

Environmental Monitoring Report

PUBLIC

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September 2024

Nepal: Nuts and Fruits in Hilly Areas Project

Prepared by Ministry of Agriculture and Livestock Development for the Asian Development Bank (ADB).

CURRENCY EQUIVALENTS

(as of 13 September 2024)

Currency unit	–	Nepalese Rupees (NRs)
NRs1.00	=	\$ 0.0075
\$1.00	=	NRs134.05

ABBREVIATIONS

ADB	–	Asian Development Bank
CGFMC	–	Credit Guarantee Fund Management Committee
CGMC	–	Competitive Grant Management Committee
CPMU	–	Central Project Management Unit
DCGF	–	Deposit Credit Guarantee Fund
DG	–	Director General
DMF	–	Design and Monitoring Framework
DoA	–	Department of Agriculture
DoAD	–	Directorate of Agriculture Development
EMP	–	Environmental Management Plan
EMoP	–	Environmental Monitoring Plan
EMR	–	Environmental Monitoring Report
GAFSP	–	Global Agriculture and Food Security Program
GESI	–	Gender Equality and Social Inclusion
GESI-AP	–	Gender and Social Inclusion Action Plan
IA	–	Implementing Agency
LLCC	–	Local Level Coordination Committee
MoLMAC	–	Ministry of Land Management, Agriculture and Cooperatives (Provincial)
MoALD	–	Ministry of Agriculture and Livestock Development (Federal)
MoALD	–	Ministry of Agriculture and Livestock Development (Provincial)
MoALM	–	Ministry of Agriculture and Land Management
MoIACS	–	Ministry of Industry, Agriculture and Cooperatives
NAFHA	–	Nuts and Fruit in Hilly Areas Project
NARC	–	Nepal Agricultural Research Council
NCFD	–	National Center for Fruit Development
PFI	–	Partner Financial Institutions
PIU	–	Project Implementation Unit
PoP	–	Package of Practices
PPSC	–	Provincial Project Steering Committee
PSC	–	Project Steering Committee
SMC	–	Subsidy Management Committee
SME	–	Small and Micro Enterprise
SMR	–	Social Monitoring Report
SPS	–	ADB Safeguard Policy Statement (2009)
TA	–	Technical Assistance
TASF	–	Technical Assistance Special Fund
ToR	–	Terms of References

{WEIGHTS AND MEASURES}

ha (Hectare) – 1 hectare is equivalent to 10000 m² area
One hectare = 19.65 ropani

NOTES

- (i) The fiscal year (FY) of the Government of Nepal and its agencies ends on 15 July. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY 2080/81 ends on 15 July 2024.
- (ii) In this report, "\$" refers to US dollars.

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1. INTRODUCTION

1.1 Project Description and Components

The government of Nepal is implementing the Nuts and Fruits in Hilly Areas (NAFHA) Project with assistance of a US\$60 million loan and US\$10 million grant from the Asian Development Bank (ADB) and US\$9 million grant from the Global Agriculture and Food Security Program (GAFSP). The project will increase agricultural income of approximately 40,000 beneficiary farm households in 100 municipalities in hilly areas of five provinces – Koshi, Bagmati, Gandaki, Karnali and Sudurpashchim. This will be achieved through (i) the development of approximately 10,000 hectares (ha) of fruit and nut orchard, value-addition to nuts and fruits produced by 30,000 households, and institutional capacity building for nursery and horticulture sector management; and (ii) vegetable and other nutritious crop production in 1,000 ha and its marketing by 10,000 smallholder households who are not capable of investing in fruit and nut orchard development in the project provinces.

The project is aligned with the following impacts: (i) livelihoods of rural households improved; and (ii) resilience of farmers to climate change improved. The project will have the following outcome: beneficiary farmers' agricultural income from climate resilient horticulture farming increased. This will be achieved through improved nursery management, enhanced production and productivity in orchards, enhanced value addition and commercialization of fruits and nuts. The project will also support smallholders in the same project areas, who would not have been able to invest in commercial fruit and nut farming, to generate income through vegetable and other crop farming.

The project will have the following outputs¹:

Output 1: Institutional capacity for nursery and horticulture sector management improved. This output will ensure a sufficient supply of quality planting materials of fruit and nut crops in Nepal. At the national level, the project will (i) prepare nursery standards, regulations and an inspection system; (ii) upgrade horticulture station and/or center facilities for testing, cleaning and maintenance of planting materials, and nursery quality control; (iii) train horticulture station/center staff, and organize knowledge exchange programs and workshops to meet internationally accepted sanitary and phytosanitary standards; (iv) upgrade private nurseries to ensure healthy and quality material production, and transfer genetic technologies to private nurseries (scheme 6);² (v) commission research on more climate resilient and adaptable varieties of fruits and nuts; (vi) develop a nursery certification scheme and roll it out with volunteer private nurseries; and (vii) train and certify cooperatives

¹Under the NAFHA project, there are six schemes that will require a review and approval of applications by appropriate committees (see Table 3 Project implementation related committees) of which operational procedures are set by the project. These six schemes are: (i) Scheme 1: credit guarantee fund scheme; (ii) Scheme 2: partial subsidies (grants) for farmers and cooperatives; (iii) Scheme 3: matching grants for cooperatives; (iv) Scheme 4: matching grants for agro-enterprises; and (v) Scheme 5: matching grants for local-level value chain infrastructure; and (vi) Scheme 6: matching grants for private nursery upgrading.

²Under the NAFHA project, there are six schemes that will require a review and approval of applications by appropriate committees (see Table 3 Project implementation related committees) of which operational procedures are set by the project. These six schemes are: (i) Scheme 1: credit guarantee fund scheme; (ii) Scheme 2: partial subsidies (grants) for farmers and cooperatives; (iii) Scheme 3: matching grants for cooperatives; (iv) Scheme 4: matching grants for agro-enterprises; and (v) Scheme 5: matching grants for local-level value chain infrastructure; and (vi) Scheme 6: matching grants for private nursery upgrading.

and private input suppliers which service project clusters. At the provincial level, the project will support: (i) development of interactive crop suitability maps at crop variety level through integration of climate, soil, and landscape information; and (ii) land classification and zoning for orchard development. Output 1 will be implemented by Nepal Agricultural Research Council (NARC), National Center for Fruit Development (NCFD) and provincial Directorate of Agriculture Development (DoAD) in each of five provincial agricultural ministries

Output 2: Production and productivity of project farmers increased. This output will develop approximately 10,000 ha of new orchards for almond, apple, avocado, citrus (lime, mandarin and sweet orange), kiwi, macadamia, pecan and walnut production, and enhance productivity through (i) preparation of the packages of practice incorporating climate analysis, soil management, variety recommendation and crop husbandry, drip irrigation and management, and overall orchard management including Good Agricultural Practices, integrated pest management, harvest techniques and storage;³ (ii) training all the beneficiary farmers in the packages of practice through (a) implementing agencies and farmer group facilitators, (b) private technical service and input providers, (c) farmer-to-farmer extension program, identifying lead farmers and training them to demonstrate climate change adaptation and best practices, and (d) digital technology based farm advisory system development and promotion.

The project will also provide financial support through (i) partial grants for the development of approximately 10,000 ha of new orchards and drip irrigation system (scheme 2);⁴ (ii) providing grant incentives to farmers based on plant survival rate; (iii) assessing and verifying carbon sequestration benefits from orchards, and exploring carbon financing options; and (iv) supporting beneficiary farmers' loan access by establishing and operationalizing a guarantee fund scheme (scheme 1) for smallholder horticulture farmers and rural agribusinesses, leveraging: (a) the full up-front investment loans, including working capital, from participating banks and financial institutions to farmers, farmer groups, cooperatives and agro-enterprises up to 1 year; and (b) the remaining loan of farmers, farmer groups and cooperatives up to 5 years.

Smallholders farmers with less than 4 ropani (0.2 ha) who are unable to invest in commercial fruit and nut orchard development under the project will be supported for irrigated off-season vegetables and wet season nutritious food crop production. Approximately 10,000 farm households will be eligible for this category. The GAFSP approved grants to finance the following activities: (i) vegetable grower identification and their capacity building through farmer group formation; (ii) extension of drip irrigation and rural financing support for vegetable and other crop production in 1,000 ha (part of scheme 2); and (iii) partial grants for the establishment of vegetable value-addition equipment and infrastructure at three different levels – cooperative (scheme 3), agribusiness through public-private partnership (scheme 4) and local levels (scheme 5). The World Food Programme will provide parallel financing of

³Good Agricultural Practices (GAP) are a set of standards of practices that address environmental, economic and social sustainability for on-farm processes, and result in safe and quality food and non-food agricultural products. Compliance with GAP is verified through a certification process carried out by the governmental sector or by private agencies.

⁴ The draft Business Promotion Act which was being reviewed by MOALD in August 2021 indicates that the maximum ceiling of subsidies for horticultural orchard development is 50%. The project aligns the subsidy level to this draft Act as requested by MOALD and sets the subsidy ceiling at 50% for farmers, farmer groups and cooperatives, and 40% for agro-entrepreneurs. Some provincial governments have a scheme with a higher subsidy level than 50% and if MOLMACs decide to follow their higher subsidy scheme, the difference will be financed by the provincial government.

grants from GAFSP for establishing and operating farmer nutrition schools to access and utilize food for improved dietary diversity. Output 2 will be implemented by NCFD and provincial DOAD in each of five provincial agricultural ministries.

