material that would be useful for this evidence-based assessment.
- **Survey/Questionnaires**, focus groups and/or key informative interviews with relevant stakeholders, beneficiaries, executing entities (EE's), possibly national and or local Governments, and where relevant other development partners. Stakeholder involvement should include interviews with stakeholders who have project responsibilities, including but not limited to: Department of Agriculture under Ministry of Agriculture and Livestock (MoAL), Department of Surface Transport under Ministry of Infrastructure and Transport (MoIT), Department of Macro-Fiscal and Development Finance under Ministry of Finance and National Center for Hydrology and Meteorology, executing entities, senior officials and task team/component leaders, key experts and consultants in the subject area, Project Board, project beneficiaries of 8 project districts, academia, local government of the 8 project districts. Additionally, the FE team is expected to conduct field missions to 3 out of the 8 project districts: Punakha, Dagana, Tsirang, Sarpang, Samtse, Zhemgang, Wangduephodrang and Trongsa.
- **Data collection as needed** (government data/records, field observation visits, CDM verifications, public expenditure reporting, GIS data, etc.) to validate evidence of results and assessments (including but not limited to assessment of Theory of Change (ToC), activities delivery, and results/changes occurred)

The specific design and methodology for the FE should emerge from consultations between the FE team and the above-mentioned parties regarding what is appropriate and feasible for meeting the FE purpose and objectives and answering the evaluation questions, given limited budget, time and data. The FE team must use gender-responsive methodologies and tools and ensure that gender equality and women's empowerment, as well as other cross-cutting issues and SDGs are incorporated into the FE report. The final methodological approach including interview schedule, field visits and data to be used in the evaluation must be clearly outlined in the FE Inception Report and fully discussed and agreed between UNDP, stakeholders and the FE team. The final report must describe the full FE approach taken and its rationale, making explicit the underlying assumptions, challenges, strengths and weaknesses of the methods and approach of the evaluation.
UNDP would welcome any innovative methodology to compliment the standard approach mentioned above.

DETAILED SCOPE OF THE WORK

The FE will assess project performance against expectations set out in the project's Logical Framework/Results Framework (see ToR Annex A). The FE will assess results according to the criteria outlined in this TOR and backed up by qualitative and quantitative date and information. A full outline of the FE report's content is provided in ToR Annex C. ToR Annex D provides topics to be covered in the FE report's Findings section, including proposed questions for the FE team to address. The FE report will include an Evaluation Ratings Table, as shown below:

ToR Table 2: Evaluation Ratings Table for the GCF project

Monitoring & Evaluation (M&E)	Rating[184]
M&E design at entry	
M&E Plan Implementation	
Overall Quality of M&E	
Implementation & Execution	**Rating**
Quality of UNDP Implementation/Oversight	
Quality of Implementing Partner Execution	

[184] Outcomes, Effectiveness, Efficiency, M&E, Implementation/Oversight & Execution, Relevance are rated on a 6-point scale: 6=Highly Satisfactory (HS), 5=Satisfactory (S), 4=Moderately Satisfactory (MS), 3=Moderately Unsatisfactory (MU), 2=Unsatisfactory (U), 1=Highly Unsatisfactory (HU). Sustainability is rated on a 4-point scale: 4=Likely (L), 3=Moderately Likely (ML), 2=Moderately Unlikely (MU), 1=Unlikely (U)

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Overall quality of Implementation/Execution	
Assessment of Outcomes	Rating
Relevance	
Effectiveness	
Efficiency	
Overall Project Outcome Rating	
Sustainability	Rating
Financial resources	
Socio-political/economic	
Institutional framework and governance	
Environmental	
Overall Likelihood of Sustainability	

TIMEFRAME

The total duration of the FE team will be approximately 30 working days for the international Team Leader (TL) spread 9 months (Aug 2025 – April 2026) from when the consultant(s) are hired. The FE timeframe is as follows:

Activity	Estimated no. of days/completion date	Mode	Responsible
Phase one: Kick off and Inception Report			
Main Activity - Kick off meeting with UNDP Evaluation Manager and CO team Sub Activity; Signing of Evaluation Code of Ethics & Sharing of relevant documents with Evaluator via email	Contract signing – 1st August 2025	Virtual / DocuSign	Evaluation Manager
Meeting with the project management unit team (PMU)	4th August 2025	Virtual	Evaluation Manager and the Project Team
Desk review and preparation of Evaluation design, methodology and workplan (Submission of inception report)	Within two weeks of contract signing –Due on 15th August 2025	Remote	Evaluator team
Finalizing design, methods & inception report and sharing with evaluation manager (In between exchanges between the team to review the report)	Within 2 weeks of comments/feedback – Due on 28th August 2025	Remote	Evaluator team and project team CO, PMU and RTA (BRH)
Phase Two: Field mission			
Meeting with UNDP Management Team	On the day of arrival to Thimphu for kick off of the field mission – 1st September 2025	In person	Evaluation Manager and Evaluation Commissioner
Field mission for consultations, interviews and sites visit	2nd September – 11th September (10 days)	In person	Evaluation Manager and Project team
Debriefing to UNDP and stakeholders	12th September 2025	In person	UNDP to organize with PMU
Phase Three: Drafting and finalization of Report			
Preparation and submission of Draft FE report #1	Due on 10th October 2025	Remote	Evaluator
Presentation of the Draft FE report #1 to UNDP and stakeholders	11th October 2025	Remote	Evaluator and Evaluation Manager
Incorporation of comments on Draft FE report #1;	12th Oct – 31st Oct (review period from UNDP and	Remote	Evaluator and Evaluation Manager
Consolidated UNDP and stakeholder comments to the draft report 1	stakeholders on the Draft FE 1)		
Preparation and submission of Draft FE report #2 (Draft #2 will be prepared based on the inputs of the draft Project Completion Report completed on 31st Oct 2025	Due on 30th Nov 2025	Remote	Evaluator

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(Draft #2 will be shared with the GCF Secretariat after for a 4-week review period; comments from other stakeholders will be collected in parallel)	Comments expected from GCF by 31st March 2026	Remote	Evaluator
Incorporation of comments from Draft FE Report #2 and Finalization of FE report + completed audit trail from feedback on draft report (Submission of the final report, Audit trail power point presentation to UNDP)	14th April 2026	Remote	Evaluator
Estimated total days for the evaluation	**30 days**		

Options for site visits should be provided in the FE Inception Report.

Expected travel: For the Team Leader, some travel is foreseen with 1 mission to Bhutan then to selected project districts. **The return ticket for travel to Bhutan should be included in the Team Leader's financial proposal.** For the Team Member, travel to selected project district is expected. In-country travels will be covered separately by UNDP based on UNDP cost norms for national consultant and UN DSA for international consultant.

FE DELIVERABLES

#	Deliverable	Description	Timing & Due Date	Payment Schedule
1	**Final Evaluation (FE) Inception Report**	Proposed evaluation methodology, work plan and structure of the Final Evaluation report, and options for site visits	Due on *15th August 2025*	20% of the payment
2	**Draft FE report #1**	Full draft report (using guidelines on content outlined in Annex C) with annexes	Due on 10th Oct 2025	20% of the payment
4	**Draft FE report #2**	Full draft report (using guidelines on content outlined in Annex C) with annexes and all comments addressed	Due on 30th Nov 2025	20% of the payment
5	**Final version of Final Evaluation Report* + Audit Trail + Scorecard**	Revised report with audit trail detailing how all received comments have (and have not) been addressed in the final report	Due on 14th April 2026	40% of the payment

All final evaluation reports will be quality assessed by the UNDP Independent Evaluation Office (IEO). Details of the IEO's quality assessment of decentralized evaluations can be found in Section 6 of the UNDP Evaluation Guidelines.[1852]

FE ARRANGEMENTS

The evaluator(s) will report to the Head of Strategic Planning and partnership of UNDP Bhutan, who is also the evaluation lead of the country office. The Bhutan Country Office will contract the evaluators and ensure the timely provision of per diems and travel arrangements within the country for the FE team. The Project Team will be responsible for liaising with the FE team to provide all key project documentation, set up stakeholder interviews, and arrange field visits, and assist with developing a detailed programme to facilitate consultations, as necessary.

FE TEAM COMPOSITION

A team of two independent consultants will conduct the evaluation - one International Consultant/Team Leader (with top level evaluation experience globally) and one National Consultant/Team Member. The consultants should not have participated in the project preparation, formulation and/or implementation (including the writing of the project document), must not have conducted this project's Interim Evaluation and should not have a conflict of interest with the project's related activities.

Responsibility of Team leader (TL): TL is responsible for the progress and quality of all products produced through the assignment.

- (S)he leads the development of a joint work-plan for the evaluation.
- Further, the TL develops the tools and methodology for the assignment.
- The FE Team conducts solitary and team interviews and dialogues as deemed necessary. However, desk reviews are likely to be the main source of information and will always be required to provide validation, precision, clarity, and context for information captured verbally.
- The TL will report and present with inputs from the TM.

[185]Access at: http://web.undp.org/evaluation/guideline/section-6.shtml

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More details on the work division should be developed by the selected consultants through their work-plan.
Both consultants must not be working as staff of the Government and UNDP.

CRITERIA FOR THE SELECTION OF THE BEST OFFER

The selection of the best offer shall be based on the combined scoring method – where the qualifications and methodology shall be weighted a maximum of 70% and combined with the price offer which shall be weighted a maximum of 30%.

Evaluation criteria:

Technical evaluation criteria	**Points**
Section 1: Qualification of consultant	
A master's degree in environmental sciences, development studies, international development, or another closely related field **(Maximum Points 10)** Points allocation: - At least a master's degree with more than seven years' experience in climate change adaptation and/or relevant technical areas – 10 points - At least a master's degree with seven years' experience or less in climate change adaptation and/or relevant technical areas – 5 points	10
Section 2: Technical Competency of consultant	
Experience with result-based management evaluation/methodologies; (Evidence to share 1-2 report samples of evaluation carried out in the last three years) **(Maximum Points 10)** Points allocation: - At least one recent report (of last three years) is provided which showcase experience with result-based management evaluations – 10 points - At least one report (of more than three years) is provided which showcase experience with result-based management evaluations – 5 points	10
Experience of engagement in UNDP's projects and/or programme evaluations, (and/or) experience working with the GCF, or GCF/GEF evaluations (and/or) Project evaluation/review experiences within United Nations system. Familiarity with UNDP evaluation guidelines and standards. **(Maximum Points 10)** Points allocation: - Experience of engagement in UNDP's projects and/or programme evaluations, (and/or) experience working with the GCF, or GCF/GEF evaluations (and/or) Project evaluation/review experiences within United Nations system. – 10 points - Demonstrates Familiarity with UNDP evaluation guidelines and standards – 5 points	10
Demonstrated understanding of issues related to gender and climate change adaptation and Experience in gender sensitive evaluation and analysis **(Maximum Points 10)**	10
Technical evaluation criteria	**Points**
Points allocation - Demonstrated understanding of issues related to gender and climate change adaptation and - Experience in gender sensitive evaluation and analysis. – 10 points	
Section 3: Quality of Technical proposal	
Detail elaboration and understanding of requirements. **(Maximum Points 15) Points allocation:** - The proposal and methodology fully address all tasks specified under section 3-5 of ToR = 15 points - The proposal and methodology partially address all tasks specified under section 3-5 of ToR =points.	15
Appropriateness and feasibility of the proposed time frame. **(Maximum Points 15)** **Points allocation:** - The proposed timeline is as per the tasks specified under section 6 of the ToR and supported by clear evidence to demonstrate feasibility = 15 points - The proposed timeline is partially deviating from the tasks as specified under section 6 of the ToR and demonstrated minor weaknesses = 7.5 points	15
Sub Total - Technical	**70**
Sub-Total Financial	**30**
Total (Technical + Financial)	**100**

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EVALUATOR ETHICS

The FE team will be held to the highest ethical standards and is required to sign a code of conduct upon acceptance of the assignment. This evaluation will be conducted in accordance with the principles outlined in the UNEG Ethical Guidelines for Evaluation. The FE team must safeguard the rights and confidentiality of information providers, interviewees and stakeholders through measures to ensure compliance with legal and other relevant codes governing collection of data and reporting on data. The FE team must also ensure security of collected information before and after the evaluation and protocols to ensure anonymity and confidentiality of sources of information where that is expected. The information, knowledge and data gathered in the evaluation process must also be solely used for the evaluation and not for other uses without the express authorization of UNDP and partners.

PAYMENT SCHEDULE

UNDP shall affect payments to the consultant upon completion and acceptance by UNDP of the deliverables specified the TOR. Each payment are based upon outputs, i.e. upon delivery of the deliverable specified in the TOR.

- 20% payment upon satisfactory delivery of the final FE Inception Report and approval by the Commissioning Unit
- 20% payment each upon satisfactory delivery of Drafts #1 and #2 of the FE report to the Commissioning Unit respectively
- 40% payment upon satisfactory delivery of the final FE report and approval by the Commissioning Unit and RTA (via signatures on the FE report Clearance Form) and delivery of completed FE Audit Trail

Criteria for issuing the final payment of 40%:

- The final FE report includes all requirements outlined in the FE TOR and is in accordance with the FE guidance.
- The final FE report is clearly written, logically organized, and is specific for this project (i.e. text has not been cut & pasted from other FE reports).
- The Audit Trail includes responses to and justification for each comment listed.
- Final FE report is quality reviewed and accepted by UNDP Bhutan and the BRH Regional Technical Adviser

RECOMMENDED PRESENTATION OF PROPOSAL

The consultant shall indicate the cost of services for each delivery when applying for this assignment. In accordance with UNDP rules, the lump sum contract amount to be offered should consider the professional fee inclusive of travel and other ancillary costs. The technical proposal document must be submitted along with the following documents:

- CVs of the consultant.
- Technical proposal with detailed conceptual framework along with timelines for ensuring the completion of work as per the required timeframe.
- Financial proposal inclusive of lump sum amount with cost breakdown.

Note:

Female consultants are encouraged to bid for this required service. Preference will be given to equally technically qualified female consultants.

Criteria for Evaluation of Proposal: Only those applications which are responsive and compliant will be evaluated. Offers will be evaluated according to the Combined Scoring method – where the educational background and experience on similar assignments will be weighted at 70% and the price proposal will weigh as 30% of the total scoring. The applicant receiving the Highest Combined Score that has also accepted UNDP's General Terms and Conditions will be awarded the contract.

TOR ANNEXES

- ToR Annex A: Project Logical/Results Framework
- ToR Annex B: Project Information Package to be reviewed by FE team
- ToR Annex C: Content of the FE report
- ToR Annex D: Proposed questions for addressing criteria in the FE report's Findings section
- ToR Annex E: Evaluation Criteria Matrix template
- ToR Annex F: UNEG Code of Conduct for Evaluators
- ToR Annex G: FE Rating Scales
- ToR Annex H: FE Report Clearance Form
- ToR Annex I: FE Audit Trail

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C. Sampling

Table 9: Sampling of project sites covered under the FE

	Justification	FE Site(s)
Punakha	Punakha is one of the largest rice producing districts in Bhutan has benefited significantly by the project intervention of climate resilient agricultural practices and 4 significant irrigation schemes which has irrigated over 872 Ha of agricultural land. Dagana District has implemented the 3 irrigation schemes and many impactful SLM activities such as Namleythang, illustrating a project area that spans subtropical and temperate zones and hosts the most widespread soil and landscape management (SLM) interventions	FE sites: Jimithang Irrigation (Dzomi Gewog); Seed Group (NS Bajo); Solor Pump lift Irrigation at Jara Village in Toewang gewog, Drukpa Kuenley Sonam Detsen - Seed Group at Barp Gewog (NSC Bajo); Agriculture Practice (Talo)/ Land development site at Napchey village in Limungkha Gewog,
Wangduephodrang	In Wangdue Phodrang, the project has supported the maximum irrigation schemes (8 out of 36) and has the longest irrigation scheme (phagyul) implemented in project area spanning over 38 km in length using climate resilient irrigation pipeline. The project aims to address a long-standing water crisis in Phangyul and Khazi and to improve the livelihoods of smallholder farmers. Wangdue Dzongkhag constitutes the highest recipient of project resources. It represents northern most project area and has the longest irrigation scheme under the project	Phangyuel irrigation scheme; SLM Site at Gangtey & Phobji: ARDC, Bajo CNR, water user Group of Rinchengang Irrigation Scheme
Dagana	In Dagan Dzongkhag project implemented the only main road stabilization works. Wangdue represents project area that has both sub- tropical and temperate area. Wangdue Dzongkhag has the most SLM interventions (Dryland terracing of whole village of 55 HHs and 107 acres of land) through the project.	Khagohen road improvement/stabilization area Narikachhu irrigation scheme, Khebisa-Drujeygang GC Road Land stabilization area at Drujeygang gewog.
Trongsa	In Trongsa, project supported three irrigation schemes and other climate resilient schemes and mitigation of road section (e.g., Reotala road) section to help enhance resilience of small holder farmers.	Virtual meetings with district administration officials Samcholing Green Tea Group at Drakteng, WUG, RUG.
Samt	In Samtse Project supported Biru Irrigation Scheme under Tashicholing Gewog, and Lamitar irrigation under Yoeseltse Gewog	Remote interview with the Agricultural officer of the district administration
Zhem	In Zhemgang, the project supported Khomshar irrigation under Khomshar Gewog, takabi irrigation scheme under Phanngkhar Gewog, and SLM at Khomshar Village.	Remote interview with the Agricultural officer of the district administration
Sarpang	Represents southernmost project area with the longest GC road for climate proofing implemented under the project. Sarpang Dzongkhag has been most severely affected by COVID-19 restrictions	Virtual meeting with the District Agriculture Officer.
Tsrian	Dzongkhag with one of most favorable conditions for agriculture under the project, physically connects with the southernmost and northern most project districts	Virtual meeting with the District Agriculture Officer.

Table 10: Summary of KIIs and FGDs – planned and actual

Stakeholders	Planned Coverage and mode		Actual
	Methods	Number and mode	
1. National stakeholders			
National Center for Hydrology and Meteorology (NCHM),	KII	1 (in person)	6
• Irrigation unit of the Department of Agriculture, MOAL • DAMC (MOAL) • Department of Forests and Park (DoFPS) of the MOAL • National Soil Service Center of the MOAL • Agriculture Research and Development Center (ARDCs) of MOAL	KII	5 (in person)	5
• Department of Macro-Fiscal and Development Finance, MoF	KII	1	2
• Ministry of Infrastructure and Transport	KII	1 (in person)	4
• Department of Livestock	KII	1 (in person)	Not interviewed
• Dzongkhags & Gewog Extension services	KIIs	8 (2 in each district)	10
• Project Dzongkhags & Local Government Administrations	KIIs	4 (in person)	3 in person 5 online
• Research and Development Services in Wangdue		1 (in person)	1
• Farmers groups	KII	4	3
• WUGs/ RUGs	KII	4 + (in person)	4
Farmers -beneficiaries, Women and youth farmers	FGD	8 FGDs, 40 farmers	8 FGDs, 90 beneficiaries

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Stakeholders	Planned Coverage and mode		Actual
	Methods	Number and mode	
Private sector	KIIs	2 (in person/remote)	2
Women's' Organizations	KIIs	4	1
CSOs/NGOs Bhutan Ecological Society, BCCI	KII	2	2
Bhutan Chamber of Commerce and Industry			1
Academia (College of Natural Resources- CNR) Wangdue	KII	1 (in person)	I remote
Other districts not to be visited	KIIs	4 Remote	5 remotes
2) UNDP/PMU			
RR		3 (in person)	4
Portfolio lead and technical Adviser		2 (in person)	2
PMU		2 (in person)	2
Project technical experts		3 (in person)	2
UNDP projects		3 (in person)	7
UNDP Communications and Finance staff		2 (in person)	1
UNDP Regional Technical Advisor based in the Bangkok Office		1 (remote)	1 in person
3) Development partners			
WB		1 (in person)	1 remote
TOTAL		**120+**	**225**

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D. Extent of achievement of Output, Outcome and Impact targets

