

Strengthening the resilience of smallholder agriculture to climate change-induced water insecurity in the Central Highlands and South-Central Coast regions of Vietnam

Environmental and Social Management Framework

18 February 2020

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EXECUTIVE SUMMARY

- This Environmental and Social Management Framework (ESMF) has been prepared in support of a project proposal for “Strengthening the resilience of smallholder agriculture to climate change-induced water insecurity in the Central Highlands and South-Central Coast regions of Vietnam” by the Government of Vietnam to the Green Climate Fund (GCF).
- Project target areas are focused on five provinces in two regions: the Central Highlands (Dak Lak and Dak Nong) and the South-Central Coast (Khanh Hoa, Ninh Thuan and Binh Thuan). The GCF project will be undertaken in association with the WEIDAP project across 14 districts and 60 communes. The majority of the 60 communes (including all WEIDAP project areas) are a combination of irrigated and rainfed cropping systems, with 17 communes more irrigated than rainfed, and 43 communes more rainfed than irrigated.
- The objective of this project is to empower vulnerable smallholders in the Central Highlands and South-Central Coast regions of Vietnam – particularly women and ethnic minority farmers - to manage increasing climate risks to agricultural production by securing water availability, adopting climate-resilient, water-efficient agricultural cropping systems, and using climate, agricultural and market information for risk assessment and water and agricultural planning and management.
- To achieve its objective, the project will invest in enabling poor/near-poor smallholders to adapt to increasing climate-driven rainfall variability and drought through implementation of two inter-linked Outputs:

Output 1 - Enhanced water security for agricultural production for vulnerable smallholder farmers in the face of climate-induced rainfall variability and droughts

Output 2 - Increased resilience of smallholder farmer livelihoods through climate-resilient agriculture and access to climate information, finance, and markets.

- While the project will target ethnic minority, women and other poor/near poor farmers, it will build the capacities of all farmers in climate vulnerable areas; as such the project will reach 222,412 direct beneficiaries in the five provinces of Dak Lak, Dak Nong, Binh Thuan, Ninh Thuan and Khanh Hoa.
- The project will enable the Government of Vietnam to adopt a paradigm shift in the way smallholder agricultural development is envisioned and supported through an integrated approach to agricultural resilience starting with planning for climate risk based on identification and analysis of agroecosystem vulnerabilities; enhancing water security and guaranteeing access; scaled up adoption and application of climate-resilient agricultural practices and cropping systems; and creating partnerships among value chain stakeholders to ensure access to market and credit.
- This project will also produce important environmental, social and economic co-benefits. With increasing adoption of agroforestry and other multi-cropping systems, including resilience-enhancing soil, water and biomass management practices, the land degradation processes currently underway will be slowed. The project will empower women and ethnic minorities with the skills and confidence to participate more widely in community and organizational affairs, as well as to establish formal business partnerships and access the market for climate-resilient agricultural products.
- The project has been screened against UNDP’s Social and Environmental Standards Procedure. The screening included consideration of WEIDAP elements associated with the project. The Social and Environmental Screening Template was prepared and the project deemed to be a moderate risk (Category B) project. This ESMF has been prepared based on the risks identified through screening of activities. The risks are considered to be acceptable and manageable through the application of mitigation measures.
- The ESMF provides an outline of the types of mitigation measures that are likely to be required when implementing the project. Where appropriate, site specific environmental and social management plans (ESMPs) or site work instructions may be prepared to deal with specific issues, these may include documents prepared as part of the WEIDAP project.

1 INTRODUCTION

1. This Environmental and Social Management Framework (ESMF) has been prepared in support of a project proposal for “Strengthening the resilience of smallholder agriculture to climate change-induced water insecurity in the Central Highlands and South-Central Coast regions of Vietnam” by the Government of Vietnam to the Green Climate Fund (GCF). As this project is supported by UNDP in its role as a GCF Accredited Entity, the project has been screened against UNDP’s Social and Environmental Standards Procedure and deemed a Moderate Risk (GCF Category B) project. As such, an Environmental and Social Management Framework has been prepared for the project.

1.1 BACKGROUND

2. The Government of Vietnam with support from UNDP, is formulating a project on adaptation to climate change impacts on smallholder farmers, in particular ethnic minorities and poor/near-poor farmers, for submission to the GCF. The project will seek to improve the resilience of vulnerable communities to climate change impacts.

1.2 OVERVIEW OF THE PROJECT

3. Project target areas are focused on five provinces in two regions: the Central Highlands and the South Central Coast (Figure 1). The Central Highlands consists of five provinces, including Dak Lak, Dak Nong, Gia Lai, Kon Tum and Lam Dong – with the project targeting Dak Lak and Dak Nong. The South Central Coast consists of one major city, Da Nang, and seven provinces, including Quang Nam, Quang Ngai, Binh Dinh, Phu Yen, Khanh Hoa, Ninh Thuan and Binh Thuan – with the project targeting the latter three provinces.