Output 3. Value addition to hilly area horticulture produce enhanced. The output will (i) promote agriculture/horticulture cooperatives to aggregate fruits, nuts and other crop produce, better manage quality of horticultural products and improve profits of smallholder farmers; (ii) strengthen those associations and cooperatives that are willing to invest in value addition activities through developing training programs and conducting training of cooperatives in post-harvest management, food safety control system such as Hazard Analysis Critical Control Point, financial management, business, marketing and entrepreneurship, while promoting female leadership; (iii) provide matching grants to support cooperatives' investment in value addition equipment for crop washing, sorting, grading, cooling, processing, packaging, and quality control (scheme 3); (iv) incentivize agribusinesses and service providers that collaborate with project beneficiaries by providing matching grants for improving, *inter alia*, traceability systems, certification systems, internet-based marketing, organic production and cold chain linkage (scheme 4); and (v) develop value-addition infrastructure such as commodity storage, collection center and orchard fencing that provide public good benefits by co-financing investments from provincial governments and local-level (scheme 5). Output 3 will be implemented by NCFD and provincial DOAD in each of five provincial agricultural ministries.

1.2 Discussion on the Location of the Project Components

The NAFHA project will finance the upgrading of 12 public horticulture stations/centers under NARC, Provincial governments as well as NCFD as shown in Figure 1. The main objective of this activity is to ensure that verified quality planting materials are provided to project farmers. The project is expected to contribute in long-term capacity building of these horticulture stations/centers that can serve broader areas beyond the project's targeted crops.

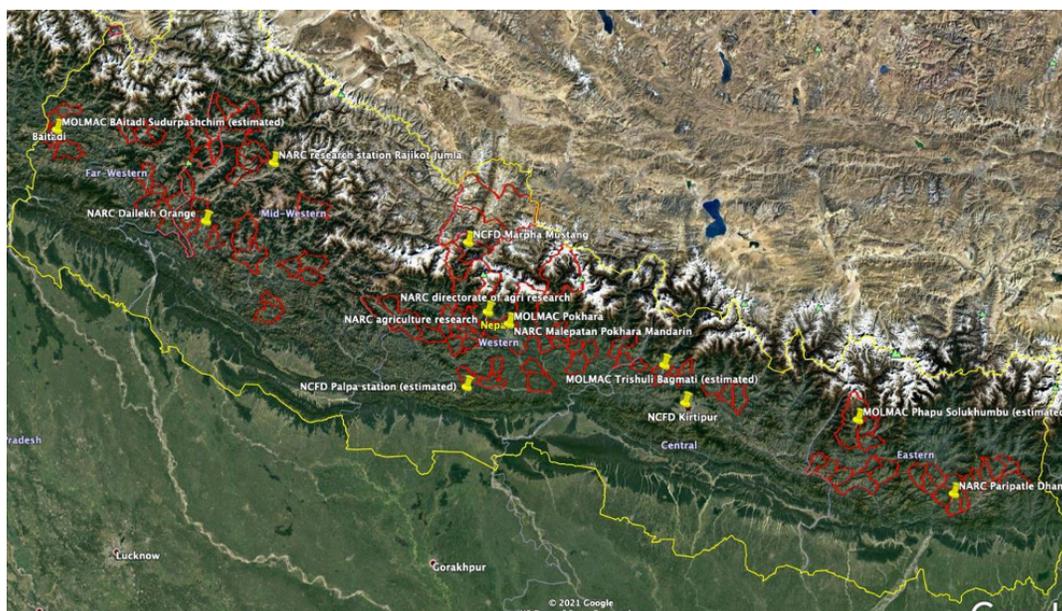


Figure 1: Map of Nepal with horticulture centers/stations planned to be upgraded under NAFHA Project

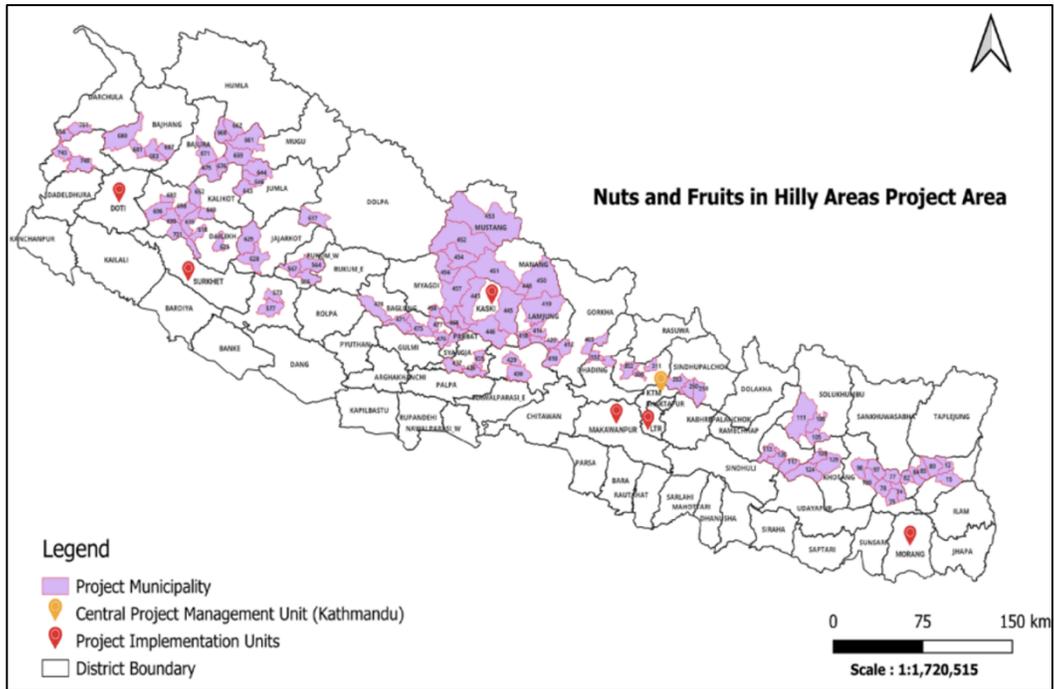


Figure 2: Map showing the target locations of orchards establishment

The project supports production of the following key crops and horticulture station/center located in each target province as specified in Table 1:

Table 1: Province wise project targeted fruit crops, its area and station/center to be supported by the project

Province	Estimated project-supported orchards	Horticulture station/center to be supported by the project⁴
Koshi	Apple 50ha, Orange 900 ha, Lime 500 ha, Avocado 300ha, Kiwi 400ha and Walnut 50ha	MoLMAC, Phaplu Solukhumbu and NARC, Paripatle Dhankuta
Bagmati	Orange 300ha, Lime 300ha, Avocado 150ha, Macadamia 300ha and Walnut 100ha	MoLMAC, Trishuli Bagmati and NCFD Kirtipur
Gandaki	Apple 100ha, Orange 800ha, Lime 750ha, Avocado 150ha, Kiwi 150ha, Walnut 250ha and Macadamia 250ha	NCFD Marpha Mustang NARC Directorate of agri research, Lumle; NARC Malepatan Pokhara; MOLMAC Pokhara; NCFD Palpa station
Karnali	Apple 1,450ha, Orange 350ha, Walnut 600ha, Pecan 100ha and Almond 100ha	NARC research station Rajikot Jumla and NARC Dailekh Orange
Sudurpashchim	Apple 400ha, Orange 250ha, Lime 100ha, Walnut 600ha, Pecan 100ha and Almond 100ha	MoLMAC Baitadi

The project will support the development of up to 10,000 ha of orchards across 5 provinces (Koshi, Bagmati, Gandaki, Karnali and Sudurpashchim) and in 100 municipalities within those provinces. Orchard crops that will be eligible for support include almond, apple, avocado, citrus (lime, mandarin and sweet orange), kiwi, macadamia, pecan and walnut. Farmers in project municipality will be able to choose amongst the 4 most suitable of these crops for their municipality. The list of participating municipalities and the eligible crops within the municipality will be publicly disclosed on the project website and project communication material.

During the reporting period, for the establishment of project website and management information system (MIS) with sapling tracking system, CPMU has submitted the terms of reference (ToR) and cost estimate along with request for quotation (RFQ) document for ADB review. ADB review suggested to use non consulting package procurement document instead of RFQ for goods document. Therefore, preparation of the document for non-consulting procurement is ongoing and procurement will be done by Q2 2024. Project website development is integrated with the package of Project MIS and Sapling Tracking system as Package G01 L in procurement plan. So that project website development can not be proceed separately. Due to this reason Project Website development was delayed in implementation and not in operation during reporting period. Besides that, the Implementation Review Mission (from 31st October to 10th November 2023) agreed to reschedule the time of implementation and change the package under non consulting service. So the project is waiting for revision in Procurement Plan along with aide memoir. In the meantime, the project documents (PAM, financial agreements and other relevant

documents) have been uploaded to NCFD's website (<https://ncfd.gov.np/>) with "NAFHA" sub-heading for public access.

1.3 Purpose of the Environmental Monitoring Report (EMR)

The project is *categorized as B* for environment based on the due diligence and environmental assessment. The project has prepared an Initial Environmental Examination (IEE) for the project-financed components such as (i) orchard and vegetable areas development, (ii) drip irrigation development, (iii) improvement of horticulture center facilities and (iv) private nursery upgrading and interventions under the matching grant. Environmental management plan (EMP) for each component are prepared in the IEE.⁵ These EMPs outline measures to mitigate all anticipated environmental impacts during pre-construction, construction, and operation stages such as localized soil disturbance and moderate workers' health and safety risks. The EMP will be included in bidding documents and contract agreements of contractors, and guide beneficiaries for orchard development and nursery improvements. With support from consultants, PIUs at the provincial level will monitor and document the EMP implementation and report to ADB on semi-annual basis. During project implementation, beneficial environmental impacts are expected at the target orchard areas such as improvement of land-cover, creation of carbon sinks and soil-water conservation.