Table 11 Extent of achievement of Output and Outcome targets

Output indicators	RF EOP target	EOP result	code
Output 1: Promote resilient agricultural practices in the face of changing climate patterns			
1.1. % of beneficiaries in targeted dzongkhag accessing improved climate services	70 percent of project beneficiaries	• as per 2nd Impact report- 54.7% percent. • Based in IA 2025, increase by 38 percentage points over the period	Whichever result is correct it is below the target
1.2. Increased institutional capacity for climate-informed agriculture planning	Average increase of scores by 60 percent from baseline	• As per PCR, 548 NCHM staff (32 percent women were trained against the plans of 90 (40 percent women.. 1015 staff from NCHM, and 150 MoAL staff were trained on application of climate impacts and related loss information in agriculture planning, namely to (a) combine local, regional/global information, disaster database and data from climate monitoring stations, (b) model/forecast climate, flood, drought, and water resource information (on daily, seasonal, medium to long term timescales). • No clear assessment by the IA2025	Likely- In the light of replication of the piloted crop calendars
1.3. Level[186] of knowledge and adoption by beneficiary households of climate resilient and sustainable crop production practices	Level = 4	• PCR: 5637 HHs reached through CSA practices • Latest SPR, Level 4 (IA2024) • IA 2025 points to clear improvements in awareness and exposure CSA but limited translation into sustained adoption,	FE Rating based on IA2025 findings- Level 3
Output 2: Integrate CC risks into water and land management practices that affect smallholders			
2.1 Change in knowledge, awareness and perception (KAP) on role of wetlands and sustainable water use	70 percent increase over baseline	• PCR: 81.2% (IA2024) • IA2025: % of HHs reporting awareness increased slightly by 1.5% between 2024 and 2025 with no info about between 2021-2025. • FE assessment: the average awareness level remained high at around 80%	Over 80 percent
2.2 Technical capacity of members of WUGs , Dzongkhag engineers and agriculture extension officers for climate adaptive water and soil management is enhanced	Average increase of scores by 60 percent from baseline	• PCR "0" (Not Available") Also mentioned: 1,388 Agricultural Extension officers (32 percent women) have been trained on innovative and CSA technologies. 23,521 farmers and field staff (46 percent women) has been trained on SLM practices". • No clear result present in the IA2025. • FE assessment: WUG capacity was enhanced (FE FGDs/KIIs), but more needed	Likely close to target (FE FGDs and KIIs) but certain gaps
2.3 Area of arable land under assured irrigation in targeted dzongkhags	8,000 ha[187] of farmland with reliable irrigation, schemes constructed to be resilient to the impacts of climate change	• 37 irrigation schemes (including one 20HP Solar water pump). 6366.15 ha of arable land under assured irrigation water. While this is below target, the target was set without exact measurement- it was an estimate	Achieved in the light of the overstated target
2.4 Number of district level Participatory SLM Action Plan for improved livelihoods	8 district level Participatory SLM Action Plans	• delivered	completed
2.5 Number of hectares made more stable through SLM practices, to the impacts of	2380 ha of farmland slopes made more stabilize through SLM measures	• 5,023.07 ha	Target surpassed

[186] Level of adoption is based on a scale where 1 = limited to no practice of climate-resilient sustainable crop production; Level 2 = households aware of practices and know how/where to get related technical support; Level 3 = households engaged with support activities and applying practices partially; Level 4 = households knowledgeable about climate-resilient practices and fully applying practices in their fields

[187] Includes 4 new irrigation schemes, 32 existing irrigation schemes made more resilient to climate change and drip/sprinkler irrigation

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Table 11 Extent of achievement of Output and Outcome targets			
Output indicators	RF EOP target	EOP result	code
rainfall variability and related landslides			
Output 3: Reduce the risk and impact of climate induced landslides during extreme events that disrupt market access.			
3.1 Number of kilometers of farm roads and gewog connectivity roads that have been climate-proofed through upgrading and slope stabilization and sections of main road stabilized	170.24 km of farm roads 232.22 km of GC roads 3 sections of main road	• Farm roads: 211Km completed • GC Roads: 214.6 km (actual length verified) . and all nine (09) roads were improved and blacktopped, 232 km was an initial estimate • 3 sections of main roads (a) The geo-technical studies for Reotala, Khagochen and Box-cut completed; (b) Khagochen and Reotala roadslide mitigation works completed. (c(DPR for box-cut completed. Mitigation of Box-cut completed.	accomplished
3.2. Level[188] of integration of climate related information in national disaster loss and damage database	Level = 4	• Level = 4 by the project, FE concurred. The integration of climate related information in national DL&D database ongoing at FE. The review and enhancement of road damage data collection methodology, and SOPs developed.	achieved
Outcomes (not featuring clearly in the final PCR)			
Outcome 1: Increased generation and use of climate information in decision-making			
Use of climate information, climate-informed analyses in decision-making in sectors impacted by climate change	a) 9 tailored products to inform climate-resilient agriculture planning (1 per dzongkhag, 1 national level)	• delivered	achieved
	b) Average increase of scores by 60 percent from baseline	• Latest SPR: 73.5 % percent of project beneficiaries that received advisories considered them in decision-making (IA2024) • IA2025: unclear • FE FGDs: mixed, but mostly positive • Many LG and extension officers attended the advocacy and sensitization sessions delivered by the NCHM on weather and climate services in 2020 and 2024 • The WB supported crop calendar was replicated country-wide at the time of writing this report,	FE assessment close given the replicated crop calendar
Outcome 2: Strengthened adaptive capacity and reduced exposure to climate risks			
Outcome 2 Strengthened adaptive capacity and reduced exposure to climate risks	30 percent increase in crop yield for 70 percent of beneficiaries.	• Latest SPR based on IA2024 cited Yield for paddy cultivation increased by: 36.1% for irrigated cultivation (763.6 MT/ac in baseline to 1,039.35 MT/ac); 19.5 % for rain-fed (525.3 MT/ac in baseline to 628 MT/ac, 79.5 % for mixed-type (767 MT/ac to 1,376.9 MT in second follow-up), and 182.2% for up-land cultivation (358.8 MT/ac to 1,012.9 MT/act in second follow-up).**Note:** the results above do not correspond to the EOP target format, • IA2025- no information for all crops. For rice yields, increased substantially. The average yield (calculated by including production from irrigated, rainfed, mixed and upland areas) rose by 28 percent, and the yield on irrigated plots improved by a similar magnitude. These results for rice are potentially below the target but unclear due to not being aligned to the target • FE FGDs; most farmers reflected in higher yields	FE assessment: - likely/with potential in the near team as high for rice already especially with full irrigation and given the continued expansion of irrigated land)
Average			

[188] Level of integration is based on a scale where 1 = limited to no integration; Level 2 = Impact assessment-based monitoring and documentation is collected and RUGs estimate road damages for farm roads and input into the disaster database; Level 3 = Climate relevant evidence is used to make the economic case for climate resilient road planning; Level 4 = Increased investment in climate resilient road planning options

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Table 12: Extent of achievement of impact targets				
Fund-level impacts	**Indicator**	**EoP Target**	**Actual**	**Code**
A1.0 Increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions	1.2 Number of males and females benefiting from the adoption of diversified, climate- resilient livelihood options (including fisheries, agriculture, tourism, etc. [189]	(a) Irrigation Total: 14,340 Male: 7,050 Female: 7,350 [FP 3344 HHs/ 14,400 people (Male: 7050, Female 7349)	Irrigation: Total: 31,594 Male: 16,030; Female: 15,564	surpassed
		(b) SLM Total: 103,346 Male: 50,601, Female: 52,745 [FP 24,000 HHs	SLM: 5,022.92 Ha, Total: 103,472 Male-51,571, Female-51,901	Slightly less for women
		(c) CSA Total: 64,591 Male: 31,626, Female 32,965 [FP- 15,000 HHs	CSA: Total: 83,159 Male: 39,150 , Female: 44,009	surpassed
		[FPI] **(d Total: *(I) Direct:*** (a) 27,598 agriculture HHs (118,839 people) in project districts, i.e. 46.5 % of the rural population in Bhutan ***(ii) Indirect:*** 58 % of livelihoods benefit from climate informed agriculture sector planning	Direct: 257,750 (50 % women) (PCR) Indirect (reported in the *narrative text):* 58 % Bhutan's livelihoods, with no calculation, plus 82,210 (42 % women) mainly from the use of roads.	Direct: surpassed Indirect: less than planned as somewhat slow pace of adoption (IA2025)
A2.0 Increased resilience of health and wellbeing, and food and water security	2.3 Number of males and females with year-round access to reliable and safe water supply despite climate shocks and stresses[51]	Total: 14,340 Male: 7,050 Female: 7,350	No reporting on this indicator in the final PCR. Latest SPR: Total: 31,594 Male: 16,030 Female: 15,564	surpassed
A3.0 Increased resilience of infrastructure and the built environment to climate change	3.1 Number and resilience of infrastructure and the built environment to climate change	Climate resilience enhanced for: • 170.24 km of farm roads (USD 5.618 million) • 232.22 km of GC roads (USD 11.966 million) • 3 sections of main road (US 2.019 million) • 32 irrigation schemes (USD 8.192 million)	• 425.6 km of rural roads 211km Farm roads and 214.6 km pf GC Roads: 214.6 km completed (the plan was an estimate only) • 3.Three Sections of main roads. The geo-technical studies for Reotala, Khagochen and Box-cut and mitigation for Khagochen and Box-Cut completed; Reotala roadslide self-stabilized • 37 irrigation schemes including 4 new and 1 solar pump irrigation completed.	accomplished
Average				
Source: PCR and SPR				

[189] Distribution between men and women based on the 2015 Agriculture Statistics for the 8 project dzongkhags

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E. Case Studies

Box 4 Women at the Helm: How GCF Catalysed a Green Tea Cooperative's Leap in Trongsa, Bhutan

The Green Tea Initiatives in Trongsa, 100 percent women-led, launched in 2012, as a RGoB-supported program in Samchholing had a vision to expand cultivation, diversify products, and develop tourism-linked infrastructure to drive local economic growth. It began with 22 members and, with catalytic support from several development partners and GCF, expanded to 34 members. With a 7.99-hectare agroforestry plantation and technical expertise in tea sampling, advanced packaging, and micro-machinery, the cooperative achieved a dramatic surge in production capacity, leading to the establishment of the second cooperative group (2023), with expanded product line and sales in the country and abroad (including US, Canada, Australia, France). It evolved into a powerful, women-led cooperative movement, redefining livelihoods, igniting entrepreneurship, and setting new standards for rural empowerment and community resilience, displaying profitability, sustainability, and transformative impact. The robust demand outpaces supply, confirming the group's potential. GCF's support has been pivotal to this transformation

Transformation changes and Empowerment. Many members, once housewives, became enterprising producers who generate substantial income for their families. The groups went from making Nu. 3.2 million (USD: 38000 million) net profit to making Nu. 5 million (USD 59000) million net profits annually, which translated to average annual earnings around USD 1,800 per member annually. The cooperative's facility has emerged as a tourist attraction, anchoring a broader value chain across Trongsa. Its products range from premium green teas priced at Nu. 3,380 per kilogram (about USD 40) to affordable packages at Nu. 200 (about USD 2.50). Revenue is shared equitably—70 percent directed to members and 30 percent reinvested to reinforce governance, training, and procurement—securing the cooperative's long-term sustainability, reinforced by continuous capacity-building. Looking ahead, the leadership remains steadfast in expanding production and elevating quality to meet surging demand, but aware that continued investment is essential to sustain market leadership Their needs are in: (a) infrastructure for scaled up production (b) training particularly at the regional level, to stay competitive, and in particular, in quality issues to ensure consistency and premium product standards across all offerings.



Overall, the Green Tea Initiatives in Trongsa exemplify how visionary support can empower women, elevate rural livelihoods, and transform local agriculture into a dynamic, globally competitive enterprise. The cooperative's trajectory demonstrates profitability, sustainability, and a clear pathway to regional leadership in green tea production and value-added tourism. At the heart of this success is the catalytic and indispensable contribution of the GCF, fundamental to the cooperative's remarkable growth, resilience, and enduring impact.

Source: KII with the member of the Green Tea Cooperatives and project's reports

Box 5 Transformative Impact of the Phangyul-Kazhi Irrigation Scheme in Wangdue Phodrang Dzongkhag

Overview: The Phangyul-Kazhi Irrigation Scheme was the largest of 36 GCF-funded irrigation initiatives in Bhutan. Designed to serve the Phangyul and Kazhi gewogs in Wangdue Phodrang Dzongkhag, the 38-kilometer scheme addressed historical water-sharing conflicts exacerbated by climate change and increased demand. Phangyul's inclusion in the project was catalysed by a direct appeal from 82-year-old Angay Gyem during a GCF mission in 2019, after which the government and PMU swiftly mobilized to deliver the scheme, transforming a context of conflict into one of resilience and collaboration.

Irrigation Scheme Design and Scope: The irrigation scheme spans 27 km in Phangyul and 11 km in Kazhi, and was implemented through Bhutan's first Design, Build, Operate and Transfer (DBOT) arrangement, ensuring quality, accountability, and sustainability. Implemented over four years (September 2022–August 2024) and inaugurated in June 2024, with an investment of Nu. 550.99 million (USD 6 Million), it benefited 254 HHs (2,458 people) across 24 villages in Kazhi and 9 in Phangyul, supporting crops such as paddy, potatoes, chili, maize, and wheat.

Transformative Impact and Immediate Benefits Reviving Paddy Cultivation and productivity: Paddy stands as the nation's most widely cultivated cereal crop. For the first time in over 30 years, Phangyul farmers cultivated previously fallow paddy fields using the new irrigation system. Before the farmers had to struggle to cultivate even one fourth of their land, having to rely on the discharged water from the other villages which was not reliable and not sufficient.

Economic Impact after the first year of irrigation: (a) Household engagement in paddy cultivation increased: Of Phangyul's 254 HHs and 659 acres of wetland (as of 2024), 132 HHs (52 percent) engaged in paddy cultivation prior to the scheme, and 162 HHs after (11 percent increase) (b) Fallow land utilization and enhance productivity**:** The scheme revitalized fallow land, transforming it into productive paddy fields that significantly elevated both total production and yield per hectare. Fallow land was reduced from 498.18 acres to 287.5 acres (by 42 percent). (c) Production and efficiency gains: Phangyul's paddy production soared from 312.8 MT to 652.7 MT in just one year, marking a 118 percent increase. Land productivity climbed from 1.9 MT/acre to 2.69 MT/acre (a 42 percent improvement that far exceeds the national average of 1.80 MT/acre); and (d) Contribution at national level: The scheme's success extended beyond local boundaries. In 2024, the Phangyul irrigation project accounted for at least a 1 percent increase in the nation's total irrigated paddy stock and an 8 percent rise at the Dzongkhag level, from efforts on just 39 percent of the total cultivated land. This achievement underscores the project's strategic importance for both regional resilience and national food security.

Socio-Economic Uplift: Expanded cultivation enabled income diversification and production surpluses for local markets. During FE, community shared that their annual HH incomes at around USD 2,500–3,500, marking a shift from subsistence to income generation. Reliable water supply supported large-scale vegetable production (chili, cabbage, broccoli, beans). Communities are adopting climate-resilient technologies—greenhouses, drip irrigation, hydroponics, and sprinklers—to further enhance productivity

Co-benefits: (a) Improved Water Security: The project- supported 55 water-harvesting ponds in Punakha (to store water for summer irrigation and enable expanded winter cropping), following visible benefits, were replicated by the gewog administrations, that added 30

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more ponds. (b) Livestock Resilience: Prior water and forage scarcity led to significant livestock losses; following irrigation and water-harvesting interventions, there were no reported livestock deaths attributable to water or forage shortages. (c) Rural Revitalization: The project spurred population return to previously depopulated villages, driven by improved water availability and stability. At least 11 families have returned to the village at the FE. (d) Social Cohesion: The project also contributed to stronger sense of community ownership. Reliable paddy production and food security fostered social harmony. The formation of farmers' cooperatives and WUGs promoted collective action and strengthened the sense of ownership of public goods.

Institutional and National Significance. (a) Landmark Partnership: The Phangyul-Kazhi project exemplifies successful collaboration between Bhutan, UNDP, and the GCF, demonstrating the potential of climate-resilient irrigation to transform rural livelihoods at scale. (b) Model for Scalable Impact: By delivering reliable water, expanding production, and fostering local ownership, the scheme provides a replicable model for climate-resilient agricultural transformation in similar regions. (c) Enduring Recognition: UNDP and GCF leadership have recognized the project as a symbol of international partnership, with the potential to extend benefits to broader markets and communities.

Notable Outcomes and Forward-Looking Implications. (a) Water Security and Climate Resilience: The DBOT model and WUGs offered a mode for accountable and scalable approach to districts facing water scarcity and climate risks. (b) Economic Diversification: A shift toward horticulture and diversified cropping strengthened food security and expanded income opportunities for smallholders. (c) Social Equity: The project's inclusive approach, engaging women, and men, strengthening local governance, and building community institutions, fostered social cohesion and community ownership. (d) Replicability. Reliable water access and increased agricultural productivity significantly strengthened both HH and community resilience. Consultations with farmers, local leaders, and agricultural officers indicated a strong and enduring optimism about the scheme's long-term management. There was a unified commitment to cultivating the remaining 287.53 acres of fallow land, with well-founded expectations of continued improvements in yields, livelihoods, and food security in the years to come

Revived Paddy field





I have endured water scarcity my entire life and prayed for a reliable solution. The GCF and the Government of Bhutan has now turned that long-standing dream into reality, gifting the lifeblood of water to this community and future generation". 88- years old Angay Gyem

Source: FE interviews, field visit and calculations, and Project produced impact story.

Box 6 Solar Lift irrigation at Jara village under Toewang Gewog

Overview: Punakha is recognized as one of Bhutan's prime rice-growing regions. Farmers from Jara, Jobakha, and Khawakha villages in Toewang Gewog hold significant wetland areas and primarily cultivate paddy, which served as their main source of income. For many years, these farming communities faced severe water scarcity, particularly during the critical paddy transplantation season, severely affecting timely rice cultivation and production levels. Within Khawajara itself, water distribution was rotational, supplying only two (2) farmers per day. On favorable days, a maximum of one acre could be transplanted, 1/3 acre during dry seasons. The irrigation rotation cycle in the village took up to 22 days, compared to the national average of 7 days. For farmers owning around three acres of land, it could take 43 (normal conditions) - 129 days (water scarce periods) to complete transplantation. This severely disrupted the recommended schedule,

The Scheme: The solar-cum-grid powered lift irrigation system was implemented. In total, it now benefitted at the FE approximately 50 acres of land cultivated by 17 permanent HHs and 38 thram holders (234 people) in Jara, Jobakha, and Khawakha villages. The project was implemented on a cost-sharing basis between the beneficiary farmers of Khawajara, Toewang Gewog, Punakha, and ARDC Bajo, with a total approved budget of Nu. 5.271 million. Although the initial GCF budget of Nu. 2.00 million covered the procurement of the pump, solar panels, and key accessories, an additional Nu. 3.291 million was later required to complete the construction of essential infrastructure, including the sump, control house, delivery chamber, fencing, grid connection, and the HDPE pipeline with necessary fittings

WUG: 17 HHs are members. The WUG chairperson, and vice chairperson are women. Service fee for scheme is around No. 600 per year, with those with more land pay more. The use fee level was perceived to be affordable, and the WUG have been collecting it. There is a bylaw that the project helped to put in place

Economic Benefits (1) reliable and timely water supply, improving irrigation efficiency and enabling farmers to meet optimal transplanting windows. (2) reduced labour by 20–50% (3) reduced number of days required for farmers to complete irrigation cycles (4) lower irrigation costs (5) increased crop yields, ranging from 8.3% to 87.5%. (6) higher household income (around Nu. 70,000- 80, 000); (7) crop diversification- commonly introduced crops included winter vegetables, maize, mustard, chilli, beans, tomatoes, onions, and leafy greens (sag); some farmers also began growing maize as fodder, making more efficient use of their land (8) commercial vegetable production, while it was subsistence farming before; now farmers sell paddy and vegetables, increasing their cash income. Several bought power tillers which now helps more with cultivation - almost everyone got. Those who have not got get help from others.

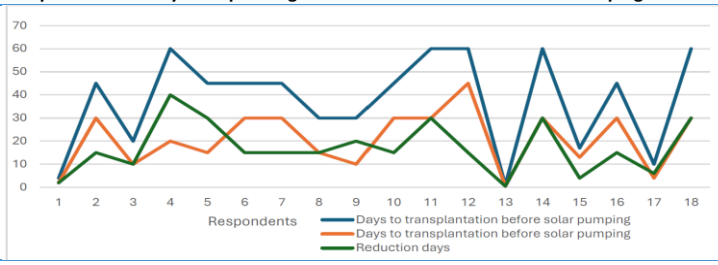
Social benefits: (1) They used their extra income first for kids' education. (2) There is a perception of a fair water distribution, with the enhanced water accessibility and equitable sharing among farmers; and (3) Reduction in water-related conflicts - a significant social benefit, given that in the past, there were frequent disputes over water distribution within the communities

Challenges and Constraints: (1) Farmers still need to rely on electricity during periods of insufficient solar energy, placing a financial burden on them; (2) The solar pump system requires regular maintenance to keep it functioning efficiently. A new pump was recently installed after the first one became non-functional and remained out of service for an entire paddy growing season. The replacement was made possible with support from the Punakha District Administration. If maintenance is neglected, it leads to operational problems and system

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downtime. (3). Labour is still required for pump positioning: two people were needed (compared to 7 before), but still manual intervention is necessary, indicating potential for further improvement.

Comparison of Paddy Transplanting Duration Before and After Solar Pumping



Solar Water Pumping at Khawajara village



Source: Projet produced "Impact Assessment of Solar-Powered Irrigation, Hydroponic Farming and Rice Husk Biochar Adoption in Selected Project Areas under ARDC- Bajo (2025) and FE Team interviews and FGDs

Box 7 From Isolation to Connectivity: The Khagochen Landslide Mitigation That Reconnected Dagana

Overview: On the highway to Dagana Dzongkhag, the hillside near Khagochen stood as a reminder of nature's power and unpredictability. Over the last 30 years, each monsoon, torrential rains used to unleash landslides that buried the only road connecting Dagana to the rest of the country, cutting off vital lifelines for weeks, with communities enduring costly disruptions and rerouted journeys to access to markets, healthcare and education facilities. The ***Khagochen landslide area*** spans approximately 15,541 m² (about 19.5 acres), with a max. length of 591 m and a max. width of 207 m. The potential mass that could slide onto the highway was estimated at the same 15,541 m², underscoring the scale of the risk. Annually, recurrent clean-up costs to the government averaged Nu. 3 to 4 million (USD 0.03m to 0.047 million), after each monsoon. Communities contributed significant labour, often dedicating a week or more each year. The GCF mitigation intervention marked a decisive end to this long-standing challenge. Leveraging innovative technologies, the GCF with technical assistance from RGoB, executed a comprehensive mitigation plan. By late October, 2025 during the FE team's field visit, the project had reached 95 percent completion, with final blacktopping underway. Consultations with local communities expressed that this intervention did more than rebuilding a road—it restored a profound sense of security and optimism about the future.

