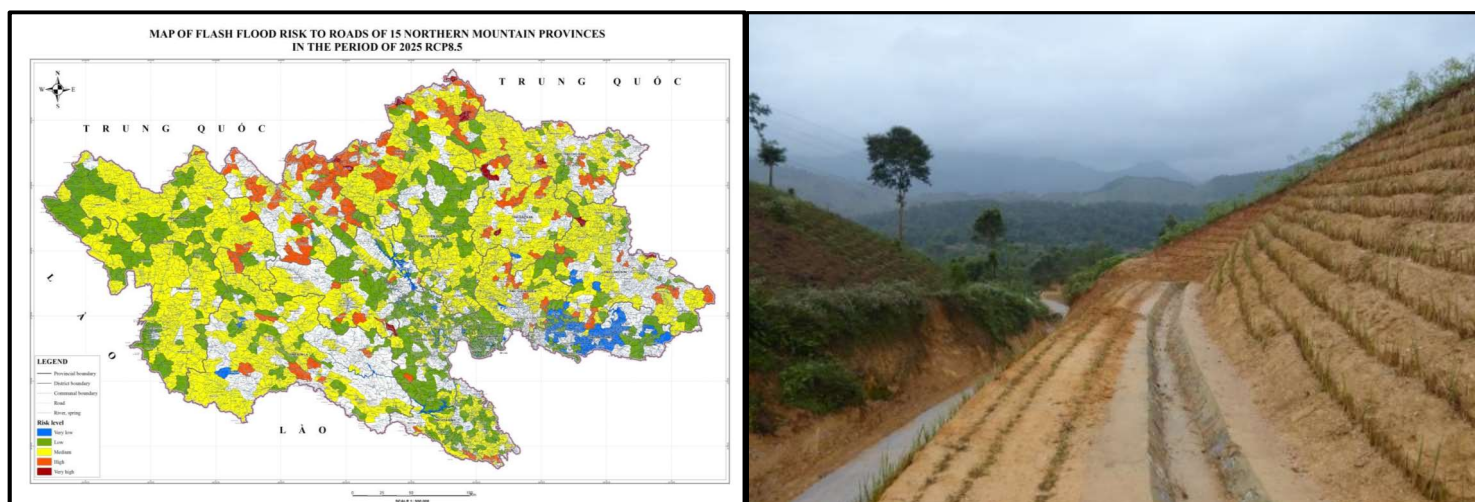




Terminal Evaluation of Promoting Climate Resilient Infrastructure in Northern Mountain Provinces of Vietnam



Implemented by:

Ministry of Agriculture and Rural Development

Funded by:

Special Climate Change Fund, Global Environment Facility

Prepared for: UNDP Viet Nam

Prepared by: Alan Ferguson and Dung Dang Ngoc

December 28, 2016 Final Report

Table of Contents

Executive summary	iii
Acronyms and abbreviations	viii
Acknowledgements	viii
1. Introduction	1
1.1 Purpose of the evaluation.....	1
1.2 Key issues highlighted	2
1.3 Methodology of the evaluation	2
2. The Project and its Development Context	3
2.1 Project history	3
2.2 Problems that the project seek to address.....	4
2.3 Immediate and development objectives of the project	4
2.4 Main stakeholders	5
2.5 Expected results	5
3. Evaluation Findings	6
3.1 Project Formulation	6
3.1.1 Implementation approach.....	6
3.1.2 Country ownership and stakeholder participation	9
3.1.4 Replication approach.....	10
3.1.5 Cost-effectiveness	10
3.1.6 UNDP comparative advantage	10
3.1.7 Linkages between project and other interventions within the sector	11
3.1.8 Indicators quality and utilization	13
3.1.9 Management arrangements.....	13
3.2 Project Implementation	13
3.2.1 Implementation and coordination issues.....	13
3.2.2 Financial planning and co-financing	14
3.2.3 Monitoring and reporting process	17
3.2.4 Execution and implementation modalities	18
3.2.5 Management by the UNDP Country Office	18
3.3 Project Results	19
3.3.1 Project objective.....	19
3.3.2 Achievement of Outcome 1: policy framework.....	19
3.3.3 Achievement of Outcome 2: capacity development.....	23
3.3.4 Achievement of Outcome 3: bio-engineering demonstrations.....	25
3.3.5 Achievement of Outcome 4: knowledge dissemination	27
3.3.6 Sustainability of project results.....	28
3.3.7 Gender equity.....	28
3.3.8 Mainstreaming and institutional capacity development	29
4. Rating of Project Performance	30

5. Lessons Learned	31
5.1 Project design and management lessons	31
5.2 Capacity development lessons	32
5.3 Bioengineering demonstration lessons.....	33
6. Conclusions and Recommendations	35
6.1 Conclusions	34
6.2 Rationale for project extension	37
6.3 Recommendations	39

Annexes

Annex 1: Terms of Reference	42
Annex 2: Evaluation Criteria	58
Annex 3: Interview Guide.....	60
Annex 4: Itinerary and Interviews	63
Annex 5: List of Documents Reviewed	66
Annex 6: List of Contacts	70
Annex 7: Terminal Evaluation Summary of Project Achievements and Observations	73
Annex 8: Assessment of Climate Risks for Rural Infrastructure.....	79
Annex 9: Training Activities	84
Annex 10: Audit of Review Comments.....	88
Annex 11: Evaluation Report Clearance Form	96

List of Tables

Table 1: Main Stakeholders.....	5
Table 2: List of the Project Deliverables	7
Table 3: Problems with Indicators.....	11
Table 4: Project Budget	14
Table 5 Project Budget and Expenditures 2013-2016 UNDP	16
Table 6: Financial Expenditures by Year	16
Table 7: Financing and Co-financing Status.....	17
Table 8: Proposed steps for integrating climate change adaptation into development planning	21
Table 9: Level of Staff Capacity	24
Table 10: Project Rating	30

Executive Summary

Project Title:	<i>Promoting Climate Resilient Infrastructures in Northern Mountain Provinces of Viet Nam</i>			
GEF Project ID:	3103		<i>At endorsement (MillionUS\$)</i>	<i>At completion (Million US\$)</i>
UNDP Project ID:	3741(UNDP) 37097(ADB)	GEF financing:	1,400,000(GEF/SCCF) 2,000,000(GEF/SCCF)	1,165,000(UNDP) 1,830,000 (ADB)
Country:	Viet Nam	IA/EA own:		
Region:	Asia	Government:	340,000	340,000
Focal Area:	Climate Change Adaptation	Other:	N/A	N/A
FA Objectives, (OP/SP):	Climate Change Adaptation	Total co-financing:	3,740,000	3,740,000
Executing Agency:	Ministry of Agriculture and Rural Development	Total Project Cost:	3,740,000	3,740,000
Other Partners involved:	N/A	ProDoc Signature (date project began):		15November2012
		(Operational) Closing Date:	Proposed: 30 November 2016	Actual: extended to 31 May 2017

The project was jointly developed by UNDP and ADB and approved in June 2012, with funding from the Special Climate Change Fund (SCCF). It was implemented by the Vietnam Ministry of Agriculture and Rural Development (MARD) from September 2012 (ADB component) and November 2012 (UNDP component). Two implementation mechanisms were employed: the UNDP-Government of Viet Nam *National Implementation Modality* (NIM) with the Agriculture Project Management Board of MARD, and ADB *Capacity Development Technical Assistance* (CDTA) where the International Centre for Environmental Management was recruited by ADB to be the TA firm.

The project had four planned outcomes:

Outcome 1 – Climate Change Adaptation integrated into policy, strategy and planning that relates to rural infrastructure – specifically agriculture, rural water and rural roads (UNDP managed);

Outcome 2 – Enhanced capacity to adapt/climate-proof rural infrastructure investments and provincial/local area planning (UNDP managed);

Outcome 3 – Effective climate-resilience measures mainstreamed into the MARD rural infrastructure program. (ADB managed);

Outcome 4 – Lessons learnt and best practices from Outcomes 1, 2 and 3 are disseminated to stakeholders and development partners (UNDP managed).

The ADB-managed site bioengineering demonstrations under Outcome 3 included:

- Upgrading rural road 108 - Muong E, Thuan Chau District, Son La Province;
- Upgrading rural road Trang Xa-Deo Nhau, Vo Nhai District, Thai Nguyen Province;
- Irrigation works and slope stabilization in Thom Mon Commune, Thuan Chau District, Son La Province; and
- Irrigation works and slope stabilization in Cau river embankment in Thanh Mai Commune, Cho Moi District, Bac Kan province

Significant progress has been made toward the Project Objective by introducing the resilience concept and methods for rural infrastructure planning, and enabling 35 trainers in the provinces where there was previously little recognition of climate change. Over 700 participants were involved in various training workshops and events. The mapping, analyses and training have stimulated interest and support from the provinces toward greater action on climate resilience and provided a database on infrastructure vulnerabilities and upgrading priorities. The site demonstrations have provided examples of low-cost methods for slope and streambank protection and rehabilitation.

This project has established a new awareness and understanding of the climate risks to rural infrastructure in 15 northern provinces. The infrastructure and hazard mapping and assessment and databases, along with training of government officials, have provided information, tools, and skills that provincial and district staff can utilize to address climate change adaptation. This is a substantial initial contribution toward a technical framework and process for enhanced climate resilience in the northern mountains, and potentially in other regions of Vietnam.

The research and development of a planning methodology, the awareness-raising, and the new data and tools provide a strong foundation for future advances in climate resilience. But the ‘handover’ process to government and the means of taking action on the key policy recommendations has yet to be determined. The project has identified six steps where project outputs can facilitate integration into the planning cycle. The specific tasks for follow-up revisions to provincial adaptation action plans have also been proposed, but the commitment and mechanisms to carry this forward require further effort by MARD, the pilot provinces and others.

In the final stages of implementation, it became clear that new practices cannot be considered until the relevant documents and proposals are fully transferred and accepted by government leaders and the necessary decrees and standards have been adopted. The project inception did not adequately anticipate the challenges associated with this requirement, and the project has not had the time to complete this work under Outcome 1. The technical assistance strategy was based on extensive consultant contracts (17 in the UNDP component and one international firm in the ADB component) to generate reports and demonstration activities that are expected to be “handed over and transferred to government” (or in some cases communities) during the final stages of the project. But this handover process is onerous, especially given the late start-up of the project and the lack of available time to complete all the necessary tasks. The uncertain extent of commitment by MARD,

ADB and others to initiate institutional change in rural infrastructure investment practices is a fundamental constraint to capacity development and effective use of the technical assistance.

There were significant delays in approvals and slow procedures under APMB that adversely affected the timetable and results (for example, missing the ideal spring planting season). Implementation challenges included a limited understanding by stakeholders of climate change effects on infrastructure, difficulties recruiting experts, uncertainties about the government requirements to adopt new approaches, complexity of some of the technical reports, weak links to the infrastructure planning and budgeting processes, inability to influence the current SRIDP rural infrastructure programme, multiple agencies with responsibilities for climate proofing infrastructure, and the dual UNDP-ADB management structure of the project. The project management teams have nevertheless worked hard to address project design and operational constraints wherever possible and to generate support and momentum for further development of climate resilience in the provinces.

Bioengineering methods involving riverbank protection and roadside slope stabilization and drainage control, have been demonstrated at four sites and provide practical examples of cost-effective alternatives to addressing slope instability and soil erosion. But these methods still require formal development of standards and/or guidelines and cost norms to be adopted in the government programmes. It is too early to determine if the site demonstrations will have an effect on the larger investment programmes for roads or stream embankments. Some government staff suggest that more demonstration experiences are needed to present compelling evidence for a change in approach to slope protection and stabilization. It remains uncertain whether government or ADB infrastructure programmes will make any significant changes to conventional practices (despite government commitment to mainstreaming climate change adaptation). The investment case for climate risk assessment and cost-effective bioengineering methods needs to be more fully presented and advocated to decision makers including MoF.

Challenges for the bioengineering demonstration projects included the need to ensure early site vulnerability assessment and understanding of geotechnical conditions, apply suitable hard and soft measures, carefully select local plants and design planting prescriptions ensure effective quality control, use of correct materials and methods, and guidance during construction. Some of the recognized issues observed at certain sites by the consultant (ICEM) team included (i) off-season planting, (ii) inappropriate plant material, (iii) improper planting techniques, (iv) improper maintenance techniques, (v) agreements with local authorities/communities for maintenance, and (vi) the limitations imposed by a lack of official standards for bioengineering methods.

The final technical reports and recommendations from the project have only recently been completed and stakeholders indicated a need for more time and support to understand the implications of this technical assistance in the internal government appraisal phase leading to formal consideration for endorsement by high level government officials. An extension to the project closing date is therefore

needed to complete the key gaps that will ensure formal hand over of manuals and recommendations to MARD as per government procedures and format, and to further disseminate the results so that uptake of the outputs is facilitated.

The bioengineering methods have been well received, particularly the use of local plants and community participation for roadside and embankment stabilization. More time is needed to test the performance when structures have faced more storm events and plantations have matured. But the general impression is that the methods provide cost-effective alternatives or supplements to conventional slope stabilization and drainage controls. The lessons from the site demonstrations included incorporating bioengineering at the earliest stage of project planning, identifying high-risk locations as early as possible using proven vulnerability assessment and slope condition criteria, applying geotechnical knowledge to identification and analysis of specific slope problems, integrating hard and soft measures as appropriate to solve the problem, recognizing the limitations of bioengineering, etc. Sustainability is also dependent upon informal agreements to maintain the sites. The demonstrations of bioengineering measures are being promoted for consideration in future infrastructure investments but there is no firm basis for replication.

The project concept of an integrated approach to policy, capacity and demonstration that would jointly lead to enhanced climate resilience was difficult to operationalize given that the project was in effect, two separate UNDP/APMB and ADB/ICEM sub-projects. They had generally good channels of communication but very few direct linkages and with very different identities and management systems. The lack of substantive influence on the current infrastructure investment programmes and practices also limited the potential for impact. The sustainability and impact of the project may depend upon (i) MARD leadership, (ii) the support of MPI to direct and guide the provinces on infrastructure investment and budgeting processes, (iii) the interest by ADB and other lenders and the government to promote bioengineering methods, and (iv) opportunities to carry the work forward in climate change projects.

Integrating project technical assistance into government systems is a challenge in Vietnam, especially given the cross-sectoral and inter-ministerial nature of climate change adaptation and the slow processes for introducing changes in public infrastructure investment practices. The centralised legal and political structure for decision making, including around technical matters, requires a long lead up research and consultative phase for any changes in procedures. Capacity has been enhanced, particularly in Son La and Bac Kan pilot provinces, but not sufficiently to ensure active, ongoing application of the tools, datasets and site demonstrations unless further funding is secured. Suggestions are provided on how to address future capacity development strategies.

This report provides six recommendations:

1. The project period should be extended for 6-12 months depending upon the time and tasks required for UNDP and the Government of Vietnam to complete the planned activities aimed at

(i) a well-tested model for integrating climate risk and vulnerability assessment into infrastructure planning, investment and maintenance processes in the pilot provinces; and (ii) an action programme within government to address the recommendations regarding policy directives and setting standards and norms for formal adoption of climate change adaptation measures in the design and approval systems for roads, embankments and irrigation facilities.

2. ADB should prepare design guidelines based on the project experiences to pro-actively support the use of bioengineering approaches in future rural infrastructure loan programmes as part of their implementation programme for the long-term strategic framework until 2020 in Viet Nam.
3. MARD, MOC and MOT should further disseminate and facilitate use of the bio-engineering ‘best practices’ that have been generated by the project, including advice from the project experiences about the timing of planting and recognition of the need to understand geotechnical and watershed processes that influence roadside slopes and streamside embankment protection and rehabilitation.
4. UNDP Vietnam should revise their capacity development strategy for future projects to ensure appropriate partnerships with relevant line agencies, support from senior government officials in early policy dialogue, direct counterpart engagement in technical work, and organizational development as well as human resource skills to sustain the enhanced capacity.
5. GEF Secretariat should review and reconsider the oversimplified, quantitative capacity development rating scheme that it imposes on implementing agencies since it does not currently provide a reliable measure of capacity status.
6. Future UNDP–ADB co-managed projects and programmatic collaboration on climate change should be designed in an integrated, results-focused manner with direct links between policy development, technical assistance and investment lending programmes.

Further elaboration of actions under each recommendation is provided in the report. Responses to the comments on the draft report are presented in Annex 10.

Acronyms and abbreviations

ADB	Asian Development Bank
ALM	UNDP-GEF's Adaptation Learning Mechanism
APMB	Agricultural Projects Management Board
APR/PIR	Annual Project Review/Project Implementation Reports
AWP	Annual Workplan
CBTA	Capacity Building Technical Assistance (ADB)
CC	Climate change
CCA	Climate change adaptation
CPMU	Central Project Management Unit
DARD	Provincial Department of Agriculture and Rural Development
DOC	Provincial Department of Construction
DONRE	Provincial Department of Natural Resources and Environment
DOT	Provincial Department of Transport
DPI	Provincial Department of Planning and Investment
EA	Executing Agency
GEF	Global Environment Facility
GHG	Greenhouse gas emissions
ICEM	International Centre for Environmental Management
IMEN	Vietnam Institute of Meteorology, Hydrology and Climate Change
NMP	Northern mountains provinces
M&E	Monitoring and Evaluation
MARD	Ministry of Agriculture and Rural Development
MOC	Ministry of Construction
MOF	Ministry of Finance
MONRE	Ministry of Natural Resources and Environment
MOT	Ministry of Transport
MPI	Ministry of Planning and Investment
NIM	National Implementation Modality
NMA	Northern mountain area
NPD	National Project Director
NTP	National Target Programme to Respond to Climate Change
PB	Project Board
PPC	Provincial Peoples Committee
SCCF	Special Climate Change Fund
SEDP	Socio-Economic Development Plan
SRIDP	Sustainable Rural Infrastructure Development Project in the Northern Mountains
ICEM	International Centre for Environmental Management
UNDP	United Nations Development Programme
TA	Technical Assistance
TE	Terminal Evaluation
TOT	Training of trainers

Acknowledgements

The Terminal Evaluation team is grateful to the Mr. Trans Van Lam, National Project Director, Ms Hoang Thu Ha, Vice Director and the CPMU staff within the APMB Secretariat of MARD – Ms Hoang Thi Kim Cuc, Mr Nguyen Gia Vuong, Ms Mai The Dung and ADB Deputy Team Leader Mr. Nguyen Dinh Ninh, for their cooperation, support and advice during the evaluation mission. The input from UNDP programme officer Ms Bui Viet Hien, and from ADB and ICEM staff and contractors, especially Mr. David Salter and Mr. James Ramsay, and the provincial, district and commune officials who took the time to meet with us is also greatly appreciated.

1. Introduction

1.1 Purpose of the Evaluation

The project *Promoting Climate Resilient Infrastructure in Northern Mountain Provinces of Vietnam* was jointly developed by UNDP and ADB and was endorsed by GEF CEO in June 2012, with a value of US\$3,400,000 provided by the Special Climate Change Fund (SCCF). It is being implemented by the Ministry of Agriculture and Rural Development (MARD), Vietnam from September 2012 (ADB component) and November 2012 (UNDP component), with closure by the end of 2016.

The project seeks to “increase the resilience and reduce vulnerability of local, critical economic infrastructure in the northern mountains areas of Vietnam to the adverse impacts of climate change and to create a policy framework conducive to promoting resilient northern mountains zone development.” The project design focuses on four key results: (1) policy, strategy and planning for rural infrastructure; (2) capacity development for climate-proofing rural infrastructure investments in provincial/local area planning; (3) demonstration of climate-resilience measures at selected sites in the ADB- funded road construction; and (4) dissemination of lessons learnt and best practices.

The project aims to address climate change threats to infrastructure in the northern mountains and related impacts of climate change on poverty through three primary sets of activities:

- contributing to a national level-enabling environment that is conducive to adaptation in rural infrastructure projects. This includes a series of practical tools for practitioners, as well as recommendations towards improved policies and standards;
- developing capacity to plan, design, implement and monitor rural infrastructure projects at the provincial level, and developing capacity to assess climate change during provincial planning; and
- demonstrating how to mainstream climate change adaptation into four rural infrastructure demonstration projects. These involve road rehabilitation, and river embankment protection. The demonstrations are funded by GEF and implemented by ADB in conjunction with the SRIDP infrastructure investment programme financed by the GOV/ADB (\$138 M).¹

This Terminal Evaluation is an independent review prepared in accordance with UNDP-GEF guidelines, of the progress made in achieving expected project outcomes; the relevance, effectiveness, efficiency and timeliness of project implementation; the issues requiring decisions and actions; and the lessons learned about project design, implementation and management. The objective of the evaluation is to provide a comprehensive and systematic accounting of performance, and assess project design, implementation, likelihood of sustainability and possible impacts. The Terms of Reference specify that

¹*Sustainable Rural Infrastructure Development Project in the Northern Mountains* is funded (US\$30.4 million) by Government and a (US\$108million) loan from ADB to rehabilitate and/or establish new rural infrastructure to improve access to services for the target population.

the evaluation is to conform to the *Guidance for Conducting Terminal Evaluations of UNDP-Supported GEF-Financed Projects*, (UNDP Evaluation Office, 2012) and to address five main evaluation criteria: Relevance, Effectiveness, Efficiency, Sustainability and Impact. The Terms of Reference are presented in **Annex 1**.

1.2 Key Issues Highlighted

Discussions during the start-up of the TE mission identified some of the key issues that have affected project implementation and that needed to be considered during the Terminal Evaluation:

- the extent to which the project has been able to advance the adoption of new climate resilience standards for rural infrastructure, providing the enabling requirements for construction standards that account for the likelihood of climate related events;
- the approach to mainstreaming CC risks in the planning process and institutionalizing the climate vulnerability assessment methods that have been promoted by the project;
- the effectiveness of the UNDP and ADB training programmes for technical staff and leaders of 15 northern provinces in improving climate-proofing practices;
- project implementation delays and barriers that may affect further progress on establishing climate resilience measures, including technical or financial constraints;
- progress toward substantive adoption of technical standards/codes, policy and plans, and manuals for rural infrastructure (rural roads, irrigation and embankments);
- the quality and usability of the risk and vulnerability maps and other CC mainstreaming measures for rural infrastructure that were provided to provincial development authorities in Son La and Bac Kan province;
- the potential for an extension of the project to utilize the remaining SCCF funds for completion of final steps to integrate of project outputs into government.

1.3 Methodology of the Evaluation

The evaluation methodology was based on (a) review of documents, reports that describe progress on project outputs, outcomes and objectives as per indicators in the project design, (b) self-assessment of project achievements by project staff, (c) interviews with project participants and stakeholders to verify achievements and to identify issues related to project design and implementation, (d) group discussions to review project experiences and lessons learned, (e) site visits to compile evidence of local achievements and to consult with beneficiaries and stakeholders, (f) triangulation and corroboration of comments by participants regarding project results, implementation and lessons.

The evaluation tasks included:

- Preparation of an Inception Report, presenting the methods, issues, evaluation criteria and questions and the timetable.
- Data compilation will be initially undertaken by completing background tables, with the help of project staff, on deliverables, achievements and finances.
- Interviews with project beneficiaries and participants and project management and partners, for the field level, assisted by an Interview Guide (see **Annex 4**); and
- Field review of selected project sites and comparative before and after information, as available, on the key project interventions to assess results.

An emphasis was placed on collegial and constructive dialogue and compiling reliable observations project performance and lessons. The interviews will be assisted by an Interview Guide which will provide lead questions that facilitate consistency and triangulation of responses from those interviewed. The evaluation involved an objective and independent review of the *weight of evidence* compiled from reports, interviews/group discussions and site visits. Reasons for conclusions, ratings and recommendations were provided based on the evidence. The evaluation also drew out key lessons from the project that have implications for follow-up action, potential extension and for future climate change adaptation projects.

Project Relevance, Effectiveness, Efficiency, M&E systems, Sustainability and Impact were rated in accordance with the UNDP/GEF evaluation guidelines.

2. The Project and its Development Context

2.1 Project History

Since the mid-1990s the Government of Vietnam has been engaged in a program of rural infrastructure development with funding from ADB, the World Bank, the Government's own resources and other development partners. Climate change presents a significant threat to roads, embankments, water supply systems, etc. as a result of more severe flooding, erosion and landslides. Climate-related damage results in high maintenance and rehabilitation costs as well as a loss of benefits when structures remain un-repaired and nonfunctional. It was recognized that low cost, no regrets approaches for increasing the resilience to climate change can supplement and strengthen current engineering designs to enhance erosion control and soil and water conservation, enhanced slope stability and enhanced sustainability of water-crossing structures. The project was jointly developed by UNDP and ADB and was endorsed by GEF CEO for implementation from June 2012, with funding of U\$3,400,000 from the Special Climate Change Fund (SCCF).

The “Sustainable Rural Infrastructure Development Project in the Northern Mountains (SRIDP)”, financed by the Government and an ADB loan, provided a platform for enhancing the approaches and processes for climate proofing infrastructure. SRIDP started operations, road improvements, flood protection, etc., in 2010. The SCCF-funded project components commenced in September-November 2012. The ADB TA consultants were contracted in December 2012 and started their service in January 2013.

The project began very slowly in 2012 and 2013. Delays were attributed to slow processes for considering the ProDoc, government approval procedures, approval of the procurement plan, project team recruitment, agreement on annual work-plan with key stakeholder due to newness of the climate change subject. A Mid Term Review (MTR) was undertaken in April 2015. It found that the overall project delivery rates were 36% and the project was progressing moderately satisfactorily. Disbursement, activities implementation, stakeholder involvement had significantly improved during last 9 months.²The MTR proposed various actions to enhance work planning, budgeting and monitoring, including changes in logframe indicators, considered not clear enough to measure.