The project aims to support existing horticulture research centers/stations by upgrading or developing facilities to produce quality fruit and nut planting materials to (i) align with the international standards, (ii) commission research on climate resilient fruits and nuts varieties, and (iii) improve genetic technologies. There are potential minor occupational health and safety risks due to the small works under Output 1. Adequate environment safeguard measures will be included in the tender documents, which the contractor will comply with to mitigate potential environmental health and safety risks and impacts.

The EMRs, covering a 6-month period, have to be prepared and submitted semi-annually to ADB. The purpose of EMR is to:

- document the progress on the EMP implementation for each of the project components during both construction and operation stages;
- report environment safeguards activities starting from loan effectiveness until the end of the project;
- ensure that project investments comply with applicable national laws and regulations;
- monitor the recommendations in the IEE and measures in the EMP for environmental safeguard activities;
- document any grievances from affected people and resolutions thereof;
- document any public consultations during reporting period; and
- monitor environmental management activities in implementation

⁵ <https://www.adb.org/projects/documents/nep-48218-006-iee>

2. INSTITUTIONAL ARRANGEMENT

2.1 Description of the Institutional Arrangement/structure

The MOALD is the executing agency of the project. The executing agency is responsible for overall coordination, implementation, and monitoring of the project activity including safeguard compliance. There are seven implementing agencies in the project. The CPMU has overall responsibility for social safeguards by monitoring and ensuring compliance with ADB's SPS 2009, government requirements, and other related requirements as specified in project documents particularly safeguards monitoring reports and tender document;; address safeguards issues from affected people following the grievance redress mechanisms established in the project; consolidate project's safeguard monitoring results updated by PIUs, and provide consolidated input to the project progress and environmental monitoring reports; and submit semi-annual environmental monitoring reports to ADB.

The project has applied a systematic monitoring mechanism for environmental safeguard. Internal monitoring has been applied through CPMU and PIUs supported by various consulting agencies (PISC and FGCF). A environmental safeguard focal officer is designated in CPMU and in each PIUs.

Project has to be supported by the Environment Safeguard Specialist procured under the Project Implementation Support Consultant through CS06 package. Beside that Each PIU will also be supported by Environment Specialist one to conduct safeguard impact screening, preparing due diligence report as required.

Till the reporting period, technical proposal evaluation for the procurement of Project Implementation Support Consultant (PISC) completed. Submission 2 has been approved and received NoL for submission 2 from ADB on 8 July 2024. The public opening of financial proposal will scheduled shortly. It is expected that, the procurement of CS06 will be concluded by September 2024. The reason behind the delayed in procurement was due to delay in approval of EoI shortlisting process.. Due to the delay on procurement of project consultant, the project has assigned the senior agri-economist, Santosh Raj Paudel for environmental monitoring report preparation.

2.2 Staff Concerned with Environmental Safeguard

Staff designated as environmental safeguard focal person by CPMU, provincial PIUs and NARC PIU is as shown in Table 2.

Table 2: Staff concerned with environmental safeguards.

Name	Designation/ Office	Environmental Safeguards Role/s	Contact Number/ email address
Ganesh Kumar KC	Agriculture officer, CPMU	<ul style="list-style-type: none">Helps to monitor the utilization of recommendations in the IEE and measures in the EMP for environmental safeguard activities	9858052370 gkc175@gmail.com

Name	Designation/ Office	Environmental Safeguards Role/s	Contact Number/ email address
		<ul style="list-style-type: none"> Coordinate to report environment safeguards activities 	
PIUs			
Suprabha Pandey	Technical Officer, NARC	In coordination with CPMU and Project Director, ensure implementation and monitoring of the EMP, and prepare EMR of the project in coordination with CPMU.	9841018322 suprabhapandey52@gmail.com
Ganesh Kumar Rai	Agriculture Officer, PIU Koshi		9842070614 raiganesh2076@gmail.com
Modanath Timsina	Sub-Engineer, PIU Bagmati		9852041572 modanath2043@gmail.com
Binod Sharma	Agriculture Officer, PIU Gandaki		98 56088253
Ramesh Khadka	Agriculture Officer, PIU Karnali		9857623693 Khadkar198@gmail.com
Janak Bohara	Agriculture Officer, PIU Sudurpaschim		9868461922 boharajanak50@gmail.com
Consultants	Not assigned yet. The consultant hiring process under CS06 (Project Implementation Support Consultant) package which includes Environmental Safeguard Specialist is ongoing. Till the reporting period, technical proposal evaluation for the procurement of (PISC) completed. Submission 2 has been approved and received no objection letter for submission 2 from ADB on 8 July 2024. The public opening of financial proposal will scheduled shortly. It is expected that, the procurement of CS06 will be concluded by September 2024. The reason behind the delayed in procurement was due to delay in approval of Eol shortlisting process.		

3. SUB-PROJECT/PACKAGE DESCRIPTIONS

The project is aligned with the following impacts: (i) livelihoods of rural households improved; and (ii) resilience of farmers to climate change improved⁶. The project will have the following outcome: beneficiary farmers' agricultural income from climate resilience farming of fruits and nuts increased. This will be achieved through improved nursery management, enhanced production and productivity in orchards, and enhanced value addition in fruits and nuts. The NAFHA project implementing areas are stated in Table 3. Now the project implementation started in Batch-1 6 local level of project provinces viz-a-viz Dhankuta from Koshi, Gajuri from Bagmati, Pokhara and Jaljala from Gandaki, Narayan from Karnali and, Dasharath from Sudurpaschim province.

⁶ Government of Nepal. Ministry of Agricultural Development. 2016. [Agricultural Development Strategy 2015 to 2035](#). Kathmandu.

Table 3: NAFHA Project implementating areas

Districts	<ol style="list-style-type: none"> 1. <i>Koshi</i>: Panchthar, Terhathum, Dhankuta, Bhojpur, Khotang, Okhaldhunga and Solukhumbu 2. <i>Bagmati</i> : Sindhupalchok, Nuwakot and Dhading 3. <i>Gandaki</i>: Gorkha, Lamjung, Syangja, Tanahu, Kaski, Syangja, Parbat, Mustang, Myagdi and Baglung 4. <i>Karnali</i>: Rukum West, Salyan, Jajarkot, Dailekh, Kalikot, Jumla, Mugu, Humla and Dolpa 5. <i>Sudurpaschim</i>: Accham, Bajura, Baitadi, Bajhang and Darchula 		
Targeted Numbers of Municipalities per Provinces	Koshi	7 districts	22 municipalities
	Bagmati	3 districts	8 municipalities
	Gandaki	10 districts	34 municipalities
	Karnali	9 districts	20 municipalities
	Sudurpaschim	5 districts	16 municipalities
Targeted Area	Total target area (ha)		10,000 (for fruit orchard) and 1,000 (for vegetables and other crops)
	Average area per municipality (ha)		100
	Average area per municipality (ropani)		2,000
	Average households per municipality		300
	Average area per household (ropani)		6.7
Species wise proposed area in (Ha)	Apple		2,050
	Orange		2,600
	Lime		1,650
	Avocado		600
	Kiwi		550
	Walnut		1,600
	Macadamia		550
	Pecan		200
	Almond		200
	Vegetables and crops		1,000
Total		11,000	
No of Research Centers to be Upgraded	12		
Total Orchard Development Area	10,000 ha		
Total beneficial Households	30,000		

3.1 Upgrading of Horticulture Centers (under Output 1)

NAFHA Project aims to the upgrading of 12 public horticulture stations or centers of NCFD, Provinces and Nepal Agricultural Research Council (NARC). The main objective of upgrading the horticulture centers is to ensure the verified planting materials are provided to project farmers. The project is expected to contribute to long-term capacity building of these

horticulture stations/centers that can serve broader areas beyond the project's target orchards. During project implementation, upgrading of horticulture centers should comply with ADB Safeguard Policy Statement (SPS) 2009 requirements and relevant government policies.

For the execution of upgradation of horticulture centers, discussion with concerned horticulture centers/stations for the requirements was completed. Previously these activities were on hold for implementation until preparation of standard specification of high-tech structure as per the understanding with ADB to provide technical supports from ADB to design and cost estimates of the high-tech structures. Later on during Implementation Review Mission (held on 31 October to 22 November 2023), it was agreed to prepare design and cost estimates by concerned PIUs & CPMU, and ADB will review the design and cost estimates if necessary. Besides that, during Implementation Review Mission it was also agreed to reschedule the time of implementation and breaking of packages due the activities of civil work and nursery structure are in the same package in procurement plan. Based on that, revised procurement plan was received on 27 June 2024.

For CW01-AA package, CPMU requested ADB's no objection to the issuance of the bid documents for civil works on horticulture center upgrade under NCFD Marpha on 6 June, 2024 and NoL received on 11 July, 2024. For this package, advertisement will be published on September of Q3 2024. For other package, CPMU & concerning PIUs are preparing the design and cost estimates and planning to publish the advertisement by Q3 2024 with prior approval from ADB as specified in procurement plan. The land required for horticulture center/station rehabilitation and upgrade of existing service facilities will be confined within existing boundary of government premises. No additional land acquisition will be required for these activities. Due diligence report will be prepared and submitted for ADB approval before awarding the contract. Project has included the EMP and EMoP for the CW01-AA package for upgradation of horticulture centers as provisioned in Initial Environmental Examination (IEE) IEE report of the project and will ensure the incorporations of EMP and EMoP into the bidding documents of remaining CW packages too.