Key transformational changes brought by the intervention: (*1) Year-Round Connectivity and Security*: The intervention secured an uninterrupted access for Dagana residents, ensuring families, businesses, and service providers are no longer subject to the unpredictability and hardship of prolonged road closures. This reliable connection instilled a renewed sense of safety and confidence throughout the community. (2*) Significant Economic and Social Gains*: By stabilizing the road, the intervention dramatically reduced time loss, emergency expenditures, and transportation costs for HHs and the government. The intervention has a potential to advance equitable growth and resilience for a region that is home to at least 4 percent of the country's population, including a significant proportion of rural poor. (3) ***Enhanced Public Safety***: The intervention has eliminated the persistent dangers of landslides and accidents that once plagued the corridor. The road is safe for users, from daily commuters to freight operators, supporting secure mobility and peace of mind



Catalyst for Regional Growth and Resilience: The stabilized corridor now anchors Dagana's broader development ambitions, connecting the community to key economic hubs and tourism destinations. This reliable infrastructure underpins sustainable growth, strengthens regional resilience, and empowers residents to pursue new opportunities beyond their immediate locality

"The Khagochen mitigation is more than a road project—it is a lifeline, preserving the continuity of life in Dagana during the monsoon and beyond," shared a 75-year-old resident who has witnessed the devastation of these landslides for decades…" (quote).

Source: FGD with Community and KII with the project focal at the district, including the site Engineer, and project's reports.

Box 8: Box-Cut Road

Overview The Box-cut landslide area, situated approximately 15 km from Gelephu, has posed persistent challenges for road users since its initial trigger in the early 1990s. The Department of Surface Transport (formerly DoR) has incurred recurrent annual expenses to maintain corridor accessibility during the monsoon season, while also conducting detailed geotechnical investigations and designing countermeasures to address the landslide. Despite expert recommendations, stabilization measures were not implemented as planned, as the anticipated interventions were projected to exceed the project's duration and indicative costs. The detailed assessment of the landslide was further complicated by the COVID-19 pandemic, which delayed comprehensive studies of the Box-cut section. Additionally, the IE reported a 100 percent increase in market rates for construction materials, equipment, and labour since the project's inception, with Covid-19 further exacerbating cost escalations. As a result, stabilization under the original measures and budget became untenable. Preliminary findings indicated that effective mitigation would require a minimum five-year timeline and an estimated USD 32.66 million (Nu. 2,650.376 million), which far exceeds the available budget of USD 0.557 million, rendering timely delivery infeasible.

Given the strategic importance of this corridor for ensuring inter-district connectivity at the national level, and market access, the RGoB committed to develop an alternative route for the Box-cut area in the 13th Five-Year Plan. Geotechnical investigations were conducted in 2021. Subsequently, the DoR undertook a detailed technical study to evaluate the feasibility of an alternative route (DPR for the Box-cut). Three (3) potential alignments, with gradients up to 7 percent, were identified on the topographic map. The proposed bypass was selected as the most cost-effective solution due to the highly unstable conditions at Box-cut and other vulnerable segments along the highway corridor with a budget at Nu. 1,794.439 million (DPR). According to the Standard Project Report 2025, mitigation works at Box-cut were

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underway at the FE, expected to be completed by 11.2025. Upon completion, these efforts will ensure uninterrupted road access and greatly assist farmers in transporting their produce to market on schedule
Source: KII with the project focal and review of project documents including DPR

Box 9: Transformation - Nabchhed village

Background: Nabchhed village was one of the poorest villages among the five chiwogs in Lingmukha gewog under Punakha Dzongkhag- a community of re- settlers back from 1965. The altitude ranges from 1650-1800masl, on the sloppy areas, but favorable climatic conditions. People mainly depend upon agriculture farming- maize, paddy and vegetable, the only source of cash income. The farmers-maintained soil fertility by applying FYM, Leaf litters and Leaf mold. However, top soil washed away the crops every summer monsoon. **The scheme:** To reduce soil degradation; Increase production to attain self-sufficiency; to reduce dependency on import rice, Bench terracing with a total of 53.75acres was implemented for 33Hhs (4 women-headed HHs). Beneficiaries were trained on Soil Nutrient Management to make best of use of their land to make the climate resilience.

Benefits: Community elders described the intervention as transformative, with nearly 90 percent of this land is under active cultivation, with no fallow areas remaining. Notably, women and PwDs can now access fields with significantly less assistance, demonstrating how climate resilience measures have produced tangible, locally valued benefits. The project generated also significant co-benefits, such as improved livelihoods, enhanced biodiversity, and the protection of vital catchments and watersheds. **The challenges they still face** include: (a) HWC (losing up to 50percent of the harvest; need to guard) and (b) water, as they depend mainly on rainwater and one shallow open canal. They have asked the local and district government for help, but eventually were told that they should look out for a project for funding.

…. Before the project, we used to cultivate 30 rows of potato, now around 50 rows of potato on the same land…A local resident



2002



2025

Source: PMU Report on "Agriculture Land Development" at Nabchhed village under Lingmukha Gewog, Punakha and FE team KIIs/ FGDs

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F. FE Mission itinerary,

Tuesday, 2nd September 2025: Arrival at Paro International Airport and Travel to Thimphu

- 10:30 AM: Arrival at Paro International Airport and travel to Thimphu
- 12:30 PM: Check-in at hotel
- 3:00 PM – 4:00 PM: UNDP RR, Mohammad Younus
- 4:00 PM – 5:00 PM- Internal meeting with the national consultant

Wednesday, 3rd September 2025

- 10:00 AM – 12:00 PM: Discussions with the Project Management Unit Team (Sherub Gyeltshen, Project Manager) and Sonam Rinzin (Project technical Specialist)
- 12:00 PM – 1:30 PM: Lunch
- 1:30pm- 3:00 pm interviews with UNDP CO Energy and Livelihoods Unit lead (Mr. Lhap Dorji – Portfolio Manager for Environment and Livelihood Unit) and (Mr. Nawaraj Chetri, Program Analyst)
  Project Technical Specialist, Environment and Livelihoods Unit,
- 3:00 pm-5:00 pm, Meetings with
  - Ms. Tshering Palden, Finance Associate
  - Ms. Larisa, Operations Associate
  - Mr. Ram Mongar, Procurement officer
  - Ms. Tshewang Lhamo, Gender focal

Thursday, 4th September 2025: Meeting with government Stakeholders

- 9:15 – 11:15 AM: Department of Macro-Fiscal and Development Finance, Ministry of Finance (Mr. Namgay Dorji, Offtg. Director and Ms. Tshering Choden, Progam Coordinator)
- 11:30 – 1:00 PM: Department of Surface Transport, Ministry of Infrastructure and Transport (MoIT) (Mr. Tenzin, Director General, Mr. Tshewang Dorji Chief Engineer, Mr. Sangay Nidup, Engineer, and Ms. Yeshey Choden, Executive Engineer)
- 2:00 – 3:00 PM: National Center for Hydrology and Meteorology (Mr. Karma Dupchu, Director, Dr. Singay Dorji Chief of Meteorological Services, Mr. Karma Chief of Cryosphere services, Mr. Trashi Namgyal Chief of Hydrological and Water Resources, Mr. Ugyen Chophel, Offtg. Chief of Meteorological services, and Ms. Pema Syldon, Sr. Hydromet Officer, Meteorological services)
- 3:10 – 5:00 PM: Department of Agriculture, Ministry of Agriculture and Livestock (MoAL) – 5 reps present[190], 2 hours min (Mr. Jamyang, Chief Chemist (Soil and Plant Analysis Lab), Mr. Haka Drukpa (Soil Fertility Officer), Mr. Tshering Wangchen (Dy. Agriculture Officer) and Mr. Tshewang (Engineer, Irrigation Division)

Friday, 5th September 2025: Travel to Punakha and Stakeholder Consultations

- 8:00 AM – 10:00 AM: Travel from Thimphu to Punakha District
- 11:00 AM – 12:30 PM: Meeting with District officials (Dasho Ugyen Tshering (Dasho Dzongrab), Mr. Gaylong (Agriculture Officer), Mrs. Tshering Lhamo (Agriculture Extension), Ms. Sushmita Gurung (Agriculture Extension), Mr. Tshering Samdrup (Agriculture Extension officer), Mr. Parsuram Rai (Chief Engineer), Mr. Ngawang Tenzin (Engineer), Mr. Rinchen Wangdi (Engineer), Mrs. Tshoney Zangmo (Officiating Finance officer), Mr. Yeshi Dorji (Economic Development officerand Mr. Karma Dorji (Environment officer)). Meet agriculture Entrepreneur -Othbar Mountain Horticulture Promotion Project (promoter Mr. Kinzang Wangdi, :) at vegetable market at Khuruthang
- 12:30 PM – 1:30 PM: Lunch
- 1:30 PM – 4:30 PM: Visit to Project Site (Jimthang irrigation under Dzomi Gewog) at Punakha District and meet with local officials and beneficiaries, including women (beneficiary & Water User Group member: Mrs. Kinley Gyelmo, Mrs. Choki, Mrs. Pasa Lhamu, Mrs. Nima Om, Mrs. Karma Dema, Mrs. Sonam Om, Mrs. Tshering Gyem, Mrs. Namgay Om, Mr.Kencho, Mrs. Sangay Wnagdi (Chairperson – Water User Group), Mr. Kinley Tshering, Mr. Phub Tshering, Mr. Lhatu, Mr. Kinley, Mr. Namgay Tenzin, Mr. Namgay Tshering). Meeting at Dzomi Gewog Office (Mr. Dawa Tshering (Gup-Local Leader), Mr. Sangay Dorji (Gewog Administrative Officer) and Mrs. Namgay Zam (Agriculture Extension Supervisor).
- 5:00 PM: Return to hotel in Punakha

Saturday, 6th September 2025: Site Visit and Community Engagement in Punakha District

- 9:00 AM – 10:30 PM: Site visit at **Solar Lift irrigation at Jara village under Toewang Gewog** and discussions with local officials and community members, WUG/ Project beneficiaries including women, (Beneficiaries: Mrs. Kencho Wangmo (Chairperson of WUG), Mrs. Namgay Pem, Mrs. Sangay Lhaden, Mrs. Yoki, Mr. Draley, Mr. Kuenzang Norbu, Mrs. Dema (Secretary of WUG), Mr. Pemba, Mr. Tenzin Namgay (Tshogpa), Mr. Naley, Mrs. Holem, Mrs. Chimi Om, Mrs. Phub Dem and Mr. Sangay Tobgay).

[190] Irrigation unit of the Department of Agriculture, MOAL, DAMC (Department of Agricultural Marketing and Co-operatives)., Department of Forests and Park (DoFPS), Watershed Management Division, Agriculture Research and Development Center (ARDCs)

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- 10:30 PM – 1:00 PM: visit Napchey Land Development site under Limungkha Gewog) and discussions with local officials and community members, Project beneficiaries including women (beneficiaries: Mrs. Kinga Zam, Mr. Wangdi, Mr. Tashi Dorji, Mrs. Tshomo, Mrs. Tshewang Dema, Mrs. Uden, Mrs. Namgay Om, Mrs. Yeshi Lhamo, Mrs. Tashi Pelden, Mrs. Yangka Bidha, Mrs. Yangka Dem, Mrs. Tashi Lhaden, Mrs. Tandin Om, Mrs. Tshering Lhamo, Mrs. Namgay Lhamo, Mrs. Pema Choden, Mrs. Kinzang Yangden, Mrs. Passang Om, Mrs. Tshering Dema, Mrs. Sonam Wangmo, Mr. Yeshi Dorji, Mrs. Kinzang Dechen, Mrs. Tshering Dema, Mr. Jigme Sonam, Mr. Kencho Tshering, Mrs. Sonam Tshomo, Mr. Kencho Wangdi and Mr. Karma Wangchuk)
- 1:00 – 2:00 PM: Lunch
- 2:00 - 3:00 pm: visit Drukpa Kuenley Sonam Detsen - Seed Group at Chimipang, Barp Gewog Sherub to add names - discussions with local officials and community members, Project beneficiaries including women (Mr. Lotay (Chairperson), Mr. Kinzang Namgay, Mrs. Phub Om, Mrs. Kelzang Dem, Mrs. Naley, Mrs. Kaka Dem, Mrs. Yangka, Mrs. Pem, Mr. Kinley Penjor, Mr. Kencho Dorji, Mrs. Kezang Om, Mr. Sonam Wangchuk, Mr. Nima (National Seed Center officer) and Mrs. Sushmita Gurung (Agriculture Extension Supervisor)
- 3:00 – 5:00 PM: Two FGDs with farmers (Female/male separate) meeting with WUG, RUGs, farmers' groups, private sector rep, Womens' groups:
    1. Mr. Mindu Dorji and Mrs. Namgay Zam from Shengana-Bjimi Gewog (activities involved – greenhouse/polyhouse, drip irrigation, winter vegetables and training)
    2. Mrs. Choki and Mr. Lhap Tshering Goenshari Gewog (activities involved – SLM (Checkdam and Napier grass)
    3. Mr. Chencho from Toewang Gewog (activity involved – farm road User Group)
    4. Mrs. Kencho Wangmo and Mr. Draley from Toewang Gewog (activities involved – solar pump lift irrigation)
    5. Mr. Jigme Tenzin and Mr. Choney Dorji from Talo Gewog (activities involved – Greenhouse/polyhouse, water harvesting pond for vegetables and orchard)
    6. Mr. Yeshi Dorji and Mrs. Kuenga Zangmo from Limbukha Gewog (activities involved – land terracing and napier grass plantation)
    7. Mrs. Pempo Lham an d Mr. Norbu Tshering from Guma Gewog (activities involved – Pheromen trap)
    8. Mr. Jigme Tshering from Toepisa Gewog (activity imvolved – vermi-compost)
- 6 pm. RTA (Ms. Azza) over dinner

Sunday, 7th September 2025: Field Visit to Wangdue Phodrang and Community Interaction

- 8:00 AM – 9:00 AM: Travel from Punakha to Wangdue Pho Drang District
- 9:00 AM – 12:00 PM: Site visit at Phangyul irrigation and discussions with local officials and community members, WUG, RUGs, farmers groups reps, Womens' groups, private sector rep, project beneficiaries including women (Mr. Ugyen (Gup), Mr. Kinley Dendup (Mangmi), Mr. Rinchen Dorji (Tshogpa), Mrs. Phub Dema (Tshogpa), Mr. Kencho Dorji (Tshogpa), Mr. Wangchuk Namgay, Singey Dorji, Mrs. Yeshey, Mrs. Thinley Om, Mrs. Dawa Dema, Mr. Karma Dema, Mr. Chungka (Agriculture Extension officer), Mr. Norbu, Mrs. Dorji Sangden, Mrs. Kinley Yangzom, Mrs. SIngay, Mr.Ngedup Dorji and Mr. Sonam Thinley)
- 12:00 PM – 1:00 PM: Another site visit if possible and community engagement in Wangdue Phodrang (Rinchengang irrigation Water-User Group) met on 8th September during FDG.
  (Mr. Phub Gyeltshen, Mrs.Namgay Wangmo, Mr. Sangay Dorji, Mr. Tshering, Mr. Dorji, Mrs. Choeki, Mrs. Thuji Wangmo, Gembo, Mrs. Chado Om, Mr. Kinley Gyeltshen, Mr. Tshencho Dorji, Mrs. Tashi Dema, Mrs. Kaden, Mrs. Kala and Mr. Tshwang Norbu)
- 1:00 – 2:00PM: Lunch
- 3:00-4:00 PM: Research and Development Services in Wangdue Phodrang (visit ARDC Bajo) – Ms. Deki Lhamo (Agriculture officer) and Mr. Yeshi Zangpo (Senior Agriculture Supervisor)
- 4- 445: FMCL (Mr. Tashi)
- 500- Travel back to Hotel in Punakha

Monday, 8th September 2025: Meeting with District Officials in Wangdue Phodrang,

- 9:00 AM – 11:00 PM: **Meeting with district officials** (Dasho Dzongda, Planning, Agriculture, and relevant officials.) various extension services (Dasho Phub Dorji (Dzongdag/Governor), Mr. Choeki Wangchuk (Dzongkhag Agriculture officer), Mr. Nado (Asst. Dzongkhag Agroiculture officer), Mr. Jigme Dorji (Planning officer and Gender Foal Officer), Mr. Tashi Norbu Sherpa (Engineer), Mr. Ngawang Dorji (Engineer), Mr. Singay Dorji (Engineer), Mr. Sherab Dorji (Offtg. Environment officer), Mrs. Sarita Gurung (Economic Development officer), Mr. Tika Ram Bhandari (Agriculture Extension Supervisor), Mr. Sangay Wangdi (Agriculture Extension Supervisor), Ms. Deki Pem (Agriculture Extension Supervisor), Ms. Yeshi Wangmo (Agriculture Extension Supervisor), Mr. Chungku (Agriculture Extension Supervisor), Mrs. Sona, Youden (Accountant),
- 1200-1300 gender focal point (Mr. Jigme Dorji, Planning officer)
- 1300- – 2:00 PM: Lunch

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- 2:00 PM-5:00 PM: Two FGDs with farmers (male/Female farmers separate) - community members, WUG, RUGs, farmers groups reps, Womens' groups, private sector rep, project beneficiaries including women (Mr. Chado (Gup/local leader), Mr. Sangay Penjor (Mangmi/Deputy Local Leader), Mr. Phub Gyeltshen (beneficiary), Mrs. Namgay Wangmo (beneficiary), Mr. Sangay Dorji (beneficiary), Mr. Tshering (beneficiary), Mr. Dorji (beneficiary), Mrs. Choki (beneficiary), Mrs. Thuji Wangmo (beneficiary), Mr. Gyembo (beneficiary), Mrs. Chado Wangmo (beneficiary), Mr. Kinley Gyeltshen (beneficiary), Mr. Tshencho Dorji (beneficiary), Mrs. Tashi Dema (beneficiary), Mrs. Kardem (beneficiary), Mr. Kala (beneficiary), Mr. Tshewang Norbu (beneficiary),
- 500 PM: return to Punakha

Tuesday, 9th September 2025: Meetings with stakeholders in Thimphu

- 8:30 AM – 10:30 AM: return to Thimphu
- 1200-200 Lilit lunch crafts market visit
- 2:00 PM – 3:30 PM:
- 3:30 PM - 4:00 PM: meeting with BBCI Secretary General (Mr. Chandra Bhadur Chhettri- Board member from the private sector)
- 4:00 PM- 5:30 PM: meeting with member of TACC (Mr. Tashi Wangdi (Program Director of National Soil Service Center (NSSC) and also Chair, TACC for the project) and Mr. Haka Drukpa, Soil Nutrient officer, NSSC
- 4:30 PM: Meet Gender Resource Person (Mrs. Dorji Lhamo, Gender Expert, National Gender Expert Group)

Wednesday, 10th September 2025: Meetings with stakeholders in Thimphu

- 9:30-10:30 AM: Meeting with BTFEC (Dr. Karma Tshering, Managing Director and Mrs. Phuntsho Choden, Program Officer)
- 10:30 AM - 1:00 PM: remote interviews with stakeholders from 4 districts not to be visited (1. Mr. Dhan Bdr Galley, Agriculture Extension, Sergithang Gewog (and Mr. Kinzang Chophel, Asst. Agriculture officer (on vermicompost and bio-digester) Tsirang; 2. Mr. Kinley Namagy (Agriculture officer Sarpang on Chudzom GC road and Mahajan irrigation); 3. Mr. Tashi Phuntsho (Chief Agriculture officer on Khomshar irrigation, SLM at Khomshar and mini-tiller at Bardo, Thrisa solar drying) and 4. Mr. Chogyal Norbu (Chief Agriculture officer on rain water harvesting and sipsoo-Biru irrigation)
- 1:00 – 2:00 PM: lunch
- 2:00 -3:00 PM: DAMC (Mr. Tashi Dorji (Director) and Mrs. Tshering Wangmo (Chief of Marketing Division) and Mr. Tshering Penjor (Marketing Officer)
- 300-400 - meeting with Director and officials of DoA (Mr. Yonten Gyamtsho, Director and Mr. Rinzin Wangchuk Chief Agriculture officer)
- 400-500: FAO (Mr. Chadho, AFAOR (Assistant FAO Representative) and Mr. Sherab Wangchuk, Program Manager)
- Lilit and Chandra, dinner brainstorming, preparation for debriefing