2.2 Problems that the Project Seek to Address

The Project Document states that it seeks to “implement high priority interventions to assist urgent adaptation needs in the priority identified area of infrastructure development”, and “support capacity building for preventive measures in areas prone to extreme weather events”. The main problem is focused on introducing a new approach to climate resilience planning of infrastructure and to low cost, community-based bioengineering methods for stabilizing and controlling erosion on slopes and embankments. Capacity and institutional barriers were the main targets. Two pilot provinces - Bac Kan and Son La were selected for detailed climate resilient infrastructure assessment and planning. Site demonstration activities were implemented on embankments and roads in three provinces (Son La, Bac Kan and Thai Nguyen) and, actions undertaken at the national level to facilitate the enabling environment for investment in climate rural resilient infrastructure.

2.3 Immediate and Development Objectives of the Project

The Goal of the project is to promote climate-resilient development in the northern mountainous regions of Vietnam. The Objective is *to increase the resilience and reduce vulnerability of local, critical economic infrastructure in the northern mountains areas of Vietnam to the adverse impacts of climate change and to create a policy framework conducive to promoting resilient northern mountains zone development.*

²Guido Corno and Vu Thi Thu, Midterm Review Report, Promoting Climate Resilient Infrastructure in Northern Mountain Provinces of Vietnam, GEF Project ID: 00075992, Final Report, UNDP, May 5, 2015.

2.4 Main Stakeholders

The project stakeholders included the following:

Table 1: Main Stakeholders

Ministry of Agriculture and Rural Development (MARD)
MARD – Agriculture Project Management Board (APMB)
MARD - Department of Science, Technology and Environment/ Standing Office for Climate Change Adaptation (OCCA)
MARD - DMC – Department of Construction Management;
MARD - VNWR – Vietnam Institute of Water Resources
MARD – Standing Office for the National Targeted Programme on Sustainable Poverty Reduction and New Rural Development
MARD - National Institute of Agriculture Planning and Projection
MARD – Directorate for Water Resources.
MARD – VAWR Viet Nam Academy for Water Resource
MARD - Department of Dyke Management and Flood Storm Control
MARD – Department for Natural Disaster Prevention and Control
MARD – Disaster Management Center
Ministry of Natural Resources and Environment (MONRE)
MONRE - Department. of Meteorology, Hydrology, and Climate Change
ONRE – Viet Nam Institute of Geosciences and Mineral Resources
Other Ministries
Ministry of Transport (MOT)- Institute of Transport Development and Strategy
Provincial Agencies
Provincial People’s Committees (PPC)
Departments of Agriculture and Rural Development (DARD)
Departments of Planning and Investment (DPI)
Departments of Natural Resources and Environment (DONRE)
Departments of construction, transport, etc. (DOC, DOT).
Provincial Committee for Flood Management and Search and Rescue
Others
Media organizations
NGOs and Mass movement organizations (e.g. Farmers Association, Vietnamese Red Cross)

2.5 Expected Results

The project had four planned outcomes:

Outcome 1 – Climate Change Adaptation integrated into policy, strategy and planning that relates to rural infrastructure – specifically agriculture, rural water and rural roads (UNDP managed);

Outcome 2 – Enhanced capacity to adapt/climate-proof rural infrastructure investments and provincial/local area planning (UNDP managed);

Outcome 3 – Effective climate-resilience measures mainstreamed into the MARD rural infrastructure program.(ADB managed);

Outcome 4 – Lessons learnt and best practices from Outcomes 1, 2 and 3 are disseminated to stakeholders and development partners (UNDP managed).

3. Evaluation Findings

3.1 Project Formulation

3.1.1 Implementation approach

The approach to implementation was described in the Project Document as “capacity development by doing”, with demonstration sub-projects serving as a school of learning, and national and provincial level capacity developed by involving concerned institutions and individuals in all steps of the demonstration sub-projects, and MARD and technical experts playing a key role in planning, designing, supporting, monitoring and implementing provincial and local activities – thereby developing their capacity to replicate after the project.³The general strategy was based on “demonstrating how to climate-proof rural infrastructure projects; developing capacity in northern provinces – with a focus in two provinces – to plan for climate change and to design and implement infrastructure projects that are climate resilient; and, making critical interventions at national level in order to make the enabling environment more conducive to climate rural resilient infrastructure.”⁴

MARD, DOCs and others were actively involved in implementation. The approach involved a broad set of consultancies to prepare background papers, develop planning tools, manuals and proposals and training workshops and introduce methods aimed at strengthening processes to integrate climate resilience into rural infrastructure decision making. **Table 2** provides a list of the deliverables. These outputs emerged from consultation, workshops and training of government staff with the intent that new awareness and skills would lead to improved practices in climate risks analysis and planning.

In the final stages of implementation, it became clear that, although the provinces have a mandate to integrate adaption into infrastructure planning, new construction and budgeting practices cannot be readily adopted until the relevant documents and proposals are fully transferred and accepted by government leaders and the necessary decrees and standards have been adopted. The project inception did not adequately anticipate the challenges associated with this requirement.

The project concept was also based on the notion that climate resilience could be part of the planning of SRIDP investments in the 15 Northern provinces to rehabilitate and, in some situations, establish new rural infrastructure to improve access to services for the target population. (The ADB loan to the national government provides for grants to the participating provinces.)The Project Document claimed advantages “by blending grant financing from GEF and other sources with investment financing from ADB” but this link to the parallel financing was not apparent in the final project results.

³ProDoc, 2012, p.23

⁴ProDoc, 2012, p.18

Table 2: List of the project deliverables

No	Name of deliverables
Outcome 1 - Climate Change Adaptation integrated into policy, strategy and planning	
1.	Report of international good practice in development and implementation of strategies/ policies and plans to adapt to climate change
2.	A thematic report on strengthening the resilience of rural infrastructure to climate change at international level, with focus on: (Rural road infrastructure; Rural water supply and irrigation; and, River protection embankment.
3.	Recommendations on amendment and supplement of policies, strategies and standard/ codes to increase the resilience of rural infrastructure to climate change
4.	Overview on existing policies and strategies related to rural infrastructure of the Northern mountain region
5.	Thematic report on development of SEDP and agricultural and transportation sector plans in relation to rural infrastructure of the Northern mountain region
6.	Technical guideline on appropriate measures to mainstream climate change into polices and strategies related to Northern mountain rural infrastructure
7.	Technical Guideline on mainstreaming climate change adaptation in SEDPs and agricultural and transportation sector plans related to rural infrastructure of the Northern mountain provinces
8.	Report on assessment processes of economic efficiency of climate proofing rural infrastructure projects
9.	Report on calculations of risks and costs in climate proofing rural infrastructure planning and development
10.	The report on measures to quantify the economic damages caused by climate change on rural infrastructure at the Northern mountain areas
11.	Manual on calculation of economic effectiveness of mainstreaming climate change rural infrastructure projects at Northern mountain areas
12.	Recommendations on amendment and supplement of standard/ codes related to economic effectiveness calculations to mainstream climate change into rural infrastructure projects
13.	The report on good international practice of engineering resilience in the context of following rural roads, irrigation network and river embankments
14.	The report on rural infrastructure vulnerability assessment to climate change for the Northern mountain provinces in Vietnam
15.	Proposed adjustments and supplements in standards/ codes and guidelines to facilitate climate resilient infrastructure development
16.	Root cause analysis for loses and damages to rural road infrastructure
17.	Recommendations on integration of climate change adaptation into rural road investments
18.	A manual on mainstreaming climate change into the design of rural infrastructure projects in Northern mountain provinces
19.	Root cause analysis for loses and damages to the irrigation and river embankment infrastructure
20.	Guideline on maintenance of rural roads in climate change context
21.	Recommendations on integration of climate change adaptation into irrigation and embankment investments
22.	Proposed technical solutions for irrigation and river embankment in Northern mountain region under the prevailing climatic regime.
23.	Manual on mainstreaming climate change into the design of irrigation and river embankment in Northern mountain provinces
Outcome 2 - Enhanced capacity to adapt/ climate-proof rural infrastructure investments and planning	
24.	Report on the need of capacity strengthening on CC adaptation of northern mountain provinces
25.	Report on capacity strengthening plans on CC adaptation of northern mountain provinces
26.	Report on capacity strengthening results after training courses
27.	Capacity strengthening materials for 2014-2015 training courses

28.	Training guidance on vulnerability assessment to climate change of rural infrastructure (for TOT at provincial and district levels)
29.	Summary report on capacity building program
30.	Report outlining methodologies and work plans for the risk and vulnerability assessment
31.	TOR for National Firm on vulnerability Mapping for rural infrastructure to climate change (Flashflood and landslide)
32.	Hazard impact assessment for the rural infrastructure in the Northern Mountain provinces.
33.	Manual on vulnerability assessment and mapping for rural infrastructure in the Northern mountain provinces
34.	Report on climate change impacts on poverty reduction and socio-economic development in the northern mountain provinces
35.	Vulnerability Assessment of rural infrastructure in 15 Mountain provinces, focussing on Son La and Bac Kan provinces
36.	Proposed solutions to mitigate vulnerability of rural infrastructures
37.	Geography-referenced infrastructure inventory
38.	Landslide risk maps for northern mountain provinces and 2 demonstration models in the context of climate change
39.	Analysis of climatic database.
40.	Flash flood risk maps for northern mountain provinces and 2 demonstration models in the context of climate change
41.	Overview on action plan to respond to climate change of the Northern mountainous provinces
42.	Propose strategies conducive to climate change for rural infrastructure in Son La province related to fields: 1-Rural transport; 2-Irrigation and river embankment
Outcome 3 - Effective climate-resilience measures – ADB Site Demonstrations	
43.	<i>Thai Nguyen province</i>
44.	Roadside demo (SP35) and progress reports
45.	<i>Bac Kan province</i>
46.	Riverbank demo (SP4) and progress reports
47.	<i>Son La province</i>
48.	Roadside demo(SP31) and progress reports
49.	Riverbank demo (SP32) and progress reports
50.	Technical assistance materials
51.	Reports on workshops and training activities
52.	Summary of lessons learned
Outcome 4 - Lessons learnt and best practices from Outcomes 1, 2 and 3 are disseminated	
53.	Project communications program
54.	03 leaflets
55.	04 video clips
56.	Rural infrastructure joint maps (printed and web-based)
57.	3 articles on technical magazine of Vietnam

The implementation approach did not sufficiently anticipate the legal and institutional constraints to demonstrating new approaches, or the complications of applying such to construction contracts. For example, the proposed bioengineering pilot activities did not fit the standard engineering code for road works and initial delays were encountered to obtain special permission to demonstrate the new methods (even though only GEF funds were being used). The ADB loan program for construction contracts moved ahead without the opportunity to demonstrate new methods within these road and

embankment designs. Government staff were engaged in the project implementation in collaboration with contractors/consultants, but the critical task of generating support for and developing a process to revise the standards and cost norms was not identified until the final few months of the project. The ADB TA component under Outcome 3 was not part of the expected development of the Outcome 1 policy framework or any leveraging of adaptation measures in investment programmes during the project period.

One of the key implications of this experience is for the executing agencies to take more direct responsibility to drive the capacity development, including policy reform aspects and internal approval processes within government. (Suggestions are provided by Section 5.2 below)

3.1.2 Country ownership and stakeholder participation

Hundreds of participants were involved in training and implementation of site works. The National Project Director/CPMU and ADB/ICEM coordinated all aspects of the implementation along with the relevant agencies. The key institutions responsible for rural infrastructure development are MARD (with extended technical roles of MOT) and the Provincial Peoples Committee. Under the PPC, the main agency responsible is the Provincial Department of Agriculture and Rural Development (DARD), with appropriate support from the Departments of Construction and Transport (DOC, DOT). The main institution responsible for coordination of adaption to climate change is the Ministry of Natural Resources and Environment (MONRE), with support in provinces from the Provincial Department of Natural Resources and Environment (DONRE). All these institutions were involved in the preparation of the project and in its implementation.

Local communities were also consulted and contracted to assist in plantation and other site works. Ongoing maintenance of sites will involve commune staff and local people. The extensive national and local participation facilitated country ownership, yet most of the work was completed by consultants and contractors, with the beneficiary agencies serving mostly in a support role.

3.1.3 Replication approach

The expectation of replication was based on the visible piloting of climate resilient infrastructure plans in two provinces and four site bioengineering demonstrations. The absence of a policy and legal framework to integrate CC risks and climate resilient investment into rural infrastructure development prevented direct replication, but the outputs have nevertheless contributed technical data and methodologies and examples that could assist future use of these approaches. The project prepared a policy discussion paper and policy roadmap to promote integration of CC risk into infrastructure development and planning cycle. Several thematic policy discussion papers on viable conditions in term of economics, planning, engineering and climate change were prepared as background to the integration roadmap. Policy dialogue with stakeholders supported the road map and its application.

3.1.4 Cost-effectiveness

The project has provided support for improved infrastructure investment planning and priority setting, information for more strategic use of government resources, and lower intervention costs through use of a bioengineering approach. The outputs have therefore facilitated cost-effective climate change adaptation strategies.

The cost-effectiveness of project delivery and management however, can be questioned. There were significant delays in approvals and slow procedures under APMB that adversely affected the timetable and results. Recruitment of experts under the APMB procedures took more than three months rather than the normal 1-2 months under UNDP procedures. Some of the technical studies may also have been less relevant than expected, also contributing to reduced cost effectiveness.

3.1.5 UNDP comparative advantage

There have been advantages in drawing upon UNDP's extensive experience in climate change and disaster risk management projects in Vietnam, especially in formulating the vulnerability assessment and mapping methodology. But the project design also assumed that the project would be able to "efficiently connect to the central policy processes that currently shape Viet Nam's approach on how to deal with evolving climatic risks". This connection to policy development has been more difficult than anticipated. The policy initiatives depend on government's preparedness to respond to proposals.

3.1.6 Linkages between project and other interventions within the sector

The Project Document stated: "ADB and UNDP have developed a substantial package of investment projects and technical assistance grants that are relevant to the proposed project, and so the GEF/SCCF grant will be part of an integrated package of coherent climate change relevant policy development, infrastructure development, and capacity building."⁵ These activities involved: the SRIDP project, and three UNDP capacity development projects: *Strengthening national capacities to respond to Climate Change in Viet Nam, reducing vulnerability and controlling greenhouse gas (GHG) emissions*, in collaboration with MONRE and MARD; *Strengthening Sustainable Development and Climate Planning*, in collaboration with MPI; and *Strengthening Institutional Capacity for Disaster Risk Management in Vietnam, including Climate Change Related Disasters*, in collaboration with MARD. In addition, UNDP has provided technical assistance in the development of the *Vietnam National Climate Change Strategy and Action Plan and the Support Program to Respond to Climate Change (SP-RCC) 2009-15*. These linkages involved participation and collaboration in workshops, training and technical activities.

⁵ ProDoc, 2012, p.36.

3.1.7 Indicators quality and utilization

The project indicators were revised in the Inception Report and again in the MTR. The original indicators provided ambitious measures of achievement (e.g., “Provinces in the Northern mountain areas of Vietnam are replicating the process to prepare vulnerability maps”; “Evidence that public funds are being invested in adapting rural infrastructure to climate change”; “Evidence of major planning decisions being modified due to vulnerability maps (in 2 target provinces)”). Subsequent revisions emphasized measurement of outputs completed, and a quantitative proxy for capacity change that few can explain. Some of the revisions to these original indicators also proved difficult to operationalize. **Table 3** presents a commentary on these difficulties.

Table 3: Problems with Indicators

Project Strategy	Indicator	Comments on effectiveness
Objective: To increase the resilience and reduce vulnerability of local, critical economic infrastructure in the northern mountains areas of Vietnam to the adverse impacts of climate change and to create a policy framework conducive to promoting resilient northern mountains zone development	# of detailed vulnerability maps presented and disseminated to % of Northern Mountain provinces.	<i>The number of maps prepared by the project and % of budgets for protection of infrastructure may not represent the objective of ‘enhanced resilience and creation of a policy framework’.</i>
	% of public expenditure directed towards the protection of rural infrastructure following the project guidance on climate resilient infrastructure.	<i>The original design had Provinces replicating the process to prepare vulnerability maps, and evidence that public funds are being invested.</i> <i>The indicator on % budgets for ‘protection’ – maintenance and upgrading, proved to be too difficult to operationalize. The core results for this objective may be: “a system in place (awareness, policy, capacity, processes) to ensure actions to climate-proof infrastructure”</i>
Outcome 1: Climate change Adaptation integrated into policy, strategy and planning related to rural infrastructure - specifically rural roads, irrigation, and embankment.	# of Technical papers providing guidance on mainstreaming climate change into sectorial planning related to rural infrastructure in northern areas.	<i>These indicators are measures of outputs that are expected to lead to or assist the process of integrating adaptation into policy, strategy and planning. However, they do not measure actual achievement of the planned outcome: extent of changes to policy, strategy and planning processes.</i> <i>The project has assisted in establishing a methodology supported by the authorities in the northern provinces, for identifying climate change vulnerability and for setting priorities for investment planning in rural infrastructure. – this is a measure of outcome achievement.</i>
	# of Manual on mainstreaming climate change into the design of rural infrastructure projects.	
	# of water resources standards and codes are informed to meet the requirements for climate resilience.	
Outcome 2: Enhanced capacity to adapt/climate-proof rural infrastructure investments and provincial/local area planning.	Coverage of Climate risks and vulnerability assessment.	<i>Completion of assessments by project consultants may not be the best indicator of enhanced capacity</i>
	# of rural infrastructure investment plans guided as results of climate risks and vulnerability assessment,	<i>The original indicator included “evidence that major planning decisions are being modified due to vulnerability maps (in Son La and Bac Kan target provinces).”</i>

	regarding mainstreaming of CC.	<i>This was revised to reflect completion of infrastructure investment plans. The plans were prepared by consultants but not yet 'handed over' to provincial government. Has capacity to do infrastructure planning been enhanced? Probably marginally by making new information on vulnerabilities and needs (see Annex 8) available to district and provincial officials.</i>
	Level of capacity of provincial leaders to climate-proof rural infrastructure investment and planning enhanced (referred to the project technical capacity assessment)	<i>A questionnaire was distributed to government staff requesting a general rating of institutional, organisational and technical capacity. Provincial leaders were estimated to have increased capacity by 60% and technical staff by at least 50%. (See Annex 6) but while there is a new awareness of the climate risks and priorities, there is no hard evidence of changes in practices (due to the lack of policy level directives to adopt the new methods) or additional funds for investing in rural infrastructure. There is too much qualitative self-assessment bias in the GEF capacity development rating tool. Project staff cannot explain the actual basis for these quantitative changes in rating at baseline and completion.</i>
	% of technical personnel having ability to apply risk and vulnerability assessment tools and methods for rural infrastructure development planning purposes	<i>About 270 technical staff were trained on how to use the tools. Post-training assessment of the extent to which the vulnerability assessment tools are being used has not been completed, but staff indicated that the initial data and analyses will provide useful information for planning.</i>
Outcome 3: Effective climate-resilience measures mainstreamed into rural infrastructure programs.	Level of CC threats and impacts assessed and adaptation options identified.	<i>The indicator measures completion of studies by consultants.</i>
	# of demonstration projects developed, implemented, and evaluated with communities engagement	<i>The indicator measures completion of bio-engineering demonstration activities by contractors and communities employed.</i>
	Strengthened capacity of project stakeholders to assess climate change impacts, select, design, implement and evaluate bio-engineering solutions	<i>Self-assessment by workshop participants indicated a high degree of satisfaction with the learning experience. But the actual capacity of the main stakeholders to replicate the site bioengineering methods is not known.</i>
Outcome 4: Lessons learnt and best practices from Outcomes 1, 2 and 3 are disseminated to stakeholders and development partners.	# of Project lessons and best practices captured, classified and evaluated;	<i>No. of media products is a reasonable indicator for measurement of this dissemination outcome</i>
	Level of CCA knowledge and experiences documented and disseminated within Vietnam, in the Asian region and beyond	<i>Not clear how to implement this indicator.</i>

The GEF Secretariat requirement for a simplified, quantitative self-rating of capacity development is not helpful for project monitoring. The generalized and standardized criteria did not provide an accurate depiction of the situation in the northern provinces, especially when they are based on a self-administered questionnaire to project participants. The rating generated a convenient but misleading

impression of a 60% increase in capacity to implement climate resilient infrastructure that does not match reality on the ground. This approach also discouraged project staff from thinking clearly about realistic end results for capacity development.

3.1.8 Management arrangements

The management structure, as set out in the Project Document, included a Project Board, a Central Project Management Unit (CPMU), two sub-project units (UNDP/ADB), a Technical Advisory Group, and Provincial Project Managements Units. All Outcomes were to be coordinated and executed by MARD through a single coordination mechanism, but funds flowed from SCCF through UNDP to CPMU to project activities, under UNDP National Implementation (NIM) procedures, and through ADB for the Outcome 3 Capacity Development Technical Assistance (CDTA). The management arrangements for the GEF/SCCF project were to be closely linked with those of the SRIDP Project. The Project Board approved the Annual Workplan and budget for the UNDP supported components, and endorsed the AWP and budget of the ADB component. The Board was also expected to undertake project assurance reviews at designated decision points during project implementation, or as required, at the request of the Director of CPMU.⁶ However, few meetings of the Board took place.⁷ Arrangements with MARD for input on strategic direction and coordination of different departments by the Vice Minister and Project Steering Committee, appear to have been inadequate.

The coordination of parallel sub-projects, the lack of expertise and orientation of APMB to climate change technical assistance projects, and the questionable mandate and interest of MARD in climate change policy and mainstreaming activities imposed a heavy burden on this structure. There is a general consensus that APMB is not well suited to implementation of these types of projects, although the Secretariat did make exceptional effort to adapt to the unfamiliar management requirements. The CPMU only had authority over UNDP implemented activities and there were in effect two reporting and management systems, although efforts were made to ensure regular communications.

3.2 Project Implementation

3.2.1 Implementation and coordination issues

There were some distinct challenges during project implementation. The main issues that were highlighted during the TE discussions involved the following:

- (a) Understanding of climate change** – The project faced a limited state of awareness of climate change and impacts on rural infrastructure in the central government and the 15 targeted

⁶ProDoc, 2012, p.

⁷ E.g., "There was no project steering committee meeting organized during half year of 2016 due the government's prioritization of responding to the severe drought affecting Viet Nam..." PIR 2016

provinces. This required more time to develop a basic understanding by implementers and stakeholders of the project and the proposed activities.

- (b) **Approvals process inefficiency**—The lengthy processes for decision making and limited flexibility to adjust designs according to circumstances imposed unnecessary constraints.
- (c) **Availability of experts** – The project had difficulties recruiting CPMU staff and technical consultants because climate change is still a new theme in Vietnam. Some procurement bids were advertised many times, but CPMU could not find suitable consultants.
- (d) **Timing of demonstration activities** – Delays that caused the ideal springtime planting window to be missed, created additional management problems and costs. Bioengineering demonstration sites needed to be implemented during certain seasons to encourage survival of the plants with minimal intervention, but this did not occur.
- (e) **Priorities for policy development** - The willingness and support for action on mainstreaming adaptation measures is uncertain in MARD and perhaps outside their area of interest.
- (f) **Uncertain responsibilities for project outputs** – As noted in the Project Completion Report, there is uncertainty about handover procedures and who will take responsibility to complete and maintain the project deliverables such as GIS mapping system, database and manuals, although these are to be addressed in a project extension.
- (g) **Assurance of protection and maintenance of demonstration sites** – assurances have been made with local authorities and communities but these are informal and unfunded.

3.2.2 Financial planning and co-financing

Table 4 shows the original project budget, the implementing responsibilities and management arrangements through UNDP National Implementation Modality and ADB Technical Assistance agreement. The UNDP NIM component covering activities under Outcomes 1, 2, 4 and 5 had a sub-total budget of US\$ 1.4 million, involving over 40% of total project budget. The ADB TA activities under Outcome 3 had a sub-total budget of US\$ 2 million, with 60% of total project budget.

Table 4: Project Budget

Project Components	GEF/SCCF Fund (US\$)	Implementing Agency	Management Arrangement
Outcome 1 – Climate Change Adaptation integrated into policy, strategy and planning that relates to rural infrastructure – specifically agriculture, rural water and rural roads	398,500 (11.7%)	UNDP	NIM
Outcome 2 – Enhanced capacity to adapt/climate-proof rural infrastructure investments and provincial/local area planning	596,500 (17.5%)	UNDP	NIM

Outcome 3 – Effective climate-resilience measures mainstreamed into the MARD rural infrastructure program	2,000,000 (58.8%)	ADB	TA
Outcome 4 – Lessons learnt and best practices from Outcomes 1, 2 and 3 are disseminated to stakeholders and development partners	125,000 (3.7%)	UNDP	NIM
Outcome 5: Project management	280,000 (8.2%)	UNDP/ ADB	NIM
Total fund	3,400,000		

Source: Summary of project implementation arrangement, Project Document

Table 5 summarizes the annual budgets and expenditures. The rates of expenditures compared against annual budgets - 22, 81, and 60 %, were significant. The last year (2016) the actual spending achieved at 58% at 30 September 2016 and estimated to achieve 100% of the planned budget base on the contract signed and deliverables/outputs progress. No data were available for the ADB component.

Table 6 presents the available data on expenditures. Only one-fifth of the UNDP budget was spent during the first half of the project, two-thirds to the end of September 2016, and final disbursements are estimated at 83% of the budget by year end. The remaining 17% (\$235,000 USD) is unspent. The reasons for this underspending were the lower than anticipated costs under Outcome 2 (US\$128,375) due to incomplete tasks for Bak Kan province and district mapping, limited activities on mainstreaming the climate change into provincial rural infrastructure planning (Outcome 1), no cost for Steering Committee meetings as no any meeting was held and project saving cost from CPMU consultant recruitment at cheaper rate than planned (component 4).