The project supports production of the following targeted fruit crops and horticulture station/center located in each target province as in Table 4.

Table 4. Salient features of the horticultural centers for upgrading under the proposed NEP: NAFHA Project.

Province	Targeted project-supported orchards	Horticulture station/center to be supported by the project ⁷
Koshi	Apple 50ha Orange 900 ha Lime 500 ha Avocado 300ha Kiwi 400ha Walnut 50ha	MolACS, Koshi, Phaplu, Solukhumbu NARC Paripatle Dhankuta
Bagmati	Orange 300ha Lime 300ha Avocado 150ha	MoALD*, Bagmati Trishuli Bagmati NCFD Kirtipur

⁷ Temperate fruit and nut stations for almond, apple, kiwi, pecan, walnut; and Tropical and subtropical fruit and nut crop centers for avocado, citrus, macadamia

Province	Targeted project-supported orchards	Horticulture station/center to be supported by the project ⁷
	Macadamia 300ha Walnut 100ha	
Gandaki	Apple 100ha Orange 800ha Lime 750ha Avocado 150ha Kiwi 150ha Walnut 250ha Macadamia 250ha	NCFD Marpha Mustang NARC Directorate of Agriculture Research NARC Malepatan Pokhara MoALM, Gandaki, Pokhara NCFD Palpa Station
Karnali	Apple 1,450ha Orange 350ha Walnut 600ha Pecan 100ha Almond 100ha	NARC research station Rajikot Jumla NARC Dailekh Orange
Sudurpashchim	Apple 400ha Orange 250ha Lime 100ha Walnut 600ha Pecan 100ha Almond 100ha	MoLMAC Baitadi

The type of horticulture station/center upgrade by the project will include to the following component:

- High tech nursery/screen house;
- Shade house;
- Tissue culture facilities;
- Irrigation/rainwater harvesting/drainage;
- Laboratory including pathogen testing, tissue culture;
- Office, training place and security guard house;
- Polymerase Chain Reaction analysis machine;
- Separate mother plant block establishment;
- Mother stock screen house
- 4WD Vehicle;
- Nut cracking machinery for research

3.2 Private Nursery Participation in Nursery Quality Initiative (Under Output 1)

During the reporting period, the project received concurrence on the Scheme 6⁸ Operational Guidelines (Private Nursery Upgrading Guideline, 2024) from the Ministry of Finance, and it is expected to be approved by the MoALD by September 2024. Once the guidelines are approved, CPMU will call for applications for 15 nurseries in 2024 as the first batch, and 25 nurseries will be supported in 2025 as the second batch.

As part of the activities related to the establishment of nursery standards, regulations, and inspection systems, CPMU has prepared a draft of the *Technical Guidance on the Production*

⁸Scheme 6: matching grants for private nursery upgrading.

and Management of Fruit Plants for project nurseries and other nurseries (on a voluntary basis). This draft has been submitted to MoALD for approval and is expected to be approved by September 2024.

Competitively selected private nurseries will be eligible to participate in the project through a matching grant. These nurseries can receive investments aimed at upgrading the quality and quantity of seedling production. The project may finance activities such as the purchase of mother plants and disease-free rootstock, the installation of insect-proof shade houses, drip irrigation systems, and the expansion and upgrading of seedling growth areas. The project's contribution will cover up to 50% of the investment cost, with a maximum contribution of \$25,000 per nursery.

3.3 Enhancing Access to Rural Finance (under Output 2)

On the average, the estimate of establishing a 1-hectare orchard under the project will require a \$4,000 investment, and approximately 10% of that amount for annual operating expenses. Although there is a project subsidy of 50% of the investment cost, orchard beneficiaries will still require loans for the full investment for at least 6 months to 1 year.

The project will support the design of an agri-financing mechanism that will ensure flow of both medium to long term capital for investment purposes as well as working capital financing for smallholder farmers, SMEs and other actors involved in the key agricultural value chains. The design will acknowledge the potential roles for commercial banks as well as smaller microfinance institutions such as local cooperatives and wholesale lenders. The project will set-up a compensating balance fund to cover qualified loans that financial institutions will disburse to project beneficiary farmer groups/cooperatives/agro-enterprises. The subsidy will cover establishing improved orchards and developing drip and non-drip irrigation systems.

For enhancing the access of project beneficiaries (Farmers, farmers group, cooperatives, firm/company) to rural finance, the project has Credit Guarantee Fund (Scheme 1). For the implementation of the credit guarantee fund (Scheme 1), ADB consultant is preparing the draft of the operational guidelines for implementation. For the implementation of the credit guarantee fund (Scheme 1), as agreed during IRM (held on 31st October to 10th November 2023) as discussed with MoF, ADB consultant is working on operational modality and draft MoU as per the project requirement to implement in coordination with Deposit Credit Guarantee Fund (DCGF). During the reporting period, discussion meeting was held at MoF on CGF product paper prepared by the ADB consultant and based on that discussion ADB consultant and CPMU is working on the draft guideline. After finalization of the draft, meeting will be arranged to discuss with DCGF on the project requirement, operational modality and draft MoU. Later on, it will be discussed in upcoming review mission to materialize the implementation.

3.4 Establishing Improved Orchards (under Output 2)

The proposed project will support the development of up to 10,000 ha of orchards, and vegetable and other nutritious crop production in 1,000 ha across 100 municipalities within 5 provinces (Koshi, Bagmati, Gandaki, Karnali and Sudurpaschim). Orchard crops that will be eligible for support include almond, apple, avocado, citrus (lime, mandarin and sweet

orange), kiwi, macadamia, pecan and walnut. Farmers in any municipality will be able to choose amongst the 4 most suitable of these crops for their municipality.

All farm households in the selected 100 municipalities will be eligible to apply for a 50% subsidy support for orchard establishment. Small and medium enterprises will be eligible for 40% subsidy support. Selected beneficiaries will be required to establish the agreed orchard type and area before being eligible for the subsidy payment. Orchard areas developed by farmer groups will not be less than 20 ropani⁹ or greater than 500 ropani or the maximum subsidy payment of \$250,000, whichever is lower.

The project will assist eligible beneficiaries to apply to banks for orchard development financing repayable over a five-year period, which, if negotiated with Class A banks, will be available at the prevailing government interest rate subsidy. The loan will cover up to 80% of the orchard establishment cost, with beneficiaries contributing at least 20% in cash. The subsidy, upon release, will be used to repay an equivalent proportion of the loan.

For the establishment of fruits orchards and production of vegetables and other crops, Scheme 2 operational guidelines has been approved by MoALD on 21 April 2024 with concurrence from MoF. After approval of the operational guidelines of Scheme 2, EoI called for 6 project local level of Batch I to establish orchard and collected 128 applications from framers groups, co-operatives and agri-entrepreneurs for 207.15 hectares. Evaluation of application received were completed by Local Level Coordination Committee (LLCC) and Provincial Subsidy Management Committee (SMC). Out of which 61 application were selected for agreement contract and orchard establishment will be completed on Q3 2024. The details of Batch 1 local level (Table 5) and the targeted area for summer plantation of citrus fruits was as scheduled in Table 6. The details of application received is as state in Table 7 and Table 8. This Scheme 2 will also support the development of drip irrigation systems on targeted orchards.

During the reporting period, the project received concurrence on the Scheme 6 Operational Guidelines (Private Nursery Upgradation Guideline, 2024) from the MoF, which is expected to be approved by the Ministry of Agriculture and Livestock Development (MoALD) by August 2024. Once the guidelines are approved, CPMU will open applications for 15 nurseries in 2024 as the first batch, with 25 nurseries to be supported starting in 2025 as the second batch.

Orchard establishment (Scheme 2) and value-addition public or private infrastructure development (Schemes 3, 4, and 5) will take place on private (farmer-owned) or government land, without requiring any land acquisition or causing physical or economic displacement. The specific sites for orchard development and value-addition infrastructure are yet to be finalized, as they will be determined only after the competitive approval of matching grant proposals. These proposals will be approved only if the beneficiary or participating farmers can provide evidence that the proposed land is either owned or cultivated by them, or that they have a valid lease or user-rights agreement, and that the land is not claimed by others.

This scheme is being implemented through a call for Expressions of Interest from farmer groups, cooperatives, and private entrepreneurs, with selections based on proposals as outlined in the grant disbursement guidelines. This process does not require bid documents.

⁹ One hectare = 19.65 ropani

Due consideration is being given during the selection and implementation of sub-projects, in accordance with the ESPM of the project document.

Table 5. Batch-wise project local level for fruit orchard establishment

Province	Districts	Municipalities	Batch 1	Batch 2	Batch 3	Total
Province-1	7	22	1	12	9	22
Bagmati	3	8	1	7	0	8
Gandaki	10	34	2	13	19	34
Karnali	9	20	1	9	10	20
Sudurpaschim	5	16	1	7	8	16
	34	100	6	48	46	100

Table 6. Batch-1 summer plantation (June-September 2024) schedule for citrus fruit orchard establishment (area in ha)

Targeted Crop	Batch-1 Area for Citrus	1 st call (June/July 2024)	No of saplings	2 nd call (June/July 2025)	No of saplings	3 rd call (June/July 2026)	No of saplings
Lime	70	30	18750	20	12500	20	12500
Orange	160	70	28000	50	20000	40	16000

Table 7: Batch-1 application received and area demanded for citrus fruit orchard establishment

Local Levels	Target Area (ha)			No. of Application Received	Area Demanded (ha)		
	Acid Lime	Orange	Total		Acid Lime	Orange	Total
Dhankuta	25	40	65	7	4	4	8
Gajuri	30	30	60	27	28	2	30
Jaljala	15	60	75		7	38	45
Pokhara	50	30	80	46	27	13	40
Narayan	10	100	110	30	49.25	12.5	61.75
Dashrathchand		20	20	18		22.4	22.4
Total	130	280	410		115.25	91.9	207.15

Table 8: Details of Batch-1 applicants and selected beneficiaries.