Thursday, 11th September 2025: Verification & Wrap-up Meetings with UNDP

- 900 AM-9:45 AM: Meeting with Communication officer at UNDP (Ms. Dechen Wangmo)
- 9:45 – 10:15 AM: Meeting with NDC project Manager at UNDP (Mr. Netra Sharma)
- 10:15 – 1100 AM: Meeting with Results Based Management at UNDP (Ms. Sonam Rabgay) mailto:sonam.rabgye@undp.org
- 1100-1200: Meeting with RTA (Aishath Azza) mailto:aishath.azza@undp.org
- 12:00- 1230: Meeting with Project Technical Specialist (Sonam Rinzin)
- 12:30 – 1315: Meeting with Nawaraj (Oversight fir GCF-CRA project)
- 13:15-1400 PM: RR/DRR
- 1400-1500 lunch
- 1500- 1530 preparation for debriefing
- 1530 PM-5:00 PM- debriefing
- 5 PM – meeting with PMU (Mr. Sherub Gyelsthen (Project manager) and Mr. Bholanath Bhattarai (M&E Specialist)

Day 11: Friday, 12th September 2025: Departure

- Travel to Paro International Airport for departure

September 12, National Consultant - Travel to Dagana

- 11:30:00-12:10 PM: Meeting with DoST officials at Dagapela (Mr. B.P. Subba, Executive Engineer, Mr. Roshan Giri, Assistant Engineer (Khagochen site engineer).
- 12:10- 1:00 PM: Visit Khagochen road stabilization area. FDG meeting with beneficiaries and meeting with contractor at Khagochen road slide area (Mr. Jit Bdr Gurung and Mr. Kul Bdr Powrel (beneficiaries); Mr. Sangay Tenzin, contractor.
- 2:00 – 5:00 PM: Meeting with District administration (Dasho Dzongdag, Agriculture officer and DT Secretary)- Dasho Tashi Tobgay, Dzongdag, Mr. Tashi Gyeltshen, DT Secretary, and Mr. Indra Bdr Raika, Assistant Dzongkhag Agriculture Officer

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September 13, National Consultant: Site visit to Road Section, Drujeygang and Khebisa Gewog Dagana

- 9:00- 11 AM: Visit Narikachhu irrigation source and meet with beneficiaries (conduct FDG)- Beneficiaries (Mr. Yeshey, Mr. Gyemdorji-Tshogpa, Mr. Namgay(Ex-gup), Ms. Selden, Ms. Dawa Zam, Ms. Ugyen Zam, Ms. Nim Dem, Ms. Gyem Lham, Ms. Jazam.
- Khebisa-Drujeygang GC Roads – RUG (Same as above)
- 11:00-11:00 AM: Meeting with Khebisa Gewog Administration: Bali Raj Gurung-Gup, Pema Zangmo-GAO, Mr. Chojey Wangdi-Gewog Extension Supervisor
- 11:00-11:30 AM: Community Center- Ms. Kuenzang Choden-Community Center Operator
- 2:00-2:30 PM: One WUG/WUG in the poorest area-Ms. Jazam, Thomgang Village
- 1:00-1:30 PM: Local Vendor- Mr. Bhim Raj Tamang- Local vegetables vendor.
- 2:30PM – 3PM: Meeting with Drujeygang Extension Officer – Mr. Tshering Dhendup

September 14, National Consultant

- 9:30-10:00 AM -Meeting with Mr. Tashi Tobgay, Dragten Gewog Extension/ Assistant Dzongkhag Agriculture Officer, Sangay Lhamo, Korphu Agriculture Extension officer, Sonam Choden Kalden, Nubi Agriculture Extension Officer, Trongsa (Venue: Kingaling Hotel, Punakha)

September 16: Trongsa Dzongkhag, online, International and National Consultant

- 12- 2.30PM: Meeting with District administration (Dasho Dzongdag, Dzongkhag Agriculture officer, Gender Focal, EDMO, Engineer).
- First 30 minutes with Dasho Dzongda; 45 minutes with planning/gender; 45 minutes with Agri/EDO; 30 minutes with engineer
- Mr. Karma Wangchuk, DAO, Trongsa, Mr. Jamyang, Economic Development Officer, Ms. Tenzin Choezom, Environment Officer.

September 17: Trongsa online, International and National Consultant

- 11- 1PM: Green Tea Group (one or two representative)- ; Community Center/GAO, RUG, and longchu WUG (one or two representative): Ms. Rinchen Lhamo (Green Tea Chairperson) and Ms. Yangdon (member); Longchu WUG- Mr. Ngawang Dendup and Mr. Namgay (both member). Mr. Tashi Tobgay, Gewog Extension Officer/Assistant Dzongkhag Agriculture Officer.

September 18: online, International and National Consultant

- 1430 – Mrs. Thinley Choden (Project manager – ACREWAS)
- -WB Joachim Vandercasteelen, WB Bhutan,

September 19: Online, International Consultant

- Sonam Ragbay (UNDP)

September 25, online, International Consultant

- Nawang Norbu**,** Bhutan Ecological Society **,**
- Sonam Tashi, College of Natural Resources- CNR,

October 9

- Kinley Dorji, Chief Engineer, Irrigation MoIT , Mr. Thinley Gyamtsho, Principal Engineer, Mr. Tshewang, Engineer

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G. List of persons interviewed

Sl #	Name	Designation	Agency	Male (M)/Female (F)
1	Mr. Lhap Dorji	Portfolio Manager	Environment and Livelihood Unit, UNDP	Male
2	Mr. Nawaraj Chetri	Program Analyst	UNDP	Male
3	Ms. Tshering Palden	Finance Associate	UNDP	Female
4	Ms. Larisa	Operations Associate	UNDP	Female
5	Mr. Ram Mongar	Procurement Officer	UNDP	Male
6	Ms. Tshewang Lhamo	Gender Focal	UNDP	Female
7	Ms. Dechen Wangmo	Communication Officer	UNDP	Female
8	Mr. Netra Sharma	NDC Project Manager	UNDP	Male
9	Ms. Sonam Rabgay	Results Based Managemen	UNDP	Female
10	Ms. Aishath Azza	RTA	UNDP	Female
11	Mr. Sonam Rinzin	Project Technical Specialist	UNDP	Male
12	Mr. Fadhi Bakeer Markar	DRR	UNDP	Male
13	Mr. Sherub Gyeltshen	Project Manager	PMU- GCF-CRA Project	Male
14	Mr. Bholanath Bhattarai	M&E Specialist	PMU-GCF-CRA Project	Male
15	Ms. Dorji Lhamo	Gender Expert	National Gender Expert Group	Female
	CENTRAL AGENCIES			
16	Mr. Namgyel Dorjee	Offtg Director	Department of Macro-Fiscal and Development Finance, MOF	Male
17	Ms. Tshering Choden	Program Coordinator	Department of Macro-Fiscal and Development Finance, MOF	Female
18	Mr. Tshewang Dorji	Chief Engineer	Department of Surface Transport, MoIT	Male
19	Mr. Sangay Ngedup	Engineer	Department of Surface Transport, MoIT	Male
20	Ms. Yeshey Choden	Executive Engineer	Department of Surface Transport, MoIT	Female
21	Mr. Karma Dupchu	Director	National Center for Hydrology and Meteorology (NCHM)	Male
22	Mr. Singay Dorji	Chief of Hydrological and Water Resources	National Center for Hydrology and Meteorology (NCHM)	Male
23	Mr. Karma	Chief of Cryosphere Services	National Center for Hydrology and Meteorology (NCHM)	Male
24	Mr. Tashi Namgyel	Chief of Hydrological and Water Resources	National Center for Hydrology and Meteorology (NCHM)	Male
25	Mr. Ugyen Chophel	Offtg. Chief of Meteorological Services	National Center for Hydrology and Meteorology (NCHM)	Male
26	Ms. Pema Seldon	Sr. Hydromet Officer	National Center for Hydrology and Meteorology (NCHM)	Female
27	Mr. Jamyang	Chief Chemist- Soil and Plant Analysis Lab	NSSC-DoA, MoAL	Male
28	Mr. Haka Drukpa	Dy. Chief Soil Fertility and Nutrient Officer	NSSC-DoA, MoAL	Male
29	Mr. Tshering Wangchen	Principal Agriculture Officer	DoA, MoAL	Female
30	Mr. Tshewang	Engineer-Irrigation Division	DoID, MoIT	Male
31	Mr. Yonten Gyamtsho	Director	DoA, MoAL	Male
32	Mr. Rinzin Wangchuk	Chief Agriculture Officer	DoA, MoAL	Male
33	Mr. Tashi Wangdi	Program Director	NSSC-DoA, MoAL	Male
34	Mr. Thinley Choden	Project Manager	ACREWAS Project, MoIT	Male
35	Mr. Kinley Dorji	Chief Engineer	Irrigation Division, DoID, MoIT	Male
36	Mr. Thinley Gyamtsho	Principal Engineer	Irrigation Division, DoID, MoIT	Male
37	Mr. Tashi Dorji	Director	DAMC, MoAL	Male
38	Mrs. Tshering Wangmo	Chief of Marketing Division	DAMC, MoAL	Female
39	Mr. Tshering Penjor	Marketing Officer	DAMC, MoAL	Male
40	Ms. Deki Lhamo	Agriculture Officer	ARDC-Bajo (Wangdue Phodrang)	Female
41	Mr. Yeshi Zangpo	Sr. Agriculture Supervisor	ARDC-Bajo (Wangdue Phodrang)	Female
42	Mr. Tashi	Farm Machanery Corporation Ltd (FMCL)	Wangdue Phodrang	Male
43	Mr. Nima	Agriculture Officer	National Seed Center(NSC)-Bajo	Male
	District Administration			
44	Mr. Ugyen Tshering	Dasho Dzongrab	Punakha	Male
45	Mr. Gaylong	Chief Agriculture Officer	Punakha	Male
46	Ms. Tshering Lhamo	Agriculture Extension Officer	Punakha	Female
47	Ms. Sushmita Gurung	Agriculture Extension Officer	Punakha	Female
48	Mr. Tshering Samdrup	Agriculture Extension Officer	Punakha	Male

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49	Mr. Parsuram Rai	Chief Engineer	Punakha	Male
50	Mr. Ngawang Tenzin	Engineer	Punakha	Male
51	Mr. Rinchen Wangdi	Engineer	Punakha	Male
52	Mr. Tshoney Zangmo	Offtg Finance Officer	Punakha	Male
53	Mr. Yeshi Dorji	Economic Development officer	Punakha	Male
54	Mr. Karma Dorji	Environment Officer	Punakha	Male
	Gewog administration-Punakha			
55	Mr. Dawa Tshering	Gup	Dzomi Gewog	Male
56	Mr. Sangay Dorji	Gewog Administrative Officer	Dzomi Gewog	Male
57	Ms. Namgay Zam	Agriculture Extension Supervisor	Dzomi Gewog	Female
58	Mr. Tenzin Namgay	Tshogpa	Toewang Gewog	Male
	District Administration			
59	Dasho Phub Dorji	Dzongdag/Governor	Wangdue Phodrang	Male
60	Mr. Choeki Wangchuk	Chief Dzongkhag Agriculture Officer	Wangdue Phodrang	Male
61	Mr. Nado	Asst. Dzongkhag Agriculture officer	Wangdue Phodrang	Male
62	Mr. Jigme Dorji	Planning officer and Gender Foal Officer	Wangdue Phodrang	Male
63	Mr. Tashi Norbu Sherpa	Principal Engineer	Wangdue Phodrang	Male
64	Mr. Ngawang Dorji	Engineer	Wangdue Phodrang	Male
65	Mr. Singay Dorji	Engineer	Wangdue Phodrang	Male
66	Mr. Sherab Dorji	Offtg. Environment officer	Wangdue Phodrang	Male
67	Mrs. Sarita Gurung	Economic Development officer	Wangdue Phodrang	Female
68	Mr. Tika Ram Bhandari	Agriculture Extension Supervisor	Wangdue Phodrang	Male
69	Mr. Sangay Wangdi	Agriculture Extension Supervisor	Wangdue Phodrang	Male
70	Mrs. Deki Pem	Agriculture Extension Supervisor	Wangdue Phodrang	Female
71	Mrs. Yeshi Wangmo	Agriculture Extension Supervisor	Wangdue Phodrang	Male
72	Mr. Chungku	Agriculture Extension Supervisor	Wangdue Phodrang	Male
73	Mrs. Sona, Youden	Accountant	Wangdue Phodrang	Female
	Gewog administration			
74	Mr. Chado	Gup/Local Leader	Wangdue Phodrang	Male
75	Mr. Sangay Penjor	Mangmi/Deputy Local Leader	Wangdue Phodrang	Male
76	Mr. Ugyen	Gup/Local Leader	Wangdue Phodrang	Male
77	Mr. Kinley Dendup	Mangmi/Deputy Local Leader	Wangdue Phodrang	Male
78	Mr. Rinchen Dorji	Tshogpa	Wangdue Phodrang	Male
79	Mrs. Phub Dema	Tshogpa	Wangdue Phodrang	Female
80	Mr. Kencho Dorji	Tshogpa	Wangdue Phodrang	Male
	District administrations			
81	Dasho Tashi Tobgay	Dzongdag	Dagana	Male
82	Mr. Tashi Gyeltshen	DT Secretary	Dagana	Male
83	Mr. Indra Bdr Raika	Assistant Dzongkhag Agriculture Officer	Dagana	Male
84	Mr. B.P. Subba,	Executive Engineer, DoST Dagapela	Dagana	Male
85	Mr. Roshan Giri	Assistant Engineer (Khagochen site engineer).	Dagana	Female
	Gewog Administration			
86	Mr. Bali Raj Gurung	Gup	Khebisa, Dagana	Male
87	Ms. Pema Zangmo	GAO	Khebisa, Dagana	Female
88	Mr. Chojey Wangdi	Agriculture Extension Supervisor	Khebisa, Dagana	Male
89	Ms. Kuenzang Choden	Community Center Operator	Khebisa, Dagana	Female
90	Mr. Gyem Dorji-Tshogpa	Tshogpa	Khebisa, Dagana	Male
91	Mr Tshering Dhendup	Agriculture Extension Supervisor	Drujegang, Dagana	
	Gewog Administration			
92	Mr. Tashi Tobgay	Agriculture Extension Supervisor	Dragten, Trongsa	Male
93	Ms. Sangay Lhamo	Agriculture Extension Supervisor	Korphu, Trongsa	Female
94	Ms. Sonam Choden Kalden	Agriculture Extension Supervisor	Nubi, Trongsa	Male
	District Officials			
95	Mr. Karma Wangchuk	Chief District Agriculture Officer	Trongsa	Male
96	Mr. Jamyang	Economic Development Officer,	Trongsa	Male
97	Ms. Tenzin Choezom	Environment Officer.	Trongsa	Female

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	Dzongkhag Adminsitartion			
98	Mr. Tashi Phuntsho	Chief Agriculture officer	Zhemgnag	Male
99	Mr. Chogyal Norbu	Chief Agriculture officer	Samtse	Male
100	Mr. Kinley Namagy	Agriculture officer	Sarpang	Male
101	Mr. Karma Wangdi	Agriculture officer	Tsirang	Male
	NGOs			
102	Mr. Chandra Bhadur Chhettri	BCCI Secretary General (Board memebr)	Thimphu	Male
103	Dr. Karma Tshering	BTFEC Managing Director	Thimphu	Male
104	Mrs. Phuntsho Choden	BTFEC Program Officer	Thimphu	Female
105	Mr. Nawang Norbu	Bhutan Ecological Society	Thimphu	Male
106	Mr. Sonam Tashi	College of Natural Resources-CNR	Punakha	Male
	Private Sector			
107	Mr. Sangay Tenzin	Contractor		Male
108	Mr. Bhim Raj Tamang	Vegetable vendor		Male
109	Mr. Kinzang Wangdi	Entrepreneur, aggregator	Punakha	Male
	Development Partners			
110	Mr. Chadho	AFAOR (Assistant FAO Representative)	Thimphu	Male
111	Mr. Sherab Wangchu	Program Manager, FAO	Thimphu	Male
112	Mr. Joachim Vandercasteelen	WB Bhutan	Thimphu	Male
	Farmers			
113	Mrs. Kinley Gyelmo	Farmer	Punakha	Female
114	Mrs. Choki	Farmer	Punakha	Female
115	Mrs. Pasa Lhamu	Farmer	Punakha	Female
116	Mrs. Nima Om	Farmer	Punakha	Female
117	Mrs. Karma Dema	Farmer	Punakha	Female
118	Mrs. Sonam Om	Farmer	Punakha	Female
119	Mrs. Tshering Gyem	Farmer	Punakha	Female
120	Mrs. Namgay Om	Farmer	Punakha	Female
121	Mr.Kencho	Farmer	Punakha	Male
122	Mr. Sangay Wnagdi	(Chairperson – Water User Group)	Punakha	Male
123	Mr. Kinley Tshering	Farmer	Punakha	Male
124	Mr. Phub Tshering	Farmer	Punakha	Male
125	Mr. Lhatu	Farmer	Punakha	Male
126	Mr. Kinley	Farmer	Punakha	Male
127	Mr. Namgay Tenzin	Farmer	Punakha	Male
128	Mr. Namgay Tshering	Farmer	Punakha	Male
129	Mrs. Kencho Wangmo	(Chairperson of WUG)	Punakha	Female
130	Mrs. Namgay Pem	Farmer	Punakha	Female
131	Mrs. Sangay Lhaden	Farmer	Punakha	Female
132	Mrs. Yoki	Farmer	Punakha	Female
133	Mr. Draley	Farmer	Punakha	Male
134	Mr. Kuenzang Norbu	Farmer	Punakha	Male
135	Mrs. Dema	(Secretary of WUG)	Punakha	Female
136	Mr. Pemba	Farmer	Punakha	Male
137	Mr. Naley	Farmer	Punakha	Male
138	Mrs. Holem	Farmer	Punakha	Female
139	Mrs. Chimi Om	Farmer	Punakha	Female
140	Mrs. Phub Dem	Farmer	Punakha	Female
141	Mr. Sangay Tobgay	Farmer	Punakha	Male
142	Mrs. Kinga Zam	Farmer	Punakha	Female
143	Mr. Wangdi	Farmer	Punakha	Male
144	Mr. Tashi Dorji	Farmer	Punakha	Male
145	Mrs. Tshomo	Farmer	Punakha	Female
146	Mrs. Tshewang Dema	Farmer	Punakha	Female
147	Mrs. Uden	Farmer	Punakha	Female
148	Mrs. Namgay Om	Farmer	Punakha	Female
149	Mrs. Yeshi Lhamo	Farmer	Punakha	Female

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150	Mrs. Tashi Pelden	Farmer	Punakha	Female
151	Mrs. Yangka Bidha	Farmer	Punakha	Female
152	Mrs. Yangka Dem	Farmer	Punakha	Female
153	Mrs. Tashi Lhaden	Farmer	Punakha	Female
154	Mrs. Tandin Om	Farmer	Punakha	Female
155	Mrs. Tshering Lhamo	Farmer	Punakha	Female
156	Mrs. Namgay Lhamo	Farmer	Punakha	Female
157	Mrs. Pema Choden	Farmer	Punakha	Female
158	Mrs. Kinzang Yangden	Farmer	Punakha	Female
159	Mrs. Passang Om	Farmer	Punakha	Female
160	Mrs. Tshering Dema	Farmer	Punakha	Female
161	Mrs. Sonam Wangmo	Farmer	Punakha	Female
162	Mr. Yeshi Dorji	Farmer	Punakha	Male
163	Mrs. Kinzang Dechen	Farmer	Punakha	Female
164	Mrs. Tshering Dema	Farmer	Punakha	Female
165	Mr. Jigme Sonam	Farmer	Punakha	Male
166	Mr. Kencho Tshering	Farmer	Punakha	Male
167	Mrs. Sonam Tshomo	Farmer	Punakha	Female
168	Mr. Kencho Wangdi	Farmer	Punakha	Male
169	Mr. Karma Wangchuk	Farmer	Punakha	Male
170	Mr. Phub Gyeltshen	Farmer	Punakha	Male
171	Mr. Lotay	Chairperson (Seed Group)	Punakha	Male
172	Mr. Kinzang Namgay	Farmer	Punakha	Male
173	Mrs. Phub Om	Farmer	Punakha	Female
174	Mrs. Kelzang Dem	Farmer	Punakha	Female
175	Mrs. Naley	Farmer	Punakha	Female
176	Mrs. Kaka Dem	Farmer	Punakha	Female
177	Mrs. Yangka	Farmer	Punakha	Female
178	Mrs. Pem	Farmer	Punakha	Female
179	Mr. Kinley Penjor	Farmer	Punakha	Male
180	Mr. Kencho Dorji	Farmer	Punakha	Male
181	Mrs. Kezang Om	Farmer	Punakha	Female
182	Mr. Sonam Wangchuk	Farmer	Punakha	Male
183	Mr. Phub Gyeltshen	Farmer	Punakha	Male
184	Mrs.Namgay Wangmo	Farmer	Punakha	Female
185	Mr. Sangay Dorji	Farmer	Punakha	Male
186	Mr. Tshering	Farmer	Punakha	Male
187	Mrs. Thuji Wangmo	Farmer	Punakha	Female
188	Mr. Gembo	Farmer	Punakha	Male
189	Mrs. Chado Om	Farmer	Punakha	Female
190	Mr. Kinley Gyeltshen	Farmer	Punakha	Male
191	Mr. Tshencho Dorji	Farmer	Punakha	Male
192	Mrs. Tashi Dema	Farmer	Punakha	Female
193	Mrs. Kaden	Farmer	Punakha	Female
194	Mrs. Kala	Farmer	Punakha	Female
195	Mr. Tshwang Norbu	Farmer	Punakha	Male
196	Mr. Mindu Dorji	Farmer	Punakha	Female
197	Mrs. Namgay Zam	Farmer	Punakha	Female
198	Mrs. Choki	Farmer	Punakha	Female
199	Mr. Lhap Tshering	Farmer	Punakha	Male
200	Mr. Chencho	Farmer	Punakha	Male
201	Mrs. Kencho Wangmo	Farmer	Punakha	Female
202	Mr. Draley	Farmer	Punakha	Male
203	Mr. Jigme Tenzin	Farmer	Punakha	Male
204	Mr. Choney Dorji	Farmer	Punakha	Male
205	Mr. Yeshi Dorji	Farmer	Punakha	Male
206	Mrs. Kuenga Zangmo	Farmer	Punakha	Female
207	Mrs. Pempo Lham	Farmer	Punakha	Female
208	Mr. Norbu Tshering	Farmer	Punakha	Male
209	Mr. Jigme Tshering	Farmer	Punakha	Male
210	Mrs. Namgay Wangmo	Farmer	Wangdue Phodrang	Female
211	Mr. Sangay Dorji	Farmer	Wangdue Phodrang	Male
212	Mr. Tshering	Farmer	Wangdue Phodrang	Male