As of 30 September 2016, component 1 disbursed at 86% as planned in the allocation plan and will reach to 90% by 31 December 2016 based on the contracts that have been signed. Similarly, the component 2 disbursed at 60% and will reach to 78%; component 5 at 64% and 83%. The component 4 has spent only 29% as of 30 September 2016 due to almost project outputs have just completed then the project is able to start for dissemination, but it is expected that it will reach to 83% for UNDP and 88% overall as of 31 December 2016. About \$400,000 will be unspent at project closure.

Table 7 presents available information on GEF funding and co-financing contributions. Data on co-financing were not available from the ADB component. The funding commitments for UNDP component are \$910,424 (83 % of allocation) to Oct. 2016, and for ADB component \$1,830,000 estimated to December (91.5% of allocation, see Table 6). The contribution from the government was \$150,000 in cash and \$190,000 in-kind. The large parallel (\$80 M) in parallel co-financing by ADB had little obvious contribution to project results and are essentially meaningless for the purposes of examining project results. Financial audits were completed each year. No significant management concerns were mentioned by the Auditors.⁸

⁸KPMG, Promoting Climate Resilience to Infrastructures in Northern Vietnam Mountains, Financial Audit, Jan 2014 to 31 Mar 2015.

Table 5: Project Budget and Expenditures (\$'000) 2013 – 2016 UNDP

Outcome	2013		2014		2015		2016			Total	
	budget	Expend	budget	Expend	budget	Expend	budget*	Expend (up to QIII)	QIV est.	budget	Expend
Outcome 1	103,775	6,361	103,643	111,439	152,962	96,635	143,902	129,754	14,148	398,500	344,189
Outcome 2	48,227	6,111	108,668	52,901	216,385	123,518	279,430	172,672	106,386	596,500	355,202
Outcome 4	20,717	4,810	12,966	7,284	52,983	20,377	97,499	10,973	86,514	149,000	43,444
Outcome 5	40,213	30,027	40,920	44,833	71,020	57,303	81,169	35,426	46,968	256,000	167,589
TOTAL	212,932	47,309	266,197	216,457	493,350	297,833	602,000	348,825	254,015	1,400,000	910,424
% Disburse		22%		81%		60%		58%	100%		65%

Note: * Based on Revised AWP2016; Outcome 5 is Project Management

Table 6: Financial expenditures by year

(Unit: '000 USD)

Component	Allocation plan	2013	2014	2015	30-Sep	31-Dec	Total disbursement30 Sep 2016 (%)	Total est. disbursement 31 Dec 2016	Unspent
1 Policy Development	398,000	6,361	111,439	96,635	129,754	14,149	344,189 (86%)	358,338 (90%)	39,662
2 Capacity Development	590,000	6,111	52,901	123,518	172,672	106,424	355,202 (60%)	461,626 (78%)	128,374
3 Site Demonstration		No data	No data	No data	No data	No data	No data	1,830,000 est. (91.5%)	170,000 est.
4 Dissemination	152,000	4,810	7,284	20,377	10,973	86,513	43,444 (29%)	129,957 (85%)	22,043
5 Project Mgmt	260,000	30,027	44,833	57,303	35,426	46,968	167,589 (64%)	214,557 (83%)	45,443
Total	1,400,000	47,309	216,457	297,833	348,825	254,054	910,424 (65%)	2,994,478 (88%)	405,522
Cumulative disbursement by UNDP			263,766	561,599	910,424	1,164,478		1,164,478 (83%)	235,522
Cumulative disbursement %		3%	19%	40%	65%	83%			17%

Table 7: Financing and co-financing status

Project financing	At CEO endorsement	At Midterm Review	At Oct 31, 2016
[1] GEF financing:	\$ 3,400,000 (TA)	1,241,173	910,424* (UNDP component); ADB component: no data
[2] UNDP contribution:	6,765,000 (parallel)	6,021,000	6,765,000
[3] ADB contribution:	108,000,000 (parallel) 100,000,000 (adjusted)	40,000,000 (cash)	75,000,000
[4] Government contribution:	400,000 (340,000 for TA including 150,000 in cash & 190,000 in-kind) 30,000,000 (cash, parallel)	150,000 (cash) 16,000,000 (cash)	340,000 (TA) including 150,000 (cash); 190,000 in kind 22,000,000 (cash)
[5] Total co-financing [2+3+4]:	145,165,000	62,171,000	104,445,000
Project total costs [1+5]	148,565,000	63,413,013	ADB data not available

Source: Columns 2 and 3: MTR report; Column 4: PIR Oct 17, 2016 and CPMU and UNDP sources

* This is cumulative disbursement at Sept 30, 2016. The project plans to disburse US\$1,164,477 by Dec 30, 2016.

3.2.3 Monitoring and reporting process

The project provided adequate and timely quarterly and annual reports, with limitations related to the quality of the indicators (see Section 3.1.8) and the main focus on the UNDP component. The ADB component provided six-monthly reports. The project developed its M & E Plan based on the project logframe and an annual M&E plan was prepared to track the progress and quality of project activities. The CPMU and CTA were heavily involved in monitoring completion and quality assurance of the consultant reports, workshops for discussion and dissemination, peer review, inputs from relevant departments, and APMB response to these reports.

In the Project Document, it was proposed that UNDP organize periodic monitoring visit for M & E purposes. UNDP PO/STA actually visited the sites in combination with workshops/trainings that organized in the provinces. Regional UNDP staff had a monitoring visit once after the MTR. ADB undertook monitoring visits each year.

The CPMU prepared quarterly and annual progress reports, mid-term and final reports which were submitted to UNDP Vietnam and APMB. The progress reports were prepared per UNDP/GEF template. UNDP also submitted yearly Project Implementation Reviews (PIR) with ADB inputs for submission to GEF. CPMU also prepared reports for internal government reporting system by quarterly, annual, mid-term and final reports and these were submitted to MARD, MPI and MoF.

One shortcoming of the M&E system is that it was not able to highlight at an early stage the difficulties in establishing the enabling policy framework as expected under Outcome 1.

3.2.4 Execution and implementation modalities

The division of the project into two subprojects and the use of APMB (an agricultural projects approving authority) as the implementing agency created difficulties. The operational issues that were noted during the TE mission included the following:

- Informal coordination processes within MARD departments and other ministries; technical team members were not formal representatives of the key stakeholders with coordination functions;
- Multiple levels of review and approval were required under APMB, slowing the implementation⁹;
- Liability for potential slope failure created approval complications where road construction contracts and demonstration sites overlapped;
- The communication plan was not prepared until the late stages of the project, limiting its benefits;
- CPMU did not have full authority to coordinate M&E and reporting even though this was expected, and additional administrative work was required of ICEM outside of their ADB contract;
- GEF financial rule of 80% completion before next quarterly financial draw disrupted the work schedule;
- Demonstration project reports and signage (ADB/ICEM projects) did not acknowledge GEF funding.

3.2.5 Management by the UNDP Country Office

The general management of the project by UNDP has been moderately satisfactory in light of results. Management was responsive to delays and recruitment issues to the extent possible. The requirement to implement the project through APMB and ADB imposed additional management burden for UNDP staff that was adequately handled given the circumstances. There were some views that UNDP should have had more staff to monitor progress and provide direction, although the NIM modality limits this potential. But a more fundamental problem is that the project lacked the design and implementation conditions and influences that would have ensured greater government ownership and sustainability and progress on a policy framework.

More scrutiny and assistance in the monitoring system for certain outcomes should have been provided at inception and at midterm. Also, as noted in Section 3.1.1, the project has not had the benefit of an overall, realistic vision of end results and sustainability mechanisms. This should have also been addressed at

⁹ "One of the main implementation bottlenecks has been stringent and inflexible approach of APMB to project work - planning and implementation. This adaptive management approach has prompted significant delays in work plan revisions and procurement procedures directly affecting project delivery and implementation progress" PIR 2016

inception, but it is also appreciated that it is not an easy task to ensure definitive results within the current Vietnam development assistance model (see Section 6.2 suggestions). Also, the Project Board had a limited function in overseeing progress.

3.3 Project Results

3.3.1 Project objective

Significant progress has been made toward the Project Objective by introducing the resilience concept and methods for rural infrastructure planning, and enabling 35 trainers in the provinces where there was previously little recognition of climate change. The mapping, analyses and training have stimulated interest and support from the provinces toward greater action on climate resilience but the next steps and expansion of the methods remain highly uncertain. The technical research and development of a planning methodology, the awareness-raising, and the new data and tools provide a strong foundation for future advances in climate resilience. But the potential for embedding these technical improvements within the government development and climate response priorities and taking action on the key policy recommendations remains uncertain.

Bioengineering methods have been demonstrated at a few sites and provide practical examples of cost-effective alternatives to controlling slope stability and soil erosion. But these methods still require formal development of standards and/or guidelines and cost norms to be adopted in the government programmes. The site demonstrations have not had any apparent effect on the larger investment programmes for roads or stream embankments due to institutional barriers. Some government staff suggest that more demonstration experiences are needed to present compelling evidence for a change in approach to slope protection and stabilization. The investment case for promoting these methods in the remaining ADB loan programme has yet to be articulated.

3.3.2 Achievement of Outcome 1: policy framework

The activities under Outcome 1 provided an extensive set of technical background and advisory reports related to policy, international practices, economic aspects, mainstreaming tasks and other issues. **Table 2** lists 23 deliverables that were produced to facilitate the development of an enabling environment for the integration of climate change resilience into policy, strategy and planning. The highlights of these outputs were a risk analysis and mapping product to guide provincial and district infrastructure planning, and a set of key recommendations related to development of government standards and processes for mainstreaming adaptation measures into policy and planning.

A main focus has been on tools that help integrate hazard and risk information into easy-to-use maps and decision making tools targeted at central and provincial level policy makers. These were reported as:

- A methodology that helps compare provincial and district vulnerability to climate change impacts based on their present and projected hazard trends, socio-economic status and infrastructure profiles.
- A tool to compare climate change vulnerability across infrastructure types to help decide for example if roads or canals are more vulnerable within provinces, and to help prioritise which kinds of infrastructure might merit further examination for adaptation.
- An economic analysis tool to help provinces consider if investing in adaptation now makes sense, and to see if low cost upgrading methods can be of use.
- A screening checklist for individual infrastructures that can be used as part of field assessments to better quantify climate change related risk.¹⁰

The project also developed a local level tool that can be used by district staff from DARD to further verify and quantify which infrastructure or group of infrastructure merits investment based on its specific climate change vulnerability. The tool can be applied as a checklist during field visits and in consultations with the commune leaders, and can be used to complement and verify the analysis provided by the regional and provincial level tools.

The policy analyses culminated in various manuals and recommendations on mainstreaming into government systems and revising relevant standards for infrastructure planning and investment. There is an existing policy mandate to consider climate change in development planning. Under the provisions of Directive No.22/CT-TTg and No.23/CT-TTg (12), the time allocated for planning the CC integration should be consistent with the time and the process for preparing the socio-economic development plan of the provinces, districts and communes.¹¹ The project has identified six steps, as outlined in **Table 8** below, where project outputs can facilitate integration into the planning cycle.¹² The specific tasks for follow-up revisions to provincial adaptation action plans have also been proposed, but the commitment and mechanisms to carry these forward have not been secured. The '**viable set of policy options for further consideration**'¹³ by MARD

¹⁰ APMB, Promoting Climate Resilient Infrastructure in Northern Mountain Provinces of Vietnam: Project Lessons Learned, 30 October 2016 Draft, p. 3.

¹¹MARD/UNDP, Technical Guideline on mainstreaming climate change adaptation in SEDPs and agricultural and transportation sector plans related to rural infrastructure of the Northern mountain provinces, April, 2016, P. 21.

¹² See also, the *Matrix on tasks to integrating CC into rural infrastructure construction in NMPs*, in APMB, Promoting Climate Resilient Infrastructure in Northern Mountain Provinces of Vietnam: Project Lessons Learned, 30 October 2016 Draft, p. 25.

¹³Technical Report – Policy Team - UNDP Component, Recommendation on Amendment and Supplement of Policies, Strategies and Standards, Codes to Increase the Resilience of Rural Infrastructure to Climate Change, Ha Noi, March 2016, p.6

stakeholders and policymakers has yet to find a receptive audience, but it offers a useful draft action plan for mainstreaming climate change adaptation as mandated by climate policy.

Table 8: Proposed steps for integrating climate change adaptation into development planning

	Step in Existing Annual Planning Cycle	Recommended action	Project tool to support integration
1	Master Plan Review	Climate change adaptation is already mandated ¹⁴	Regional level vulnerability maps for infrastructure vulnerability across the whole NMP can help show CC vulnerability Implementation of the specific policy recommendations can strengthen the CC governance system
2	Investment Preparation	Review climate risk and vulnerability status	Project maps at regional and provincial level Cost-effectiveness/ Cost benefit tools can help decision making on whether to invest now or wait, and if bio-engineering can be a useful short or long term tool
3	Construction Design	Recommendations and Selection of adaptation measures	Bio-engineering methods that can be a useful tool to increase cost-effectiveness and resilience Implementation of policy recommendations on code enhancement can help support CCA implementation
4	Construction	Integrating into plans	Suggestions on application of more robust design standards able to cope with increased peak water flows in areas identified as high-risk through mapping
5	Operation and Maintenance	Implementation of integrated plans	Bio-engineering methods that can be useful tool to reduce maintenance costs
6	Proposals for rehabilitation and up-grading for next cycle	Review climate risk and vulnerability status	Project maps at regional and provincial level Cost-effectiveness/ Cost benefit tools

Source: APMB, CRI Synthesis Report (30 Oct Draft) 2016, p. 22

The overall results relative to targets are summarized in **Annex 7** along with comments from the TE team. The project has also provided an assessment of the climate risks that are facing the specific rural infrastructure facilities, as summarized in **Annex 8**. This facilities status inventory database for the 15 northern provinces provides a basis for developing investment programmes aimed at addressing priorities, and for targeting national and international sources of financing for climate proofing. The TE discussions indicated that there are major gaps between available resources and needs to upgrade and sustain infrastructure.¹⁵ It is apparent that the project has provided a useful set of data, analysis, mapping and planning tools that can assist climate

¹⁴ See the Directive on the CC integration, No:809/CT-BNN-PTNT, MARD, Hanoi, 28 March 2011.

¹⁵ For example, only about 15-20% of funds needed for irrigation system upgrading and construction were available in the 2007-2014 period. Source: Planned data and actual data, period 2007 ~2014, Planning Department, MARD.

resilience. Despite the many technical outputs, the planned integration into policies, strategies and plans has yet to be achieved.

It is clear that a lot of advice has been generated that could assist ongoing climate change adaptation if there is adequate momentum and means to follow-up on the work. For example, the technical reviews undertaken by the project identified some of the issues related to implementation of actions plans for climate change adaptation, including uncertain awareness of the impact of climate change factors for infrastructure, lack of a streamlined mechanism for implementing the CC integration and adaptation into socio-economic development plans, lack of an appropriate process and roadmap of CC integration and adaptation and lack of investment funds for this work.¹⁶

The project consultants proposed recommendations on targets and roadmaps (3 periods: short-term in 2016 ~ 2020, mid-term in 2021 ~ 2030, and long –term with vision to 2050); tools for application; priority tasks in the short term in 2016 ~ 2020; measures to organize the implementation of plans for adaptation to climate change in irrigation infrastructure and rural roads in Son La province. The roadmap included “steps in accordance with the provisions of the Law on Construction, in line with the approach of adapting to climate change, consistent with the ability of investment funds for responding to climate change and the legal basis, institutional mechanisms, monitoring, evaluation synchronization ensures the success of the integration of climate change into plans for socio-economic development.” For the Ministries and sectors at the central level, the consultant also outlined some recommendations for funding, guidance on the application of technical standards, to supplement the sector planning, on the coordination of activities of the NTP for building new rural; ODA projects; non-construction projects and community -based projects to promote climate change adaptation activities in Son La province, as well as other NMPs.

The Project Implementation Report notes that “the mechanism of deliverables acceptance/handover to the Ministry remain unclear”, the recommendations are set up for Son La, but there is not enough time to set up for Bac Kan, and ...time is still needed to assess the actual capacity to apply climate risks and vulnerability assessment tools and methods.¹⁷ At this late stage, the endorsement of key recommendations by MARD remain uncertain. However, there is substantial support by stakeholders to further pursue formal use of risk assessment databases and mapping within the annual and five-year planning processes.

¹⁶Pham Chu Dong, *Overview on the Climate Change Adaptation Action Plans on the Northern Mountains Provinces*, Technical Report- Provincial Strategy Team, and Promoting Climate Resilient Infrastructure in Northern Mountain Provinces of Viet Nam – 0007599, *Recommendations on CCA planning for rural infrastructure in Son La province related to fields: 1-Rural transport; 2-Irrigation and river embankment*, Hanoi, May 2016,

¹⁷ APMB, Project Implementation Report, Promoting Climate Resilient Infrastructure in Northern Mountain Provinces of Viet Nam, Hanoi, 28 Oct, 2016, p. 11.

3.3.3 Achievement of Outcome 2: capacity development

The capacity building efforts have included a broad array of analyses and manuals (Table 1) that culminated in a series of recommendations and suggested steps for further action to integrate climate change adaptation into rural infrastructure planning and budgeting. The project developed a training manual and trained 35 trainers to serve provincial or district staff in further training on project tools especially vulnerability assessment and mapping. In the UNDP component of the project, it was reported: “More than 600 [attendance at training sessions] of national and local level government experts have been trained, and a cadre of TOT government trainers has been developed. This work needs to continue and to be stepped up as part of wider effort to support adaptation action in the future.”¹⁸ In the ADB component, 163 participants [turns] received training on bioengineering aspects under Outcome 3.

Annex 9 summarizes the training activities. Besides the two training courses on TOT mentioned above, the UNDP component conducted four training courses on “Consultation work on policy for climate change resilience” for 88 provincial leaders and technical staff of 15 NMA provinces in August and September 2015 in Thai Nguyen and Vinh Phuc provinces; two training courses on “Vulnerability assessment as a tool to increase climate change resilience” for 66 provincial technical staff in October 2015, organized in Lao Cai province; five same training courses “Vulnerability assessment...” undertaken by TOT for 107 district technical staff & consulting companies from May to July 2016 in 15 NMA provinces; three training courses on “integrating climate change resilience into planning and calculate the economic effect of climate change adaptation” for 55 provincial leaders and technical staff within 15 NMA provinces, organized in Bac Kan province in August 2016.

ADB component also undertook several training courses, including “Vulnerability Assessment and Adaptation Response Workshop” in Hanoi and Son La provinces during November 2013, “Bioengineering Workshop: Design and Construction (Riverbanks)” in Bac Kan Province within April 2015, “Bioengineering Workshop: Design and Construction (Roadside Slopes)” in Thai Nguyen Province during June 2016, and Lessons Learned in Hanoi in October 2016.

It was reported that the training provided lots of knowledge and skills for provincial and district leaders and technical staff of 15 NMA provinces in climate change¹⁹. They learned about climate change, trends of increasing extreme events in northern mountain region, influence of climate change to social and economic

¹⁸APMB, Promoting Climate Resilient Infrastructure in Northern Mountain Provinces of Vietnam: Project Lessons Learned, 30 October 2016 Draft, p. 3.

¹⁹Final report on capacity strengthening programme under project “Promoting Climate Resilient Infrastructure in Northern Mountain Provinces of Vietnam”

sectors, adaptation to climate change based on community, and method of calculating the economic benefits for rural infrastructure projects to cope with climate. Training courses on climate risk and vulnerability assessment mapping tools for rural infrastructure in 15 NMA provinces were organized for provincial level staff in October 2015 and district staff from May to July 2016. Some initial changes and results were noted in the visited provinces. Interviewees stated that the training courses equipped them with knowledge in CC and CCA; the trainings are useful for them in their works; make them confident to provide advice and solutions on climate change adaptations for provincial and district leaders; change the way to work from “passively” front of climate change to “actively” as well as better understanding of the level of risk or where the most risk and vulnerability areas are in their province and actions/solutions they need to deal with.

Currently, climate risk and vulnerability mapping have been conducted in 15 NMA provinces (met the target in logframe), but only two provinces (Bac Kan and Son La) have been gone deeper to district and commune levels. The project will get greater results and impact if mapping of 13 other provinces is further developed to district and commune level as the provinces realized that the mapping to district and commune levels is very useful for them. Total technical staff who have been trained on risk and vulnerability assessment tools are 173, which is nearly 1.5 times the target (120 technical staff). Although there are some initial changes from knowledge and tools/methods from training courses, the target of at least 50% of technical personnel being able to apply the tools and methods for rural infrastructure development planning will need more time to verify as almost trainings and outputs are recently or just completed. Table 9 presents data from the project assessment of changes in staff capacity before training intervention and at the end of the project.

Table 9: Level of staff capacity

Criteria for management scores	Baseline scores	Target scores (at least 40% higher than baseline)	Endline scores	% between endline and baseline	% between endline and target
Institutional capacity on CCA	1.43*/5	2.0	2.57	180%	129%
Organizational and planning capacity on CCA	1.71/5	2.39	2.82	164%	118%
Technical capacity on CCA	1.78/5	2.49	3.07	172%	123%
Total	4.92	6.88	8.46	171%	123%

Source: CPMU, 2016

Table 9 indicates that institutional capacity on CCA has been increased 80% in comparison to baseline score and 29% in comparison to target. The organizational and planning capacity on CCA increased 64% in comparison to baseline score and 18% in comparison to target. Similarly, the technical capacity on CCA increased 72% in comparison to baseline score and 23% in comparison to target. The data indicate that average realized scores have increased 71% in comparison to baseline score and increased 23% in comparison to target. As noted in other sections of this report, there are many doubts about the reliability of these figures.

The activities under Outcome 2 engaged government staff and officials in the assessment and mapping of climate change vulnerabilities in the 15 provinces and developed technical strategies for Son La province and initial work on a strategy for Bac Kan province. The status of these results is briefly noted in **Annex 7**. It was stated in the Project Implementation Report that (i) hand over of deliverables to MARD and dissemination needs to be completed, (ii) recommendations for adjustments to the adaptation action plan for Bac Kan province are incomplete, and (iii) the target of 50% of technical personnel being able to apply the tools and methods for rural infrastructure development planning still needs to be determined.²⁰

3.3.4 Achievement of Outcome 3: bioengineering demonstrations

This component was implemented through an ADB Capacity Development Technical Assistance (CDTA) contract with the International Centre for Environmental Management, ICEM, in association with Phil Koei. The site demonstrations - physical construction of the bioengineering demonstration measures, and associated training events, were intended to be implemented in 2014 and completed by Q3 of 2015 but due to delays in government approvals, the work was essentially completed a year later in October 2016. Further activities included reporting on construction, delivering training on roadside bioengineering, performance monitoring, evaluating and reporting on project effectiveness and lessons learned, reporting on training, and preparing the projects key written deliverables; such as recommendations for training curricula, design procedures and contract specifications. To complete these activities, ADB approved the extension of the TA completion date to 2 December 2016, and now reportedly extended to 31 May 2017.

SCCF funds were provided to demonstrate practical, cost-effective and convenient ways to climate proof four sub-projects. The Project Document stated:

This will demonstrate that it is possible to increase climate resilience, that adaptation costs can be outweighed by benefits, and that this can be done without causing delays to the infrastructure project cycle. As a result, provincial level decision-makers will be convinced of the advantages of climate-proofing. Also, the four concerned sub-projects will be more resilient to climate related hazards and will yield benefits to local poor people over a longer period.²¹

The four site demonstrations that were eventually approved by MARD were:

SP4 Bac Kan - Riverbank protection; completed; functioning successfully; handed over to local administration; being maintained by Women's Union; small maintenance works planned to fill in gaps in planting.

SP32 Son La - Riverbank protection; completed; functioning successfully; handed over to local

²⁰ APMB, Project Implementation Report, CPMU, Hanoi, 28 Oct 2016.

²¹ ProDoc, 2012, p. 30.

administration; being maintained by village residents; small maintenance works planned to fill in gaps in planting.

SP31 Son La - Roadside protection; under construction; finishing works in process; planned completion 31 October 2016.

SP35 Thai Nguyen - Roadside roadside slope stabilization in the Nhau Pass area, in Dong Hy and Vo Nhai Districts as completed in Q2 2016, consists of measures to stabilize a roadside cut (upper) slope and the other is to stabilize a roadside (down) fill slope; functioning successfully; small maintenance works.

Challenges for the bioengineering demonstration projects included the need to ensure early site vulnerability assessment and understanding of geotechnical conditions, applying suitable hard and soft measures, carefully selecting local plants and designing planting prescriptions and ensuring effective quality control, use of correct materials and methods, and guidance during construction.²² Some of the recognized issues observed at certain sites included (i) off-season planting, (ii) inappropriate plant material, (iii) improper planting techniques, (iv) improper maintenance techniques, (v) agreements with local authorities/communities for maintenance, and (vi) the limitations imposed by lack of official standards by MARD and MOT for bioengineering methods.²³

The TE team visited three of the sites: Thai Nguyen roadside stabilization project, Son La Thom Mon embankment project and Phong Lap road side stabilization project. All three of the sites had completed bioengineering measures that appeared to be generally effective to date. Two minor observations were: the one check dam at Thai Nguyen may be too weak to withstand storm flows, and the riverside armoring/plantation at Thom Mon involving 100m of bank stabilization seems to be accelerating erosion on the opposite bank. Along with the recent downstream river training works at Thom Mon, it highlighted the need to have a larger scale approach to managing flood protection throughout the lower reach of this river. Small scale embankment strengthening may be irrelevant in addressing the larger scale flooding issue.

Participants at the ADB/ICEM Lessons Learned Workshop also provided their responses to the demonstrations experience, as summarized below:

- The two riverbank sites: the demonstration sites are basically successful, surviving flood seasons; the techniques are appropriate, there has been little erosion, there is enough moisture for plants; the slopes are not very steep so the plants can grow well.