Project Level	Local	Applications		Selected		Out of Selected Applicants			
		Received	Selected	Crop	Area (Ha)	Women	Male	Janajati	Dalit
Dhankuta		7	4	Mandarin	2	2	2	3	0
				Acid Lime	2				
Gajuri		27	15	Acid Lime	18.66	5	10	11	0

Pokhara and Jaljala	46	28	Mandarin	24.45	10	18	5	1
			Acid Lime	15.35				
Narayan	30	10	Mandarin	5	2	8	2	0
			Acid Lime	16				
Dashrathchand	18	4	Mandarin	5	1	3	0	0
Total	128	61		88.46	20	41	21	1

Pilot demonstration for drip irrigation will be implemented in Q3-Q4 of 2024 and Q1-Q2 of 2025. Pilot demonstration plot will be established in lead farmers orchard after selection of lead farmer, once the guideline for lead farmers mobilization will approved. Besides that, drip irrigation infrastructure will be installed in fruit orchard too under Scheme 2. Due consideration will be given to ensure social safeguard during and implementation.

3.5 Assessing and Verifying Carbon Sequestration (under Output 2)

The project will apply technical assistance resources to explore the development of a system for securing carbon credits from sustainable smallholder orchard production in Nepal. This work will include:

- studies on methodologies of carbon sequestration benefit measurement of project-supported fruit and nut trees;
- development of a measurement, reporting and verification (MRV) manual and the systematic application of those MRVs on pilot orchards;
- identification of private companies willing to investing in carbon neutrality and development of a model agreement; and
- preparation of the manual on the carbon credit utilization for participating farmer communities.

Till the reporting period, the system of assessing and verifying carbon sequestration benefits from orchards is not yet established. It will be started after the fruit orchard establishment during implementation of Scheme 2 but preparatory work will start after Q2 2025.

3.6 Developing Drip Irrigation Systems (under Output 2)

To support crop establishment and to sustain production, NEP: NAFHA Project will support the development of drip irrigation systems on target orchards. The rationale for drip irrigation is based on efficiency of water use, suitability for the topography, accuracy of application and ease of operation.

The drip system comprises five main elements:

- drippers and laterals
- submain
- main
- headworks
- header tank

For cropped areas of 5 ropani or less the drips and lateral will be replaced by hoses, as the irrigated area can readily be managed by manual watering. Both the submain and main are installed below ground level for system resilience, and the lateral with drips above ground along the tree rows. About 25% of participating farmers are expected to plant 4 ropani orchards without drip irrigation.

Pilot demonstration for drip irrigation will be implemented in Q3-Q4 of 2024 and Q1-Q2 of 2025. Pilot demonstration plot will be established in Lead Farmers orchard after selection of Lead farmer, once the guideline for Lead Farmers Mobilization will approved. Besides that, drip irrigation infrastructure will be installed in fruit orchard too under Scheme 2. Batch I call for 6 project local level to establish orchard was published and collected 128 application from framers group, cooperatives and agri-entrepreneurs for 207.17 hectare. Evaluation of application received were completed by Local Level Coordination Committee (LLCC) and Provincial Subsidy Management Committee (SMC). Out of which 61 application were selected for agreement contract and orchard establishment will be completed on Q3 2024.. Due consideration will be given to ensure social safeguard during and implementation.

Pilot plots will be established for the purposes of demonstrating the installation and operation and maintenance of the drip systems. These plots will serve as sites for capacity building of farmers prior to the roll out of the orchard development. Demonstration activities will be initiated by Q3 2024.

Though the implementation of these activities have not started yet. This activity is planned under Scheme 2 project is planning to start these activities in Batch 1 summer plantation in Q3 2024. There is a provisioning of Environmental Screening Check List (Appendix 1) in the draft guidelines and based on this environmental mitigation plan and activities will be developed and included in the sub-project.

3.7 Matching Grant Component (under Output 3)

To execute this component, during the reporting period project has received concurrence on the Scheme 6 Operational Guidelines (Private Nursery Upgradation Guideline, 2024) from MoF will approved from MoALD by September 2024. Once the guideline approved, CPMU will call the application for the 15 nurseries in 2024 as first batch and 25 nurseries will be supported onward 2025 as second batch. Orchard establishment (Scheme 2), value-addition public or private infrastructure development (Scheme 3, 4, 5) will be done on private (farmer's own) or government land with no acquisition nor physical or economic displacement. The specific site of orchard development and value addition infrastructure is yet to be finalized which will be confirmed only after approval of matching grant proposals on a competitive basis. The proposal will be approved only if the beneficiary/participating farmers shows evidence that the proposed land is either owned or cultivated by themselves or has lease or user right agreement and not claimed by others.

For remaining Schemes *i.e.* Improved cooperative value addition (Scheme 3), Public-private infrastructure (Scheme 4) and Strengthened local level infrastructure (Scheme 5) preparation of draft operational guidelines are ongoing with the target of implementation onward Q3 2025. Project components that entails civil works are stated in Table 10 with progress status till the reporting period.

The project will establish four competitive matching grant programs: (i) private nursery upgrading; (ii) improved cooperative value addition grant; (iii) public-private infrastructure grant; and (iv) strengthened local level infrastructure grant. Summary of the project components that will entail civil works with progress status are stated in Table 9.

Private nursery upgrading (Output 1): There will be up to 40 selected private nurseries (5 provincial level nurseries and 35 medium nurseries including laboratory facilities) eligible for matching grants for investments to upgrade the quality and quantity of seedling production. The matching grant will finance, *inter alia*, the purchase of mother plants and disease-free rootstock, the installation of insect proof shade houses, drip irrigation systems, the expansion and upgrading of seedling growth areas, etc. Matching grant financing of up to 50% of the investment cost would not exceed \$50,000 per nursery. To execute this component, the project has prepared and submitted the draft operational guidelines on private nursery upgrading (Scheme 6) to DoA for approval. The first batch will be 15 nurseries in 2024 and 25 nurseries will be supported in 2025.

Improved cooperative value addition: Cooperatives who will participate in the project-implemented cooperative development and capacity building program and have the interest to invest in nut and fruit marketing/value addition (e.g., harvesting handling equipment, primary washing, sorting, grading machinery, packaging equipment, short-term storage, marketing) could be eligible to compete for financing, which will finance up to 50% of approved investment cost. The project is working on the draft of the operational guidelines for the execution of this activity and planning to execute onward 2025.

Public-private infrastructure: Agribusinesses and service providers interested in collaborating with cooperatives in nut and fruit value addition and market development will be eligible to compete for financing for the matching grant. Investments can include "hardware" such as infrastructure and equipment as well as "software" such as traceability and certification systems, internet-based marketing, organic production, and other services. Areas of investment could include, *inter alia*: (i) innovative business, market and service linkages and market promotions activities; (ii) joint investments in and management of facilities and associated innovative contract or pricing mechanisms; (iii) technology for climate adapted productivity enhancement and value addition in the area of production, post-harvest handling, processing, packaging, transportation and marketing; (iv) aggregator models linking rural cooperatives to higher value urban markets including supermarkets; (v) joint investments in distribution and sales networks; or (vi) certification systems – organic certification, geographic indication, farm to fork traceability, etc. The project is working on the draft of the operational guidelines for the execution of this activity and planning to execute onward 2025.

Strengthened local level infrastructure: The project will support local-level applications for grants for market-linked infrastructure investments that provide public good benefits essential to targeted nut and fruit value chain engagement and/or climate change adaptation at the local level. Public good infrastructure investment sub-projects would be identified and prioritized through: (i) municipality infrastructure plans; (ii) municipal-based cooperative and farmer group development needs; and (iii) local and regional agribusiness development requirements. Investments could include, *inter alia*, public utility connection for project supported investments, commodity storage, market/collection centers, farmer group orchard fencing or collective irrigation water access investments. The project is working on the draft of the operational guidelines for the execution of this activity and planning to execute onward 2025.

The matching grant components will follow the recommendations in the IEE and EMP. Proposals under the matching grant having potential adverse environmental impacts will not be financed by the project's matching grant. The matching grant and subsidized orchard development components will:

- (ii) ensure that sub-project investments comply with the requirements of ADB SPS 2009 and applicable national laws and regulations;
- (iii) apply the prohibited investment activities list of ADB SPS 2009 to sub-projects financed by ADB;
- (iv) not finance sub-projects that are categorized as A for environment;
- (v) utilize recommendations in the IEE and measures in the EMP for environmental safeguard activities; and
- (vi) monitor environmental management activities during implementation.

Table 9. Summary of the Project components that will entail civil works.