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213	Mr. Dorji	Farmer	Wangdue Phodrang	Male
214	Mrs. Choki	Farmer	Wangdue Phodrang	Female
215	Mrs. Thuji Wangmo	Farmer	Wangdue Phodrang	Male
216	Mr. Gyembo	Farmer	Wangdue Phodrang	Male
217	Mrs. Chado Wangmo	Farmer	Wangdue Phodrang	Female
218	Mr. Kinley Gyeltshen	Farmer	Wangdue Phodrang	Male
219	Mr. Tshencho Dorji	Farmer	Wangdue Phodrang	Male
220	Mrs. Tashi Dema	Farmer	Wangdue Phodrang	Female
221	Mrs. Kardem	Farmer	Wangdue Phodrang	Female
222	Mr. Kala	Farmer	Wangdue Phodrang	Male
223	Mr. Tshewang	Farmer	Wangdue Phodrang	Male
224	Mr. Norbu	Farmer	Wangdue Phodrang	Male
225	Mr. Wangchuk Namgay	Farmer	Wangdue Phodrang	Male
226	Singey Dorji	Farmer	Wangdue Phodrang	Male
227	Mrs. Yeshey	Farmer	Wangdue Phodrang	Female
228	Mrs. Thinley Om	Farmer	Wangdue Phodrang	Female
229	Mrs. Dawa Dema	Farmer	Wangdue Phodrang	Male
230	Mr. Karma Dema	Farmer	Wangdue Phodrang	Male
231	Mr. Norbu	Farmer	Wangdue Phodrang	Male
232	Mrs. Dorji Sangden	Farmer	Wangdue Phodrang	Female
233	Mrs. Kinley Yangzom	Farmer	Wangdue Phodrang	Female
234	Mrs. Singay	Farmer	Wangdue Phodrang	Female
235	Mr.Ngedup Dorji	Farmer	Wangdue Phodrang	Male
236	Mr. Sonam Thinley	Farmer	Wangdue Phodrang	Male
237	Mr. Jit Bdr Gurung	Farmer	Dagana	Male
238	Mr. Kul Bdr Powrel	Farmer	Dagana	Male
239	Mr. Yeshey	Farmer	Dagana	Male
240	Mr. Namgay	Farmer	Dagana	Male
241	Ms. Selden	Farmer	Dagana	Female
242	Ms. Dawa Zam	Farmer	Dagana	Female
243	Ms. Ugyen Zam	Farmer	Dagana	Female
244	Ms. Nim Dem	Farmer	Dagana	Female
245	Ms. Gyem Lham	Farmer	Dagana	Female
246	Ms. Jazam	Farmer	Dagana	Female
247	Ms. Rinchen Lhamo	Farmer (Green Tea Chairperson)	Trongsa	Female
248	Ms. Yangdon	Farmer	Trongsa	Female
249	Mr. Ngawang Dendup	Farmer	Trongsa	Male

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H. List of documents reviewed

GCF documents

- GCF guidance on conflicts of interest in evaluation
- GCF Independent Evaluation Unit (IEU) Terms of reference (TOR), GCF/B.06/06,
- GCF's Evaluation Policy,

UN/UNDP Documents

- United Nations Evaluation Group (UNEG) Norms and Standards for Evaluation in the UN System (2016)
- UNDP Evaluation Guidelines (2021)
- UNDP 2022 Addressing the Risk of Climate-Induced Disasters through Enhanced National and Local Capacity in Bhutan,
- UNDP 2022, 'Enhancing Sustainability and Climate Resilience of Forest and Agricultural Landscape and Community Livelihoods in Bhutan' project (2017-2023)
- UNDP 2022 Reducing Climate Change-induced Risks and Vulnerabilities from Glacial Lake Outburst Floods in the Punakha-Wangdi and Chamkhar Valleys
- UNDP Country Programme Documents -Draft (2024-2028)
- UNDP Bhutan CPD 2024-2028
- UNDP 2022 Enhancing Sustainability and Climate Resilience of Forest and Agricultural Landscape and Community Livelihoods in Bhutan
- UNDP 2022 Addressing the Risk of Climate-Induced Disasters through Enhanced National and Local Capacity in Bhutan
- UNDP ProDoc "Advancing Climate Resilience of the Water sector in Bhutan"
- UNDP ProDoc "GCF Enhancing Climate Resilience of the Urban Landscape and Communities (ECRUL) in Thimphu-Paro Regions of Bhutan"

Project Documents

- Annual Performance Report (2021-2024)
- Annual Work Plan (2020-2025)
- Bylaws for RUGs and WUGs.
- Co-Financing and Fund Disbursement letters and Documents
- Communication documents, including press release, Impact Stories, policy brief
- Community Engagement Report and Stakeholder Engagement Plan
- Environmental and Social Management Plans
- Final Project Document and all annexes
- Funding Activity Agreement, September (2019)
- Funding proposal (2019
- Grievances Redressal Mechanism
- Gender Action plans (2019), UNDP
- Gender Training Reports
- Impact Evaluation: Baseline Report (2021): Follow-up Survey Report (2023)
- Inception report, project inception workshop Report (2020)
- Knowledge Management Reports (2021, 2024, 2025)
- Minutes of the Board Meetings (1st- 12th Board meetings minutes)
- Project Concept Note
- Project ProDoc
- Project Interim Evaluation Report, (2012)
- Project training and Workshops Reports
- Project Economic Analysis
- Project Operational Manual (2020)
- Project Combined Delivery Report (2020-2025)
- Project Risk Log
- Participatory SLMP Actions Plan (2020, 2022, 2024)
- Project Audit Reports (Spot Check)
- Project Exit Strategy/Sustainability Plan (2025)
- Standard Progress Reports (2020-2025)
- UNDP Office Audit Report (2023)

National laws, strategies and plans

- Annual Dzongkhag Statistics

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- Agriculture Statistics (Agriculture Survey Reports, Integrated Agriculture and Livestock Census of Bhutan)
- Biodiversity Act of Bhutan (2022)
- Bhutan's Development plan documents (13th FYP and 12th FYP); Dzongkhag Development Plans
- Bhutan Voluntary National review (2025)
- Bhutan Second NDC (2021)
- Bhutan's Water Tariff Guidelines- Draft (2025)
- Bhutan's Forest and nature Conservation Act 1995,
- Climate Smart Agriculture Plan, World Bank
- Climate Change Policy of the Kingdom of Bhutan (2020),
- Disaster Management Act of Bhutan (2013)
- Disaster Management Rules and Regulation of Bhutan (2014)
- Detailed Project Report for Roan Alignment to By-Pass Box-Cut Landslide (2024)
- Dzongkhag's Budget Reports
- Environmental Assessment Act of Bhutan (2000),
- Farm Roan Maintenance Manual (2023)
- Food and Nutrition Security Policy of Bhutan (2023)
- Gross National Happiness Commission, RGoB (2019) 12th Five Year Plan 2018-2023,
- Guideline on the Cost-Sharing Mechanism for the RNR Sector in Bhutan (2019)
- Labor Force Survey report (2021-2025)
- Local Government Act of Bhutan (2007),
- Land Act of Bhutan 2007, Road Act of Bhutan 2004,
- National Land Use Report (2022)
- National Irrigation Policy (2012)
- National Environment Protection Act of Bhutan 2007,
- National Gender Equality Policy (2019), National Employment Policy (2013),
- National Construction Policy (2018), National Environment Strategy (2020)
- National Waste Management Strategy (2019)
- National Adaptation Plan of the Kingdom of Bhutan
- National Environment Commission (2020) Climate Change Policy of the Kingdom of Bhutan 2020
- National Environment Commission (2nd) Bhutan National Adaptation Programme of Action,
- Poverty Analysis reports of Bhutan (2017-2022)
- Population and Housing Census of Bhutan (2017)
- RNR strategy 2040 of Bhutan
- RNR Marketing Policy of the Kingdom of Bhutan, 2018
- Royal Government of Bhutan (2023): National Land Use Report
- Regulation for Environmental Clearance of Projects (2016),
- Regulation on Working Conditions (2021),
- Regulation on Occupational Health and Safety for Construction Industry (2012),
- Royal Government of Bhutan (2023): Bhutan's Long term Greenhouse Gas Emission and Climate Resilient Development Strategy: Bhutan
- Statistic Year Book of Bhutan (2025)
- Standard Operating Procedure (SOP) on Dissemination of Climate and Climate Risk Information at the National and Subnational level (2022)
- Seed Rules and Regulation of Bhutan (2025)
- The Local Government Act of Bhutan (2009)
- The Local Government Rules and Regulations (2012)
- The Water Act of Bhutan (2011),

Third Party reports

- ADA/WB/EU: PEFA Assessment of Gender Responsive Public Financial Management
- FAO. 2023. National gender profile of agriculture and rural livelihoods – Bhutan. Country gender assessment series. Thimphu. FAO. https://doi.org/10.4060/cc5273en

Other

- John Mayne, "Addressing Attribution Through Contribution Analysis: Using Performance Measures Sensibly', The Canadian Journal of Program Evaluation Vol. 16 No. 1 Canadian Evaluation Society, 2001

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I. Evaluation Question Matrix

		Indicators	Sources	Methodology
I	**Project Design and formulation**			
	Analysis of Results Framework, project logic and strategy, indicators, Theory of Change (ToC)			
1	How were the project's objectives and components clear, practicable and feasible within its time frame?	concurrence of interviewee feedback and evidence from document review about the logical coherence of the ProDoc	ProDoc, APRs, IE KIIs	A critical analysis of the project's ProDoc and Funding proposal triangulation
2	How were outputs consistent with the ToC? Was there a clearly defined and robust ToC? Do outputs link to intended outcomes which link to broader paradigm shift objectives of the project? Are the planned inputs and strategies identified realistic, appropriate, and adequate to achieve the results? Were they sequenced sufficiently to efficiently deliver the expected results?	concurrence of interviewee feedback and evidence from document review	ProDoc, APRs, IE KIIs	A critical analysis of the project's ProDoc and Funding proposal triangulation
3	To what extent did the design of the project help or hinder achieving its own goals?	concurrence of interviewee feedback and evidence from document review	KIIs ProDoc, APRs, IE	A critical analysis of the project's ProDoc and Funding proposal triangulation
	Assumptions and Risks			
4	How well were the assumptions and risks articulated in the Funding Proposal and project document? How realistic, logical and robust were they?	assumptions and risks concurrence of interviewee feedback and evidence from document review	ProDoc, Funding proposal	A critical analysis of the project's ProDoc and Funding proposal Triangulation How were any externalities (i.e., effects of climate change, global economic crisis, etc.) relevant to the findings? - this is part of question 4
5	Were the risks identified through the SESP in line with UNDP Social and Environmental Standards? Were the measures identified to address adequate?	Project's SESP in line with UNDP SESP framework	ProDoc, UNDP SESP framework	A critical analysis of the project's ProDoc, Funding proposal, SESP plans Comparative analysis of the project's SESP and UNDP SESP framework
	Lessons from other relevant projects (e.g., same focal area) incorporated into project design			
6	How well were lessons from other relevant projects properly incorporated in the project design?	lessons from other relevant projects properly identifies and incorporated in the project design	KIIs ProDoc, APRs, IE	Triangulation, A critical analysis of the project's ProDoc, Funding proposal
	Planned stakeholder participation			
7	How well were perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process, considered during project design processes?	Extent of reflection of the needs of ultimate beneficiaries	KIIs and FGD ProDoc, APRs, IE	Triangulation, A critical analysis of the project's ProDoc, Funding proposal
	Linkages between project and other interventions within the sector			
8	How well were the partnership arrangements properly identified and roles and responsibilities negotiated prior to project approval? Was there planned coordination with other relevant GCF-financed projects and/or other initiatives?	partnership arrangements properly identified roles and responsibilities of partners clear	KIIs ProDoc, APRs, IE	Triangulation, A critical analysis of the project's ProDoc, Funding proposal
	GEWE in design			
9	How appropriate and adaptive was the gender action plan in facilitating gender mainstreaming objectives?	concurrence of interviewee feedback and evidence from document review	KIIs and FGD ProDoc, APRs, IE	Triangulation, A critical analysis of the project's ProDoc, Funding proposal This was moved from Implementation
	M&E in design			This was moved from Implementation
10	Was the M&E plan well-conceived, practical, and sufficient? Did the M&E plan include a baseline, SMART indicators and data analysis systems, and evaluation studies at specific times to assess results? Were there clear baselines indicators and/or benchmark for performance measurements? How did the project aim to	concurrence of interviewee feedback and evidence from document review about the quality of the M&E Plan and baseline	ProDoc, Funding KIIs ProDoc, APRs, IE	triangulation A critical analysis of the project's

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	capture broader development impacts (i.e., income generation, gender equality and women's empowerment, improved governance, livelihood benefits, etc.) by using socioeconomic co-benefits and sex-disaggregated/gender-responsive indicators and targets, where relevant?		.	logframe indicators and targets, assess how "SMART" the midterm and end-of-project targets are (Specific, Measurable, Attainable, Relevant, Time-bound) baseline M&E plan
11	Were baseline conditions, methodology, logistics, time frames, and roles and responsibilities well-articulated? Was it articulated sufficiently to monitor results and track progress toward achieving objectives? Did the M&E plan specify how the project will keep the NDA informed and, where applicable and feasible, involved, while respecting the independent nature of the FE process?	interviewee feedback and evidence from document review about the quality of the M&E Plan and baseline	KIIs ProDoc, APRs, IE	triangulation A critical analysis of the project's M&E Plan
12	Was the M&E budget in the project document sufficient??	Adequately budgeted M&E Plan	KIIs ProDoc, APRs, IE	triangulation A critical analysis of the project's M&E Plan
II	**Project Implementation**			
	Adaptive management (changes to the project design and outputs during implementation)			
13	To what extent, how justified and how well did the project apply adaptive management?	concurrence of interviewee feedback and evidence from document review	KIIs ProDoc, APRs, IE	triangulation
14	Was the projects' Theory of Change reviewed and refined during implementation if needed"	Yes/no	KIIs ProDoc, APRs, IE	triangulation
	Actual stakeholder participation and partnership arrangements			
15	How well did the project develop and leverage necessary and appropriate partnerships with direct and tangential stakeholders? Who are the actual partners of the project and how strategic were they in terms of capacities and commitment? How different was this from the plans?	Number of partnerships in comparison with the pans	KIIs ProDoc, APRs, IE	triangulation
16	How well did local and national government stakeholders support the objectives of the project? Did they have an active role in project decision-making that supported efficient and effective project implementation? Were there any limitations to stakeholder awareness or to stakeholder participation? Was there invested interest of stakeholders in the project's long-term success and sustainability? How did actual stakeholder interaction compare to what was planned in the project document and Stakeholder Engagement Plan? What were the challenges?	concurrence of interviewee feedback and evidence from document review about the strength of partnerships	KIIs ProDoc, APRs, IE	triangulation
17	Participation and public awareness: To what extent did stakeholder involvement and public awareness contribute to the progress towards achievement of project objectives? Extent of stakeholder interaction:	Extent of awareness of stakeholders about the project and its progress and the extent to which it affected the results	KIIs ProDoc, APRs, IE	triangulation
18	GEWE: How were women's groups, NGOs, civil society orgs, and women's ministries adequately consulted and involved in project design? If not, should they have been? Were stakeholder engagement exercises gender responsive? For any stakeholder workshops, were women-only sessions held, if appropriate, and/or were other considerations made to ensure women's meaningful participation? During implementation what systematic and appropriate efforts were made to include diverse groups of stakeholders (e.g., women's groups)?	Extent of addressing GEWE in the project during implementation, including with separate consultations with women	KIIs and FGDs ProDoc, APRs, IE	
	Project Finance And co-finance			
19	Were there variances between planned and actual expenditures, and were these justified? Were there changes made to fund allocations because of budget revisions and were these justified?	Acceptable justification of the planned and actual project expenditure	KIIs ProDoc, APRs, IE	triangulation
20	Were there strong financial controls established to allow the project management to make informed decisions regarding the budget at any time and allow for the timely flow of funds and for the payment of satisfactory project deliverables? Did the project demonstrated strong due diligence in the management of funds, including periodic audits?	Presence of adequate financial controls	KIIs ProDoc, APRs, IE	triangulation
21	Were there variations between expected and realized co-financing and fir what reasons?	Acceptable justification of the planned and actual co-financing	KIIs ProDoc, APRs, IE	triangulation
	M&E in implementation			
22	Was the M&E plan sufficiently budgeted and funded during project implementation?	Allocation of the planned (sufficient) financial resources for the M&E	KIIs ProDoc, APRs, IE	triangulation
23	Was data on specified indicators gathered in a systematic manner? To what extent did the Project Team use inclusive, innovative, and participatory monitoring systems? What was the Extent of the Project Board's role in M&E activities?	Evidence of adequate M&E methods used	KIIs ProDoc, APRs, IE	Critical review of the M&E methods used triangulation

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24	How were perspectives of women and men involved and affected by the project monitored and assessed? How were relevant groups' involvement with the project and the impact on them monitored? To what extent was the GCF NDA kept informed of M&E activities?	Evidence of adequate (gender accounted) M&E methods used Extent of communication	KIIs ProDoc, APRs, IE	Critical review of the M&E methods used triangulation
25	Was there adequate monitoring of environmental and social risks as identified through the UNDP SESP and in line with any safeguards management plan's M&E section?	Evidence of adequate SESP Monitoring	KIIs ProDoc, APRs, IE, SESP plan and reports, UNDP SESP framework	triangulation
26	How was the RF used in project management? To what extent did the CO's and the project specific monitoring systems provide management with a stream of data, disaggregated by sex, that allowed it to learn and adjust implementation accordingly? To what extent did the information provided by the M&E system contribute to achieving project results, to improve and adapt project performance? What was the Value and effectiveness of the monitoring reports and evidence that these were discussed with stakeholders and project staff?	Evidence of effective RBM	KIIs ProDoc, APRs, IE, SESP reports,	triangulation
27	Did The M&E system include proper training for parties responsible for M&E activities to ensure that data will continue to be collected and used after project closure?	Evidence on M&E training and extent of satisfaction with this	KIIs ProDoc, APRs, IE, SESP reports,	triangulation
	Reporting			
28	To what extent was the project compliant with progress and financial reporting requirements, including quality and timeliness of reports?	Evidence on adequate reporting	KIIs APRs, IE, SESP reports,	triangulation
29	Were the APR self-evaluation findings consistent with Interim and Final Evaluation findings. If not, were these discrepancies identified by the Project Board and addressed?	Evidence on adequate reporting	KIIs APRs, IE, SESP reports,	triangulation
	Accredited Entity (UNDP) implementation/oversight (*) and Executing Entity execution (*), overall project oversight/implementation, and execution (*)			
30	How well did UNDP deliver on activities related to project identification, concept preparation, appraisal, preparation of detailed proposal, approval and start-up, oversight, supervision, completion, and evaluation?	Evidence on effective project identification, concept preparation, appraisal, preparation of detailed proposal, approval and start-up, oversight, supervision, completion, and evaluation? By UNDP	KIIs APRs, IE, SESP reports,	triangulation
31	How effectively did the Executing Entity effectively manage and administer the project's day-to-day activities under the overall oversight and supervision of UNDP?	Evidence on Executing Entity effectively managing and administering the project's day-to-day activities under the overall oversight and supervision of UNDP	KIIs APRs, IE, SESP reports,	triangulation
	Risk Management, including Social and Environmental Standards (Safeguards)			
32	Were new risks or changes to existing risks reported on in the annual APRs and/or Interim Evaluation (including SESP)? How these changes appropriate>	Evidence on regular and adequate updates of the risks log with corresponding measures planned and implemented	KIIs APRs, IE, SESP reports, risk log	triangulation
33	How did those risks affect project implementation? What systems and tools were used to identify, prioritize, monitor and manage those risks? Were action plans developed and followed? Was escalation necessary? Were any risks overlooked and what were the consequences of that? Was the project's risk register properly maintained during implementation? Did the Project Team keep the Project Board informed of new risks, changes to existing risks and the escalation of risks?	Evidence on regular and adequate updates of the risks log with corresponding measures planned and implemented	KIIs APRs, IE, SESP reports, risk log	triangulation
34	Social and Environmental Standards: How well were the safeguards management measures (for example: ESMP, Indigenous Peoples Plan), as outlined in the SESP submitted at CEO Endorsement and/or prepared during implementation implemented, how effective was this and what were the lessons learnt?	Evidence on adequate implementation of SESP plan Extent of effectiveness of SESP measures	KIIs SESP reports	triangulation
	Project Results and Impacts			
	Relevance (*)			
35	Were the context, problem, needs and priorities well analysed and reviewed during project initiation? Are the planned project objectives and outcomes relevant and realistic to the situation on the ground? To what extent has the project been appropriately responsive to political, legal, economic, institutional, etc., changes in the country?	Evidence of sound context analysis as part of ProDoc	ProDoc, APRs, IE Key Government Strategies KIIs	Triangulation Critical Review the problem addressed by the project and the underlying assumptions. Critical analysis of the effects of any incorrect assumptions or changes to the context to achieving the project results as outlined in the Project Document.
36	To what extent was the project in line with national development priorities, country programme outputs and outcomes, the UNDP Strategic Plan, and the SDGs? To what extent did the project objectives conform to agreed priorities in the UNDP Country Programme Document (CPD) and other country programme	Extent of alignment	ProDoc, APRs, IE Key Government Strategies KIIs	