²²ADB/ISSEM, TA 8102-VIE: Promoting Climate Resilient Rural Infrastructure in Northern Vietnam, Lessons Learned Workshop, Technical Report No. 13, November 2016, p.9.

²³ADB/ISSEM, Ibid., November 2016, p.44.

- Thanh Mai, Bac Kan (SP4): after two flood seasons, the results are quite good; vetiver grass has kept the soil in place, protecting farmland (in Thanh Mai commune, Bac Kan); after construction, the Si plants did not grow very well (*Ficus benjamina*). (and have been replaced with other species)
- Thom Mon riverbank, Son La (SP32): the bank is short with a low slope; applying at steeper slope could show clearer results; we agree with the consultant to protect the base of the riverbank using gabions. (Comment: no other sites were available)
- Deo Nhai, Thai Nguyen (SP35): the plants have grown very well; highly evaluated; the results create a beautiful landscape, local people are excited; there is a risk that failure could occur at the lower cut slope, then the demonstration on the upper slope would also collapse. (Comment: protection measures for the lower slope were not permitted by MARD)
- General: no signs of erosion; initial success; the effectiveness is quite positive, especially the site in Bac Kan after the flood seasons; the demonstrations have been useful in determining the suitability of local plants for bioengineering such as *Puou*, *May Chay*, *May Chay Nam*, *Chuoi Ngoc*, and *Chit*; highly effective: environmental friendly, much cheaper than conventional slope protection measures; costs: very cheap; social effectiveness: the local people really appreciate this approach; the techniques are very easy to build; local people have participated in planting.²⁴

Overall, the Outcome 3 results appear to have been very positive with some important lessons (see Section 5.2) for expanding bioengineering solutions in road and embankment investment programmes. The ADB component has introduced bio-engineering options and community involvement in managing roadside slopes and riverbanks. This model of low cost use of local plants to stabilize slopes and community participation has received a very positive response from the provinces, districts and communes. The ongoing need for community support to protect the plantations and adequate resources for maintenance and replication were noted concerns. Some of the options with concrete frames and drainage structures may be too costly to expect replication but the concept of biological and related low cost drainage and erosion control measures has been greatly appreciated by participants at the demonstration sites with generally good performance. The commitments to policy and investment strategies by government, ADB and other investors for promoting these techniques however, remain uncertain.

3.3.5 Achievement of Outcome 4: knowledge dissemination

The project has created wide awareness across government about climate change impacts on rural infrastructure and adaptation options and priorities. Various media products have been produced and the vulnerability maps have provided a strong communication tool. There remain further dissemination activities

²⁴ADB/ISSEM, Ibid. November 2016, p.6.

as part of the formal handover process to MARD. Project outputs have been uploaded to APMB's websites and will also be added to UNDP website.²⁵UNDP also plans to share the project experiences with the global Adaptation Learning Mechanism.

3.3.6 Sustainability of project results

It is difficult to be certain about sustainability. The technical information and recommendations will be very useful for ongoing climate change adaptation planning if a process can be established for implementation within the established policies and structures for addressing climate change in Vietnam. Government staff indicated that the data on vulnerabilities and priorities would be used informally to guide development planning and budgeting, regardless of the formal adoption which would take more time. The current unfinished state of integration into government planning may have implications for UNDP's future programmes in climate change and disaster risk management that depend upon mainstreaming.

Arrangements have been made at the four demonstration sites to encourage district authorities, communes and local groups to maintain the sites over the long term. Budgets are in theory available to support some of these costs, but in Vietnam such informal arrangements are not always effective.

The challenges for replication of bioengineering methods were discussed at a Lesson Learned Workshop. Participants suggested specific policy (planning, investment) as a first step should consider where and when bioengineering is feasible; institutionalization is needed for consideration of bioengineering from the beginning when approving a project; the techniques must be easy to use, plants must be easy to find locally, low cost and with strong resilience against floods; initial direction is important in selecting the right measures; local people should be instructed on choosing local plants and how to plant; the technology should be transferred to communes, especially those with problems along rivers and streams, and communes need support from outside for machinery (excavators etc.).²⁶

Replication and scale-up of bioengineering approaches will in the long term be driven by the cost savings they offer, and the institutional changes that provide incentives to reduce infrastructure investment costs.

3.3.7 Gender equity

The TE concurs with the statements in the MTR: "Gender appears to be have been weakly considered in the designing of PRODOC as no specific Gender section is present in the final PRODOC version. Project Indicators are also not gender sensitive, and some recommendations have been suggested to adjust current indicators

²⁵<http://apmb.gov.vn/project/information/2016/10/promoting-climate-resilient-infrastructure-in-northern-mountain-provinces-of-vietnam>

²⁶ ADB/ICEM, TR 13 Lessons Learned report, p. 8

to be gender sensitive. However, the project team has made significant efforts to mainstream gender into the project's activities design, monitoring framework, and implementation."²⁷

In all training activities, CPMU always reminded stakeholders to prioritize female staff in these activities. Training reports also analyzed the female participation - less than 30% on average. Female technical staff in governmental offices in Vietnam are still limited. Project Indicators were not gender sensitive; however, the project team has made significant efforts to mainstream gender into the project activities design, monitoring framework, and implementation. The project has also addressed the gender dimension during the activities implementation in all outcomes by having two national gender specialists as part of their team. The gender dimension has been also taken into consideration during key project activities such as trainings and project staffing, commune level demonstration activities implementation, separate focus groups were held with women and men by the project social team. Sub-contractors for demonstrations activities were also required by contract to include women in their locally- recruited labor force. Knowledge transfer to women at commune level ('beneficiaries') through exposure to the demonstration construction and maintenance process: the implementation team has consulted residents and officials in all communes, female residents are involved directly in demonstration construction (as well as the supply of plant materials) and in training material (posters) development at commune level. (PIR 2016)

3.3.8 Mainstreaming and institutional capacity development

These aspects have been discussed under Section 3.3.4 above. The project has provided the initial technical framework for integration of climate change adaptation into government systems. Suggestions for further gaps to be addressed were identified by the project staff:

- Upgrading future polices and codes;
- Increase knowledge on climate change and how to mainstream climate change, among both decision-makers and law-makers;
- Facilitate access of updated hydro-meteorological data and climate change predictions to design engineers and government officials and upgrade construction code C-4-77 guidelines for calculating characteristics of hydrologic designs;
- Consider and prioritise no regret and low-regret options when designing rural infrastructures;
- Develop a construction code on bio-engineering
- Improve operation and maintenance of rural infrastructures by developing specific tools and construction codes for O&M;

²⁷Guido Corno and Vu Thi Thu, Midterm Review Report, Promoting Climate Resilient Infrastructure in Northern Mountain Provinces of Vietnam, GEF Project ID: 00075992, Final Report, UNDP, May 5, 2015, P.47.

- Define which codes are more critical and which infrastructures are more vulnerable to climate change;
- Validation of software technologies for modelling.²⁸

4.0 Rating of Project Performance

The criteria for rating the project are provided in the UNDP/GEF evaluation guidelines. The project has produced an impressive set of technical analyses, risk assessment and mapping methods and bioengineering demonstrations. These provide guidance and momentum for further national progress on infrastructure adaptation to climate change. But the essential policy framework (Outcome 1) and acceptance of the project outputs by government were not achieved at the project termination date (Nov. 30, 2016). This shortcoming, associated with the project design and implementation arrangements rather than the efforts of the project team, is expected to be a focus of the proposed project extension, along with completion of the risk assessment in Bac Kan province. The specific reasons for the Moderately Satisfactory rating are further summarized below.

Table 10: Project Rating

Rating Criteria (UNDP/GEF TE)	Rate	Reasons for rating
1. Monitoring and Evaluation		
M&E design at entry	MS	Insufficient clarity in the outcome statements and key assumptions. Extensive M&E design but relatively poor quality indicators, some of which were not operational or not meaningful.
M&E Plan Implementation	MS	Strong effort made to implement the logframe monitoring although early warning of constraints to revising govt standards was not provided or addressed.
Overall quality of M&E	MS	Reporting on outputs was comprehensive but limited attention to monitoring progress on the expected outcome level shift toward a climate resilient framework and bioengineering approach
2. IA& EA Execution		
Quality of UNDP Implementation	MS	The acceleration of deliverables in the face of early delays and the effort to respond to implementation issues was noteworthy. The failure to anticipate difficulties in completing Outcome 1 results limits this rating the low end of satisfactory.
Quality of Execution - Executing Agency	MS	APMB and MARD staff worked hard to facilitate implementation under centralized and inflexible decision processes, but significant uncertainties remain in the government and ADB commitment and readiness to adopt a bioengineering approach.
Overall quality of Implementation / Execution	MS	The overall management has been reasonably effective and responsive to issues but nevertheless unable to complete key results under Outcomes 1 and 4.

²⁸APMB, Promoting Climate Resilient Infrastructure in Northern Mountain Provinces of Vietnam: Project Lessons Learned, 30 October 2016 Draft, p. 47-49

3. Assessment of Outcomes		
Relevance	R	The project has been important to climate change mainstreaming policies and directives of the government, albeit difficult to operationalize within infrastructure investment.
Effectiveness	MS	The results have been mixed: introduction of and experience with a climate resilience technical framework and bioengineering approach, but unfinished progress in developing the policy directives and commitment to modernizing the infrastructure planning and investment programmes.
Efficiency	MU	Delays were significant, and led to added costs. Dual management systems for the separate UNDP and ADB components imposed some inefficiencies.
Overall Project Outcome Rating	MS	Significant contributions toward the evolving framework, methods and capacities for climate resilient rural infrastructure but key aspects of planned outcomes are incomplete or have uncertain commitment for ongoing progress and sustainability.
4. Sustainability		
Financial resources:	MU	Few resources for provinces/districts to address climate change risks to rural infrastructure in the northern mountains, although new investment programmes are proposed.
Socio-political:	ML	Commitment to institutionalizing the recommended planning systems and bioengineering methods is unclear, but the outputs provide a foundation for future improvements.
Institutional framework and governance:	ML	See above.
Environmental:	L	The bioengineering demonstrations appear to have good potential to be self-sustaining, if maintenance measures are implemented.
Overall likelihood of sustainability:	ML/ MU	The approaches and methods have been introduced and demonstrated but the enabling mechanisms, support programmes and resources for sustaining progress are uncertain. Future funding will determine likelihood of sustainability.

Rating categories as per the UNDP/GEF Evaluation guidelines:

<p>Outcomes, Effectiveness, Efficiency, M&E,I&E Execution:</p> <p>Highly Satisfactory (HS): no shortcomings Satisfactory (S): minor shortcomings Moderately Satisfactory(MS): moderate shortcomings Moderately Unsatisfactory(MU): significant shortcomings Unsatisfactory(U):major problems Highly Unsatisfactory(HU):severe problems</p>	<p>Sustainability ratings:</p> <p>Likely (L): negligible risks to sustainability Moderately Likely(ML): moderate risks Moderately Unlikely (MU):significant risks Unlikely(U):severe risks</p> <p>Relevance ratings: Relevant (R) Not relevant(NR)</p>
--	--

5.0 Lessons Learned

5.1 Project Design and Management Lessons

- The original project concept of piloting bioengineering methods at selected sites with the intention of enhancing climate resilience in infrastructure investment (SRIDPparallel financing) did not occur as

planned. The loan programme commenced well before the site demonstrations. Future projects with such intentions need to have a well-defined strategy and sequencing of activities to guide the replication of proven methods in investment programmes.

- The project design for an integrated approach to policy, capacity and demonstration activities that would jointly lead to enhanced climate resilience was not clearly operationalized. The project was in effect two separate UNDP/APMB and ADB/ICEM sub-projects with generally good channels of communication but very few direct linkages and with very different identities and management systems. The efficiency and benefits of combining UNDP technical assistance/capacity development with ADB infrastructure loan programmes are questionable without a clear basis for synergies and collaboration between the executing agencies.
- The technical assistance strategy was based on extensive consultant contracts (25 in the UNDP component and one international firm in the ADB component) to generate reports and demonstration activities that are expected to be “handed over and transferred to government” (or in some cases communities) during the final stages of the project. But this handover process was more onerous than anticipated, especially given the late start-up of the project and the lack of available time to complete all the necessary tasks. The uncertain extent of commitment by MARD and others to initiate institutional change is a fundamental constraint to capacity development and effective use of the technical assistance. Suggestions are provided in Section 5.2 below.
- Considerable time and effort was wasted trying to apply the project indicators and capacity development rating method. There were significant design faults in the selection of indicators and the use of the GEF capacity rating scheme. More simplicity and clarity are needed about incremental changes in capacity that can be expected from such a project in the Vietnam context.

5.2 Capacity Development Lessons

Integrating project technical assistance into government systems is a challenge in Vietnam, especially given the cross-sectoral and inter-ministerial nature of climate change adaptation and the slow processes for introducing changes in public infrastructure investment practices. The centralised legal and political structure for decision making, including around technical matters, requires a long lead up research and consultative phase for any changes in procedures. In order to improve the effectiveness and efficiency of the approach to capacity development in technical assistance projects, the following principles are suggested:

- Enhance government ownership and direction by designating a lead functional department (rather than an investment approvals board) with prescribed tasks for selected staff to jointly collaborate in consultant studies, and a CPMU with an overall mandate to coordinate and report on the project.
- Undertake a scoping of the strategic gaps in research and policy development related to outcome achievement that can be usefully addressed by international assistance and those that need to be addressed more directly by national partners, with the aim to build early consensus on the required technical and policy analysis. Consult with and seek endorsement from senior government officials on the recommended action programme and expected outcomes.
- Develop a customized Project Implementation Strategy aimed at time-bound end results that provides additional elaboration on operationalizing the project design logframe and theory of change. Put 'key results' at the centre of the project implementation process, and ensure government counterparts at the technical level are directly engaged in report preparation alongside external advisors/consultants.
- Establish inter-departmental/inter-sector work groups or task forces of relevant experts with Terms of Reference endorsed by senior management to oversee and report on the technical assistance. Where the Project Board or Project Steering Committee have little time to directly guide operations, consider appointing a small 'coordination committee' or 'operational management group' who will have more time for regular executive support to the CPMU.
- Assess at an early stage, the government policy and operational standards and procedures, and 'mainstreaming requirements', that may need revisions as a result of the technical innovations being considered by the project, and initiate and coordinate the internal government appraisal process alongside the technical assistance and capacity development activities.
- Assess the specific enabling environment, organizational structure and mandates, and the human resource development constraints and needs in relation to well-defined and realistic capacity development outcomes.
- Prepare brief discussion papers that provide technical and science-based analyses to inform policy options and discussions with government and non-government partners and other donor alliances early in the process.

- Provide opportunities for direct collaboration with senior government officials, including in the phased development of consensus on policy recommendations or on the technical prescriptions that may affect current government practices.

5.3 Bioengineering Lessons

The lessons from the bioengineering site demonstrations, which are common to low-cost slope protection projects everywhere in the world, have been summarized by ADB/ICEM as follows:

- Include bioengineering at the earliest stage of project planning.
- Identify high-risk locations as early as possible in a project using proven vulnerability assessment and slope condition criteria.
- Apply geotechnical knowledge to identification and analysis of specific slope problems, using low-cost geotechnical investigation procedures such as the Dynamic Cone Penetrometer.
- Integrate hard and soft measures as appropriate to solve the problem.
- Recognise the limitations of bioengineering – it cannot fix deep slope failures.
- Use local knowledge of plants to identify appropriate species, sources, replication methods and planting seasons.
- The importance of quality control during construction to ensure that the correct materials and methods are used.
- Provide practitioners with clear and simple design guidance.²⁹

The following general observations on Outcome 3 were also noted by the TE team:

- A more extensive set of pilot demonstrations, internal discussion and review within government, and development of technical standards and cost norms are required to fully establish the bioengineering approach, in addition to local capacity development.
- The simpler bioengineering methods involving use of local plants, natural drainage controls and participation of communities have the most potential for adoption and replication. These have fewer barriers to acceptance and could serve as entry point for more elaborate consideration of bioengineering approaches.
- Streamside embankment bioengineering methods are only one part of a larger flood protection and microwatershed context and the broader set of options that need to be considered in addressing flooding risks.

²⁹TA 8102-VIE: Promoting Climate Resilient Rural Infrastructure in Northern Vietnam, Lessons Learned Workshop, Technical Report No. 13, November 2016, p.9.

- There are institutional barriers to the use of low cost bioengineering alternatives, not only in the engineering codes but also in the contracting processes that currently provide little incentive for cost savings.

6. Conclusions and Recommendations

6.1 Conclusions

1. The project has established a new awareness and understanding of the climate risks to rural infrastructure in 15 northern provinces. The infrastructure/hazard mapping and assessment and databases, along with training of government officials, have provided information, tools, and skills that provincial and district staff can utilize to address climate change adaptation. This is a substantial initial contribution toward a technical framework and process for enhanced climate resilience in the northern mountains, and potentially in other regions of Vietnam.
2. While the project has generated important outputs for climate change adaptation planning in Vietnam, there remain critical gaps in the expected integration of adaptation into policy, strategy and planning due to the lengthy process of revising government decision making processes even at a technical level, the slow start up of the project, and the challenges of promoting climate change resilience in infrastructure investments. Capacity has been enhanced, particularly in Son La and Bac Kan pilot provinces, but not sufficiently to ensure active, ongoing application of the tools, datasets and site demonstrations unless further funding is secured.
3. The final technical reports and recommendations from the project have only recently been completed and stakeholders indicated a need for more time and support to understand the implications of this technical assistance in the internal government appraisal phase leading to formal consideration for endorsement by high level government officials.
4. An extension to the project closing date is therefore needed to complete the key gaps that will ensure formal hand over of manuals and recommendations to MARD as per government procedures and format, and to further disseminate the results so that uptake of the outputs is facilitated. The main focus is on the remaining tasks required to achieve Outcome 1 related to policy and planning and Outcome 4 related to dissemination.

5. The bioengineering methods have been well received, particularly the low cost planting using local plants and community participation for roadside and embankment stabilization. More time is needed to test the performance after structures have faced more storm events and plantations have matured. But the general impression is that the methods provide cost-effective alternatives or supplement to conventional slope stabilization and drainage control methods.
6. The project design has presented management challenges due to the separateness of the UNDP and ADB project components, the lack of foresight about procedures required to change government practices, inadequate links between technical activity and policy discussions, and the lack of observable effects on infrastructure investment practices. The project has not been sufficiently driven by an overall vision of end results and sustainability mechanisms. In addition, the design expectations that demonstration activities would have direct implications for infrastructure investments were overly optimistic. Nevertheless, the UNDP/CPMU and ADB/ISSEN project teams have worked hard to overcome project design constraints wherever possible and to generate support and momentum for further development of climate resilience in the 15 targeted provinces.
7. The M&E system has been relatively difficult and time consuming to operationalize due to the ineffectiveness of certain key indicators, neglect of key assumptions about government acceptance of technical advice, and the unreliability of the GEF capacity development rating scheme. Many of these issues relate to project formulation and could not be resolved during the project implementation.
8. The potential sustainability and impact of the project may depend upon (i) MARD leadership in advancing the specific methods and tools developed in the project, completing additional steps needed to ensure effective follow-up on the work to date, (ii) the support of MPI to direct and guide the provinces to integrate climate resilience into infrastructure investment and budgeting processes, (iii) the interest by ADB and other lenders and the government to promote bioengineering methods in future loan programmes, and (iv) opportunities to carry the work forward in proposed Green Climate Fund and other climate change projects. This project has not identified any strong change agents in government or financing partners that are willing to lead the necessary reforms for climate resilient infrastructure investment, which diminishes the overall prospect for sustainability.
9. The project has produced an extensive and potentially useful set of technical outputs after a slow start to the project. Given the design constraints and the circumstances of implementing dual UNDP-ADB technical assistance projects through APMB (an investment approvals body) within a highly centralized governance framework, the project has been well managed by a committed central project management

unit. The constraints and extra effort in managing this multi-faceted project are recognized and appreciated.

10. The approach to technical assistance through a large number of consultants and the subsequent hand over of reports to government beneficiaries with generally little mandate and opportunity to implement the results presents questions about capacity development strategy for projects of this type in Vietnam. Research and capacity development need to be directly embedded in the host agencies with routine counterpart mentoring. Lessons from the project could inform future climate change projects, with policy dialogue, organizational development and experiential learning being given a more prominent role in project implementation.

6.2 Rationale for Project Extension

The project has not been able to complete all of the necessary activities required to fully achieve the expected outcomes due to the slow start, lack of qualified consultants, delays in working within the lengthy APMB processes and the time required to complete the climate risk assessment methodology and database. Many of the technical guidelines and manuals have only recently been produced, leaving little time for subsequent dissemination and training. Significant follow-up action is needed. Any project extension needs to be precise about remaining gaps that can be addressed in the short term to assist achievement of the project Outcomes 1 and 4.

The primary results that still need to be achieved are:

- 1) A well-tested model for integrating climate risk and vulnerability assessment into infrastructure planning, investment and maintenance processes in the provinces; and
- 2) A mandate and action programme to establish the policy directives and standards for climate-proofing roads, embankments and irrigation facilities.

The methodologies and technical work have now been finalized and approximately 270 government officials (more than 700 training exposures including the ADB component) have been given an orientation or skill training to the climate change adaptation issues/methods/measures. But subsequent application at provincial level and handover within MARD or other agencies remain incomplete. In order to achieve the key results from the project at this final stage, the following gaps need to be addressed:

1st priority gaps:

- Applications of the infrastructure climate risk assessment and planning in conjunction with the SEDP planning cycle so that provinces have a model process and examples of integrating climate into infrastructure planning and budgeting and an acceptable protocol from Son La and Bac Kan pilots.

This application of the adaptation planning tools has not been completed, and its absence would present a diminished set of results from the project.

- Designation of the responsible agency and roadmap for follow-up development of the processes and standards to utilize the demonstrated adaptation methods in rural investment decision making. MARD, or some other lead agency, needs to initiate the process of assessing and integrating the relevant, endorsed manuals, guidelines, standards and recommendations into the government systems at the sub-national level. The key recommendations from the project still need to be re-formatted in accordance with the government's internal appraisal and endorsement process, along with briefing senior officials in the relevant ministries.

2nd priority gaps:

- Although the full integration of adaptation methods into government policies and processes is not possible in the short term, there is an opportunity to draw upon the completed reports and manuals to develop a Guideline within MARD for climate risk screening for road, embankment and irrigation systems prefeasibility assessment (PPF) consistent with the government decree and circular for such assessment. This would assist in the mainstreaming of project advice into relevant MARD processes.
- In anticipation of future development of the legal and administrative procedures for systematic integration of climate change into infrastructure planning, a set of Draft Technical and Cost Norms for road and embankment adaptation measures based on the technical reports and demonstration site experience would facilitate progress toward government acceptance of bioengineering and other non-standard methods for road and embankment designs aimed at climate resilience. The investment case for expanding the range of cost-effective methods has yet to be made and such guidance on technical and cost aspects would accelerate this transition.
- The dissemination activities have been delayed because the technical products have only recently been finalized. There is a need to expand the multi-media dissemination of the manuals and recommendations on mainstreaming climate change into infrastructure planning, on vulnerability assessment and mapping, and on O&M of rural infrastructure. The manuals are new and require greater effort to ensure effective knowledge and technical dissemination within government.

The tasks for this suggested extension activity would need to commence immediately with (i) agreement between UNDP, ADB, the Government of Vietnam and GEF Secretariat on the need for a project extension, (ii) appointment of a national consultant by UNDP to work with MARD on reformatting the key documents

for internal government review, (iii) endorsement by the MARD Vice Minister on the process to proceed with follow-up inter-agency appraisal of the key documents from the project, and (iv) a workplan and budget for the activities to complete the above priority gaps.

The project has a remaining budget of \$400,000 and may require an estimated extension of up to 12 months to complete this work related to Outcome 1 and 4. The scope of work and amount of time and budget required needs to be determined by the project team and UNDP.

6.3 Recommendations

1. *The project period should be extended for 6-12 months depending upon the time and tasks required for UNDP and the Government of Vietnam to complete the planned activities aimed at (i) a well-tested model for integrating climate risk and vulnerability assessment into infrastructure planning, investment and maintenance processes in the pilot provinces; and (ii) an action programme within government to address the recommendations regarding policy directives and setting standards and norms for formal adoption of climate change adaptation measures in the design and approval systems for roads, embankments and irrigation facilities.*

There is a risk that the recently completed technical outputs for climate resilient infrastructure planning will never find a way into government practices and the recommendations will not be formally considered post-project. The final steps under Outcome 1 are critical to achieving the expected results. MARD/UNDP should, in collaboration with MONRE as the lead climate change coordination agency, prepare a targeted, time-bound workplan to complete the unfinished tasks on finalizing the path toward a policy framework and establishing the infrastructure planning models. These organisations should have specified duties under the workplan focused on the two objectives described above.

2. *ADB should prepare design guidelines based on the project experiences to pro-actively support the use of bioengineering approaches in future rural infrastructure loan programmes as part of their implementation programme for the long-term strategic framework until 2020 in Viet Nam.*

ADB has tried to encourage the use of bioengineering designs in recent road projects but these have not been adopted. Given the scale of the institutional barriers, a more proactive push is needed under the 2020 Strategy to advocate for these low-cost climate resilience methods.

3. *MARD, MOC and MOT should further disseminate and facilitate use of the bio-engineering 'best practices' that have been generated by the project, including advice from the project experiences about the timing of planting and recognition of the need to understand geotechnical and watershed processes that influence roadside slopes and streamside embankment protection and rehabilitation.*

Further dissemination of information on the benefits and costs of bioengineering approaches demonstrated in the project is needed. This requires a particular effort by senior government officials in MARD, MOC and MOT to encourage the development of bioengineering expertise in the relevant departments, in readiness for the enabling policy directives.