Project component	Output	Remarks	With civil works? (yes or no)	Progress status	With EMP and EMoP? (yes or no)
Upgrading of Horticulture Centers	1	Improvement of operation and production of high-quality planting materials.	Yes	Procurement plan was agreed to revised during received on 27 June 2024. For CW01-AA package, CPMU requested ADB's no objection to issuance of the bid documents for civil works on horticulture center upgrade under NCFD Marpha on 6 June, 2024 and NoL received on 11 July, 2024. advertisement will be published on Q3 2024. For other package, CPMU & concerning PIUs are preparing the design and cost estimates and planning to publish the advertisement on Q4 2024 with prior approval from ADB as specified in procurement paln. The land required for horticulture center/station rehabilitation and upgrade of existing service facilities will be confined within existing boundary of government premises. No	Yes

Project component	Output	Remarks	With civil works? (yes or no)	Progress status	With EMP and EMoP? (yes or no)
				additional land acquisition will be required for these activities.	
Developing Drip Irrigation Systems	2	Water will be supplied to orchard and vegetable areas through drip irrigation	Yes	Component of developing drip irrigation systems was inbuilt in approved Scheme 2 operational guidelines for drip irrigation and will be implemented in Q3-Q4 of 2024 and Q1-Q2 of 2025. Besides that, pilot demonstration plot will be established in Lead Farmers' orchard after selection of Lead farmer, once the guideline for Lead Farmers Mobilization will approved. 2	Yes Beneficiaries of Scheme 2 will be implement this activity and executed as per provisioning in Operational guideline of Scheme 2.
Matching Grant Component	3	Project will support cooperatives, agri-enterprises and private nurseries	Yes	Matching grant component was inbuilt in Scheme 3, 4, 5, and 6 of the project. Concurrence from MoF on draft of Scheme 6 (Private nursery upgrading) guideline has been received and will be approved from MoALD by September 2024. . For remaining Scheme 3, 4, and 5 project is preparing the draft guidelines.	Yes But inclusion of EMP in bidding document will be ensure during implementation of this activity.

Construction Packages are concerned with the upgradation of horticulture station and/or center facilities for testing, cleaning and maintenance of planting materials, and nursery quality control (Table 10). For the execution of this packages discussion with concerned horticulture centers/research stations was completed. Holds these activities to implement till preparation of standard specification of high-tech structure as per the understanding with ADB.

Table 10. Summary of project packages

Package Number/Name	Construction Locations	Target Date of Contract Awarding	Target Date of the Start of the Works	Progress Status Up to June 2024
CW01-AA/ Horticulture center/station upgrade under NCFD (Marpha)	THDC, Marpha Mustang	2 December 2024	18 December 2024	CPMU requested ADB's no objection to the issuance of the bid documents for civil works on horticulture center upgrade under NCFD Marpha on 6 June, 2024 and NoL received on 11 July, 2024. For this package, advertisement will be published on September of Q3 2024. Project will ensure the inclusion of EMP and EMoP in the bid document
CW01-B/ NCFD high-tech nurseries	THDC, Marpha; CFDC Palpa and WTHDC Kirtipur	15 January 2025	5 March 2025	Designing and cost estimates preparation ongoing
CW02/Horticulture center/station upgrade–NARC Horticulture Research Station, Malepatan; and Directorate of Agriculture Research, Lumle, Gandaki	NARC Horticulture Research Station, Malepatan; and Directorate of Agriculture Research, Lumle, Gandaki	15 January 2025	#5 February 2025	Designing and cost estimates preparation by NARC PIU ongoing
CW03/Horticulture center/station upgrade - NARC Horticulture Research Station, Dailekh; and Horticulture Research Station, Rajikot,	NARC Horticulture Research Station, Dailekh; and Horticulture Research Station, Rajikot, Karnali	15 January 2025	5 February 2025	Designing and cost estimates preparation by NARC PIU ongoing
CW04/Horticulture center/station upgrade–NARC National Citrus Research Program, Paripatle, Dhankuta	NARC National Citrus Research Program, Paripatle, Dhankuta, Koshi	15 January 2025	1 5 February 2025	Designing and cost estimates preparation by NARC PIU ongoing

Package Number/Name	Construction Locations	Target Date of Contract Awarding	Target Date of the Start of the Works	Progress Status Up to June 2024
CW05-A/ Horticulture Center/station upgrade-Dry Fruit Development Center,Baitadi, Sudurpaschim	Dry Fruit Development Center, Baitadi, Sudurpashchim	15 January 2025	5 February 2025	Designing and cost estimates preparation ongoing
CW05-B/Horticulture Center/station upgrade (high tech stryctures and facilities) - Dry Fruit Development Center,Baitadi, Sudurpaschim	Dry Fruit Development Center, Baitadi, Sudurpashchim	15 March 2025	30 March 2025	
CW06/ Horticulture center/station upgrade–Horticulture Center, Phaplu, Solukhumbu, Koshi	Horticulture Center, Phaplu, Solukhumbu, Koshi	15 March 2025	30 March 2025	Designing and cost estimates preparation by Koshi PIU ongoing
CW07-A Horticulture center/station upgrade–Subtropical Horticulture Development Center, Trisuli, Nuwakot, Bagmati	Subtropical Horticulture Development Center, Trisuli, Nuwakot, Bagmati	15 January 2025	5 February 2025	Designing and cost estimates preparation by PIU Bagmati ongoing
CW07-B/ Horticulture Center/station upgrade (high tech structures and facilities) - Sub tropical Horticulture Development Center, Trisuli Nuwakot, Bagmati	Subtropical Horticulture Development Center, Trisuli, Nuwakot, Bagmati	15 March 2025	30 March 2025	Designing and cost estimates preparation by PIU Bagmati ongoing
CW08-A/ Horticulture center/station upgrade–Horticulture Development Resource Center, Pokhara, Gandaki	Horticulture Development Resource Center, Pokhara, Gandaki	15 January 2025	5 February 2025	Designing and cost estimates preparation by PIU Gandaki ongoing
CW08-B/ Horticulture Center/station upgrade (high tech structures and facilities)- Horticulture Development Resource Center, Pokhara, Gandaki	Horticulture Development Resource Center, Pokhara, Gandaki	15 March 2025	30 March 2025	Designing and cost estimates preparation by PIU Gandaki ongoing
CW09/ Local-level value chain infrastructure				This package is not scheduled for this FY 2081/82 and not included in AWPB. Infrastructure will

Package Number/Name	Construction Locations	Target Date of Contract Awarding	Target Date of the Start of the Works	Progress Status Up to June 2024
				be developed in project local level as per the request/application received and will be implemented after Q3 2025

4. STATUTORY ENVIRONMENTAL REQUIREMENTS

The project is set to implement six different schemes (Scheme 1, 2, 3, 4, 5 and, 6) which has some uniqueness in its nature which requires importation of germplasm from outside the country, registration of fruit varieties in national seed system, quarantine regulations for distribution of imported saplings to beneficiary farmers etc.

Besides that the project has to approve the operational guidelines to implement the project schemes unique to the project objectives and requirements. Project has already has been approved the Scheme 2 operational guidelines and concurrence from MoF on draft of Scheme 6 operational guidelines has been received and will be approved from MoALD within in September 2024.

Environmental screening checklist (developed in consultation with the ADB team) prepared for the screening of the applicants (Farmers, Farmers' group, Cooperatives, Private Nurseries) under approved guidelines of the Scheme 2 and also included in draft Scheme 6 operational guideline as stated in Appendix 1 . LLCC, SMC and CGMC will be responsible for the screening of the checklist as per the provisioning in Operational Guidelines of Scheme 2 and 6. Project is preparing the draft of the operational guidelines for Scheme 3, 4 and 5. There is no national/local environmental statutory environmental requirements for the project implementation till the reporting period (Table 11).

Table 11. National/local environmental statutory environmental requirements

Statutory Environmental Requirements ¹⁰	Title of National/Local Policy	Issuing Office	Responsible Agency
Not any	NA	NA	NA

5. ENVIRONMENTAL MANAGEMENT PLAN

The Project has adopted the environmental management plan as provisioned in the IEE of NAFHA Project. So far till the reporting period (January 2024 to June 2024), CPMU have not issued any bidding document on CW packages which included the EMP and EMoP, however

¹⁰ Specify statutory requirements: environmental clearance, Permit/consent to establish, Forest clearance, Workers/Labor permit, etc.

the EMP and EMoP were included in draft bid document of CW01-AA (Appendix 2 and Appendix 3). CPMU will ensure to use applicable EMP and EMoP based on the packages as categorized in the IEE document of the project.

6. INFORMATION DISCLOSURE AND CONSULTATIONS

The project is still in its early stages of implementation, so no disclosures have been made regarding environmental safeguards yet. However, CPMU has conducted consultations with stakeholders at various levels, ranging from local to national. Project orientation workshops have been held in five provinces (one in each), as well as one at the national level.

7. GRIEVANCE REDRESS MECHANISM

The project is in the very early stages of implementation and began field-level implementation of Scheme 2 in Q2 2024. Due consideration will be given to following the provisions outlined in the project documents. The GRM guidelines were approved on 6 March 2024, and GRCs have been established in CPMU, PIUs, and at the local project level for Batch 1, as per the provisions in the approved GRM guidelines, to support the social and environmental safeguards of the project. For the remaining local project levels, the establishment of GRCs will continue.

Up until the reporting period, no grievances have been recorded in the project area. The project will ensure the inclusion of women and disadvantaged groups, as well as representatives from the affected communities (if applicable), in the GRC. A project-specific GRM has been established to receive, evaluate, and facilitate the resolution of concerns, complaints, and grievances related to social, environmental, and other project-related matters.

8. COMPLIANCE WITH COVENANTS

Project has been striving to adhere and meet all the environmental Covenants stipulated in the Project Documents. Table 12 summarizes the status of the compliance with loan and grant covenants of the project.

Table 12: Status of compliance with loan and grant covenants.

S.N.	Covenant	Key Requirements	Status of Compliance	Remarks
1	Conditions of Award of Contract	The Borrower shall not award any Works or Non-Consulting Services contract which involves environmental impacts until: (a) MoALD has granted the final approval of the IEE, and the Borrower has obtained ADB's clearance of the relevant IEE based on the final design; and (b) The Borrower has	Being Complied	No contracts have been awarded for Works or Non-Consulting Services yet. Project will ensure the requirement setforth in the covenant as required.