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	documents? To what extent is the initiative in line with the national development priorities (e.g., MTDP) and the requirements of targeting women, men and vulnerable groups in each operational context?			Review the relevance of the project strategy and assess whether it provides the most effective route towards expected/intended results. Review how the project addresses country priorities. Was the project concept in line with the national sector development priorities and plans of the country (or of participating countries in the case of multi-country projects)? Review the extent to which relevant gender issues were raised in the project design.
37	To what extent does the project contribute to the theory of change for the relevant country programme (UNDP CPD) outcome?	Extent of alignment of project's actual activities, outputs, and outcomes with the TOC	ProDoc, APRs, IE, UNDP CPD KIIs	
38	To what extent did the project adopt gender-sensitive, human rights-based and conflict-sensitive approaches?	Extent of adoption of gender-sensitive, human rights-based and conflict-sensitive approaches in the ProDoc	ProDoc, IE, KIIs	
	Coherence			
39	Internal Coherence: To what extent are the objectives of the project design (inputs, activities, outputs, and their indicators) and its theory of change logical and coherent? Does the project contribute to the outcome and output of the CPD? To what extent was the theory of change presented in the outcome model a relevant and appropriate vision on which to base the initiatives? To what extent were the methods, activities and outputs aligned with the overall objectives and goals of the project?	Extent of alignment of the results with the TOC	ProDoc, IE, KIIs	Critical Review of the TOC compared with the results achieved
40	External coherence: How complementary was the project with other relevant initiatives? How well does the intervention fit? How compatible the intervention with other interventions in the country, sector or institution? To what extent has the project complimented other on-going local level initiatives (by stakeholders, donors, governments) on climate change adaptation or mitigation efforts?	Extent of complementarity of the project with other development initiatives in the same thematic area and./or locations	ProDoc, IE, Third party reports KIIs	Triangulation
41	How has the project contributed to achieving stronger and more coherent integration of shift to low emission sustainable development pathways and/or increased climate resilient sustainable development (GCF RMF/PMF Paradigm Shift objectives)?	Extent added value of joint/jointly planned/complementary activities	ProDoc, IE, Third party reports KIIs	Triangulation
	Effectiveness (*): Progress towards objective and expected outcomes (*)			
42	To what extent were the expected outputs achieved at expected quality? What were the factors that affected output achievement, e.g., project design, project's linkages with other activities, extent and materialization of co-financing, stakeholder involvement, etc.? Is this achievement supportive of the ToC and pathways identified?	Extent of achievement of the planned outputs Extent of positive feedback from the beneficiaries about the quality	ProDoc, APR 2025, IE KII FGDs	Triangulation
43	To what extent were the actual outcomes achieved commensurate with what was planned? To what extent is the project able to demonstrate changes against the baseline (assessment in approved funding proposal) for the GCF investment criteria (including contributing factors and constraints)?	Extent of achievement/contribution to planned targeted outcomes	ProDoc, APR 2025, IE KII FGDs	Triangulation
44	To what extent were objectives achieved/are likely to be achieved by end of the project timeline? To what extent has the project contribute to improving and/or creating enabling environment related to promotion of integrated landscape management, building resilience and biodiversity conservation initiatives (policy/legal/regulatory frameworks)? To what extent has the project contribute to observed changes in governance architecture, including access to and use of information (laws, administrative bodies, trust-building and conflict resolution processes, information-sharing systems, etc.)?	Extent of achievement/contribution to objectives sought	ProDoc, APR 2025, IE TPRs KII FGDs	Triangulation
45	To what extent did the project contribute to country programme outcomes and outputs, the SDGs, the UNDP Strategic Plan, GCF strategic priorities, and national development priorities?	Extent of achievement/contribution to country programme outcomes and outputs, the SDGs, the UNDP Strategic Plan, GCF strategic priorities, and national development priorities	ProDoc, APR 2025, IE, ICPE, UNDP reports, SDG reports, TPRs on the implementation of policies KII FGDs	Triangulation
46	To what extent has the project contribute to observed changes in capacities (awareness, knowledge, skills, infrastructure, monitoring systems, etc.) of national institutions, local provincial government officials, and communities to advocate on environmental, biodiversity and climate change issues and disaster risk reduction? How effective has the project been in enhancing the capacity of the communities and local governments to create enabling environment for inclusive disaster risk management?	Evidence of enhancement of individual and organizational capacities of the beneficiaries Evidence of the enhanced capacities being put in use	ProDoc, APR 2025, IE, ICPE, UNDP reports, SDG reports, TPRs on the implementation of policies KII FGDs	Triangulation
47	What factors contributed to the achieving or not achieving intended outcomes and outputs? What external (COVID, socio-economic, political, and environmental risks; cultural and religious) and internal factors contributed to achieving or not achieving the intended outputs? To what extent were partnership modalities conducive to the delivery of project's outputs? What factors of the project achievements are contingent on specific local context or enabling environment factors? What alternative strategies would have been more effective in achieving the project's objectives?	Strength of internal and external factors and the extent of the effectiveness of the project to address the negative factors	ProDoc, APR 2025, IE, ICPE, UNDP reports, SDG reports, TPRs KII FGDs	Triangulation Critical review of the affecting factors and the ability of the project to address Critical review of the possible alternative strategies
48	To what extent have been the project effective in fostering partnership including private sectors, CSOs, youth and CBOs to achieve optimal results? To what extent has UNDP partnered with civil society and local communities to promote environmental and disaster risk awareness in the country?	Evidence on the number and strength of the established partnerships	ProDoc, APR 2025, IE, ICPE, UNDP reports, SDG reports, TPRs KII FGDs	Triangulation

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	Unexpected results			
49	Can any unintended or unexpected positive or negative effects be observed as a consequence of the project's interventions? What factors have contributed to the unintended outcomes, outputs, activities, results? Do any of the unintended results constitute a major change?7	Evidence on unexpected positive or negative effects Evidence of UNDP adequate action	ProDoc, APR 2025, IE,, KII FGDs	Triangulation
	Efficiency			
50	Were the outputs achieved in a timely manner? If not then why?	Lack of significant delays due to internal reasons Evidence of adequate project action to address	ProDoc, APR 2025, IE, KII FGDs	Triangulation
51	To what extent has the project implementation strategy and its execution been cost- effective? Have project resources been utilized in the most economical, effective and equitable ways possible (considering value for money; absorption rate; commitments versus disbursements and projected commitments; co-financing; etc.)? To what extent has been the project implementation strategy, execution and synergy with other programmes been cost and administrative efficient?	Evidence on cost-effectiveness Extent of positive perceptions on cost-effectiveness	ProDoc, APR 2025, IE, KII FGDs TPRs	Light -touch critical review of the costs compared to deliverables Triangulation
52	How efficiently were the resources including human, material and financial resources, expertise used to achieve the results in a timely manner?	Evidence on cost-efficiency Extent of positive perceptions on cost-efficiency	ProDoc, APR 2025, IE, KII FGDs	Light -touch critical review of the costs compared to deliverables Triangulation
53	To what extent was the existing project management structure as outlined in the project document appropriate and efficient in generating the expected results? Are the project's governance mechanisms functioning efficiently? How does the project incorporate gender in its governance or staffing?	Evidence on the adequate role of the project management and governance structure facilitating efficiency	ProDoc, APR 2025, IE, KII FGDs	Triangulation
54	What were the lessons and how were feedback/learning incorporated in the subsequent process of planning and implementation?	Evidence of strong KM system in place Evidence on LL being shared and used	ProDoc, APR 2025, IE, KII	Triangulation
55	What has been the project's ability to adapt and evolve based on continuous lessons learned and the changing development landscape? Please account for factors both within the AE/EE and external?	Evidence of strong adaptive management	ProDoc, APR 2025, IE, KII	Triangulation
	National Ownership			
56	How well is country ownership reflected in the project governance, coordination and consultation mechanisms or other consultations? Were the modes of deliveries of the outputs appropriate to build national ownership and ensure sustainability of the result achieved? To what extent are country level systems for project management or M&E utilized in the project? What factors contributed to the presence or the lack of strong national ownership	Evidence of strong national ownership, e.g., delivering on commitments, using Govt systems for M&E	ProDoc, APR 2025, IE, KII	Triangulation
	Sustainability			
57	Are the actions and results from project interventions likely to be sustained, ideally through ownership by the local partners and stakeholders? How strong is this and what are the mechanisms? What are the key factors that will require attention to improve prospects of sustainability of project outcomes/outputs/results?	Evidence of strong sustainability potential for the majority of the interventions	ProDoc, APR 2025, IE, TPRs Government budgets KII	Triangulation
58	Financial sustainability: What is the likelihood that financial resources will be available once the GCF assistance ends to support the continuation of benefits (income generating activities, and trends that may indicate that it is likely that there will be adequate financial resources for sustaining project outcomes)? What additional factors are needed to create an enabling environment for continued financing? Has there been the establishment of financial and economic instruments and mechanisms to ensure the ongoing flow of benefits once the GCF assistance ends (i.e., from the public and private sectors, income generating activities, and market transformations to promote the project's objectives)?	Evidence of sufficient financial resources for sustainability potential for the majority of the interventions	ProDoc, APR 2025, IE, TPRs Government budgets KII	Triangulation
59	Socio-political sustainability: Are there any social or political risks that can undermine the longevity of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public/ stakeholder awareness in support of the long-term objectives of the project? Are lessons learned being documented by the Project Team on a continual basis? Are the project's successful aspects being transferred to appropriate parties, potential future beneficiaries, and others who could learn from the project and potentially replicate and/or scale it in the future? o Indicate whether the gender results achieved are short-term or long term.	Evidence of the lack of significant socio-political risks for sustainability potential for the majority of the interventions	ProDoc, APR 2025, IE, TPRs KII	Triangulation
60	Institutional framework and governance sustainability" Do the legal frameworks, policies, governance structures and processes pose any threat to the continuation of project benefits? Has the project put in place frameworks, policies, governance structures and processes that will create mechanisms for accountability, transparency, and technical knowledge transfer after the project's closure? How has the project developed appropriate institutional capacity (systems, structures, staff, expertise, etc.) that will be self-sufficient after the project closure date? o How has the project identified and involved champions (i.e.,	Evidence of the lack of significant risks related to the legal frameworks, policies, governance structures and processes to pose any threat to the continuation of project benefits	ProDoc, APR 2025, IE, TPRs KII	Triangulation

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	individuals in government and civil society) who can promote sustainability of project outcomes? Has the project achieved stakeholders' (including government stakeholders') consensus regarding courses of action on project activities after the project's closure date? Does the project leadership have the ability to respond to future institutional and governance changes (i.e., foreseeable changes to local or national political leadership)? Can the project strategies effectively be incorporated/mainstreamed into future planning? o Is the institutional change conducive to systematically addressing gender equality and human rights concerns?	Evidence of the presence of supportive legal frameworks, policies, governance structures and processes to support the continuation of project benefits		
61	Environmental sustainability: Are there environmental factors that could undermine the future flow of project environmental benefits? Will certain activities in the project area pose a threat to the sustainability of project outcomes?	Evidence of the lack of environmental factors that could undermine the future flow of project environmental benefits; Evidence of strong likelihood of the opposite	ProDoc, APR 2025, IE, TPRs KII, FGDs	Triangulation
	Innovativeness			
62	What are the lessons learned to enrich learning and knowledge generation in terms of how the project played in the provision of "thought leadership," "innovation," or "unlocked additional climate finance" for climate change adaptation/mitigation in the project and country context?	Evidence/examples of the project provision of "thought leadership," "innovation," or "unlocked additional climate finance" for climate change adaptation/mitigation Evidence of appropriate project action on sharing the innovative approaches	ProDoc, APR 2025, IE, TPRs KII, FGDs	Triangulation
	Cross-Cutting			
63	GEWE: Does the project only rely on sex-disaggregated data per population statistics? Are financial resources/project activities explicitly allocated to enable women to benefit from project interventions? To what extent did the project contribute to gender equality, the empowerment of women and a human rights-based approach? How project interventions affect women as beneficiaries? How do the results for women compare to those for men? Do women as beneficiaries know their rights and/or benefits from project activities/interventions? To what extent are female stakeholders or beneficiaries satisfied with the project gender equality results? Is the decision-making process transparent and inclusive of both women and men?	Evidence of the project enhancing GEWE	ProDoc, APR 2025, IE, UNDP reports, KII FGDs	Triangulation
64	LNOB: To what extent did the poor, indigenous, persons with disabilities, women and other disadvantaged or marginalized groups benefited from the project? To what extent did the project contribute to a human rights-based approach?	Evidence of the project enhancing the livelihoods/opportunities for those at the risk of being left behind	ProDoc, APR 2025, IE, UNDP reports, KII FGDs	Triangulation
65	Poverty-environment nexus: how the environmental conservation activities of the project contributed to poverty reduction and sustaining livelihoods?	Evidence of the environmental conservation activities of the project contributed to poverty reduction and sustaining livelihoods	ProDoc, APR 2025, IE, UNDP reports, KII FGDs	Triangulation
	Replication and Scalability			
67	How effective are the exit strategies and approaches to phase out assistance provided by the project including contributing factors and constraints? Is there a need for recalibration?	Evidence of an effective exit strategy Evidence of effective approaches to phase out assistance provided by the project	ProDoc, APR 2025, IE, UNDP reports, KII FGDs	Triangulation
68	Are there results that are likely to be scaled up and how strong is this effect? If yes then how? What are the factors promoting and hindering? What are the key factors that will require attention in order to improve prospects of sustainability, scalability or replication of project outcomes/outputs/results?	Evidence and extent of results that are likely to be scaled up Evidence of effective approaches by the project and the government to enhance scalability	ProDoc, APR 2025, IE, UNDP reports, Government budgets KII FGDs	Triangulation
	Progress to impact			
69	What were the Positive or negative effects of the project on local populations (e.g., income generation/job creation, health, wellbeing improved natural resource management arrangements with local groups, improvement in policy frameworks for resource allocation and distribution, regeneration of natural resources for long term sustainability)? To what extent did the project contribute to better preparations to cope with disasters or mitigate risk, and/or addressed climate change mitigation and adaptation, as relevant?	Extent of Positive effects of the project on local populations (e.g., income generation/job creation, health, wellbeing, improved NRM arrangements with local groups, improvement in policy frameworks for resource allocation and distribution, regeneration of natural	ProDoc, APR 2025, IE, UNDP reports, KII FGDs	Triangulation

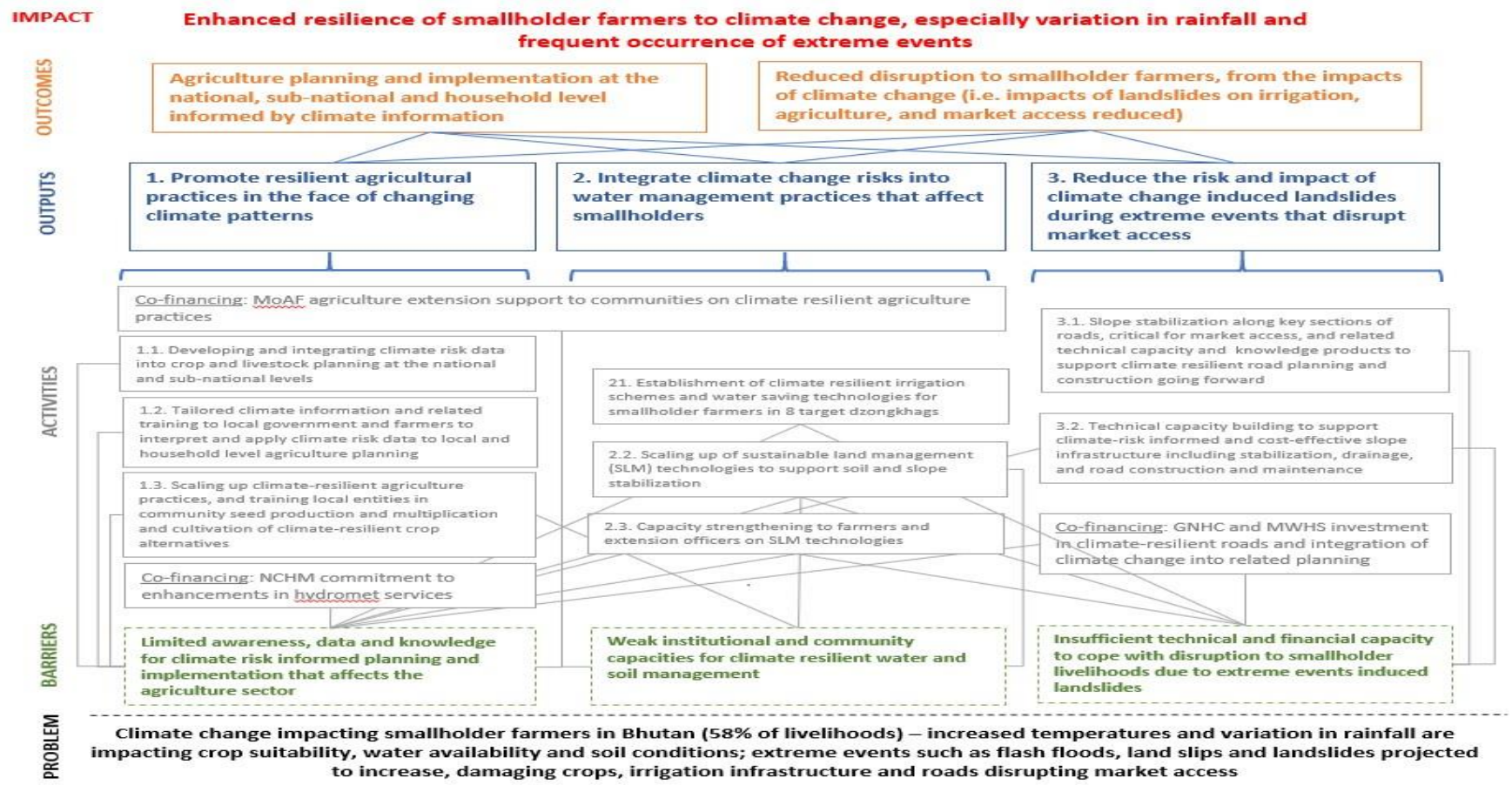
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		resources for long term sustainability). Extent of the alignment with the projections Extent of contribution to better preparations to cope with disasters or mitigate risk, and/or addressed climate change mitigation and adaptation		
70	What were the Positive or negative effects of the project on Environmental stress reduction, e.g., GHG emission reduction, reduction of waste discharge, etc.(scale at which the stress reduction is being achieved) and Environmental status change (e.g., change in population of endangered species, forest stock, water retention in degraded lands, etc.)?	Extent of positive effects of the project on Environmental stress reduction, e.g., GHG emission reduction, reduction of waste discharge, etc and Environmental status change (e.g., change in population of endangered species, forest stock, water retention in degraded lands, etc.)	ProDoc, APR 2025, IE, UNDP reports, KII FGDs	Triangulation
71	What is the likely permanence (long lasting nature) of the impact(s) and any arrangements that were put in place to facilitate follow-up actions? What are the barriers and risks that may prevent further progress towards long-term impact?	Strength of the likely permanence (long lasting nature) of the impact(s) Evidence of arrangements put in place to facilitate follow-up actions and address the barriers for long lasting impact		Triangulation

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J. Results Chain: From the ProDoc

***Results Chain* from the ProDoc**



Source: ProDoc

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K. Summary of Main Findings by Evaluation Criteria