4. *UNDP Vietnam should revise their capacity development strategy for future projects to ensure appropriate partnerships with relevant line agencies, support from senior government officials in early policy dialogue, direct counterpart engagement in technical work, and organizational development as well as human resource skills to sustain the enhanced capacity.*

The project experience reflects a need to better integrate TA and capacity development, to secure early, high level commitment to innovation and reform, and to utilize experiential learning, organizational development and more joint preparation of advice by consultants and government staff. This requires a customized approach for enhanced national ownership of project results, recognizing the particular context and constraints for short term development assistance in Vietnam.

5. *GEF Secretariat should review and reconsider the oversimplified, quantitative capacity development rating scheme that it imposes on implementing agencies since it does not currently provide a reliable measure of capacity status.*

The GEF rating scheme provides a convenient, simplified process for assessing capacity change but it is so high level and subject to such self-assessment bias, it can give a misleading indication of the actual status of capacity. For example, in this case, the absence of a policy framework severely limits the potential for government staff to act on their new awareness and orientation to climate resilience methods. A more nuanced and evidence-based approach is warranted.

6. *Future UNDP–ADB co-managed projects and programmatic collaboration on climate change should be designed in an integrated, results-focused manner with direct links between policy development, technical assistance and investment lending programmes.*

This project involved two separate sub-projects and management structures. Few real synergies were evident in the project design and implementation. The concept of UNDP assistance in TA/capacity development supporting or complementing climate change adaptation innovations in ADB infrastructure loan projects is a sound basis for collaboration but it needs to be better operationalized if it is to offer cost-effective results. Climate change project collaborations ideally should be set within programmatic frameworks which endeavor to harmonize the major public and private sector contributions to the national priorities.

Annexes

Annex 1: Terms of Reference

Annex 2: Evaluation Criteria

Annex 3: Interview Guide

Annex 4: Itinerary and Interviews

Annex 5: List of Documents Reviewed

Annex 6: List of Contacts

Annex 7: Terminal Evaluation Summary of Project Achievements and Observations

Annex 8: Assessment of Climate Risks for Rural Infrastructure

Annex 9: Training Activities

Annex 10: Audit of Report Comments

Annex 1: Terms of Reference

INTRODUCTION

In accordance with UNDP and GEF M&E policies and procedures, all full and medium-sized UNDP support GEF financed projects are required to undergo a terminal evaluation upon completion of implementation. These terms of reference (TOR) sets out the expectations for a Terminal Evaluation (TE) of the *Promoting Climate Resilient Infrastructures in Northern Mountain Provinces of Viet Nam* (PIMS #3741.)

The essentials of the project to be evaluated are as follows:

PROJECT SUMMARY TABLE

Project Title:	<i>Promoting Climate Resilient Infrastructures in Northern Mountain Provinces of Viet Nam</i>			
GEF Project ID:	3103		<u>at endorsement (Million US\$)</u>	<u>at completion (Million US\$)</u>
UNDP Project ID:	3741 (UNDP) 37097 (ADB)	GEF financing:	1,400,000 (GEF/SCCF) 2,000,000 (GEF/SCCF/ADB)	~ 1,400,000
Country:	Viet Nam	IA/EA own:		
Region:	Asia	Government:	340,000	340,000
Focal Area:	Climate Change Adaptation	Other:	N/A	N/A
FA Objectives, (OP/SP):	Climate Change Adaptation	Total co-financing:	3,740,000	3,740,000
Executing Agency:	Ministry of Agriculture and Rural Development	Total Project Cost:	3,740,000	3,740,000
Other Partners involved:	N/A	ProDoc Signature (date project began):		15 November 2012
		(Operational) Closing Date:	Proposed: 30 November 2016	Actual: 30 November 2016

OBJECTIVE AND SCOPE

The project was designed to support the Government of Viet Nam to increase the resilience and reduce vulnerability of local, critical economic infrastructure in the northern mountains areas of Vietnam to the adverse impacts of climate change. Outcomes focus on:

- Outcome 1:** Climate Change Adaptation integrated into policy, strategy and planning that relates to rural infrastructure – specifically irrigation and rural roads;
- Outcome 2:** Enhanced capacity to adapt/climate-proof rural infrastructure investments and provincial/local area planning;
- Outcome 3:** Effective climate-resilience measures mainstreamed into the MARD rural infrastructure programs;
- Outcome 4:** Lessons learnt and best practices from Outcomes 1, 2 and 3 are disseminated to stakeholders and development partners.

The TE will be conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the UNDP Evaluation Guidance for GEF Financed Projects.

The objectives of the evaluation are to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

EVALUATION APPROACH AND METHOD

An overall approach and method¹ for conducting project terminal evaluations of UNDP supported GEF financed projects has developed over time. The evaluation should include a mixed methodology of document review, interviews, and observations from project site visits, at minimum, and the evaluators should make an effort to triangulate information. The evaluator is expected to frame the evaluation effort using the criteria of **relevance, effectiveness, efficiency, sustainability, and impact**, as defined and explained in the [UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects](#). A set of questions covering each of these criteria have been drafted and are included with this TOR ([Annex C](#)). The evaluator is expected to amend, complete and submit this matrix as part of an evaluation inception report, and shall include it as an annex to the final report. The evaluation must provide evidence-based information that is credible, reliable and useful. The evaluator is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders. The evaluator is expected to conduct a field mission to **Son La, Backan and Thai Nguyen provinces**, including the following project sites i, Rural road 108 - Muong E, Thuan Chau District, Son La Province; ii, Rural road Trang Xa–Deo Nhau, Vo Nhai District, Thai Nguyen Province; iii, Irrigation works and slope stabilization in Thom Mon Commune, Thuan Chau District, Son La Province; and iv, Cau river embankment in Thanh Mai Commune, Cho Moi District, Bac Kan Province. Interviews will be held with the following organizations and individuals at a minimum: Ministry of Agriculture and Rural Development (MARD): Department of Science, Technology and Environment; Department of Construction Management; Directorate of Water Resources (Department of Disaster Prevention and Control, Center for Disaster management); Sonla, Backan and Thai Nguyen Departments of Agriculture and Rural Development; Water Resource Irrigation and Environment Institute; Vietnam Academy for Water Resource

Ministry of Transportation (MOT): Departments of Transportation;

Ministry of Natural Resources and Environment: Institute for Hydromet and Climate Change;

Commune People’s Committees and local people where demonstration sites are located

Development Partners: ADB, WB, JICA, CIAT

The evaluator will review all relevant sources of information, such as the project document, project reports – including Annual APR/PIR, project budget revisions, midterm review, progress reports, GEF focal area tracking tools, project files, national strategic and legal documents, and any other materials that the evaluator considers useful for this evidence-based assessment. A list of documents that the project team will provide to the evaluator for review is included in [Annex B](#) of this Terms of Reference.

EVALUATION CRITERIA & RATINGS

An assessment of project performance will be carried out, based against expectations set out in the Project Logical Framework/Results Framework ([Annex A](#)), which provides performance and impact indicators for project implementation along with their corresponding means of verification. The evaluation will at a minimum cover the criteria of: **relevance, effectiveness, efficiency, sustainability and impact**. Ratings must be provided on the following performance criteria. The completed table must be included in the evaluation executive summary. The obligatory rating scales are included in [Annex D](#).

¹ For additional information on methods, see the [Handbook on Planning, Monitoring and Evaluating for Development Results](#), Chapter 7, pg. 163

Evaluation Ratings:			
1. Monitoring and Evaluation	<i>rating</i>	2. IA & EA Execution	<i>rating</i>
M&E design at entry		Quality of UNDP Implementation – Implementing Agency (IA)	
M&E Plan Implementation		Quality of Execution - Executing Agency (EA)	
Overall quality of M&E		Overall quality of Implementation / Execution	
3. Assessment of Outcomes	<i>rating</i>	4. Sustainability	<i>rating</i>
Relevance		Financial resources	
Effectiveness		Socio-political	
Efficiency		Institutional framework and governance	
Overall Project Outcome Rating		Environmental	
		Overall likelihood of sustainability	

PROJECT FINANCE / COFINANCE

The Evaluation will assess the key financial aspects of the project, including the extent of co-financing planned and realized. Project cost and funding data will be required, including annual expenditures. Variances between planned and actual expenditures will need to be assessed and explained. Results from recent financial audits, as available, should be taken into consideration. The evaluator(s) will receive assistance from the Country Office (CO) and Project Team to obtain financial data in order to complete the co-financing table below, which will be included in the terminal evaluation report.

Co-financing (type/source)	UNDP own financing (mill. US\$)		Government (mill. US\$)		Partner Agency (mill. US\$)		Total (mill. US\$)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants								
Loans/Concessions								
In-kind support								
Other								
Totals								

MAINSTREAMING

UNDP supported GEF financed projects are key components in UNDP country programming, as well as regional and global programmes. The evaluation will assess the extent to which the project was successfully mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender.

IMPACT

The evaluators will assess the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluations include whether the project has demonstrated: a) verifiable improvements in ecological status, b) verifiable reductions in stress on ecological systems, and/or c) demonstrated progress towards these impact achievements.²

² A useful tool for gauging progress to impact is the Review of Outcomes to Impacts (ROtI) method developed by the GEF Evaluation Office: [ROtI Handbook 2009](#)

CONCLUSIONS, RECOMMENDATIONS & LESSONS

The evaluation report must include a chapter providing a set of **conclusions, recommendations** and **lessons**. Conclusions should build on findings and be based in evidence. Recommendations should be prioritized, specific, relevant, and targeted, with suggested implementers of the recommendations. Lessons should have wider applicability to other initiatives across the region, the area of intervention, and for the future.

IMPLEMENTATION ARRANGEMENTS

The principal responsibility for managing this evaluation resides with the UNDP CO in Viet Nam. The UNDP CO will contract the evaluators and ensure the timely provision of per diems and travel arrangements within the country for the evaluation team. The Project Team will be responsible for liaising with the Evaluators team to set up stakeholder interviews, arrange field visits, coordinate with the Government etc.

EVALUATION TIMEFRAME

The total duration of the evaluation will be 26 days over a time period of 08 weeks according to the following plan:

Activity	Timing	Completion Date
Preparation	04 days	10 th Oct
Evaluation Mission	12 days	25 th Oct
Draft Evaluation Report	10 days	10 th Nov
Final Report	02 days	20 th Nov

EVALUATION DELIVERABLES

The evaluation team is expected to deliver the following:

Deliverable	Content	Timing	Responsibilities
Inception Report	Evaluator provides clarifications on timing and method	No later than 2 weeks before the evaluation mission: 10 st Oct	Evaluator submits to UNDP CO
Presentation	Initial Findings	End of evaluation mission: 24 th October	To project management, UNDP CO
Draft Final Report	Full report, (per annexed template) with annexes	Within 3 weeks of the evaluation mission: 10 th Nov	Sent to CO, reviewed by RTA, PCU, GEF OFPs
Final Report*	Revised report	Within 1 week of receiving UNDP comments on draft: 25 th Nov	Sent to CO for uploading to UNDP ERC.

*When submitting the final evaluation report, the evaluator is required also to provide an 'audit trail', detailing how all received comments have (and have not) been addressed in the final evaluation report. See [Annex H](#) for an audit trail template.

TEAM COMPOSITION

The evaluation team will be composed of **1 international and 1 national evaluator**. The consultants shall have prior experience in evaluating similar projects. Experience with GEF financed projects is an advantage. The international expert will act as the team leader of the mission, and the National Assistant will provide full time assistance (logistic, translation, etc.) to the international consultant for all the MTR duration in liaison with the CPMU and UNDP. The

evaluators selected should not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities.

The Team members must present the following qualifications:

The skills and qualifications required for **International Consultant (Team Leader)**

- Recent experience with result-based management and evaluation methodologies (10%);
- Competence in adaptive management, as applied to climate change adaptation (10%);
- Experience working with the GEF or GEF-evaluations (15%);
- Experience working in South East Asia (10%);
- Work experience in relevant technical areas (climate risk assessment, resilient infrastructure/water resources management) for at least 5 years (20%);
- Demonstrated understanding of issues related to gender and climate change adaptation; experience in gender sensitive evaluation and analysis (5%).
- Demonstrable analytical skills (10%);
- Project evaluation/review experiences within United Nations system will be considered an asset (10%);
- A Master’s degree in development study, environmental engineering, environmental science or other closely related (10%).

The skills and qualifications required for **National Consultant** (team member) are:

- Master degree in economics, development study, environmental engineering, or environment related fields; (20%)
- Experience in the areas of climate change and climate risk management. Certain knowledge or familiarity with climate change-infrastructure issue will be an asset. (15%)
- Knowledge of M&E and evaluation methodology (20%)
- At least 5 years of experience in project implementation, management and evaluation for donor-funded development projects in Vietnam; (15%)
- Familiarity and past experience with evaluation of GEF/UNDP projects, especially climate/environment-related projects, will be an advantage (10%)
- Proficient English writing and communication skills, with an ability to act as translator for international counterpart and to translate written documents from/ to Vietnamese are essential (writing sample must be provided for assessment) (20%)

EVALUATOR ETHICS

Evaluation consultants will be held to the highest ethical standards and are required to sign a Code of Conduct (Annex E) upon acceptance of the assignment. UNDP evaluations are conducted in accordance with the principles outlined in the [UNEG 'Ethical Guidelines for Evaluations'](#).

PAYMENT MODALITIES AND SPECIFICATIONS

%	Milestone
10%	At submission and approval of inception report
40%	Following submission and approval of the 1ST draft terminal evaluation report
50%	Following submission and approval (UNDP-CO and UNDP RTA) of the final terminal evaluation report

ANNEX A: PROJECT LOGICAL FRAMEWORK

Project Strategy	Indicator	Baseline Level (Start of project)	End-of-project Target	Source of verification	Risks and assumptions
Objective: To increase the resilience and reduce vulnerability of local, critical economic infrastructure in the northern mountains areas of Vietnam to the adverse impacts of climate change and to create a policy framework conducive to promoting resilient northern mountains zone development	# of detailed vulnerability maps presented and disseminated to % of Northern Mountain provinces	n/a – at project outset there is no vulnerability maps to disseminate	Detailed vulnerability maps for at least two northern mountainous provinces (a map for each province), with evidence that these have been presented and disseminated to at least 50% of Northern Mountain Provinces.	Project records	Provinces in Northern Vietnam are interested in replicating the process to prepare vulnerability maps
	% of public expenditure directed towards the protection of rural infrastructure following the project guidance on climate resilient infrastructure	0 funds invested	On 05 rural infrastructure projects, at least 5% additional public finance invested in infrastructure resilience, over and above SIDR pilot demonstration	Provincial records	PPCs find importance of CCA mainstreaming into rural infrastructure and provide public fund towards the protection of rural infrastructure
Outcome 1: Climate change Adaptation integrated into policy, strategy and planning that related to rural	# of Technical papers providing guidance on mainstreaming climate change into sectoral planning related to rural infrastructure in northern areas	n/a – there has not been a guidance paper at project outset	A Technical Guidance Paper on mainstreaming climate change into provincial rural infrastructure planning prepared by the project and circulated by MARD	MARD's records	Provinces are interested in mainstreaming CC into rural infrastructure planning

Project Strategy	Indicator	Baseline Level (Start of project)	End-of-project Target	Source of verification	Risks and assumptions
infrastructure - specifically rural roads, irrigation, and embankment	# of Manual on mainstreaming climate change into the design of rural infrastructure projects.	n/a - at the project outset, there has not been a manual to guide mainstreaming of CC into the design of rural infrastructure projects	02 manuals on mainstreaming climate change into the design of rural infrastructure projects (01 for rural roads and irrigation, and 01 for embankment) prepared by the project (taking into consideration of results of the demonstration projects) and circulated by MARD	MARD's records	There is need of mainstreaming CC related issues into design of rural infrastructure projects
	# of water resources standards and codes are informed to meet the requirements for climate resilience	n/a – there has not been any revision of water resources standards or codes	By the end of the project at least 01 set of water resources standards informed by the project guidance	Project records	MARD is interested in inclusion of CC related issues in the water resources standards
Outcome 2: Enhanced capacity to adapt/climate-proof rural infrastructure investments and provincial/local area planning	Coverage of Climate risks and vulnerability assessment	There has not been any climate vulnerability assessment implemented for rural infrastructure in Northern mountain provinces.	A climate risks and vulnerability assessment for rural infrastructure done for all 15 northern provinces	Project records	
	# of rural infrastructure investment plans guided as results of climate risks and vulnerability assessment, regarding mainstreaming of CC	n/a – there has not been any rural infrastructure plan that is developed based on climate risk and vulnerability assessment	At least two (02) provincial plans/strategy per target province (Son La and Bac Kan) guided as results of the project climate risks and vulnerability assessments, regarding mainstreaming of CC	Provincial records/interviews	PPCs of the two selected provinces are willing to apply the project guidance to mainstream CC related issues into their investment plans

Project Strategy	Indicator	Baseline Level (Start of project)	End-of-project Target	Source of verification	Risks and assumptions
	Level of capacity of provincial leaders to climate-proof rural infrastructure investment and planning enhanced (referred to the project technical capacity assessment)	At the project outset, evaluated scores of management personnel in the 15 Northern provinces are as follows: - Institutional capacity on climate change adaptation (CCA) = 1.43/5 - Organizational and planning capacity on CCA = 1.71/5; and - Technical capacity on CCA = 1.78/5	- By the end of the project, capacity of provincial decision makers (DARD, DPI, DOT, DONRE) to climate-proof rural infrastructure investment and planning in the 15 northern mountainous provinces is at least (40%) higher than the project baseline	Project records, especially results of Capacity development assessment by the end of the project	Trainees commits to attend the trainings.
	% of technical personnel having ability to apply risk and vulnerability assessment tools and methods for rural infrastructure development planning purposes	Risk and vulnerability assessment tools and methods for rural infrastructure development planning is not yet available in Vietnam	- Up to 120 technical personnel from the 15 Northern provinces trained in CCA related issues and at least 50% of them having technical capability in applying climate risks and vulnerability assessment tools and methods for rural infrastructure development planning purposes.	Project records, especially training reports with training materials, and pre- and post-training evaluation	Participants commit to attend training courses/events

Project Strategy	Indicator	Baseline Level (Start of project)	End-of-project Target	Source of verification	Risks and assumptions
Outcome 3: Effective climate-resilience measures mainstreamed into rural infrastructure programs	Level of CC threats and impacts assessed and adaptation options identified	There has not been any climate threats and impacts assessment for rural infrastructure projects at the project outset; MARD has mainstreamed low cost climate measures for cross drainage structures by the use of drifts but not other measures.	<ul style="list-style-type: none"> - A vulnerability assessment (VA) and adaptation prioritizing framework completed at community level, and - Preferred bio-engineering solutions for rural infrastructure projects developed 	Project records: <ul style="list-style-type: none"> - Vulnerability and - Framework report; - Documented agreement on preferred options 	<ul style="list-style-type: none"> - Strong cooperation and coordination between relevant stakeholders and project teams; - Sufficient data on meteorological, hydrological and other data
	# of demonstration projects developed, implemented, and evaluated with communities engagement	There is limited demonstrations of climate resilience techniques for rural infrastructure in Vietnam	<ul style="list-style-type: none"> - Four (04) bio-engineering demonstration projects developed, implemented and evaluated with community engagement by June 2016, based on 04 selected SRIDP sub-projects located in three provinces 	Documented demonstration projects: <ul style="list-style-type: none"> - Feasibility study and design reports; - Project implementation. progress reports - Project evaluation reports; 	<ul style="list-style-type: none"> - Strong cooperation and coordination between relevant stakeholders and project teams; - Availability of data of the SRIDP sub-projects

Project Strategy	Indicator	Baseline Level (Start of project)	End-of-project Target	Source of verification	Risks and assumptions
	Strengthened capacity of project stakeholders to assess climate change impacts, select, design, implement and evaluate bio-engineering solutions	Capacity of the stakeholders to assess climate change impacts, select, design and implement of bio-engineering solutions is limited	<ul style="list-style-type: none"> - Up to 05 training courses and workshops provided to a technical group of 16 members on climate change impact assessment, selection, design, implementation and evaluation of bio-engineering solutions - Lessons learnt and recommendations submitted latest by September 2016 	<ul style="list-style-type: none"> - Approval of the core technical group; - Training reports including training materials, post training evaluation; - lessons learnt and recommendation reports; etc. 	The core group's members commit to attend the project training events
Outcome 4: Lessons learnt and best practices from Outcomes 1, 2 and 3 are disseminated to stakeholders and development partners	# of Project lessons and best practices captured, classified and evaluated;	No project lessons learnt published by the project at the project outset	<ul style="list-style-type: none"> - At least 08 articles/video clips/leaflets published by the end of the project - At least two (02) peer technical papers reviewed by the end of the project to facilitate professional discussion and advocacy 	external websites/ mass media	
	Level of CCA knowledge and experiences documented and disseminated within Vietnam, in the Asian region and beyond	0 contributions.	At least 04 contributions by the end of the project	ALM records/ platforms	

ANNEX B: LIST OF DOCUMENTS TO BE REVIEWED BY THE EVALUATORS

GEF Project Information Form (PIF), Project Document, and Log Frame Analysis (LFA)

Project Implementation Plan

Implementing/Executing partner arrangements

List and contact details for project staff, key project stakeholders, including Project Boards, and other partners to be consulted

Project sites, highlighting suggested visits

Mid Term Review (MTR) Report

Annual Project Implementation (APR/PIR) Reports

Project budget and financial data

UNDP Development Assistance Framework (UNDAF)

UNDP Country Programme Document (CPD)

UNDP Country Programme Action Plan (CPAP)

GEF focal area strategic program objectives

ANNEX C: EVALUATION QUESTIONS

This Evaluation Criteria Matrix must be fully completed/amended by the consultant and included in the TE inception report and as an Annex to the TE report.

Evaluative Criteria Questions	Indicators	Sources	Methodology
To what extent does the project contribute to the Viet Nam Climate Change Strategy and National Strategy for DRM priority on CC proofing infrastructure	Relative level of alignment on related priorities in the national strategies	Policy strategy Project reports	Literature review
To what extent does the project contribute to the MARD policy on rural infrastructure development and Response to Climate Change in Viet Nam	Relative level of alignment on related priorities in the sector policy	Policy strategy Project reports	Literature review
Has and in what principal ways the project contributed to the development of climate resilient rural infrastructure in VietNam	Number of policies, procedures, guidelines, risk information or criteria embedded or available to enable climate resilient infrastructure development decisions (siting, design, construction and O&M)	Project reports, technical reports, interviews.	Desk reviews and stakeholder interviews.
Has the project mobilized efficiently technical and financial resources to implement the project, in compared with the design	Number of experts/expenditure mobilized to implement the project activities in compared with the design.	Project Procurement M&E Project financial report	Desk review
Has the project mobilized efficiently technical and financial resources to implement the project, in compared with similar project implemented by ABMP or by ADB	Number of experts/expenditure mobilized to implement the project activities in compared with similar project.	Project Procurement M&E Project financial report	Desk review and interviews
What aspects of the project are likely to achieve sustainable results (knowledge and information, individual and institutional capacities, and practices, such as bioengineering)?	number of adopted practices proposed by the project (includes assessment methods, risk information, guidelines, policies, practices);	Project reports, technical reports,	Desk reviews and stakeholder interviews

<p>Ratings for Effectiveness, Efficiency, Overall Project Outcome Rating, M&E, IA & EA Execution</p> <p>6. Highly Satisfactory (HS): no shortcomings 5. Satisfactory (S): minor shortcomings 4. Moderately Satisfactory (MS): moderate shortcomings 3. Moderately Unsatisfactory (MU): significant shortcomings 2. Unsatisfactory (U): major shortcomings 1. Highly Unsatisfactory (HU): severe shortcomings</p>	<p>Sustainability ratings:</p> <p>4. Likely (L): negligible risks to sustainability 3. Moderately Likely (ML): moderate risks 2. Moderately Unlikely (MU): significant risks 1. Unlikely (U): severe risks</p>	<p>Relevance ratings</p> <p>2. Relevant (R) 1. Not relevant (NR)</p>
<p><i>Additional ratings where relevant:</i> Not Applicable (N/A) Unable to Assess (U/A)</p>		

ANNEX E: EVALUATION CONSULTANT CODE OF CONDUCT AND AGREEMENT FORM

Evaluators:

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 imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form³

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

Name of Consultant: _____

Name of Consultancy Organization (where relevant): _____

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

Signed at *place* on *date*

Signature: _____

³www.unevaluation.org/unegcodeofconduct

ANNEX F: EVALUATION REPORT OUTLINE⁴

- i.** Opening page:
 - Title of UNDP supported GEF financed project
 - UNDP and GEF project ID#s
 - Evaluation time frame and date of evaluation report
 - Region and countries included in the project
 - GEF Operational Program/Strategic Program
 - Implementing Partner and other project partners
 - Evaluation team members
 - Acknowledgements
- ii.** Executive Summary
 - Project Summary Table
 - Project Description (brief)
 - Evaluation Rating Table
 - Summary of conclusions, recommendations and lessons
- iii.** Acronyms and Abbreviations
(See: UNDP Editorial Manual⁵)
- 1.** Introduction
 - Purpose of the evaluation
 - Scope & Methodology
 - Structure of the evaluation report
- 2.** Project description and development context
 - Project start and duration
 - Problems that the project sought to address
 - Immediate and development objectives of the project
 - Baseline Indicators established
 - Main stakeholders
 - Expected Results
- 3.** Findings
(In addition to a descriptive assessment, all criteria marked with (*) must be rated⁶)
- 3.1** Project Design / Formulation
 - Analysis of LFA/Results Framework (Project logic /strategy; Indicators)
 - Assumptions and Risks
 - Lessons from other relevant projects (e.g., same focal area) incorporated into project design
 - Planned stakeholder participation
 - Replication approach
 - UNDP comparative advantage
 - Linkages between project and other interventions within the sector
 - Management arrangements
- 3.2** Project Implementation
 - Adaptive management (changes to the project design and project outputs during implementation)
 - Partnership arrangements (with relevant stakeholders involved in the country/region)
 - Feedback from M&E activities used for adaptive management
 - Project Finance

⁴The Report length should not exceed 40 pages in total (not including annexes).