S.N.	Covenant	Key Requirements	Status of Compliance	Remarks
		incorporated the relevant provisions from the EMP into the respective Works or Nonconsulting Service contract.		
2	Environment	The Borrower shall ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project Facilities comply with (a) all applicable laws and regulations of the Borrower relating to environment, health and safety; (b) the Environmental Safeguards; and (c) all measures and requirements set forth in each IEE and EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	Being Complied	Provisions are included in draft Bid document of CW 01AA bid document (single Civil work package). Operational guidelines for Scheme 2 approved.. Draft Operational guidelines for Scheme 6 submitted for approval to MoALD through DoA and will be approved by 15 August 2024. Provisions are included in approved Scheme 2 guideline and draft Schemes 6 implementation guideline.
3	Human and Financial Resources to Implement Safeguards Requirements	The Borrower shall make available necessary budgetary and human resources to fully implement the EMP and the IPP.	Being Complied	The borrower assigned project personnel and additional consultant is under procurement for impact assessment and field monitoring through CS 06 and CS 05 package.
4	Safeguards — Related Provisions in Bidding Documents and Works Contracts	The Borrower shall ensure that all bidding documents and contracts for Works contain provisions that require contractors to: (a) comply with the measures relevant to the contractor set forth in the IEE, the EMP, and the IPP (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set forth in a Safeguards Monitoring Report; (b) make available a budget for all such environmental and social measures as described in	Being Complied Incorporated the relevant provisions from the EMP in the bid document of CW01 A (single Civil work package that was advertised in 2023)	No contracts have been awarded for Works yet. Provisions are included in Bid document of CW 01AA draft bid document (single Civil work package) Project ensures the inclusion of provisions in others bid documents and work contracts too.

S.N.	Covenant	Key Requirements	Status of Compliance	Remarks
		<p>subparagraph (a) above;</p> <p>(c) provide the Borrower with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP or the IPP;</p> <p>(d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and</p> <p>(e) reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.</p>		
5	Safeguards Monitoring and Reporting	<p>The Borrower shall do the following:</p> <p>(a) submit semi-annual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission;</p> <p>(b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, or the IPP, promptly inform ADB of the occurrence of such risks or impacts,</p>	Being Complied	<p>Submitted 1st and 2nd EMR.</p> <p>There was a delay in submission of first social monitoring report. The approval of the first SMR took longer than expected due to the unavailability of personnel to work on the report.</p> <p>The second report has already been submitted after clearance of the first SMR report.</p> <p>There was a delay in submission of third SMR and will submit very shortly.</p>

S.N.	Covenant	Key Requirements	Status of Compliance	Remarks
		<p>with detailed description of the event and proposed corrective action plan; and</p> <p>(c) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP or the IPP promptly after becoming aware of the breach.</p>		
6	Labor Standards Health and Safety	<p>1. The Borrower shall ensure that the core labor standards and the Borrower's applicable laws and regulations are complied with during Project implementation. The Borrower shall include specific provisions in the bidding documents and contracts financed by ADB under the Project requiring that the contractors, among other things: (a) comply with the Borrower's applicable labor law and regulations and incorporate applicable workplace occupational safety norms; (b) do not use child labor; (c) do not discriminate workers in respect of employment and occupation; (d) do not use forced labor; (e) allow freedom of association and effectively recognize the right to collective bargaining; and (f) disseminate, or engage appropriate service providers to disseminate, information on the risks of sexually transmitted diseases, including HIV/AIDS, to the employees of contractors engaged under the Project and to members of the local communities surrounding the Project area, particularly women.</p>	Being Complied	Provisions are included in CW01 AA (draft bid document), CS06, and CS05 A-E packages.

S.N.	Covenant	Key Requirements	Status of Compliance	Remarks
		2. The Borrower shall strictly monitor compliance with the requirements set forth in paragraph 14 above and provide ADB with regular reports.		
7	Counterpart Support	The Borrower shall make available through budgetary allocations or other means all counterpart funds required for the timely and effective implementation of the Project, including funds to mitigate unforeseen environmental and social impact, and to meet additional costs arising from design changes, price escalation in construction or installation costs or other unforeseen circumstances. In addition to the foregoing, the Borrower shall ensure that the Project Executing Agency has sufficient funds to satisfy its liabilities arising from any Works, Goods and/ or Services contract.	Complied	Sufficient counterpart fund allocated by the Project executing agency for implementation of the project activities.
8	Grievance Redress Mechanism	Within 3 months after the Effective Date, the Borrower shall prepare a grievance redress mechanism, acceptable to ADB, and establish a grievance redress mechanism committee to receive and resolve complaints/grievances or act upon reports from stakeholders on misuse of funds and other irregularities, including grievances due to resettlement (if any). The grievance redress mechanism committee shall (a) make public the existence of the grievance redress mechanism; (b) review and address grievances of stakeholders of the Project, in relation to the Project, any of the service providers, or any person responsible for carrying out any aspect of	Being Complied	GRM guideline approved by MoALD on 6 March, 2024. Grievance handling focal point was appointed. GRC formed in CPMU, PIUs and Batch 1 project local level as provisioned in approved GRM guideline.

S.N.	Covenant	Key Requirements	Status of Compliance	Remarks
		the Project; and (c) proactively and constructively respond to such grievances.		

9. KEY ISSUES AND RECOMMENDED ACTIONS

Following are the key issues related to environmental safeguard monitoring and implementation as stated in Table 13.

Table 13: Key Issues Related to Environment Monitoring and Implementation of the Project

S.N.	Key Issues	Recommended action	Responsibility	Remarks
1	Capacity development of staffs	Orientation and training of project staffs on environment, health and safety monitoring and reporting	CPMU	ADB will be requested to provide support
4	Approval of Guidelines of Scheme 6	Guidelines will be approved from MoALD	CPMU/MOALD/MOF	Concurrence on draft guidelines received from Ministry of Finance
5	Delayed in construction of high tech nursery structures in project targeted horticulture centers and research stations	Approval of cost estimates, design and advertisement with inclusion of EMoP	CPMU/PIUs	Cost Estimates and design of construction will approved with NoL received from ADB as required by Q3 and Q4 2024.

10. FOCUS OF NEXT REPORTING PERIOD

- Grant contracting and orchard establishment under Scheme 2
- Contracting and Mobilization of Environment Safeguard Specialist (1 Position for CPMU) and environment specialist (5 position, one in each PIUs) under CS06 and orientation on environment safeguard requirement of the project by the end of October 2024.

11. Appendixes

Appendix 1. Environmental Screening Checklist for Identification of Impact on Environment (for Scheme 2 and Scheme 6)

S.N.	Environmental aspect	Environmental impact	Remarks
		Yes / No / Don't Know	
1	Is there any soil erosion due to the program?		
2	Is there will be a situation of decline in arable land due to the program?		
3	Is the site selected for the proposed program on very steep terrain or does it requires heavy soil excavation work?		
4	Is there any risk that the implementation of the proposed program will directly affect nearby forest and wildlife areas?		
5	From the implementation of the proposed program, are there any risks for the areas where the forest and wild animals enter other than the mentioned areas, such as national parks, wildlife reserves, etc.?		
6	Is there any possibility to affect the quality of the surrounding water due to the program?		
7	Is there a possibility that water sources used by the community will dry up or downstream areas will be affected or endangered due to the proposed programs? Is it possible to fall or risk?		
8	Does the proposed program activities are detrimental to human health?		
9	Does the proposed program activities supports adaptation to climate-related risks?		
10	Does the proposed program activities creates any biological hazards?		
11	Does the proposed program endangered the ecologically important local plant species?		
12	Exotic species will be brought during establishment of the proposed fruit orchard?		
13	Pesticides will be used in the establishment of the proposed fruit orchard?		
14	If there is a possibility of any negative impact on the environment other than the above-mentioned objects/topics from the activities of the proposed program, mention it clearly.		

Appendix 2. Environmental Monitoring Plan (EMoP) for the horticulture center upgrading (CW01-AA)

S.N	Field	Stage	Parameters	Location	Frequency	Standards	Responsibility
1	Air quality	Prior to construction to establish baseline Construction phase	PM _{2.5} PM ₁₀ SO ₂ NO _x	Work sites	Once in pre-construction Once in a season (except monsoons) for the construction period	National Ambient Air Quality Standards, 2003 and WHO standards	Contractor
2	Noise levels	Prior to construction to establish baseline Construction phase	Equivalent day and night time noise levels	Work sites	Once in pre-construction Once in a season (except monsoons) for the construction period	National Noise Standard Guidelines, 2012 and WHO standards	Contractor
3	Water quality	Prior to construction to establish baseline Construction phase	TDS,TSS, pH, Hardness, BOD, total coliform, E-coli, total nitrogen, total phosphorus, heavy metals, temperature, DO, hydrocarbons, mineral oils, phenols cyanide, temperature,	Only applicable for construction sites that are nearby water body	Twice a year (pre monsoon and post-monsoon) for the entire construction period	National Drinking Water Quality Standards, 2005	Contractor
4	Community and occupational health and safety	Construction phase	Incidence and types of health and safety issues	Work sites	Monthly	Injuries, loss time incidence and fatalities	Contractor

Appendix 3. Environment, Health and Safety Management Plan (EHSMP)