Evaluation criteria	Summary findings
Project design	The project design was overall strong, with a TOC (in the form of graphical Results Chain), based on participatory needs assessment, and on the underlying analysis of the climate vulnerability related challenges faced by smallholders, risks and mitigation measures and lessons from the previous projects mostly addressed, but missing a solid analysis of the enabling environment for market linkages. It had appropriate ESMF and SESP analysis and plan The combination of the building blocks of the project- CSI, CSA, SLM, CB, knowledge generation and sharing, and regulatory improvements, presented a good model, that could and did produce important results, but the missing element of market linkages (which was cut during the review stage), made it different from the original paradigm shift. While market linkages were addressed by other projects (and this was the expectation) there were critical gaps om the project districts The SEP needed a description of the modes of engagement and expectations for each agency. There could have been a clearly spelled out activity on strengthening of the RUGs and a budgeted and planned in detail activity on the engagement with the private sector
Project implementation and management	The project implementation was smooth, with examples of adaptive management, allowing for example, to continue working during COVID19, and reallocations within the budget lines, for example within SLM to meet the changed priorities (to the extent this was possible). Both UNDP and the EE delivered on their respective responsibilities as planned and overall, effectively, with more expected in terms of linking this project to the other development projects proactively. The Actual stakeholder participation was as planned for the ones directly engaged, but not as strong for the tangential stakeholders, partially linked to the communication and visibility of the project leaving to desire more. The project budget was executed with strong discipline and delivered as planned, and the actual co-financing surpassed the plans. The project had an overall well-designed M&E plan at the onset, except that (a) capturing the capacities built institutionally required using other methods (e.g. outcome mapping, outcome harvesting, self- assessment tools) and not relying on the annual impact assessments; (b) it did not have a budgeted amount for the annual impact surveys; and (c) two of the indicators did not capture the essence of the results expected, and for the other two- the reporting was not in line with the indicators. The execution of the M&E plan was mostly adequate with effective data collection tools and protocols at the level of outputs, but developed with 1 year delay when the M&E officer was hired. The design and implementation of the of the impact surveys had issues, which affected the quality of reporting, RBM and made the task of the FE very complicated, as for many indicators these were to be the source of data. . The project had put in place effective implementation mechanisms for addressing social and environmental risks and grievances. The GAP form the ProDoc was revised to be include tailored training for different groups and awareness on aspects related gender norms and obstacles for gender equality.
Progress towards objectives and expected outcomes	**Outputs:** The targets for 6 indicators for Outputs were achieved with: improved KAP on sustainable water use 6366 ha of farmland with reliable CRI, eight (8) district level Participatory SLM Action Plans 5023 ha of farmland slopes stabilized with SLM measures; 211km of farm- and 214.6 km of GC roads climate proofed and mitigation measures of 2 sections of main roads (with 1 self-stabilized) and the integration of climate related information in national DL&D database progressed. The targets for the following 3 output indicators were assessed by the FE as close to target/likely to be achieved in the near future: (a) Increased institutional capacity for climate-informed agriculture planning, given the replicated crop calendars (WB, with the project supported medium-range weather forecast as input); (b) Level of knowledge and adoption by beneficiary HHs of climate resilient and sustainable crop production practices, given that the slow adoption was only for part of technologies promoted (IA2025), likely to pick up the pace with the ongoing growth of farmers' groups, and (c) enhanced technical capacity of members of WUGs, Dzongkhag engineers and agriculture extension officers for climate adaptive water and soil management - in the light of positive feedback in FE FGDs/KIIs and other projects present/plans with training with planned water sector reforms (but more needed). The target for one of the output indicators was not achieved, with the share (%) of beneficiaries in targeted dzongkhag accessing improved climate services below the target of 70 percent. Outcome: Outcome 1. Nine (9) tailored products to inform climate-resilient agriculture planning (outcome indicator 1a) were produced as planned (target achieved), and were assessed by the FE as "likely influencing the beneficiaries' decision making" (Outcome indicator 1b) given 73.5 percent reported in IA2024 for HHs (although missing in IA2025 and with access issues related the effectiveness of the extension service and high illiteracy) and the crop calendars replicated at the time of this report and (large numbers of staff and farmers trained. For Outcome (2) Strengthened adaptive capacity and reduced exposure to climate risks, the increased yields stood as an indicator: The target was assessed as likely, with higher yields recorded for rice and especially fully irrigated land plots (IA2024, IA2025), and in the light of more irrigation systems expected in those locations (even though information was lacking for all crops). The factors *enabling factors* included; side-synergies (e.g. WB (ADSS), and JICA, enhancing the use of climate related information), strong national ownership among others. *Hindering factors included*: COVID, underestimation and escalation of costs,. issues with the extension services, illiteracy among many farmers, especially older age women; affordability (e.g. for certain CSA methods in the face of still small (but growing) number of farmers' groups), etc. The project overcame many of the mentioned challenges (where possible, e.g. with escalated costs) with adaptive and efficient management .
Relevance	The project was relevant with regards to the country policies and targets – both the ones that were in place at the time of design and the ones that came later, e.g., the consecutive FYPs, the NAP, NDCs. It was relevant to the country context (with its terrain characterized by high altitudes and sharp slopes, prone to monsoons and drouths) and needs of the

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Evaluation criteria	Summary findings
	beneficiaries on the ground (with the high preference for improved irrigation water supply for example), as well as the baseline level of capacities (with the trainings tailored adequately). And finally, it was relevant to UNDP CPDs, UNSCDFs, and GCF priorities
Coherence	The project was complementary to several projects funded by the RGoB and the development partners, including the WB, Government of India, IFAD, FAO, EU, BTF, GEF and the AF. Some of these were similar in nature, focusing on irrigation infrastructure (e.g., those funded by the GoI), others focused more on supporting marketing, trade and export infrastructure (WB), value chain development (FAO), improvements related to the agrometeorological forecasting (WB), etc
Effectiveness	The project contributed to more climate resilience of the farmers - enabling better planning equipped with resilient agricultural practices and climate change risks integrated into water management practices (even if some of these were below the targets), facing less disruption for physical market access thanks to climate proofed roads. It helped the farmers to be more resilient overall,. The project contributed to several key targets form the Government plans. It was able to demonstrate progress against GCF Investment Criteria- to a varying degree, but in line with the expectations from the Funding Agreement, including (1) *Impact potential- medium/high*, (2) *Paradigm shift potential -medium/high,* demonstrated through a shift away from outdated farming methods to climate-informed, resilient agricultural practices, with a strong potential to be scaled up, with transformed landscapes, with returning internal migrants, and farmers moving from subsistence farming and often having to sell their labour for living into profitable small businesses. (3) *Sustainable development potential- medium*, potentially contributing to several SDGs, but as the IA2025 indicated, to a modest extent (especially for SD1 1: (Poverty), SDG 2 (zero Hunger), SDG 10 (Reduced inequality), SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth)), more for SDG 13 (Climate Action) and SDG 15 (Life on Earth); (4) *Needs of the recipient- High,* concentrating on the regions with high climate vulnerability and poverty; responding to CB needs and the high need in CSI and CSA; helping the farmers to be more climate resilient and getting access to climate proofed roads and hence, uninterrupted access to nearby markets; (5) *Country ownership- High,* supporting the national priorities and being based on participatory design, and evidenced by the RGoB providing the committed co-funding, and actively engaging in project implementation; and (6) E*fficiency and effectiveness-Medium (in line with the expectations from the Funding Agreement), since* while the project was overall cost-effective and cost -efficient and the expected co-financing materialized. There were financial sustainability risks and the expectations for the attributable higher yields and savings to the farmers did not materialize
Efficiency	The project did not experience major delays despite exogeneous challenges, including COVID19 and post COVID challenges (with the supply chains disrupted and cost escalation) and government restructuring in 2022. It was cost effective and, overall, cost -efficient, but the latter could have been more pronounced if there were more synergies utilized. At least one of the IE recommendations was not acted on, namely putting more focus on supporting the farmers with addressing the critical gaps in marketing and market access. The project governance was effective with an active PB, TACC, PMU and a very efficient PM
Sustainability	Financial sustainability prospects varied by component: likely for the SLM and also tail-end sustainable irrigation, like drip and sprinkler irrigation (given the strong ownership by the farmers), but only moderately likely for CSI, as at the FE, in the face of small WUG member fees, there were no adopted by the Government regulations to ensure that the lifetime O&M costs will be covered (the DOW was considering options, and while there were a few PES schemes piloted, there were no assurances for their replications, plus PES schemes are no substitutes for the financial regulations on O&M, but rather complements). Similar concerns applied to the Roads/RUGs, but compounded by the institutional weakness of the RUGs, which did not receive the institution- building support, like the WUGs did. The Exit Plan developed by the project lacked details on these. The recent Cooperatives and Farmer Groups Bill of Bhutan (December 2025) was likely to support sustainability prospects in several respects, for example using sustainable seed varieties, and innovations. There were no political risks to sustainability but there were socioeconomic risks related to high outward and rural-urban migration. The GEWE results were likely to be long-term for those engaged, but with risks to sustainability in terms of trainings by the district administrations given the lack of plans and budgets for GEWE locally and GBB implementation country-wide. And finally, continuing the research under the ARDCs to the same extent would be unlikely without funding support, which is rare for research
Innovativeness in results areas	The Innovativeness aspect of the paradigm shift was somewhat reduced by the absence of the element on marketing of agricultural products to optimize income from value chains (as specified in its formulation), and the fact that other projects to address these gaps while present in the country still left critical gaps in the project districts. While the 9 SLM, 15 CSA methodologies, the Participatory SLM method and the use of the HDPEs were not completely novel in Bhutan (being tested in the previous projects) their scaled-up use helped to enrich the local knowledge about these. But there were a few that were innovative for Bhutan, namely Hydroponics, vermi-compost, biochar, smart features-enabled drip and sprinkler irrigation, etc. There were innovations also at NCHM and DoST. There were non-technical aspects that were relatively new for Bhutan, e.g. BOIT model. The models of the independent PMU reporting to the PB and TACC, while pioneered under an earlier WB project matured under this one and proved to be effective(/ Output level data collection templates under the M&E were effective too. Perhaps the project could have put even more focus on introducing more climate resilient varieties of seeds.

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Evaluation criteria	Summary findings
Unexpected results	The positive ones included (a) improvement of drinking water supply in several location by promoting integrated drinking and irrigation water supplies but also in others, with HH/Gewog level adjustments, (b) fewer reported livestock deaths attributed to water or forage shortages; (c) return of residents to previously depopulated villages; (d) fewer car accidents on the improved farm roads; (e) youth inspired to pursue farming as a business venture, especially with innovative technologies, and (f) natural stabilization of the Reotala road slide allowing to use the planned resources for other needs under that Component, including to cover increased costs of studies on the Box-Cut Road.
Country ownership	Country ownership was strong overall, at all levels, with the institutions that were involved directly, actively engaged, and invested. The project would have benefitted from stronger ties with the tangential governmental stakeholders, which could have been facilitated by the EE/direct stakeholders.
GEWE	Project enabled many women (and men) to shift from subsistence farming to running small farm businesses, with a mindset change as one of the most important results. The project could have enhanced that even more by gender profiling and then dedicating more of specific support for women-dominated value chains. In terms of gender equality, there were already examples of women taking leadership roles at WUGs, and this was likely to happen more, but transformative change in this regard would have required affecting deep-rooted social norms with more effective and longer-term engagement as well as replication of the project successes country wide which was not assured
Cross-cutting issues	The M&E system did not capture the LNOB (elderly, PwD, vulnerable youth, LGBTQ+ community, etc.), results systematically (not in the log frame and the IAs), even though the LNOB became prominent with the SDG agenda, in 201, but there was evidence of the project positively affecting them, e.g., the elderly (with dry terracing), returning migrants, vulnerable youth (engaged in infrastructure works), etc
Replication and Scalability	Promotion of the small scale SLM practices and tail end sustainable irrigation was likely to be replicated given the strong ownership by the farmers and the RGoB cost-sharing scheme, but noting that this was not happening for the greenhouses and innovative solutions (hydroponics, biochar, vermi-compost) much (IA2025). For larger- scale SLM schemes and HDPEs the replication was likely (given many donor agencies supporting) but with risks, given that while efforts to mainstream climate resilience across sectors were underway by the RGoB (including in FYPs) financing continued to be a concern. As for the CSA methods, there was a need to promote these further to stimulate the uptake and replication. The enabling factors for replication included: (a) several regulatory acts (SOPs) and guides formally adopted; (b) examples of the trained specialists at the directly engaged ministries sharing their knowledge countrywide to the remaining 12 districts and the overall strong "DOA-ARDCs -district Agricultural officers - extension agents" link (but not happening much for truly innovative solutions, as mentioned. CNR and CNF had the innovations in their curricula (but without the project's support), and this was also a supportive factor for replication The project could have engaged with the remaining 12 Agricultural officers directly during the annual KM events. Replication too was unlikely for GEWE activities The recent Cooperatives and Farmer Groups Bill of Bhutan (December 2025) was likely to support also the prospects for scaling up of innovative methods prompted by the project
Progress to impact	The adoption by the Government of several important regulations and guides, including the (a) SLM: Guideline and Best Practices 2021, (b) the SOP for road slope data collection induced by slope failures (expected to enhance road slope management) and (c) the SOP on dissemination of climate and climate risk information at the national and sub-national level (enabling tracking and measurement of losses of crop and livestock, against climate change variability and impact, and integration into planning processes), together with the upcoming National Agricultural Drought Watch - to provide location specific forecasts), were important in improving the legal and regulatory framework for climate informed agriculture. This was part of the institutional strengthening, complemented by enhanced individual capacities. Capacities of the WUGs were enhanced, along with the staff of the partner agencies and district administrations. The extent of the adoption of innovative CSM measures and the use of the climate information by the farmers were at the levels below the expectations, possibly for combination of reasons, including the extension agents burdened by a variety of tasks, and affordability for individual HHs. The project contributed to increased resilience of built environment. There was some evidence that roads' stabilization was effective in mitigating deterioration in access and reducing the negative impacts of road disruptions. There was evidence of enhanced smallholder resilience, but only in terms of (a) higher yields for fully irrigated rice production (and potentially, also certain increase in the area under rice cultivation; and incomes to small extent), but the improvements in increased HH expenditure, foot security, better nutrition and asset ownership/quality (with the likely exception of faster internet connectivity), could not be attributed to the project. For rice fallow areas the project impact in terms of reduction was not statistically significant. Community cohesion was enhanced. Increased availability of clean drinking water improved hygiene practices with theoretically possible potential for positive health impact. The project had positive environmental impact (although not well captured) with water saved, soil erosion reduced and soil health improved, among others And finally the project contributed to the resilience of built infrastructure.

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L. Development projects

Development partner and project(s)	Key areas of Complementarity
A. WB	
1.Food Security and Agriculture Productivity Project (FSAPP) in Bhutan ***RNR project***, ACCELERATE BHUTAN'S JOB TRANSFORMATION THROUGH RENEWABLE NATURAL RESOURCE VALUE CHAINS PROJECT (2025 – 2031) – World Bank funded project of USD 38.24 million. The RNR project, funded by the World Bank targets tailored value-chain support to raise productivity, boost value-add and jobs; CSA technologies and practices investments (dairy, potato, citrus) for smallholders and processors. 2.Strengthening Risk Information for Disaster Resilience in Bhutan: aims to enhance Bhutan's capacity for risk-informed decision-making and prepare for natural disasters. The project (2021-2025), has three components: developing a multi-hazard risk decision support system, strengthening hydro-met services, and professionalizing the construction industry for resilient infrastructure. Its objective is to improve how Bhutan uses disaster risk information for development planning by fostering better coordination and data sharing among government agencies.	• This project is complemented on the CSA technologies, irrigation and value-chain support, and resilience-building for smallholders; knowledge and technology transferor-investment in irrigation schemes, improved water use efficiency, climate-informed irrigation design, Market systems, and value-chain strengthening. • The WB's advanced data and decision strengthen GCF's climate advisories, (e.g., rainfall variability, hydro-power water allocation) that can inform development planning across sectors (agriculture, infrastructure, water resources), planning, and agricultural investments. Improved data sharing and coordination under the WB project complement GCF's multi-stakeholder approach, ensuring targeted, data-driven support for climate-resilient agriculture.
B. ADB	
1. Bhutan's Water Flagship Program, focused on improving climate resilience and improve water security particularly in Wangdue Phodrang, Zhemgang, and Thimphu. The project includes the Water Flagship Program Support Project (WFSP), which aims to strengthen climate resilience through infrastructure upgrades for drinking water and irrigation 2. Enhancing Food Security through Small Holders' Climate Adaptive Potato Production, focus on food security increase potato production and livelihood of potato producers in Bhutan improved. The project area includes, Bumthang, Haa, Paro, Pemagatsel, and Trashigang. The expected outputs are (i) production of climate-adaptive breeder seeds increased, (ii) certified breeder seeds multiplied, and (iii) capacity of farmers and government staff for post-harvest management and marketing strengthened	• ADB's WFSP complements the GCF/UNDP project by addressing gaps in hydrometeorological services, improving water data availability, strengthening governance for irrigation operation and maintenance, developing tailored climate advisories, and supporting scalable solutions that enhance climate resilience and sustainable water management in agriculture. • Supports investment in seed storage and quality control aligned with district-specific climate risks, Scale-up with market and extension integration, Integrates training on climate-resilient post-harvest practices, loss reduction, and market intelligence (pricing, demand, logistics)
C. FAO	
visit https://www.fao.org/bhutan/projects/en • Sustainable Agri-Food System Intelligence (SASI) – 2023-2027: Objective: Consolidating results of agri-food system assessments, methodology and tools, developing crosscutting analyses and approaches and reinforcing multi-stakeholder collaboration for transitioning to sustainable agri-food systems. • Regional TCP: Fostering agri-food system transformation in Asia through integrated research, extension and agribusiness incubation (Bhutan, Lao PDR, Nepal, and Sri Lanka.) 2025 • Mindful Futures – 2024-2025 – Joint SDG Fund. Objective: Mindful Futures would be implemented under, and governed by, the legal arrangements between the United Nations and the RGoB as set out in the United Nations Sustainable Development Cooperation Framework (2024 – 2028) ("UNSDCF"). • Enabling inclusive and effective blended investment in agri-food systems in the context of the Hand in Hand Initiative (HIH) – 2023-2025 with budget 483,000. Objective: To enhance capacity of the participating countries to upscale and adopt effective innovations and good practices in rural financial services in support of the HIH Initiative in five countries in RAP region. • OCOP: Promote sustainable production, value addition and trade of special agricultural products for food systems transformation and livelihoods improvement in Asia-Pacific countries 2023-2025: Objective: To support target OCOP countries to create an enabling environment for SAPs and envisages evidence-based analysis and innovative approaches to support the transformation of agri-food systems. • Enhancing livestock production efficiency through digitalization and precision farming 2023-2024: Objective: Digitalize livestock value chains; strengthen poultry and piggery through technical support; enhance dairy production and farm practices; build institutional capacity and quality standards; and boost fish production for import substitution and export.	• SASI will support Output 1 and Output 2 by consolidating assessments, methodologies, and tools to provide standardized climate risk data and decision-support resources. • Regional TCP activities can scale and validate GCF-supported climate risk information products (Activities 1.1 and 1.2) and irrigation and SLM interventions across comparable contexts. • Mindful Futures initiatives can integrate climate-resilience planning with SDG outcomes, including nutrition, food security, and inclusive growth. This would enhance the policy relevance and impact of Outputs 1 and 2, and support community pilots that test adaptive practices and promote inclusion. • HIH: This initiative complements rural finance and blended investment approaches to facilitate the adoption of climate-resilient practices and strengthen market linkages under Outputs 1 and 2, financial innovations. • The OCOP initiative supports market-ready, climate-resilient SAP value chains by linking climate-smart production with packaging, branding, and market access, complementing Outputs 1 and 2. • The Digital Livestock project digitizes value chains, complements the GCF project by translating climate-adaptive knowledge into actionable farm practices, and integrates livestock data with crop irrigation and climate information to improve resilience.
D. BTF	

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Development partner and project(s)	Key areas of Complementarity
Adaptation to Climate-Induced Water Stresses through Integrated Landscape Management (implemented in Dagana, Paro, and Tsirang, including GCF areas) Project components include: Adaptive watershed management for resilient communities; Climate-resilient water infrastructure for reliable drinking and irrigation supply; Climate-smart agriculture and sustainable land management; Stronger local governance for water-focused climate adaptation www.bhutantrustfund.bt	The BTF project complements the GCF project by strengthening adaptive watershed management, climate-resilient water infrastructure, and robust governance. It directly enhances water availability, irrigation reliability, and soil conservation—key gaps identified in the GCF report—ensuring effective, landscape-scale climate adaptation.
E. MoAL - IFAD	
3. The Commercial Agriculture and Resilient Livelihoods Enhancement Programme (**CARLEP**) project, implemented by MoAL seeks to transform rural agriculture into a sustainable, market-driven sector by promoting climate-smart practices and strengthening community and institutional capacities. The programme employs a value chain and commercialization approach across selected Gewogs in six eastern Dzongkhags: Lhuentse, Mongar, Pemagatshel, Samdrup Jongkhar, Trashi Yangtse, and Trashigang. 4. **The Building Resilient Commercial Smallholder Agriculture (BRECSA) project,** implemented by the MoAL and funded by GAFSP and WFP, aims to boost rural incomes and employment—especially for women and youth—through sustainable farming, market-oriented production, and value chain development.	CARLEP complements GCF by translating climate resilience investments into sustainable, market-driven value chains. By engaging stakeholders across the value chain and leveraging MOAL's network, CARLEP ensures climate-smart practices are scaled, technical gains are sustained, and long-term impact is achieved beyond project cycles. The GCF project strengthens climate resilience infrastructure and capacities, while BRECSA translates these gains into profitable market opportunities for smallholders—especially women and youth—through targeted value-chain interventions and improved market access. BRECSA ensures that enhanced water and agronomic practices from the GCF project led to sustainable, market-oriented production and broader economic benefits, making the two projects complementary.
F. GOI	
The Government of India (GoI) supports Bhutan 13th FYP through a comprehensive portfolio of development programs and grants. Key initiatives include Small Development Projects (SDP) for rural infrastructure, Programme Grants (PG) for direct budgetary support, and Tied Assistance (PTA) funding for High Impact Community Development Projects (HICDP). These programs span sectors such as agriculture, health, education, capacity-building, infrastructure, and energy. The Economic Stimulus Plan (ESP) further revitalizes Bhutan's economy by providing targeted support for agriculture, small industries, tourism, start-ups	The GoI supports Bhutan through a comprehensive portfolio of programs that directly complement and reinforce the GCF initiative. These efforts enhance scale, sustainability, and development outcomes across all project districts, aligning with Bhutan's climate and development priorities.
G. EU	
Technical Assistance for Ari-Food System (TAAS): The FAO, in collaboration with the MoAL, is supporting Bhutan's agricultural sector through the EU-funded TAAS project (2023–2028). The project aims to build sustainable, climate-resilient food systems by strengthening the renewable natural resources sector. This initiative is part of the broader EU–Bhutan partnership to promote inclusive, sustainable, and resilient agri-food systems.	TAAS complements the initiatives from GCF. TAAS boosts extension capacity and delivers targeted advisories for farmers, addressing GCF-identified gaps in climate-resilient seed production and soil management. By developing resilient seed varieties, improving seed systems, and promoting soil health practices, TAAS helps implement policy reforms and supports GCF's goal of building local capacity.
H. KOICA	
The Korea International Cooperation Agency (KOICA) in Bhutan supports development through technical cooperation and grant aid, focusing on school nutrition and agriculture. In partnership with the MoAL, KOICA has improved school kitchens, enhanced meal diversity with local produce, built farmer-to-school supply chains, and provided training in supply chain management for school feeding programs.	KOICA complements GCF by creating market demand for diverse, climate-resilient crops through school meal programs, which supports farmers adopting improved practices enabled by GCF irrigation and extension. KOICA also strengthens farmer organizations, supply chains, and nutrition resilience, ensuring GCF's agricultural investments translate into lasting economic and human capital gains.
I. BTFC	
Financial support from the Adaptation Fund, administered by BTFEC, a five-year (2022–2026) project "Adaptation to Climate-Induced Water Stresses through Integrated Landscape Management in Bhutan is implemented in Paro, Dagana, and Tsirang dzongkhags. The project strengthens resilience and adaptive capacity in water-stressed communities by improving ecosystem health, water management, and information systems.	The BTFC project complements the GCF project by strengthening ecosystem health, water management, and information systems in water-stressed communities. Its integrated landscape management approach supports GCF's focus on hydrometeorological services, advisory systems, and the adoption of climate-resilient practices.