⁵ UNDP Style Manual, Office of Communications, Partnerships Bureau, updated November 2008

- Monitoring and evaluation: design at entry (*), implementation (*), and overall assessment (*)
- Implementing Agency (UNDP) execution (*) and Executing Agency execution (*), overall project implementation/ execution (*), coordination, and operational issues
- 3.3** Project Results
 - Overall results (attainment of objectives) (*)
 - Relevance (*)
 - Effectiveness (*)
 - Efficiency (*)
 - Country ownership
 - Mainstreaming
 - Sustainability: financial resources (*), socio-economic (*), institutional framework and governance (*), environmental (*), and overall likelihood (*)
 - Impact
- 4.** Conclusions, Recommendations & Lessons
 - Corrective actions for the design, implementation, monitoring and evaluation of the project
 - Actions to follow up or reinforce initial benefits from the project
 - Proposals for future directions underlining main objectives
 - Best and worst practices in addressing issues relating to relevance, performance and success
- 5.** Annexes
 - ToR
 - Itinerary
 - List of persons interviewed
 - Summary of field visits
 - List of documents reviewed
 - Evaluation Question Matrix
 - Questionnaire used and summary of results
 - Evaluation Consultant Agreement Form
 - Report Clearance Form
 - Annexed in a separate file:* TE audit trail
 - Annexed in a separate file:* Terminal GEF Tracking Tool, if applicable

Annex 2: Evaluation Criteria

Criteria	Evaluation Questions	Indicators	Data Sources
<p>Relevance <i>The acceptance, suitability and practicality of the project concept and implementation strategy and the extent of alignment with national climate change policies frameworks, local needs and UNDP country programming.</i></p>	<p>To what extent were project activities suited to local and national development priorities and organizational policies?</p> <p>Is the project concept and approach still accepted as relevant and achievable by project stakeholders and in-line with country priorities?</p> <p>To what extent is the project integrated with country/partner institutions and programmes?</p> <p>Was the Project Strategy the most effective route towards planned results?</p> <p>To what extent do the underlying assumptions remain valid?</p>	<p>Stakeholder views of the project concept and approach</p> <p>Changes in provincial or partner priorities that affect relevance of the project</p> <p>Extent of partners involvement and ownership including integration into ongoing programmes</p> <p>Evidence of validity of key assumptions associated with project results</p>	<p>Review of alignment with government programmes and institutions</p> <p>Interview data on beneficiaries perceptions of the project</p> <p>Interview data with staff, ADB and other donors on the quality of the project design</p>
<p>Effectiveness <i>The achievement and timeliness of the targeted outcomes and outputs per the Project Document and Annual Workplans, including cross-cutting results related to development, gender and environmental sustainability.</i></p>	<p>What quantitative and qualitative achievements have occurred in terms of output/outcome targets?</p> <p>To what extent have the vulnerability assessment methods been integrated into provincial development systems?</p> <p>Were the component 3 demonstration methods successful and what factors affected success or failure?</p> <p>What effects on beneficiaries' climate change resilience can be observed?</p> <p>What contributions to cross cutting gender and environmental sustainability objectives can be observed?</p> <p>What specific gaps, if any, remain to be addressed in Outcomes 1, 2 and 3?</p>	<p>Reported progress per the ProDoc Indicators</p> <p>Completion of Vulnerability Risk Assessment before and after project activities</p> <p>Changes in provincial infrastructure investment practices</p> <p>Capacity scorecard ratings</p> <p>Community and govt perceptions of infrastructure improvements effectiveness</p> <p>Disaggregated gender data on project activities and beneficiaries</p> <p>Changes in perceived environmental risks in the targeted communes</p>	<p>Assessment of progress by project staff and beneficiaries</p> <p>Compilation of data on reported results of project interventions including PIRs</p> <p>Review of pre and post project results surveys and assessments</p> <p>Field observation on quality of measures installed and operating</p>
<p>Efficiency <i>The clarity and effectiveness of work planning and implementation duties and reporting relationships, coordination and communication between implementing organisations and levels, project management</i></p>	<p>Implementing arrangements: How effective are the working relationships and coordination and communication between partners and contractors?</p> <p>Work planning: Is the annual work plan preparation participatory and consistent with the project document and results framework?</p> <p>Finance/cofinancing: Has project financing and budgeting occurred as planned?</p>	<p>Understanding of roles/responsibilities</p> <p>Participant satisfaction</p> <p>Stakeholder participation in AWP preparation</p> <p>AWP implementation extent aligned with ProDoc</p> <p>Annual expenditures in relation to annual budgets</p> <p>Co-financing and in kind contributions provided</p>	<p>Analysis of implementation modalities</p> <p>Assessment of AWPs and process</p> <p>Review of expenditures and co-financing contributions and financial and audit reports</p>

<p><i>structure effectiveness and responsiveness ('adaptive management'), efficiency of the administration and quality/timeliness of the monitoring and reporting systems.</i></p>	<p>Project efficiency/cost effectiveness: Has the project been generally efficient and cost effective in relation to results?</p> <p>Project management: Have the project management bodies and partners been effectively engaged in guiding the project and adapting to project implementation issues?</p> <p>Monitoring and reporting: The reliability and usability of the project Indicators for monitoring and reporting against baseline conditions, the quality of the monitoring plan/reports, and the effectiveness of the monitoring system and data quality.</p>	<p>Efficiency of disbursements and financial management</p> <p>Outputs achieved relative to costs; value for money</p> <p>Proportion of costs for project management</p> <p>Number of meetings and decisions taken by project committees</p> <p>Perceived clarity of roles and responsibilities</p> <p>Pro-active actions of project management bodies</p> <p>Use of project indicators in progress reports</p> <p>Monitoring of cross-cutting issues in progress reports</p>	<p>Assess reasons for delays</p> <p>Analysis of project events and milestones and working relationships between stakeholders</p>
<p>Sustainability <i>The conditions necessary for project-related benefits and results being sustained after the project is completed and any risks affecting project implementation and replication potential.</i></p>	<p>Sustainability planning: To what extent does the project explicitly consider sustainability expectations and a project exit strategy?</p> <p>Institutional sustainability: What institutional capacity development measures will enhance sustainability?</p> <p>Policy sustainability: What policy development measures will enhance sustainability?</p> <p>Financial sustainability: What financial commitment or business case developments will enhance sustainability?</p> <p>Risk identification: Have the critical risks been sufficiently addressed?</p> <p>Replication potential: Are the necessary conditions in place to support adoption of project technologies and measures by other communities?</p>	<p>Sustainability strategies in the project design and delivery</p> <p>Extent of capacity development within targeted organisations</p> <p>Changes in policy to sustain project results</p> <p>Financial means to sustain and replicate project results</p> <p>Validity and importance of the risks identified in the ProDoc/ ATLAS Risk Management Module</p> <p>Observed nearby replication activities that support sustainability</p>	<p>Assessment of institutional capacity development and stakeholder commitment</p> <p>Sustainability analysis from interview data</p> <p>Risk analysis using ProDoc and ATLAS</p>
<p>Impact <i>The effects of the project on long term resilience to climate change impacts and stress, and the capacity of government and local communities to respond to drought, flooding and water scarcity.</i></p>	<p>Are there indications that the project has contributed to, or enabled progress toward reduced vulnerability and enhanced climate change resilience?</p> <p>Has overall capacity to withstand extreme weather events increased?</p> <p>Will the capacity development and mainstreaming of climate resilience standards have a long term effect on infrastructure investment discussions in the provinces?</p>	<p>Reduction of vulnerability to climate variability and climate change</p> <p>Verifiable changes in infrastructure design standards</p> <p>Increased institutional capacity to address climate change</p>	<p>Interviews with project stakeholders</p> <p>Surveys on community vulnerability status</p>

Annex 3: Interview Guide

This is a general guide only to be used in context with the evaluation issues and criteria above. It is not a questionnaire. It serves as an informal aid in prompting discussion during the interviews.

Part I – reference questions: project staff, partners and stakeholders

Project Formulation

1. How has the project design concept been adequate to assist implementation?
2. Has the joint UNDP-GEF-ADB approach been effective?
3. Were there any project risks that were not identified or adequately considered, and how could they have been better anticipated and managed?
4. If the project was to be implemented again, are there any changes in project design and results framework that you would suggest?
5. What have been the major challenges or issues in implementing the project? Are there lessons for design of future projects (e.g., GCF)?

Project Implementation

6. How effective and efficient was the Project Structure and Organization in facilitating project coordination, communications and implementation? Would you have changed anything in hindsight?
7. Has annual work planning and budgeting been effective, and have disbursements been in line with annual budgets? Were there any delays in administrative processes?
8. Have the project monitoring indicators been effective and feasible for reporting on progress? If not, why not? Has the Capacity Scorecard been used as planned?
9. How well coordinated were the UNDP and ADB knowledge development and communication plans?

Project Results

10. What aspects of the project have been most successful, and which least successful? Which measures have proven potential for replication?
11. Overall, what are the most important or significant achievements of this project?
12. Are there specific changes in institutional capacity at provincial, district or commune level that could be attributed to the project? How has the project changed these institutions?
13. Were there any expected results have not been completely achieved or are not fully satisfactory? What critical gaps could be considered in project extension?
14. What follow-up assessment of training program results has been undertaken? What gaps remain in capacity development?
15. What are the key lessons from the demonstration sites?

Sustainability

16. How likely is it that the main outcome level results – improved capacity, demonstrated measures, can be sustained? What will be the effects of project closure on these results?
17. How will local authorities ensure maintenance of the infrastructure investments? What is the likelihood of responsible maintenance?
18. What project exit strategies, if any, have been or could be considered to enhance sustainability?

Impact

19. How significant has climate change vulnerability reduction action been at subnational level – minor, substantial, transformative? What are the key factors that affect long term impact?

Part II – Field level questions: beneficiaries, local government, contractors

Project Formulation

1. Has the project been designed in an effective manner? Would you change anything in future designs of these types of projects?
2. To what extent were you involved in the project formulation?

Project Implementation

3. What specific factors or conditions have particularly helped or hindered progress in project implementation? Have there been any implementation problems?
5. Did you receive any training from the project? If so, how useful was it? Are you using anything specific from the training?
6. What has the experience been in working with contractors to complete the work to accepted standards and on time?
7. How well were your views taken into account by the project staff and managers? Is there anything you would have liked to have seen done differently?

Project Results and Sustainability

8. How significant has the project been in reducing climate change risks in the targeted infrastructure? Will the improved capacity and methods adequately address flooding or drought problems?
9. Can you explain the key factors that have contributed toward the project results – either positive or negative?
10. To what extent have construction standards and practices changed as a result of this project? Can you give a specific example?
11. What is the most important learning or skill, if any, that you have acquired from the project?

12. Do you think that the project activities will be continued after the project closes? Why? Why not?

Impact

13. What gaps or challenges remain for improving the climate change resilience of the rural infrastructure? Are there implications for follow-up or project extension?

14. Should any changes in government policy be considered to assist the expansion of a climate-proofing approach to infrastructure investment?

Note: these are questions for general reference and guidance only. They may be modified as needed and others may be added.

Annex 4: Itinerary and Interviews

Date	Time	Contents	Participants	Venue
31 Oct. 2016	9:30 – 12.00	Kick-off Meeting	ADB, UNDP, APMB, CPMU	CPMU office, Room No. 706, 7th floor, 16 Thụy Khuê
	14.00 – 15.00	Discussion with APMB's leaders	CPMU, APMB	APMB's office
	15.30	APMB	Mr Ngoc Sao, Project Deputy Director	APMB's office
	15.45	APMB	Dr Nguyen The Hinh, Vice Director General	APMB's office
	16:00	Meeting with Directorate for Water Resources (DWR)	Focal Point: Mr. Dinh Thanh Mung	DWR's office 2 Ngọc Hà street, Ba đình district, Hà nội
01 Nov. 2016	9:00 – 11:00	Meeting with ADB's representative	Mr. Phong, PO on rural infrastructure.	ADB office 3rd Floor, Cornerstone Building, 16 Phan Chu Trinh Street
	14:30 – 17:00	Discussion on project deliverables	Project Consultants	CPMU's Office Meeting Room, 9th floor, APMB, 16 Thụy Khuê
02 Nov. 2016	9:00 – 11:00	Meeting with Project Director	Mr. Tran Van Lam – Project Director	CPMU office 706, 7th floor, 16 Thụy Khuê
	13:30 – 17:00	CPMU	Ms Cuc –Project Coordinator	CPMU office, 20 Thụy Khuê
03 Nov. 2016	8.30 – 10.00	Department of Construction Management	Representative of Department	10 Nguyen Cong Hoan
	13.30 – 17.00	Meeting with DOSTE/ OCCA	Mr. Pham Manh Cuong - Deputy Director General	DOSTE's office, 2nd floor, A9 building, 2 Ngọc Hà, BaDinh, HN
04 Nov. 2016	Field visit to Thai Nguyen Province (demonstration site of road)			
	08:00 – 10:00	Departure from Hanoi to demonstration site		
	10:00 – 11:00	Visit the Demonstration Project site: Deo Nhai Bio-engineering Road, Lien Minh commune, Vo Nhai district (SP35) Mr. Tran Van Duong, Contractor for Deo Nhai site		
	11:00 – 12:00	Meeting with Lien Minh commune (including interview local people if needed)	Chairman of Lien Minh CPC Lien Minh DPC	Lien Minh Commune, Vo Nhai District, Thai Nguyen Province

	14:00 – 17:00	Meeting with Provincial agencies	- DARD, DONRE, DPI, DOT, PPMU, District and Provincial Trainees	DARD Office, Thai Nguyen Province
		Back to Hanoi		
07 Nov. 2016	Field visit to Son La Province (demonstration site of embankment and road)			
	07:00 – 14.00	Departure to Sơn La Province		
	14.00-17.00	Meeting with Provincial and district agencies	DARD, DONRE, DPI, DOT, PPMU, District DARDs, District and Provincial Trainees	PPMU's office – Son La city
8 Nov. 2016	8.00-9.00	Go to Thom Mon commune – Thuan Chau district		
	9.00-10.00	Visit the Demonstration site: Thom Mon Bio-engineering embankment, Thom Mon commune	CPMU, PPMU, representative of Thom Mon commune, Local people	Thom Mon commune, Thuan Chau district, Son La province
	10.00 - 11.30	Meeting at Thom Mon (including interview local people if any)	Chairman of Thom Mon CPC, representative of DARD Thuan Chau, PPMU	Office of Thom Mon CPC
	13.30-14.00	Go to Phong Lap commune – Thuan Chau district		
	14.00-15.00	Visit the Demonstration site: Phong Lap Bio-engineering road, Phong Lap commune	CPMU, PPMU, consultant, representative of Phong Lap commune	Phong Lap commune, Thuan Chau district, Son La province
	15.00-16.30	Meeting at Phong Lap (including interview local people if any)	Chairman of Phong Lap CPC, representative of DARD Thuan Chau, PPMU	Office of Thom Mon CPC
9 Nov. 2016	Back to Ha Noi			
10 Nov. 2016	8.30-12.00	Meeting with IMHEN, Vietnam Academy of Water Resources, National Institute of Agriculture Planning and Projection	Ms Tran Thanh Thuy Mr Tran Than Thuy Mr Luong Huu Dung Mr Nguyen Van Ly, NIAPP	APMB's office 16 Thuy Khuê

	14:00 – 17.00	Debriefing with UNDP, ADB, CPMU, MARD	MARD, APMB, CPMU, UNDP, ADB	APMB's office 16 Thụy Khuê
11 Nov. 2016	14.00-17.00	Wrap-up meeting with Mr Lam & Meeting with Project Coordinator	Mr. Tran Van Lam – Project Director, Ms Cuc – Project Coordinator	APMB's office

Annex 5: List of Documents Reviewed

No	Name of documents	Author
Outcome 1 - Climate Change Adaptation integrated into policy, strategy and planning		
1.	Report of international good practice in development and implementation of strategies/policies and plans to adapt to climate change	DRAZEN KUCAN
2.	A thematic report on strengthening the resilience of rural infrastructure to climate change at international level, with focus on: (Rural road infrastructure; Rural water supply and irrigation; and, River protection embankment.	DRAZEN KUCAN
3.	Recommendations on amendment and supplement of policies, strategies and standard/codes to increase the resilience of rural infrastructure to climate change	DRAZEN KUCAN
4.	Overview on existing policies and strategies related to rural infrastructure of the Northern mountain region	PHAM CHU DONG
5.	Thematic report on development of SEDP and agricultural and transportation sector plans in relation to rural infrastructure of the Northern mountain region	PHAM CHU DONG
6.	Technical guideline on appropriate measures to mainstream climate change into policies and strategies related to Northern mountain rural infrastructure	PHAM CHU DONG
7.	Technical Guideline on mainstreaming climate change adaptation in SEDPs and agricultural and transportation sector plans related to rural infrastructure of the Northern mountain provinces	PHAM CHU DONG
8.	Report on assessment processes of economic efficiency of climate proofing rural infrastructure projects	DAVID SHELLEY
9.	Report on calculations of risks and costs in climate proofing rural infrastructure planning and development	DAVID SHELLEY
10.	The report on measures to quantify the economic damages caused by climate change on rural infrastructure at the Northern mountain areas	BUI HAI NAM
11.	Manual on calculation of economic effectiveness of mainstreaming climate change rural infrastructure projects at Northern mountain areas	BUI HAI NAM
12.	Recommendations on amendment and supplement of standard/ codes related to economic effectiveness calculations to mainstream climate change into rural infrastructure projects	BUI HAI NAM
13.	The report on good international practice of engineering resilience in the context of following rural roads, irrigation network and river embankments	JORGE ALVAREZ SALA
14.	The report on rural infrastructure vulnerability assessment to climate change for the Northern mountain provinces in Vietnam	JORGE ALVAREZ SALA
15.	Proposed adjustments and supplements in standards/ codes and guidelines to facilitate climate resilient infrastructure development	JORGE ALVAREZ SALA
16.	Root cause analysis for losses and damages to rural road infrastructure	DO DUY DINH
17.	Recommendations on integration of climate change adaptation into rural road investments	DO DUY DINH
18.	A manual on mainstreaming climate change into the design of rural road projects	DO DUY DINH
19.	Guideline on maintenance of rural roads in climate change context	DO DUY DINH
20.	Root cause analysis for losses and damages to the irrigation and river embankment infrastructure	NGUYEN THANH HUNG
21.	Recommendations on integration of climate change adaptation into irrigation and embankment investments	NGUYEN THANH HUNG
22.	Proposed technical solutions for irrigation and river embankment in Northern mountain region under the prevailing climatic regime.	NGUYEN THANH HUNG
23.	Manual on mainstreaming climate change into the design of irrigation and river embankment in Northern mountain provinces	NGUYEN THANH HUNG
Outcome 2 - Enhanced capacity to adapt/ climate-proof rural infrastructure investments and planning		
24.	A manual on mainstreaming climate change into the design of rural infrastructure projects in Northern mountain provinces	
25.	Report on the need of capacity strengthening on CC adaptation of northern mountain provinces	DUONG THI KIM THU

26.	Report on capacity strengthening plans on CC adaptation of northern mountain provinces	DUONG THI KIM THU
27.	Report on capacity strengthening results after training courses 2015 & 2016	DUONG THI KIM THU
28.	Capacity strengthening materials for 2014-2015 training courses	DUONG THI KIM THU
29.	Summary report on capacity building program	DUONG THI KIM THU
30.	Manual on vulnerability assessment to climate change of rural infrastructure	
31.	Report outlining methodologies and work plans for the risk and vulnerability assessment	UJALA QADIR
32.	TOR for National Firm on vulnerability Mapping for rural infrastructure to climate change (Flashflood and landslide)	UJALA QADIR
33.	Hazard impact assessment for the rural infrastructure in the Northern Mountain provinces.	UJALA QADIR
34.	Manual on vulnerability assessment and mapping for rural infrastructure in the Northern mountain provinces	UJALA QADIR
35.	Report on climate change impacts on poverty reduction and socio-economic development in the northern mountain provinces	DO HOAI NAM
36.	Vulnerability Assessment of rural infrastructure in 15 Mountain provinces , focussing on Son La and Bac Kan provinces	DO HOAI NAM
37.	Proposed solutions to mitigate vulnerability of rural infrastructures	DO HOAI NAM
38.	Geography-referenced infrastructure inventory	NGUYEN THANH LONG
39.	Landslide risk maps for northern mountain provinces and 2 demonstration models in the context of climate change	NGUYEN THANH LONG
40.	Analysis of climatic database.	HOANG MINH TUYEN
41.	Flash flood risk maps for northern mountain provinces and 2 demonstration models in the context of climate change	HOANG MINH TUYEN
42.	Overview on action plan to respond to climate change of the Northern mountainous provinces	PHAM CHU DONG
43.	Propose strategies conducive to climate change for rural infrastructure in Son La province related to fields: 1-Rural transport; 2-Irrigation and river embankment	PHAM CHU DONG
Outcome 3 - Effective climate-resilience measures – ADB Site Demonstrations (See list below)		
44.	Thai Nguyen province	
45.	Roadside demo (SP35) and progress reports	ICEM
46.	Bac Kan province	
47.	Riverbank demo (SP4) and progress reports	ICEM
48.	Son La province	
49.	Roadside demo (SP31) and progress reports	ICEM
50.	Riverbank demo (SP32) and progress reports	ICEM
51.	Technical assistance materials	ICEM
52.	Reports on workshops and training activities	ICEM
53.	Summary of lessons learned	ICEM
Outcome 4 - Lessons learnt and best practices from Outcomes 1, 2 and 3 are disseminated		
54.	Project communications program and strategy	MAI VAN HUYEN
55.	03 leaflets	LE THI THUY DUONG
56.	04 video clips	LE THI THUY DUONG
57.	Edit an print 8 Vietnamese documents and 8 English documents	NGUYEN VAN PHU

58.	Rural infrastructure joint maps (printed and web-based)	LE THANH LONG
	PROJECT REPORTS AND OTHERS DOCUMENTS	
59.	Project Documents	UNDP, MARD
60.	Quarterly Progress Reports QI, QII, QIII and QIV 2013	CPMU
61.	Annual Project Progress Report 2013	CPMU
62.	Quarterly Progress Reports QI, QII, QIII and QIV 2014	CPMU
63.	Annual Project Progress Report 2014	CPMU
64.	Quarterly Progress Reports QI, QII, QIII and QIV 2015	CPMU
65.	Annual Project Progress Report 2015	CPMU
66.	Quarterly Progress Reports QI, QII, QIII and QIV 2016	CPMU
67.	Project Implementation Report 2016	CPMU
68.	Project Implementation Review 2014	UNDP, ADB
69.	Project Implementation Review 2015	UNDP, ADB
70.	Project Implementation Review 2016	UNDP, ADB
71.	Minutes of meetings	CPMU, UNDP
72.	Spot check UNDP 2014	UNDP
73.	Audit Report 2015	KPMG
74.	Midterm Review Report	Guido Corno, Vu Thi Thu
75.	Management Response to the MTE recommendations	UNDP, CPMU, ICEM
76.	Project Extension Request	CPMU
77.	Draft Project Lessons Learnt	Jenty Kirsch- Wood
78.	Project budget and financial data	CPMU
79.	UNDP Development Assistance Framework (UNDAF)	UNDP
80.	UNDP Country Programme Document (CPD)	UNDP
81.	UNDP Country Programme Action Plan (CPAP)	UNDP
82.	GEF focal area strategic program objectives	GEF

ADB TA 8102-VIE: List of Progress Reports

No.	Topic or Title	Date
PR-1	Inception Report	May 2013
PR-2	Quarterly Report	July 2013
PR-3	Quarterly Report	October 2013
PR-4	Quarterly Report	January 2014
PR-5	Quarterly Report	April 2014
PR-6	Quarterly Report/Mid-Term Report (draft)	June 2014
PR-6	Quarterly Report	July 2014
PR-7	Quarterly Report	October 2014
PR-8	Quarterly Report	January 2015
PR-9	Quarterly Report	May 2015
PR-10	Quarterly Report	July 2015
PR-11	Quarterly Report	October 2015
PR-12	Quarterly Report	January 2016
PR-13	Quarterly Report	April 2016
PR-14	Quarterly Report	July 2016
PR-15	Final Report (draft)	November 2016

ADB TA 8102-VIE: List of Technical Reports

No.	Topic or Title	Date
TR-1	Launch Workshop	February 2013
TR-2	Inception Workshop	April 2013
TR-3	Knowledge Development and Communications Plan	November 2013
TR-4	Vulnerability Assessment and Adaptation Response Workshop	November 2013
TR-5	Approaches to Building Climate Change Resilience in Rural Infrastructure	December 2013
TR-6	Feasibility Study: Demonstration Measures at Sub-Project 4, Bac Kan	May 2014
TR-6	(revised) Feasibility Study: Demonstration Measures at Sub-Project 4, Bac Kan	September 2014
TR-7	Feasibility Study: Demonstration Measures at Sub-Project 32, Son La	October 2014
TR-8	Bioengineering Workshop: Design and Construction (Riverbanks)	July 2015
TR-9	Feasibility Study: Demonstration Measures at Sub-Project 34, Thai Nguyen	December 2015
TR-10	Feasibility Study: Demonstration Measures at Sub-Project 31, Son La	January 2016
TR-10	(revised) Feasibility Study: Demonstration Measures at Sub-Project 31, Son La	March 2016
TR-11	Initial Monitoring Report for Riverbank Bioengineering Demonstrations at SP4 Bac Kan and SP32 Son La	April 2016
TR-12	Bioengineering Workshop: Design and Construction (Roads)	June 2016
TR-13	Lessons Learned Workshop Report	November 2016
<i>In preparation</i>		
TR-14	Demonstration Effectiveness Audit	December 2016
TR-15	Training Completion Report	December 2016
TR-16	Demonstration Site Construction Completion Report	December 2016
TR-17	Technical Guidelines for Slope Erosion Protection	December 2016
TR-18	Drawings and Specifications	December 2016
TR-19	Training Course Content	December 2016