Environmental Components	Potential Impacts	Mitigation measures	Implementation Responsibility	Monitoring Responsibility
Physical Environment				
Decline of Ambient Air Quality	Decline of Ambient Air Quality	<p>Vehicles delivering loose and fine materials like sand and aggregates shall be covered.</p> <p>*Dust suppression measures like water sprinkling, will be applied in all dust prone locations such as unpaved haulage roads, earthworks and stockpiles.</p> <p>Material storage areas shall also be located downwind of the habitation area.</p> <p>*Construction vehicles and machinery will be periodically maintained.</p> <p>Require construction equipment and vehicles to meet national emissions standards.</p> <p>*Regular checks, and maintenance of construction equipment and vehicles to keep them in good working order to meet emission standards.</p> <p>*Cover stockpiles with tarpaulin.</p> <p>Locate stockpiles at least 500m from residential property to avoid inconvenience from fugitive dust and ensure they are enclosed by a fence or similar to minimize windblown dust.</p> <p>Position any stationary emission sources (e.g. diesel generators, compressors, etc.) as far as practical from sensitive receptors (houses, schools, clinics, temples, etc.).</p> <p>Impose speed limits on construction vehicles to minimize exhaust and dust emissions along areas where sensitive receptors are located</p>	Contractor (through environment, health and safety officer)	CPMU

Environmental Components	Potential Impacts	Mitigation measures	Implementation Responsibility	Monitoring Responsibility
		<p>(houses, schools, clinics, temples, etc.).</p> <p>Trucks importing fill material must be covered.</p> <p>Strictly prohibit the burning of wastes generated by project-related activities.</p> <p>Ensure workers working in close proximity to or having long exposure to vehicle exhausts and earthworks are provided with clean N95 dust masks to minimize inhalation of particulate matter and other pollutants.</p> <p>*Construction air quality monitoring will be carried out per the EMoP</p>		
Ambient noise and vibration	Increase of ambient noise and vibration levels	<p>Limit the duration of noisy construction activities to daylight hours, whenever possible, in the vicinity of sensitive receptors.</p> <p>Workers exposed to high noise levels will be provided with ear plugs.</p> <p>The contractors will provide prior notification to the community on the schedule of construction activities.</p> <p>Whenever possible, noisy equipment will be completely enclosed which can significantly reduce noise levels.</p> <p>Any stationary equipment that produce high noise levels (e.g., portable diesel generators, compressors, etc.) will be positioned as far as is practical from sensitive receptors.</p> <p>Construction traffic routes will be defined in cooperation with local communities and traffic</p>	Contractor (through environment, health and safety officer)	CPMU

Environmental Components	Potential Impacts	Mitigation measures	Implementation Responsibility	Monitoring Responsibility
		<p>police to minimize noise and nuisance.</p> <p>Vehicle speeds will be reduced around sensitive receptors.</p> <p>Temporary noise barriers will be installed along the edge of the road, as necessary, in front of sensitive receptors facing heavy construction activities.</p>		
Water resources: quantity of surface and groundwater	Decline on the available local water resources	<p>Acquire or ensure validity of permit for the use of water for their operations and comply with the conditions of the government.</p> <p>Display information on water management highlighting the practices in use at the facility at places in a highly visible area.</p>	Contractor	CPMU
Water resources: quality of surface and groundwater	Decline in quality of water or proximate waterbodies	<p>As far as practical, earthworks during the dry season to minimize exposed areas subject to erosion by surface water runoff.</p> <p>*If any surface waterbodies or groundwater sources within 100m, undertake a baseline water quality to confirm the current water quality status at least one week prior to the commencement of any actively on-site.</p> <p>Establish dedicated fuel, oil, and chemicals stores on impermeable bunded area to avoid spills and leaks contaminating soil and affecting water quality.</p> <p>Avoid storage of fuel, oil, and chemicals in areas ideally within 500m to water sources (surface water and groundwater wells, springs etc.) to avoid direct contamination or contamination through run off, if this is not possible minimum distance is to be 100m.</p>	Contractor	CPMU

Environmental Components	Potential Impacts	Mitigation measures	Implementation Responsibility	Monitoring Responsibility
		<p>Undertake refueling only on areas of hard protected soil, preferably bunded, ideally 500m from water sources (surface water and groundwater wells, springs etc.) but if this is not possible minimum distance to be 100m, with all drainage directed through oil interceptors.</p> <p>Undertake construction during the dry season as much as possible to minimize exposed areas subject to erosion by surface water runoff.</p> <p>Works over or near watercourses will adopt protection measures to guard against loss of soil that would result in the turbidity of water.</p> <p>Minimize soil erosion and surface water runoff by reducing the extent of earthworks, and covering storages of sand and spoil with tarpaulin.</p> <p>Do not allow washing of equipment or vehicles near surface water and ensure all washing water is discharged to sedimentation basin and oil interceptor instead of directly to surface water.</p> <p>Cement will be stored in rented private storage facilities; enclosed and not exposed to the elements.</p> <p>Do not undertake any concrete mixing ideally within 500m of surface water, if this is not possible minimum distance is to be 100m.</p> <p>*Provide portable sanitary facilities/toilets and washing facilities for construction workers, so as to avoid surface and ground water pollution.</p>		

Environmental Components	Potential Impacts	Mitigation measures	Implementation Responsibility	Monitoring Responsibility
		<p>Locate these at least 500m away from surface waterbodies including rivers/ponds and groundwater sources including springs/wells/pumps, away from waterlogged land and shallow groundwater.</p> <p>Strict prohibition on open defecation and urination by construction workers; use of pit latrines or toilets for worker camps.</p> <p>*Toilets and washing facilities to be connected to existing sewerage system, septic tank (with soak pit) or as portable self-contained units for disposal of wastewater off site to sewage treatment works.</p> <p>No untreated wastewater is to be discharged direct to surface water or onto the ground. Water will be treated through available facility such as soak pits or municipal sewage system.</p>		
Water resources: quality of surface and groundwater	Pollution due to use of chemicals for fertilizer and insecticides	<p>Effluents containing chemicals are not directly discharged into lands and water bodies.</p> <p>Use only registered fertilizers and chemicals from government approved sources.</p> <p>Laboratory generated hazardous wastes shall be properly treated before its disposal.</p>	Contractor	CPMU
Waste management	Generation and inappropriate disposal of inert spoil, solid and hazardous wastes from construction sites and domestic sources	<p>Reuse spoil and other materials for construction purposes.</p> <p>Maintain proper material storage system and ensure to control littering of construction materials outside the designated places.</p> <p>Stockpiling site of construction materials will be designated at demarcated place.</p>	Contractor	CPMU

Environmental Components	Potential Impacts	Mitigation measures	Implementation Responsibility	Monitoring Responsibility
		<p>*Provide solid waste container inside the construction site.</p> <p>Ensure that the labour camps have proper facilities for waste segregation and even for composting of the biodegradable waste.</p> <p>Give health, hygiene and sanitation training to workers.</p> <p>Provide temporary prefabricated mobile toilets in the construction sites.</p> <p>*Separate provision for collection and disposal of hazardous waste, if any, as prescribed by government rule and regulations.</p>		
Social Environment				
Workers	Health and safety risks	<p>Undertake a health and safety risk assessment through a facilitated workshop during the pre-construction survey. The health and safety risk assessment to consider both occupational and community health safety.</p> <p>Through the health and safety risk assessment, prepare a Construction Health and Safety Management Plan (CHSMP) including site-specific measures as needed for each construction site addressing both occupational and community health and safety.</p> <p>Keep CHSMP as a living document, to be updated as required and re-approved by PIU if any changes in construction methods, site conditions, in response to accident, near miss etc.</p> <p>Provide worker training on health and safety and daily/weekly briefings led by</p>	Contractor	CPMU

Environmental Components	Potential Impacts	Mitigation measures	Implementation Responsibility	Monitoring Responsibility
		<p>site-appointed Health and Safety Officer.</p> <p>PPE to be provided for all workers. Ensure all workers have received appropriate occupational health and safety trainings.</p> <p>Ensure good housekeeping in the premises at all times, including on construction site, workers camps, storage areas, etc.</p> <p>Project area is to be kept neat and tidy, with no trip hazards on the ground e.g. open channels, materials, equipment, trash laying around.</p> <p>*Provide clear and visible warning and danger signs at and around the construction and/or planting site.</p> <p>*Information board displaying the activities proposed, duration of construction, name and contact number of environmental safety officer of contractor.</p> <p>*On completion of works restore all temporarily used sites to at least their pre-project condition following works. This will involve cleaning site of any debris or wastes, left over material and soil/rocks/sand.</p>		
	COVID-19 and other Health and Safety Risks	Prepare and implement a comprehensive COVID-19 and Disease Health and Safety Guidance Plan following i) following national regulations and health advice, and (ii) international good practice recommendations (see Annex 4 of the NEP:NAFHA Project's IEE).	Contractor	CPMU

Environmental Components	Potential Impacts	Mitigation measures	Implementation Responsibility	Monitoring Responsibility
		<p>The protocols should include requirements on wearing masks and PPE, physical distancing, hand washing, disinfection, checking body temperature, ventilation, management of waste, awareness, and morning briefings.</p> <p>Ensure all equipment and vehicles used are routinely disinfected.</p> <p>Provide thermometer, soap, sanitizer, disinfectant, PPE at worksite/camp.</p> <p>Place adequate washbasins, disinfectant tub, dispenser for sanitizer.</p> <p>Provide regular briefing/training on preventive requirements to the workers and post enough COVID-19 awareness posters throughout the worksites.</p> <p>Maintain COVID-19 weekly monitoring and reporting mechanism at the worksite, including any necessary actions to be taken.</p>		