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M. Questionnaires Used

KII Guide

Design:

- Have you been part of project design? What would you have designed differently?
- Were the lessons from previous UNDP related projects taken into account? Please bring examples

Project Implementation:

- Have you been able to comment on the project implementation? If yes, how and have these comments been taken into account?
- Circumstances change YoY: do you think the project has adapted well? If yes how and if not why?
- How would you rate inclusiveness of the project implementation? How was this ensured?
- Do you think the project helped to form lasting partnerships? If yes, how and if not -why? Please elaborate with regards to different types of stakeholders, e.g., private sector, NGOs/, local government, etc.
- What do you think about the performance of the Government as a whole- re its executive role for the project?
- What do you think about the M&E system? Would you have done something differently in hindsight? How did you assure the reliability of data for the logframe reporting? Was the baseline) and follow up) KAP surveys conducted? How did you ensure RBM?
- Were there a communications plan and strategy? What were the main channels used and what do you think about effectiveness of these?
- Did the governance structure and staffing help the project implementation? What were the challenges?
- What were the challenges in financial management? Did you make major changes compared to the plans?

Relevance: what do you think about the relevance of the project? Did it stay relevant, as it is 6 years long project? If yes, how?

t to your/your organization's needs and capacities? If yes, how If not why?

External Coherence: Is the project complementary to other similar, related initiatives led by UNDP? How? Please bring examples. If not why?

Effectiveness:

- What important immediate results of the project can you mention? Where would you expect more? Please elaborate
  In relation to (as applicable to your agency)?
  - ✓ Promotion of resilient agricultural practices in the face of changing climate patterns
  - ✓ Integration of climate change risks into water and land management practices that affect
  - ✓ smallholders
  - ✓ Reduction of the risk and impact of climate induced landslides during extreme events that disrupt market access
- What progress did you see in relation to improvements in
  c. Agricultural planning and
  d. Reduced disruption to smallholder farmers, from the impacts of climate change (i.e., impacts of landslides on irrigation, agriculture, and market access reduced?
- What were the challenges? What barriers remain?
- What were the main objective (external) and subjective (internal) factors affecting the achievements of project? Was the project management successful in addressing the challenges?
- To what extent did the project help build national capacities? Why do you think so? If there were trainings, how would these continue?
- Did the project have noticeable differentiated impact on women and vulnerable? If yes, in what way? If not -why?
- Were there any unexpected results?
- How innovative was the project? In your view are the innovative aspects captured well by the project and disseminated? If yes, how?

Efficiency

- Were there major delays and what were the reasons for these?
- What do you think about cost-effectiveness and cost-efficiency of the project? Why do you think so?
- Were there synergies between the project and other interventions within the sector in relation to your agency? Please elaborate

Sustainability

- How would you rate the strength of national ownership? Why do you think so?
- Will the main results of the projects be sustainable, in your view? If yes, how, and if not – why? Please elaborate in relation to financial, socio-political, institutional and environmental aspects
- Could you please name the main best practices introduced by the project?
- What are the chances that these best practices will be scaled up? If they would- by whom and with what means? If not- why? Are there examples already?

Lessons Learnt: What are the main 3 lessons learnt?
Recommendations: What should be supported further if there is another project?

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Guide for the FGDs with famers

Men/women separately, ensure to include elderly, disabled, minorities

11. How did you hear about this project at the very start? Were you consulted during the conceptualization of the assistance, during project implementation and afterwards? If yes, then at what stages and how?

12. What difference did you see as a result of the project in your life/livelihood? If you had more income, what did you use it for?
    Probe into: income, livelihoods, health, etc.

13. Have you learned new skills from this project? What kind and how? Are you using these skills in your daily life? If yes, in what way? if not then why?

14. If there are later more people like you wanting to learn these skills, how would they learn after the project is finished?
    Probe into the role of the extension services

15. Do you think the assistance provided from this project would be sustainable? If yes, how would this be ensured? What are the risks?
    Probe into engagement of the WUG, support by the local and district governments

16. Have you seen/heard elderly, disabled and other vulnerable benefitting from the project? If yes, how and if not why?

17. Have the project interventions improve women's livelihoods and empower them? If yes, then how and if not why?

18. Have you been approached by farmers from other locations wanting to have the same new opportunities? If yes- how can these be financed you think? If not – why?

19. What could have been done differently?

20. The project still has a couple of months: what should it focus on?

Guide for the DOs

Observation: *Does the site look well- maintained?* Probe into how it is ensured

Observation: *Does the site look well secured? Probe into how it is ensured*

5. For community infrastructure
   - How effective is the project intervention to the community? *If not, probe into the reasons why the project infrastructure is not well used?*
   - Have there been any water conflicts? If so - more or less often than before? *Probe into the ways they used to resolve and now*
   - Do you have any water- by laws developed specifically for this project?
   - *How much is the average O&M cost to maintain the project facility? Who covers those costs? Probe into the extent they perceive it being sufficient and affordable*
   - For water-
     - what sources were used before and now? What are the differences in quality and quantity, availability and reliability of water supply?
     - Was the water source diverted from other activities to feed into this project? If yes, what activity was the water used for before the project.?
     - Are there water re-use systems supported?
   - What energy sources are used (fuel, electricity, solar, etc.)? Has the project changed energy use pattern? if so, how? If not- do you think it is needed?
   - What kind of support are provided by the local administrations (extension services, subsidies, land-use approval, etc.) to effectively implement this project and maximize the benefits from the project? *Probe if they perceive it sufficient*
   - Are there community groups or farmer cooperatives that have formed or were strengthened due to the project? How do they function? *Probe into Road User groups, WUGs, Women' groups, etc.*
   - *What training or technical support has project beneficiaries received? How useful was it? Probe into the actual use*

6. For the crops

Observation See if there are any observable differences with comparable sites. Probe into the project and other possible contributions

   - Have yields, productivity, or livestock production changed since the project began? *Probe into any available figures or quantitative indicators*
   - Has the project affected prices received or cost or production (inputs, labour, energy) for crops or livestock?
   - Has the project influenced the value chain for crops/livestock (processing, storage, transport, aggregation, marketing, etc.)? If yes, how? Where are the weak points still?
   - What energy sources are used for farming activities (fuel, electricity, solar, etc.)? Has the project changed energy use pattern? if so, how? If not- do you think it is needed?
   - *What is used as fertilize, fodder?* Probe into *circularity.*

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- What kind of support are provided by the local administrations (extension services, subsidies, land-use approval, etc.) to effectively implement this project and maximize the benefits from the project? *Prove if they perceive it sufficient*
- Are there community groups or farmer cooperatives that have formed or were strengthened due to the project? How do they function*? Farmers groups, Women groups, etc.*
- What training or technical supports related to crops/livestock has project beneficiaries received? How useful was it? Probe into the actual use

7. Landslides and Floods:
   - Were there changes in the frequency of Landslides and Floods? Do you expect to see differences? If yes, to what extent these could be attributed to the project?
   - Were there any changes in the ways disasters were addressed?

8. Overall: Impact and resilience

Observation See if there are any evident environmental hazards or evidence to the contrary

- Have household incomes change? *Probe into approximate changes and who benefited the most Ask about possible project contribution to this, elaborating the channels (e.g., better access to markets due to better roads, lesser loss of harvest, and livestock, more water for irrigation and more harvest, shift to high- value and/or more productive crops)*
- If you have more income, what do you use the extra for? Has the project impacted your livelihoods in any other way? *Probe into health, potentially well-being, food and water security, water conflicts, elaborating the channels*
- Have practices introduced or promoted by the project improve your resilience to climate variability overall in your view? *Probe into drought, floods, pests, diseases, etc.).*
- Are there any observed environmental impacts (positive or negative) related to project activities, such as soil health, water use, or biodiversity? If not why?
- What kind of future assistance would you most appreciate to sustain or expect gains (training, inputs, financing, market linkage, or infrastructure)?

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N. Project 'FE Rating scales

Ratings for Outcomes, Effectiveness, Efficiency, M&E, Implementation/Oversight, Execution, Relevance	Sustainability ratings:
6 = Highly Satisfactory (HS): exceeds expectations and/or no shortcomings 5 = Satisfactory (S): meets expectations and/or no or minor shortcomings 4 = Moderately Satisfactory (MS): more or less meets expectations and/or some shortcomings 3 = Moderately Unsatisfactory (MU): somewhat below expectations and/or significant shortcomings 2 = Unsatisfactory (U): substantially below expectations and/or major shortcomings 1 = Highly Unsatisfactory (HU): severe shortcomings	4 = Likely (L): negligible risks to sustainability 3 = Moderately Likely (ML): moderate risks to sustainability 2 = Moderately Unlikely (MU): significant risks to sustainability 1 = Unlikely (U): severe risks to sustainability Unable to Assess (U/A): Unable to assess the expected incidence and magnitude of risks to sustainability

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O. Results Framework, with assessment of quality of indictors and level of achievement

This project will contribute to the following Sustainable Development Goal (s): *SDG 1: No poverty, 13: Climate action and 15: Life on land*						**Assessment of the quality of Indicator**
This project will contribute to the following country outcome included in the UNDAF/Country Programme Document: *By 2023, Bhutan's communities and its economy are more resilient to climate-induced and other disasters and biodiversity loss as well as economic vulnerability*						
This project will be linked to the following output of the UNDP Strategic Plan: Output 1.4: Scaled up action on climate change adaptation and mitigation cross sectors which is funded and implemented.						
GCF Paradigm shift objectives: *Increased climate-resilient sustainable development* The project, through an integrated approach will a) promote resilient agricultural practices in the face of changing climate patterns, b) integrate climate change risks into water management practices that affect smallholders and c) reduce the risk and impact of climate change induced landslides during extreme events that disrupt market access						
	Objective and Outcome Indicators	**Baseline**	**Mid-term Target**	**End of Project Target**	**Assumptions**	
SDG Indicator	*13.b.1 Number of least developed countries and small island developing States that are 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*	*0*	*1*	*1*		
FUND LEVEL IMPACT:						
A1.0 Increased resilience and enhanced livelihoods of communities and regions	*1.2 Number of males and females benefiting from the adoption of livelihood options (including fisheries, agriculture, tourism, etc.)*	*0*	Total: 25,000 Male: 12,240 Female: 12,760 (note: households not necessarily unique per intervention)	Irrigation Total: 14,340 Male: 7,050 Female: 7,350 SLM Total: 103,346 Male: 50,601 Female: 52,745 Resilient agricultural practices Total: 64,591 Male: 31,626 Female: 32,965	Climate-resilient crops, practices and alternatives are adopted by beneficiary households	

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A2.0 Increased resilience of health and wellbeing, and food and water security	*2.3 Number of males and females with year-round access to reliable and safe water supply despite climate shocks and stresses*[13]	*0*	*Total: 5,000* *Male: 2,450 Female:2,550*	*Total: 14,340* *Male: 7,050* *Female: 7,350*	*Landslide or flashflood events not so extreme that investments are severely damaged* *Engagement of WUAs for O&M*	This is a GCF level indicator. SMART< but could have indicated clearly whether this applied to potable water or irrigation or both
A3.0 Increased resilience of infrastructure and the built environment to climate change	*3.1 Number and value of physical assets made more resilient to climate variability and change, considering human benefits (reported where applicable)*	0	Climate resilience enhanced for: • 90 km of far roads (USD 2.970 million) • 140 km of GC roads (USD 7.214 million) • 1 section of main road (USD 0.553 million) • 16 irrigation schemes (USD 4.000 million)	Climate resilience enhanced for: • 170.24 km of farm roads (USD 5.618 million) • 232.22 km of GC roads (USD 11.966 million) • 3 sections of main road (USD 2.019 million) • 32 irrigation schemes (USD 8.192 million)	Government commitment/co-financing is secured and applied to climate-resilient roads work in target area, and related O&M Landslide or flashflood events not so extreme that investments are severely damaged	This is a GCF level indicator. SMART
PROJECT OUTCOMES:						
A6.0 Increased generation and use of climate information in decision- making	A6.2 Use of climate information, climate-informed analyses in decision-making in sectors impacted by climate change	0	3 tailored products to inform climate-resilient agriculture planning	9 tailored products to inform climate-resilient agriculture planning (1 per dzongkhag, 1 national level)[191]	Commitment of stakeholders to climate-informed planning and related data collection needs	
		0	1 disaster database for roads enhanced	1 (disaster database for roads enhanced)		
		0	20percent of project beneficiaries receiving advisories, consider them in decision making	60percent of project beneficiaries receiving advisories consider them in decision-making		

[191] Consistent with indicator of 12th Five Year Plan

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A7.0 Strengthened adaptive capacity and reduced exposure to climate risks	A7.1 Use by vulnerable households, communities, businesses and public-sector services of Fund supported tools, instruments, strategies and activities to respond to climate change and variability sectors	0	10percent increased crop yield for 20percent of beneficiaries	30percent increase in crop yield for 70percent of beneficiaries	Climate-resilient crops, practices and cultivation alternatives are adopted by beneficiary households	
PROJECT OUTPUTS:						
Output 1. Promote resilient agricultural practices in the face of changing climate patterns	1.1. percent of beneficiaries in targeted dzongkhag accessing improved climate services	0	30percent of project beneficiaries	70percent of project beneficiaries	Households have means to access/obtain information as disseminated	Issues with the formulation "accessing improved climate services" could have interpreted differently
	1.2. Increased institutional capacity for climate-informed agriculture planning	Survey to be conducted prior to any training	Average increase of scores by 30percent from baseline	Average increase of scores by 60percent from baseline	Commitment of stakeholders to climate-informed planning	While the indicator is on institutional capacities, the proposed method was via survey of training participants
	1.3. Level[192] of knowledge and adoption by beneficiary households of climate resilient and sustainable crop production practices	Level = 1	Level = 2	Level = 4	Climate-resilient crops and cultivation alternatives are adopted by beneficiary households	Overall SMART
Output 2. Integrate climate change risks into water and land management practices that affect	2.1. Change in knowledge, awareness and perception (KAP) on role of wetlands and sustainable water use	Established through initial KAP survey in Year 1	20percent increased over baseline	70percent increase over baseline	Government commitment and dedication to carry out education and outreach activities at all levels	Issues with the formulation (in the part of the knowledge of wetlands especially
	2.2. Technical capacity of members of Water User Associations, Dzongkhag engineers and agriculture extension officers for climate adaptive water and soil management is enhanced	Survey to be conducted prior to any training	Average increase of scores by 30percent from baseline	Average increase of scores by 60percent from baseline	Commitment of stakeholders to climate-informed planning	Overall SMART

[192] Level of adoption is based on a scale where 1 = limited to no practice of climate-resilient sustainable crop production; Level 2 = households aware of practices and know how/where to get related technical support; Level 3 = households engaged with support activities and applying practices partially; Level 4 = households knowledgeable about climate-resilient practices and fully applying practices in their fields

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smallholders	2.3. Area of arable land under assured irrigation in targeted dzongkhags	0	3,000 ha of farmland with reliable irrigation, schemes constructed to be resilient to the impacts of climate change	8,000 ha[193] of farmland with reliable irrigation, schemes constructed to be resilient to the impacts of climate change	Landslide or flashflood events not so extreme that Investments are severely damaged Engagement of WUAs for O&M	SMART
	2.4. Number of district level Participatory SLM Action Plan for improved livelihoods	0	4 district level Participatory SLM Action Plans	8 district level Participatory SLM Action Plans	Engagement of stakeholders/beneficiaries in participatory process	SMART
	2.5. Number of hectares made more stable through SLM practices, to the impacts of rainfall variability and related landslides	0	1,000 ha of farmland slopes made more stable through SLM measures	2,380 ha of farmland slopes made more stabilize through SLM measures	Engagement of stakeholders/beneficiaries in participatory process Landslide or flashflood events not so extreme that investments are severely damaged	SMART
Output 3. Reduce the risk and impact of climate induced landslides during extreme events that disrupt market access	3.1 Number of kilometers of farm roads and geog. connectivity roads that have been climate-proofed through upgrading and slope stabilization, and sections of main road stabilized	0	90 km of farm roads 140 km of GC roads 1 section of main road	170.24 km of farm roads 232.22 km of GC roads 3 sections of main road	Government commitment/co-financing is secured and applied to climate-resilient roads work in target area, and related O&M	SMART
	3.2. Level[194] of integration of climate related information in national disaster loss and damage database	Level = 1	Level = 2	Level = 4	Government commitment to climate-informed planning related to road infrastructure	SMART, but many proxy indicators

[193] Includes 4 new irrigation schemes, 32 existing irrigation schemes made more resilient to climate change and drip/sprinkler irrigation

[194] Level of integration is based on a scale where 1 = limited to no integration; Level 2 = Impact assessment-based monitoring and documentation is collected and RUGs estimate road damages for farm roads and input into the disaster database; Level 3 = Climate relevant evidence is used to make the economic case for climate resilient road planning; Level 4 = Increased investment in climate resilient road planning options

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P. Signed Evaluation Consultant Agreement Form

Agreement to abide by the Code of Conduct for Evaluation in the UN System[1]

Name of Consultant: Lilit Melikyan, International Consultant/Team Leader

I confirm that I have received and understood and abided by the United Nations Code of Conduct for Evaluation.

Signed on 6 March, 2026, in Yerevan, (Armenia)

Signature:



Name of Consultant: Dr. Chandra Shekhar Dhakal, National Consultant

I confirm that I have received and understood and abided by the United Nations Code of Conduct for Evaluation.

Signature: 

Docusign Envelope ID: 06331F9F-E582-866F-8055-2289A59E0CC3

Q. Signed UNEG Code of Conduct Form

Evaluators/Consultants:

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. Are responsible for their performance and their 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.

Consultant Agreement Form

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

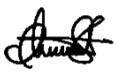
Name of Consultant: Lilit Melikyan, International Consultant/Team Leader
I confirm that I have received and understood and abided by the United Nations Code of Conduct for Evaluation.

Signed on 6 March, 2026, in Yerevan, (Armenia)

Signature: 

Name of Consultant: Dr. Chandra Shekhar Dhakal, National Consultant
I confirm that I have received and understood and abided by the United Nations Code of Conduct for Evaluation.

Signed on 6 March, 2026 in *Thimphu, Bhutan*

Signature: 

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R. Signed FE Report Clearance form

Final Evaluation Report for Project Supporting Climate Resilience and Transformational Change in the Agriculture Sector in Bhutan (PIMS 5777)

Reviewed and Cleared By:

Commissioning Unit (Deputy Resident Representative)

Name: Fadhil Bakeer Marker

Signature: DocuSigned by: DE5832CB59FC466... Date: 22 May2026

Commissioning Unit (M&E Focal point)

Name: Sonam Y. Rabgye

Signature: DocuSigned by: Sonam Rabgye 6C5C70822A94421... Date: 22 May2026

Regional Technical Specialist

Name: Aishath Azza

Signature: DocuSigned by: 0858E791B624473... Date: 22 May 2026

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