Annex 6: List of Contacts

No	Full name	Position	Contact details
1	Tran Van Lam	National Project Director	CPMU office, Room No. 706, 7th floor, 16 Thuy Khuê
2	Hoang Thu Ha	Deputy Project Director	CPMU office, Room No. 706, 7th floor, 16 Thuy Khuê
3	Hoang Thi Kim Cuc	National Project Coordinator (UNDP component)	R406, B Building, Center for Women and Development, 20 Thuy Khue, Hanoi
4	Nguyen Gia Vuong	Project Technical Official	R406, B Building, Center for Women and Development, 20 Thuy Khue, Hanoi
5	Ms Dung	Project Financial Officer	R406, B Building, Center for Women and Development, 20 Thuy Khue, Hanoi
6	Nguyen Dinh Ninh	Deputy Team Leader of ICEM/ Agricultural Engineer	ADB TA 8102-VIE Promoting Climate Resilient Rural Infrastructure in Northern Vietnam, Project office, R406, B Building, Center for Women and Development, 20 Thuy Khue, Hanoi
7	Bui Viet Hien	Programme Officer Disaster Risk Reduction and Climate Change	UNDP, 304 Kim Ma, Hanoi, Vietnam
8	Dao Xuan Lai	ACD/Head, Sustainable Development Unit	UNDP, 304 Kim Ma, Hanoi, Vietnam
9	Jenty Kirsch-Wood	CTA	UNDP <jenty.kirsch-wood@undp.org>
10	David Salter	Sr. Natural Resources and Agriculture Specialist	Environment, Natural Resources and Agriculture Division Southeast Asia Department Asian Development Bank
11	James Ramsay	Team Leader of ICEM / Bioengineer	ADB TA 8102-VIE Promoting Climate Resilient Rural Infrastructure in Northern Vietnam, Project office: 20 Thuy Khue Street, HA NOI
12	Ho Le Phong	Senior Project Officer	ADB office, 3rd Floor, Cornerstone Building, 16 Phan Chu Trinh Street
13	Dinh Thanh Mung	Specialist	Department of Water Resources Management
14	Pham Manh Cuong	Deputy Director General	DOSTE/OCCA, No.2, Ngoc Ha Street, Hanoi
15	Tran Thanh Thuy	Director, Department of Science, Training & International Cooperation	IMHEN, N.23 lane 62, Nguyen Chi Thanh, Hanoi
16	Phi Thi Thu	Specialist	Institute of Water Resources Planning
17	Vu Quynh Dong	Specialist	Institute of Water Resources Planning
18	Bui Quang Tuan	Deputy Head of Division	Institute of Water Resources Planning
19	Pham Ngoc Sao	Deputy Director, Fishery Programme	APMB, No.2, Ngoc Ha Street, Hanoi
20	Nguyen The Hinh	Deputy Director, Low Carbon Agriculture Support Programme	APMB, No.2, Ngoc Ha Street, Hanoi

21	Nguyen Trung Anh	Department of Construction Management	trunganhdaad@gmail.com
22	Vuong Quoc Thiet	Department of Construction Management	thietecd@gmail.com
23	Nguyen Thanh Tung	Department of Construction Management	tungxdc@yahoo.com
24	Phi Ngoc Tuan	Department of Construction Management	tuanpn.xd@gmail.com
PROJECT CONSULTANTS			
25	Bui Hai Nam	Economic Analysis Expert	bhnam79@gmail.com
26	Nguyen Thanh Long	Team Leader of Landslide Risk Mapping	ntlong08111974@gmail.com
27	Pham Chu Dong	Policy Expert	phamchudong@gmail.com
28	Duong Thi Kim Thu	Expert on Provincial Capacity Strengthening	kimthuvkhtl@gmail.com
29	Nguyen Trung Dung	Peer review expert on Economic Analysis	ntd.kinhte@gmail.com
30	Ho Anh Cuong	Peer review expert on Rural Road	hoanhcuong@gmail.com
31	Do Ngoc Bich	Representative of Flashflood Risk Mapping Contractor	bichdam555@gmail.com
THAI NGUYEN PROVINCE			
32	Bui Tien Chinh	Deputy Director	DARD, Thai Nguyen Province
33	Nguyen Tien Thinh	Deputy Director	PPMU, Thai Nguyen Province
34	Hoang Thi Kim Dung	BARD Official	Vo Nhai District, Thai Nguyen Province
35	Luong Thanh Tuan	BARD Official	Dong Hy District, Thai Nguyen Province
36	Nguyen Van Thanh	BARD official	Phu Luong District, Thai Nguyen Province
37	Le Thi Phuong Thao	Planning and Financial Division	DARD, Thai Nguyen Province
38	Duong Bich Thuy	Planning and Financial Division	DARD, Thai Nguyen Province
39	Ha Huy Hop	Economics Division	Pho Yen District, Thai Nguyen Province
40	Duong Van Loc	Deputy Director	DPI, Thai Nguyen Province
41	Vuong Van Thanh	Head of Water Resources Division	DONRE, Thai Nguyen Province
42	Tran Van Duong	Thai Nguyen Contractor – Company 158; Deo Nhai site	Thai Nguyen Province
43	Hoang Van Thuong	Commune Chairman	Lien Minh Commune, Vo Nhai District, Thai Nguyen Province
SON LA PROVINCE			
44	Le Van Thanh	Deputy Director	DARD, Son La Province
45	Cao Viet Thinh	Director PPMU	PPMU Son La Province
46	Tran Thuy Duong	Deputy Head of Climate Change	DONRE, Son La Province
47	Lai Van Minh	Director	Department of Irrigation System
48	Tran Ngoc Bao	Head of Disaster Prevention and Control Division	Department of Irrigation System
49	Dang Xuan Khoi	BARD Official	BARD Mai Son district
50	Ha Van Lin	Deputy Head of BARD	BARD Pho Yen district
51	Quang Thi Thu	Deputy Head of BARD	BARD Yen Chau district
52	Nguyen Canh Thai	Specialist	DPI Son La
53	Nguyen Thi To Nga	Division Deputy Head	DPI Son La
54	Nguyen Van Trung	Technical Official	DARD
55	Le Hong Hanh	BARD official	BARD Thuan Chau district
56	Nguyen Thi Trang	Official of Economic Division	Economic Division, Son La City
57	Lung Thi Nhung	BARD Official	BARD Van Ho district
58	Nguyen Trung Hieu	Head of Division	Transportation Consultation Division, Dept. of Transportation

59	Lo Cam Hong	Transportation Quality Management Division	Department of Transportation
60	Lo Van Dinh	Vice Chairman, PPC	Thom Mon commune
61	Nuong Van Tuan	CPC Official	Phong Lap commune

Annex 7: Terminal Evaluation Summary of Project Achievements and Observations

Project Strategy	Indicator	Baseline Level	End-of-project Target	Reported Achievement	TE Comments on Results
Objective: To increase the resilience and reduce vulnerability of local, critical economic infrastructure in the northern mountains areas of Vietnam to the adverse impacts of climate change and to create a policy framework conducive to promoting resilient northern mountains zone development	# of detailed vulnerability maps presented and disseminated to % of Northern Mountain provinces.	n/a – at project outset there is no vulnerability maps to disseminate.	Detailed vulnerability maps for at least two northern mountainous provinces (a map for each province), with evidence that these have been presented and disseminated to at least 50% of Northern Mountain Provinces.	Completed 2 detailed (landslide and flashflood) risk maps of rural infrastructure for Son La and Bac Kan provinces. Organize training workshops about these maps and invite representatives of related departments of 15 NMPs. (However those detailed risk maps have not been handed over to provinces yet.)	<i>Provincial and district staff now have a new understanding of the climate risks, information on options and adaptation priorities that can be taken into account formally or informally during the annual and five year budget and planning processes.</i> <i>(the project indicators are not reliable means of measuring achievement of the objective)</i>
	% of public expenditure directed towards the protection of rural infrastructure following the project guidance on climate resilient infrastructure.	0 funds invested	On 05 rural infrastructure projects, at least 5% additional public finance invested in infrastructure resilience, over and above SIDA pilot demonstration.	Completed 4 riverbank and roadside bioengineering demonstration sites in Son La, Bac Kan and Thai Nguyen province.	
Outcome 1: Climate change Adaptation integrated into policy, strategy and planning related to rural infrastructure - specifically rural roads, irrigation, and embankment.	# of Technical papers providing guidance on mainstreaming climate change into sectorial planning related to rural infrastructure in northern areas.	n/a – there has not been a guidance paper at project outset.	A Technical Guidance Paper on mainstreaming climate change into provincial rural infrastructure planning prepared by the project and circulated by MARD.	Completed but not handed over to MARD/ not circulated by MARD yet.	<i>An extensive set of technical reports has been produced but potential for use is undetermined.</i> <i>(the indicator is output-oriented and not a good measure of mainstreaming outcomes)</i> <i>The potential for government endorsement of the four key manuals after project completion will</i>
	# of Manual on mainstreaming climate change into the design of rural	n/a - at the project outset, there has not been a manual to	02 manuals on mainstreaming climate change into the design of rural infrastructure	04 manuals completed, but not handed over to MARD/ not circulated by MARD yet.	

	infrastructure projects.	guide mainstreaming of CC into the design of rural infrastructure projects.	projects (01 for rural roads and irrigation, and 01 for embankment) prepared by the project (taking into consideration of results of the demonstration projects) and circulated by MARD.		<i>depend upon a lengthy internal review and approval process. Elements of a policy framework have been proposed but not yet endorsed.</i>
	# of water resources standards and codes are informed to meet the requirements for climate resilience.	n/a – there has not been any revision of water resources standards or codes.	By the end of the project at least 01 set of water resources standards informed by the project guidance.	The project has reviewed 02 technical standards: Standards of Dam safety test and Standards of concrete construction and acceptance on the slope. Consultants have also agreed with the standards and submit an explanatory report to MARD. MARD has approved and handed over to MOST (expected circulation this month)	<i>The process for adoption of new standards by government may take up to two years. Nevertheless, government staff view the project information and mapping as useful advisory support for their irrigation system and other infrastructure management duties.</i>
Outcome 2: Enhanced capacity to adapt/climate-proof rural infrastructure investments and provincial/local area planning.	Coverage of Climate risks and vulnerability assessment.	There has not been any climate vulnerability assessment implemented for rural infrastructure in Northern mountain provinces.	A climate risks and vulnerability assessment for rural infrastructure done for all 15 northern provinces.	Completed	<i>The mapping and analysis of climate risks to specific infrastructure provide important data for provincial and district investment planning. The CCA plans are based on knowledge of climate risks and vulnerability assessment.</i>
	# of rural infrastructure investment plans guided as results of climate risks and	n/a – there has not been any rural infrastructure plan that is developed based	At least two (02) provincial plans/strategy per target province (Son La and Bac Kan) guided as results of the project climate risks	01 recommendation for Son La has been completed, but not handed over to the province and not mainstreamed into	<i>This is a key result which has not been fully completed.</i>

	vulnerability assessment, regarding mainstreaming of CC.	on climate risk and vulnerability assessment.	and vulnerability assessments, regarding mainstreaming of CC.	provincial plans because of unsuitable time.	<i>The two pilot province strategies were expected to serve as models for the other 13 provinces.</i>
	Level of capacity of provincial leaders to climate-proof rural infrastructure investment and planning enhanced (referred to the project technical capacity assessment)	At the project outset, evaluated scores of management personnel in the 15 Northern provinces are as follows: - Institutional capacity on climate change adaptation (CCA) = 1.43/5 - Organizational and planning capacity on CCA =1.71/5; and - Technical capacity on CCA = 1.78/5	- By the end of the project, capacity of provincial decision makers (DARD, DPI, DOT, DONRE) to climate-proof rural infrastructure investment and planning in the 15 northern mountainous provinces is at least (40%) higher than the project baseline	So far, according to the results obtained by the project, after the training courses were held, the general capacity is of 62% increase, in which institutional capacity reach 2.57 / 5; Organizational and planning capacity 2.82, and technical capacity 3.07.	<i>Capacity has been marginally enhanced in terms of awareness of climate risks and data/tools for setting priorities but there is little current capacity (or approval) to apply the new methods and data.</i> <i>The capacity assessment rating methods is biased and unreliable. They do not provide an accurate reflection of the status of capacity to address climate risks to rural infrastructure.</i>
	% of technical personnel having ability to apply risk and vulnerability assessment tools and methods for rural infrastructure development planning purposes	Risk and vulnerability assessment tools and methods for rural infrastructure development planning is not yet available in Vietnam.	- Up to 120 technical personnel from the 15 Northern provinces trained in CCA related issues and at least 50% of them having technical capability in applying climate risks and vulnerability assessment tools and methods for rural infrastructure	According to summary report of capacity strengthening programme, a total of 179 (should be 270) technical personnel were trained about the toolkit, including 35 TOT trainers certified. In fact, 12 TOT trainers lecture in district training courses organized by the project.	<i>Staff will not apply the tools until they are fully endorsed by the leaders. It is unlikely, despite the interest generated, that most provinces/districts will be able to use the tools without further technical support and instruction.</i>

			development planning purposes.	In term of the issue that and at least 50% of them having technical capability in applying these tools in related jobs, time for assessment is needed.	
Outcome 3: Effective climate-resilience measures mainstreamed into rural infrastructure programs.	Level of CC threats and impacts assessed and adaptation options identified.	There has not been any climate threats and impacts assessment for rural infrastructure projects at the project outset; MARD has mainstreamed low cost climate measures for cross drainage structures by the use of drifts but not other measures.	- A vulnerability assessment (VA) and adaptation prioritizing framework completed at community level, and -Preferred bio-engineering solutions for rural infrastructure projects developed	Vulnerability Assessment and Adaptation Response Workshop, Nov. 2013 involved discussion of the adaptation issues and options.	<i>The demonstration activities have provided important examples of low cost technical solutions, but they are nowhere near being mainstreamed into infrastructure investments since there are no approved standards and limited finances for any kind of climate proofing measures. Demonstration sites have just completed and need time to see how the models work and whether they are suitable for replication. Son La Province officials said that they can replicate by the way that the “state” and “people” “undertake together”, especially for low cost embankment protection</i>
	# of demonstration projects developed, implemented, and evaluated with communities engagement	There is limited demonstrations of climate resilience techniques for rural infrastructure in Vietnam	- Four (04) bio-engineering demonstration projects developed, implemented and evaluated with community engagement by June 2016, based on 04	SP4 Bac Kan - Riverbank protection completed; functioning successfully; handed over to local administration; being maintained by Women’s	<i>The four demonstration sites have provided a variety of examples of bioengineering slope protection. These have particularly created a new awareness of the potential</i>

			selected SRIDP sub-projects located in three provinces	<p>Union; small maintenance works planned to fill in gaps in planting. <i>SP32 Son La</i> - Riverbank protection; completed; functioning successfully; handed over to local administration; being maintained by village residents; small maintenance works planned to fill in gaps in planting. <i>SP35 Thai Nguyen</i> - Roadside protection; completed; functioning successfully; in contractor's maintenance period; small maintenance works and upgrades ongoing. <i>SP31 Son La</i> - Roadside protection; under construction; work completed</p>	<p><i>use of local plants to stabilize roadside banks and stream embankments. These were estimated to be in general, 40% lower average cost than conventional methods and more environmentally friendly.</i></p> <p><i>Perceptions about long term sustainability vary amongst the participants. Some of the options are also considered beyond the financial resources of provincial and district authorities. Responsibility for protection is expected to occur on a voluntary community basis. The maintenance of embankments is assigned to commune woman union while roads are expected to be maintained by Departments/Division of Transportation at provincial and district levels.</i></p>
	Strengthened capacity of project stakeholders to assess climate change impacts, select, design, implement and evaluate bio-	Capacity of the stakeholders to assess climate change impacts, select, design and implement of bio-engineering	- Up to 05 training courses and workshops provided to a technical group of 16 members on climate change impact assessment, selection,	Four training workshops have been held: November 2013 Vulnerability Assessment and Adaptation Response Workshop	<i>Training participants from provincial and district authorities have a general understanding and appreciation of the bioengineering options. The post workshop data indicated satisfaction with</i>

	engineering solutions	solutions is limited	design, implementation and evaluation of bio-engineering solutions - Lessons learnt and recommendations submitted latest by September 2016	April 2015 Bioengineering Workshop: Design and Construction (Riverbanks) June 2016 Bioengineering Workshop: Design and Construction (Roadside Slopes) October 2016 Lessons Learned	<i>quality of training. There is support for further application of selected options provided the relevant endorsement bioengineering occurs at higher levels.</i>
Outcome 4: Lessons learnt and best practices from Outcomes 1, 2 and 3 are disseminated to stakeholders and development partners.	# of Project lessons and best practices captured, classified and evaluated;	No project lessons learnt published by the project at the project outset	- At least 08 articles/video clips/leaflets published by the end of the project - At least two (02) peer technical papers reviewed by the end of the project to facilitate professional discussion and advocacy	According to the statistics, the project has nine articles posted on websites and specialized magazines. It is expected to have two articles and four video clips to be published in October, 2016	<i>Many of the technical reports/manuals have only recently been distributed and respondents indicated that more time is needed to consider them, in addition to uncertainty about official endorsement by government.</i>
	Level of CCA knowledge and experiences documented and disseminated within Vietnam, in the Asian region and beyond	0 contributions.	At least 04 contributions by the end of the project	There is one article on international conference about the project deliverables. The project has also welcomed academic delegations from East Timor in September, 2016. Besides, ADB / ICEM Component has also regularly shared bio-engineering practices pilot with Laos through training workshops. One knowledge sharing activity is not completed.	<i>The mapping products and site demonstrations have generated interest and support for the project, but they need greater advocacy effort to raise the profile to a policy and investor level.</i>

Source: Except for the last column, all information is from project staff or progress reports; *Project Implementation Report*, APMB, 2016, p. 16-21; *ABD TA8102, Progress Update*, 2016-10-17 for CPMU V2.pdf.

Annex 8: Assessment of Climate Risks for Rural Infrastructure

I. IRRIGATION

I. IRRIGATION, 1. WEIR

No	Name of province	Number of works with different levels of climate risks					
		Very High	High	Medium	Low	Very Low	Total
1	Son La	22	355	421	283		1081
2	Bac Kan	8	160	168	8		344
3	Bac Giang						0
4	Cao Bang	8					8
5	Ha Giang			61			61
6	Tuyen Quang			212	225	19	456
7	Lao Cai	3	46	21			70
8	Yen Bai		312	243	133		688
9	Thai Nguyen			401			401
10	Hoa Binh		246	254	48		548
11	Dien Bien		1	10	23		34
12	Phu Tho		15	11	6		32
13	Vinh Phuc		3	30	3		36
14	Lai Chau		3	254	471		728
15	Lang Son		72	63			135
	Tổng	41	1213	2149	1200	19	4622

I. IRRIGATION, 2. CANAL

No	Name of province	Number of works with different levels of climate risks					
		Very High	High	Medium	Low	Very Low	Total
1	Son La	27	64	9			100
2	Bac Kan	4	10	17			31
3	Bac Giang		3	72	33		108
4	Cao Bang	10	7				17
5	Ha Giang		11	24			35
6	Tuyen Quang		1	3	1		5
7	Lao Cai	3					3
8	Yen Bai	1	81	72			154
9	Thai Nguyen		7	24	1		32
10	Hoa Binh		156	1			157
11	Dien Bien		2	7		2	11
12	Phu Tho		19	24	12		55
13	Vinh Phuc	198	10				208
14	Lai Chau			3		3	6
15	Lang Son		24	41			65
	Tổng	243	395	297	47	5	987

I. IRRIGATION, 3. RESERVOIR

No	Name of province	Number of works with different levels of climate risks					Total
		Very High	High	Medium	Low	Very Low	
1	Son La		69	30	1		100
2	Bac Kan		5	14	12		31
3	Bac Giang		2	86	20		108
4	Cao Bang		11	2			13
5	Ha Giang		7	28			35
6	Tuyen Quang		330	172		1	503
7	Lao Cai		4				4
8	Yen Bai		84	70			154
9	Thai Nguyen		2	27	3		32
10	Hoa Binh		157				157
11	Dien Bien		1	10			11
12	Phu Tho		19	35	1		55
13	Vinh Phuc		143	65			208
14	Lai Chau			4	2		6
15	Lang Son		54	11			65
	Tổng	0	888	554	39	1	1482

II. EMBANKMENT

No	Name of province	Number of works with different levels of climate risks					Total
		Very High	High	Medium	Low	Very Low	
1	Son La						
2	Bac Kan						
3	Bac Giang						
4	Cao Bang						
5	Ha Giang	16	7	46	55	19	143
6	Tuyen Quang						
7	Lao Cai			8	5	5	18
8	Yen Bai						
9	Thai Nguyen						
10	Hoa Binh						
11	Dien Bien						
12	Phu Tho			11	18	1	30
13	Vinh Phuc		2	14	16	19	51
14	Lai Chau						
15	Lang Son						
	Tổng						242

III. RURAL ROAD

No	Name of province	Number of works with different levels of climate risks
----	------------------	--

		Very High	High	Medium	Low	Very Low	Total
1	Son La	15	60	40			115
2	Bac Kan	59	17	2			78
3	Bac Giang				20	39	59
4	Cao Bang	77	176	5			258
5	Ha Giang	322		3			325
6	Tuyen Quang			49	24	1	74
7	Lao Cai		40	21			61
8	Yen Bai		19	16	21		56
9	Thai Nguyen		38	85	30		153
10	Hoa Binh		84	54	1		139
11	Dien Bien		17	178	24		219
12	Phu Tho		3	19	55		77
13	Vinh Phuc			13	107		120
14	Lai Chau	88	23	48			159
15	Lang Son	165	2	9			176
	Tổng						2069

1. WEIR

No	Name of province	Number of works with different levels of climate risks					Total
		Very High	High	Medium	Low	Very Low	
1	Son La	22	355	421	283		1081
2	Bac Kan	8	160	168	8		344
3	Bac Giang						0
4	Cao Bang	8					8
5	Ha Giang			61			61
6	Tuyen Quang			212	225	19	456
7	Lao Cai	3	46	21			70
8	Yen Bai		312	243	133		688
9	Thai Nguyen			401			401
10	Hoa Binh		246	254	48		548
11	Dien Bien		1	10	23		34
12	Phu Tho		15	11	6		32
13	Vinh Phuc		3	30	3		36
14	Lai Chau		3	254	471		728
15	Lang Son		72	63			135
	Tổng	41	1213	2149	1200	19	4622

I. IRRIGATION, 2. CANAL

No	Name of province	Number of works with different levels of climate risks					Total
		Very High	High	Medium	Low	Very Low	
1	Son La	27	64	9			100
2	Bac Kan	4	10	17			31
3	Bac Giang		3	72	33		108

4	Cao Bang	10	7				17
5	Ha Giang		11	24			35
6	Tuyen Quang		1	3	1		5
7	Lao Cai	3					3
8	Yen Bai	1	81	72			154
9	Thai Nguyen		7	24	1		32
10	Hoa Binh		156	1			157
11	Dien Bien		2	7		2	11
12	Phu Tho		19	24	12		55
13	Vinh Phuc	198	10				208
14	Lai Chau			3		3	6
15	Lang Son		24	41			65
	Tổng	243	395	297	47	5	987

I. IRRIGATION, 3. RESERVOIR

No	Name of province	Number of works with different levels of climate risks					Total
		Very High	High	Medium	Low	Very Low	
1	Son La		69	30	1		100
2	Bac Kan		5	14	12		31
3	Bac Giang		2	86	20		108
4	Cao Bang		11	2			13
5	Ha Giang		7	28			35
6	Tuyen Quang		330	172		1	503
7	Lao Cai		4				4
8	Yen Bai		84	70			154
9	Thai Nguyen		2	27	3		32
10	Hoa Binh		157				157
11	Dien Bien		1	10			11
12	Phu Tho		19	35	1		55
13	Vinh Phuc		143	65			208
14	Lai Chau			4	2		6
15	Lang Son		54	11			65
	Tổng	0	888	554	39	1	1482

II. EMBANKMENT

No	Name of province	Number of works with different levels of climate risks					Total
		Very High	High	Medium	Low	Very Low	
1	Son La						
2	Bac Kan						
3	Bac Giang						
4	Cao Bang						
5	Ha Giang	16	7	46	55	19	143
6	Tuyen Quang						
7	Lao Cai			8	5	5	18

8	Yen Bai						
9	Thai Nguyen						
10	Hoa Binh						
11	Dien Bien						
12	Phu Tho			11	18	1	30
13	Vinh Phuc		2	14	16	19	51
14	Lai Chau						
15	Lang Son						
	Tổng						242

III. RURAL ROAD

No	Name of province	Number of works with different levels of climate risks					Total
		Very High	High	Medium	Low	Very Low	
1	Son La	15	60	40			115
2	Bac Kan	59	17	2			78
3	Bac Giang				20	39	59
4	Cao Bang	77	176	5			258
5	Ha Giang	322		3			325
6	Tuyen Quang			49	24	1	74
7	Lao Cai		40	21			61
8	Yen Bai		19	16	21		56
9	Thai Nguyen		38	85	30		153
10	Hoa Binh		84	54	1		139
11	Dien Bien		17	178	24		219
12	Phu Tho		3	19	55		77
13	Vinh Phuc			13	107		120
14	Lai Chau	88	23	48			159
15	Lang Son	165	2	9			176
	Tổng						2069

Annex 9: Training Activities

ID	Name of Course	No of classes	Total of participants	No. of male participants	No. of female participants	Location	Target Trainee	Time
UNDP Component								
1.	Consultation work on policy for climate change resilience	4	88	65	23		Leaders and Technical Staff at provincial level in 15 provinces in NMA	Aug & Sep 2015
	Class 1: Consultation Work on Policy for Climate Change Resilience for Leaders and Policy Makers of 8 north - eastern provinces		14	11	3	Thai Nguyen Provinces	Leaders and Policy Makers in 8 north - eastern provinces	Aug & Sep 2015
	Class 2: Consultation Work on Policy for Climate Change Resilience for Leaders and Policy Makers of 7 north-western provinces		22	21	1	Thai Nguyen Province	Leaders and Policy Makers in 7 north-western provinces	Aug & Sep 2015
	Class 3: for technical staff of 8 north-eastern provinces		31	18	13	Vinh Phuc Province	Technical Staffs in 8 north - eastern provinces	Aug & Sep 2015
	Class 4: for technical staff of 7 north-western provinces		21	15	6	Vinh Phuc Province	Technical Staffs in 7 north-western provinces	Aug & Sep 2015
2.	Vulnerability assessment as a tool to increase climate change resilience (provincial level)	2	66	44	22		Technical Staff at provincial level in 15 provinces in NMA	Sep & Oct 2015
	Class 1: Vulnerability Assessment as a Tool to Increase Climate Change Resilience (Provincial Level) for Technical Staffs of 8 north-eastern provinces		36	22	14	Lao Cai Province	Technical Staffs in 8 north - eastern provinces	Sep & Oct 2015

	Class 2: Vulnerability Assessment as a Tool to Increase Climate Change Resilience (Provincial Level) for Technical Staffs of 7 north-western provinces		30	22	8	Lao Cai Province	Technical Staffs in 7 north-western provinces	Sep & Oct 2015
3.	Teaching skills on climate change for provincial officials	2	35	23	12	15 provinces in NMA	Technical Staff at provincial level	May-16
	Class TOT 1 : Teaching Skills on Climate Change for Provincial Officials		22	15	7	Hanoi	Technical Staff at provincial level in 8 northeastern provinces	May-16
	Class TOT 2 : Teaching Skills on Climate Change for Provincial Officials		13	8	5	Hanoi	Technical Staff at provincial level in 7 northwestern provinces	May-16
4.	Vulnerability assessment as a tool to increase climate change resilience (district level)	5	107	76	31		Technical Staff at district level & Consulting companies in 15 provinces in NMA	May, June, July 2016
	Class 1		20	11	9	Bac Kan Province	Technical Staff at district level in Bac Kan, Cao Bang and Thai Nguyen provinces	May, June, July 2016
	Class 2		17	15	2	Bac Giang Province	Technical Staff at district level in Bac Giang, Lang Son and Vinh Phuc provinces	May, June, July 2016
	Class 3		30	22	8	Lao Cai Province	Technical Staff at district level in Lao Cai, Yen Bai and Lai Chau provinces	May, June, July 2016
	Class 4		20	17	3	Tuyen Quang Province	Technical Staff at district level in Tuyen Quang, Ha Giang and Phu Tho provinces	May, June, July 2016

	Class 5		20	11	9	Son La Province	Technical Staff at district level in Son La, Hoa Binh and Dien Bien provinces	May, June, July 2016
5.	Integrating climate change resilience into planning and calculate the economic effect of climate change adaptation	3	55	44	11		Leaders and Technical Staff at provincial level in 15 provinces in NMA	Aug-16
	Class 1		24	17	7	Bac Kan Province	Leaders and Technical Staff at provincial level in 5 provinces Bac Giang, Bac Kan, Cao Bang, Lang Son and Vinh Phuc	Aug-16
	Class 2		10	8	2	Bac Kan Province	Leaders and Technical Staff at provincial level in 5 provinces Ha Giang, Lai chau, Lao Cai, Tuyen Quang and Yen Bai	Aug-16
	Class 3		21	19	2	Bac Kan Province	Leaders and Technical Staff at provincial level in 5 provinces Hoa Binh, Phu Tho, Son La, Thai Nguyen and Dien Bien	Aug-16
ADB Component								
6.	Vulnerability Assessment and Adaptation Response Workshop	1	32	13 in Son La & 22 in Hanoi	4 in Son La & 10 in Hanoi	Hanoi & Son La	Technical Core Group of government technical staff inc. provinces	Nov-13
7.	Bioengineering Workshop: Design and Construction (Riverbanks)	1	28	24	4	Bac Kan	Technical Core Group of government technical staff inc. provinces, contractors, academics	Apr-15

8.	Bioengineering Workshop: Design and Construction (Roadside Slopes)	1	31	28	2	Thai Nguyen	Technical Core Group of government technical staff inc. provinces, contractors, academics	Jun-16
9.	Lessons Learned	1	42	33	9	Hanoi	Technical Core Group of government technical staff inc. provinces, contractors, academics, policy-makers	Oct-16

Data sources: UNDP List of Project Trainees, ADB TA workshop report

Annex 10: Audit of Review Comments

Section/ source	Comment reference	Comments	Response to comments
Exec. Sum. Bui Viet Hien, UNDP	“But the ‘handover’ process to government and the means of taking action on the key policy recommendations has yet to be determined....”	Indeed, we have engaged technical departments e.g. WRD & DoSTE in MARD and Provinces throughout the process, including final training/coaching to orient in their application. While formal “handover” has not yet scheduled, they are assume now apply the project. Key policy recommendations will require additional dialogues and enabling incentive, but in term of project targets, we focused on change at the provinces only. For that we completed in Son La and need to finalise for Bac Kan.	This reference is drawn from your Project Completion Report. Many of those interviewed indicated that they are awaiting direction from government leaders before formally applying the risk assessment and adaptation methods, although they now have an orientation to these planning tools and field methods.
Exec. Sum. Bui Viet Hien, UNDP	The specific tasks for follow-up revisions to provincial adaptation action plans have also been proposed, but the commitment and mechanisms to carry this forward require further effort by MARD and others.	Yes, but also by the provinces. As one of the recommendation from WRD expert, MARD/Provinces should try to pilot a provincial policy/regulation for integrating CC into their planning/investment cycle for rural infrastructure	Minor edit made to the draft text: “...by MARD, the pilot provinces and others...”
Exec. Sum. Bui Viet Hien, UNDP	An extension to the project closing date is therefore needed to complete the key gaps that will ensure formal hand over of manuals and recommendations to MARD as per government procedures and format, and to further disseminate the results so that uptake of the outputs is facilitated.	As standard practice in all ODA/UNDP project, the Government procedure and format will be responsible by the Government. This is GoV internal appraisal/public service work area. Project already seek various rounds of appraisal by some technical departments and their comments are addressed technically. Should clarify roles and ownership agency for this point. As discussed, UNDP is happy to continue facilitate the project’s results/ outcomes in a series of policy dialogues during the extension. We are also here to continue to facilitate similar dialogues in CC-related projects with MARD, MONRE, MPI, etc.	A rationale for extension is provided in the report. No changes made to the draft text.

		In fact, some of the project results are being shared and advocated by UNDP in several recent workshops with ministries, donors – organized by MARD	
Exec. Sum. Bui Viet Hien, UNDP	UNDP Vietnam should revise their capacity development strategy for future projects to provide a more effective way to engage senior government officials in early policy dialogue, provide for direct counterpart engagement in technical work, and encourage organizational development as well as human resource skills to sustain the enhanced capacity	<p>The fact was that this is a combined modality of ADB-UNDP implementation where the counterpart is APMB. The APMB has no experience to work with Policy work by UNDP, they mainly experienced with ADB-invested projects. At the mid-point of the project, UNDP proposed MARD/MOT to have a stronger coordination with technical departments & that MARD consider Doste a policy focal point. Although the recommendation was not take up, APMB did make efforts to address the need. Yet it is not ideal</p> <p>We did engage them from inception of each project work, particularly for VA and Risk mapping conceptualization, and some policy exchanges. We have received strong interest and engagement. Ownership is less ideal. As now there are more results, UNDP will have stronger evidences to facilitate for more meaningful dialogues.</p>	<p>The Recommendation proposes revisions to the capacity development approach within UNDP Vietnam’s programmes, drawing upon the experiences of this project. The policy framework proposed under Outcome 1 has not emerged, apparently due to APMB’s lack of experience with capacity development and in spite of engaging senior officials in the project work. The issues of govt endorsement and support have been left hanging at the end of the project and threaten sustainability.</p> <p>The recommendation has been amended as follows: <i>UNDP Vietnam should revise their capacity development strategy for future projects to ensure appropriate partnerships with relevant line agencies, support from senior government officials in early policy dialogue, direct counterpart engagement in technical work, and organizational development as well as human resource skills to sustain the enhanced capacity.</i></p>
Sec 3.1.1 p. 6 Bui Viet Hien, UNDP	In the final stages of implementation, it became clear that new practices cannot be considered until the relevant documents and proposals are fully transferred and accepted by government leaders and the necessary decrees and standards have been adopted.	<p>Except the building codes to bio-engineering and CC resilient standards/codes that require inter-ministerial adoption, MARD has strong mandates to provide technical guidance in their rural infrastructure sector. There is a strong need now that MARD take the lead into this step. This is standard public service role that ODA project should have less influence but final advocacy.</p> <p>It is equally important that provinces start to work now without waiting for a “stamp” paper and decision. Provinces do have authority to start mainstream CC measures into</p>	<p>Revised as follows:</p> <p><i>In the final stages of implementation, it became clear that, although the provinces have a mandate to integrate adaption into infrastructure planning, new construction and budgeting practices cannot be readily adopted until the relevant documents and proposals are fully transferred and accepted by government leaders and the necessary decrees and standards have been adopted.</i></p>

		their plan and incorporate risk assessment information to make their new project proposal, etc. I would prefer a proactive roles of stakeholders as first practical steps. Many knowledge have been generated for easily and simply apply than waiting for directives from top-down.	
Sec 3.1.3 p.9 Bui Viet Hien, UNDP	The expectation of replication was based on the visible piloting of climate resilient infrastructure plans in two provinces and four site bioengineering demonstrations. The absence of a policy and legal framework to integrated CC risks and CC resilient investment into rural infrastructure development prevented direct replication, but the outputs have nevertheless contributed technical data and methodologies and examples that could assist future use of these approaches.	I would suggest this para to make more clarity of how we have worked to ensure future replication: <i>The project had initiated a policy discussion paper and policy roadmap to promote integration of CC risk into infrastructure development and planning cycle. A number of thematic policy discussion papers on viable conditions in term of economics, planning, engineering and climate change were prepared as the background of the integration roadmap. More policy dialogues required among stakeholders to agree upon the road map and then application.</i>	Text revised with addition: <i>The project prepared a policy discussion paper and policy roadmap to promote integration of CC risk into infrastructure development and planning cycle. Several thematic policy discussion papers on viable conditions in term of economics, planning, engineering and climate change were prepared as background to the integration roadmap. Policy dialogue with stakeholders supported the road map and its future application.</i>
Sec 3.1.5 p. 10 Bui Viet Hien, UNDP	But the project design also assumed that the project would be able to “efficiently connect to the central policy processes that currently shape Viet Nam’s approach on how to deal with evolving climatic risks”. This connection to policy development has been more difficult than anticipated, and...	Yes. Agreed but also please see my comments on page 6. Can you make more elaboration on this context. UNDP has shared this project success factors/evidences in several high-level policy dialogues with donors and MARD...so to this extend...we are still doing this given the situation is not ideally backed by a technical agency of MARD but APMB.	Minor changes made to the draft text: <i>... The policy initiatives depend on government’s preparedness to respond to proposals.</i>
Sec 3.1.6 p. 11 Bui Viet Hien, UNDP	<i>Strengthening national capacities to respond to Climate Change in Viet Nam, reducing vulnerability and controlling greenhouse gas (GHG) emissions, in collaboration with MONRE and MARD; Strengthening Sustainable Development and Climate Planning, in collaboration with MPI; and Strengthening Institutional</i>	Our project collaborate a lot with the two mentioned projects and project team were introduced and experts were invited to the relevant meetings, workshop from CC Scenarios to trainings etc. Risk assessment approach derived from the MARD project for DRM comprehensive risk assessment	Last sentence deleted and replaced with: <i>“These linkages involved participation and collaboration in workshops, training and technical activities.”</i>

	<i>Capacity for Disaster Risk Management in Vietnam, including Climate Change Related Disasters, in collaboration with MARD</i>		
Sec 3.2.1 p. 14 Bui Viet Hien, UNDP	Priorities for policy development - the willingness and support for action on mainstreaming adaptation measures is uncertain in MARD and perhaps outside their area of interest. UNDP's Policy Support Unit was not available to assist.	Not correct and not fully relevant. There are collaboration with PAT and Koos was engaged, particularly during the first years in several technical conceptualization of the project activities. However this is primary Cluster lead, STA, PO roles respectively.	The following was deleted: "UNDP's Policy Support Unit was not available to assist".
Sec 3.2.1 p. 14 Bui Viet Hien, UNDP	Uncertain responsibilities for project outputs – The project at completion is still not clear about handover procedures and who will take responsibility to complete and maintain the project deliverables such as GIS mapping system, database and manuals.	Not really true. I think it has lack of ownership of technical departments given the project structure. Outputs/manuals are developed base on close technical consultation with relevant technical departments of MARD. GIS mapping was designed with clear plan to engaged technical department and PMU and contractor will work with UNDP to consult MARD's departments to see how they can host the GIS web and data (happening now).	Revised as follows: <i>As noted in the Project Completion Report, there is uncertainty about handover procedures and who will take responsibility to complete and maintain the project deliverables such as GIS mapping system, database and manuals, although these are expected to be addressed in a project extension.</i>
3.2.3 p. 18 Bui Viet Hien, UNDP	In the Project Document, it was proposed that UNDP organize periodic monitoring visit for M & E purposes, but in fact UNDP had the CTA and programme officer closely involved in the project activities and oversight, precluding a need for the planned periodic monitoring visits. Regional UNDP staff had a monitoring visit once after the MTR, and ADB undertook monitoring visits each year.	UNDP PO/STA visit the sites in combination with workshops/trainings that organized at the provinces. POs visited sites for 02 times (maybe 3 – including the time that the alternate PO worked in this project in 2015). Since UNDP has no direct interventions of to the demonstration time, it is assumed more than suffice	Revised as follows: <i>In the Project Document, it was proposed that UNDP organize periodic monitoring visit for M & E purposes. UNDP PO/STA visited the sites in combination with workshops/trainings organized in the provinces. Regional UNDP staff had a monitoring visit once after the MTR. ADB undertook monitoring visits each year.</i>
Sec 3.2.5 p. 19 Bui Viet Hien, UNDP	There were some views that UNDP should have had more staff to monitor progress and provide executive direction	UNDP spent more time and staff (PO, PA, Cluster Head with initially an UNV and then UNDP-STA to replace a formal IC-STA who did not continue with the project) in the project than its plan. Given this is NIM modality and PMU is in place, it is not possible to extend more support than that.	Revised below: <i>There were some views that UNDP should have had more staff to monitor progress and provide direction, although the NIM modality limits this potential.</i>

<p>Sec 3.3.2</p> <p>p. 23</p> <p>Bui Viet Hien, UNDP</p>	<p>The Project Implementation Report notes that “the mechanism of deliverables acceptance/handover to the Ministry remain unclear”, the recommendations are set up for Son La, but there is not enough time to set up for Bac Kan, and ...time is still needed to assess the actual capacity to apply climate risks and vulnerability assessment tools and methods</p>	<p>See my above comments/discussions this point. This is APMB’s view, which suggests they are not yet clear how to handle this. It is important that APMB leader need to report to MARD and technical departments at the final project workshop to present the results and work with technical departments to hand-over.</p> <p>Pragmatically there are few final steps that the project is undertaking toward handing over the project results.</p> <p>All project reports/publications have already been uploaded into UNDP and APMB website for dissemination...</p>	<p>No changes made to the draft text.</p>
<p>Sec 3.3.5</p> <p>p. 29</p> <p>Bui Viet Hien, UNDP</p>	<p>UNDP also plans to share the project experiences with the global Adaptation Learning Mechanism.</p>	<p>Project results have been uploaded on the websites of APMB’s and going to be uploaded fully in UNDP’s http://apmb.gov.vn/project/information/2016/10/promoting-climate-resilient-infrastructure-in-northern-mountain-provinces-of-vietnam</p>	<p>Added:</p> <p><i>Project outputs have been uploaded to APMB’s websites and will also be added to UNDP website.</i></p>
<p>Sec 3.3.6</p> <p>p. 29</p> <p>Bui Viet Hien, UNDP</p>	<p>Government staff indicated that the data on vulnerabilities and priorities would be used informally to guide development planning and budgeting, regardless of the formal adoption which would take more time.</p>	<p>Indeed as the provinces suggested. Data should be used to inform their plan and decision. I think the provinces can be more proactive...Knowing the context of VNM, I think it is more about how local experts adapt to the new knowledge...and they have full capacity and experience to find options to apply.</p> <p>If incentives by provincial/mard leaders are there, they will be able to do it. UNDP hope to advocate it that way during the extension period.</p>	<p>No changes made to the draft text.</p>
<p>Sec 4</p> <p>P. 32</p> <p>Bui Viet Hien, UNDP</p>	<p>Rating of Project Performance</p>	<p>Overall, regardless the process and challenges, we have delivered most of the results with high quality. I found this ratings for all criteria is relatively low.</p> <p>It is also important to benchmark this rating with</p>	<p><i>Paragraph added: The criteria for rating the project are provided in the UNDP/GEF evaluation guidelines. The project has produced an impressive set of technical analyses, risk assessment and mapping methods and bioengineering demonstrations. These provide guidance and</i></p>

		other similar GEF projects – Check with Ketii?	<i>momentum for further national progress on infrastructure adaptation to climate change. But the essential policy framework (Outcome 1) and acceptance of the project outputs by government were not achieved at the project termination date (Nov. 30, 2016). This shortcoming, associated with the project design and implementation arrangements rather than the efforts of the project team, is expected to be a focus of the proposed project extension, along with completion of the risk assessment in Bac Kan province. The specific reasons for the Moderately Satisfactory rating are further summarized below.</i>
Sec 5.1 p. 34 Bui Viet Hien, UNDP	But this handover process was more onerous than anticipated, especially given the late start-up of the project and the lack of available time to complete all the necessary tasks.	Please consider my comments/clarification above. Practically, we need MARD-APMB to step up in working with UNDP on final dissemination and several policy dialogues with donors and MARD during the extensions. It would be useful if TE team provide some concrete suggestion for handover other than what I explained below.	No changes made to the draft text. The 'handover process' should be sorted out by government through a results-based workplan within the project extension period.
Sec 3.1.1 James Ramsay ICEM	Government staff were engaged in the project implementation in collaboration with contractors/consultants , but the critical task of generating support for and developing a process to revise the standards and cost norms was not identified until the final few months of the project.	NO: THE ENTIRE ADB TA PROCESS WAS DESIGNED TO GENERATE GOVERNMENT INTEREST IN AND SUPPORT FOR BIOENGINEERING AS A PREREQUISITE FOR EMBARKING ON THE ESSENTIAL NEXT STEP OF DEVELOPMENT OF STANDARDS AND NORMS	Added to the end of the paragraph: <i>The ADB TA component under Outcome 3 was not part of the expected development of the Outcome 1 policy framework or any leveraging of adaptation measures in investment programmes during the project period.</i>
Sec 3.1.1 James Ramsay ICEM	Availability of experts – The project had difficulties recruiting CPMU staff and technical consultants because climate change	THE FEE RATES ON OFFER MAY HAVE HAD SOMETHING TO DO WITH THIS!	No changes made to the draft text.

	is still a new theme in Vietnam. Some procurement bids were advertised many times, but CPMU could not find suitable consultants.		
Sec 3.2.3 James Ramsay ICEM	The project provided adequate and timely quarterly and annual reports, with limitations related to the quality of the indicators (see Section 3.1.8) and the main focus on the UNDP component.	THE ADB COMPONENT PROVIDED HALF-YEARLY PROGRESS REPORTS.	Text added as suggested.
Sec 3.3.4 James Ramsay ICEM		Minor edits suggested	Text revised as suggested
Sec 3.3.4 James Ramsay ICEM	Two minor observations were: the one check dam at Thai Nguyen may be too weak to withstand storm flows, and the riverside armoring/plantation at Thom Mon involving 100m of bank stabilization seems to be accelerating erosion on the opposite bank	(PRESUMABLY THIS IS THE LIVE MINI-CHECK DAM IN THE ROADSIDE DRAIN. ITS PURPOSE IS TO SLOW DOWN STORM FLOWS AND IT WILL STRENGTHEN OVER TIME AS THE LIVE POLES TAKE ROOT AND GROW) (THE EROSION IS LOCATED DOWNSTREAM OF THE DEMONSTRATION SITE, NOT OPPOSITE IT; THE BANK OPPOSITE THE DEMONSTRATION IS STABLE; THE EROSION DOWNSTREAM WAS ALREADY OCCURRING BEFORE THE DEMONSTRATION AND IS OPPOSITE A SRIDP EMBANKMENT).	One check dam on this section of the stream may not be enough given the gradient. The land being farmed opposite the project embankment work was observed with active sloughing occurring during flood flows in November.
Annex 9 Training James Ramsay ICEM		Data on ADB trainings provided	Data inserted
Nguyen Gia Vuong Project Technical Advisor		Minor edits suggested	Changes made
General comment	In the report, the Terminal Evaluation Team has carried out an overall assessment of the achieved result of the project implementation. Most of the outcomes according to the		It is appreciated that the project results are partly dependent on the mechanisms

<p>Hà Hoàng Thu</p> <p>Deputy Project Director CPMU, APMB</p>	<p>monitoring and evaluation framework of the project have been completed although there were some delays in the early stages. However, a lot of evaluation criteria / evidence in the project logframe are beyond the project due to mechanisms and internal processes of ministries, various provinces so the project can not work out in comparison with the project document. Some objectives have not been accomplished due to the objectivity such as inappropriate project evaluation indicators, the application of the project deliverables that depends on the direction of the central government, the coordination between UNDP and ADB components due to the difference in funds management. Within the scope of the project, these above-mentioned issues can not be adjusted in the implementation process.</p> <p>The feasibility in the context of Vietnam and the Northern mountain provinces was scrutinized and agreed with CPMU / UNDP on the adjustment of the assessment indicators in monitoring and evaluation framework by the Mid-term Evaluation Team. CPMU supposes that with reference to the criteria and recommendations of the mid-term evaluation report, CPMU has basically fulfilled the criteria. The current rating falls into low and medium categories, which does not properly assess the achieved results of the project. Thus, as the project manager, APMB suggest that the Consultant adjust the rating.</p> <p>Based on the findings of the Consultant, unachieved results, and difficulties, in your recommendations, the Evaluation Team needs to distinguish: (i) the role of CPMU, UNDP, ADB in the operation of the project extension (ii) Detailed recommendations about the responsibility of the donors GEF, UNDP, ADB, the Government for the projects in the future in the Project Logframe, M & E framework, mechanisms for coordination made between the stakeholders, Government's mechanisms for the application of project deliverables.</p> <p>These are CPMU's opinions about the evaluation report of Terminal Evaluation team. It is suggested that the team review and make appropriate adjustments.</p>	<p>and internal processes of ministries and provinces, and other factors beyond the control of the CPMU. Significant results have been achieved but the policy development and the work in Bac Kan have yet to be completed so it is difficult to justify a rating beyond 'Moderately Satisfactory'. The slow start caused to project to run out of time to complete the activities despite the exceptional effort of the CPMU/APMB team.</p>	
<p>David Salter</p> <p>ADB</p> <p>Sr. Natural Resources and Agriculture Specialist</p>	<p>Prepared for: UNDP Viet Nam</p>	<p>...and the Asian Development Bank</p>	<p>We are not certain whether the report conforms to ADB evaluation standards and procedures since it was prepared as per UNDP/GEF guidelines under contract to UNDP. Therefore, no change made.</p>
<p>Exec Summ</p> <p>David Salter</p> <p>ADB</p>	<p>The investment case for promoting these methods in the ADB loan programmes or future investments has yet to be articulated.</p>	<p>what does this mean?</p>	<p>Re-worded as follows: <i>The investment case for climate risk assessment and cost-effective bioengineering methods needs to be more fully presented and advocated to decision makers including MoF.</i></p>
<p>Exec Summ</p> <p>David Salter</p>	<p>The site demonstrations have not had any apparent effect on the larger investment programmes for</p>	<p>It is too early to determine if the site demonstrations will have effect on the larger</p>	<p>Re-worded as suggested.</p>

ADB	roads or stream embankments due to institutional barriers.	investment programmes for roads or stream embankments.	
Exec Summ David Salter ADB	The lack of substantive influence on the current infrastructure investment programmes and practices also limited the potential for impact.	how is it possible to have impact at demonstration stage ???	The project promised to develop a new framework for rural infrastructure decision making and, toward this end, delivered a set of technical analysis and methods, demonstration and capacity building activities. These are important results to build upon, yet the institutional changes needed for potential impact have not yet been achieved. Realistically, the current prospects for sustaining momentum without GEF funding may be limited depending upon UNDP and ADB follow-up action.

ANNEX 11: EVALUATION REPORT CLEARANCE FORM

(to be completed by CO and UNDP GEF Technical Adviser based in the region and included in the final document)

<p>Evaluation Report Reviewed and Cleared by UNDP Country Office Name: _____ Signature: _____ Date: _____</p> <p>UNDP GEF RTA Name: _____ Signature: _____ Date: _____</p>
--