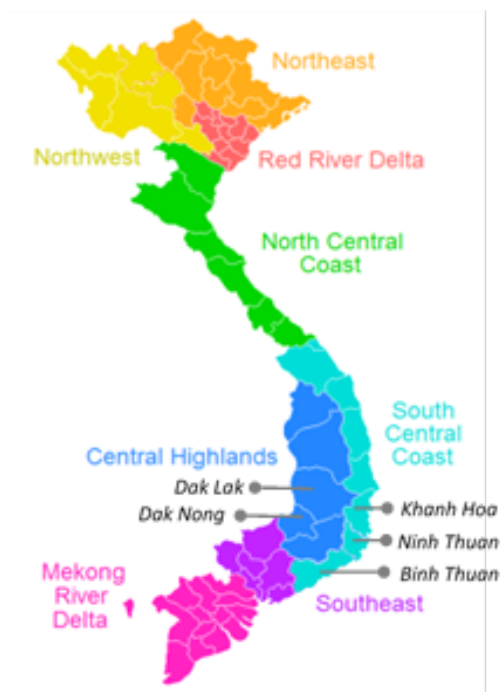


Figure 1 Regions of Viet Nam – indicating target provinces

4. The GCF project will be undertaken in five provinces shown in Figure 1 in association with WEIDAP sub-project sites, resulting in selection of 14 districts and 60 communes (Figure 2). The majority of the 60 communes (including all WEIDAP project areas) are a combination of irrigated and rainfed cropping systems, with 17 communes more irrigated than rainfed, and 43 communes more rainfed than irrigated.

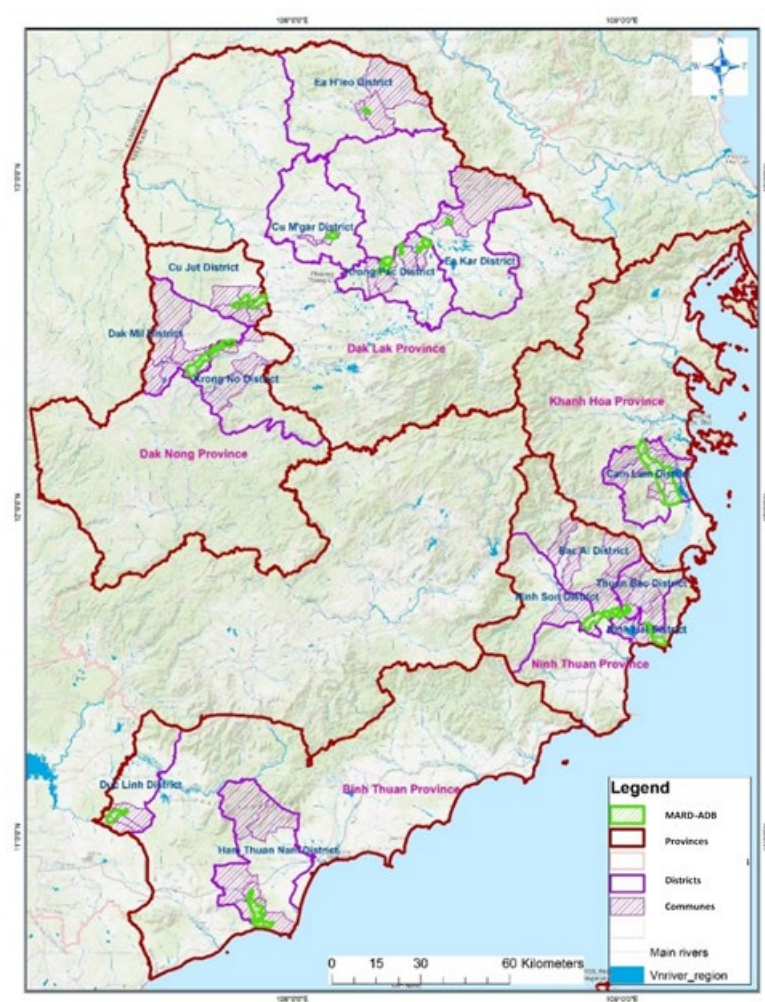


Figure 2 Map of five target provinces for MARD-UNDP GCF project, with 14 district and 60 communes (with the MARD-UNDP project area in purple, and the MARD-ADB WEIDAP sub-projects in green)

1.2.1 Summary of Activities

5. The objective of this project is to empower vulnerable smallholders in the Central Highlands and South-Central Coast regions of Vietnam – particularly women and ethnic minority farmers - to manage increasing climate risks to agricultural production by securing water availability, adopting climate-resilient, water-efficient agricultural cropping systems, and using climate, agricultural and market information for risk assessment and water and agricultural planning and management.
6. To achieve its objective, the project will invest in enabling poor/near-poor smallholders to adapt to increasing climate-driven rainfall variability and drought through implementation of two inter-linked Outputs:

Output 1 - Enhanced water security for agricultural production for vulnerable smallholder farmers in the face of climate-induced rainfall variability and droughts

Output 2 - Increased resilience of smallholder farmer livelihoods through climate-resilient agriculture and access to climate information, finance, and markets.

Output 1: Enhanced water security for agricultural production for vulnerable smallholder farmers in the face of climate-induced rainfall variability and droughts

7. This Output will overcome barriers to sufficient irrigation water for climate-resilient production through investment in irrigation systems and technologies, including storage and water-efficient equipment. Modernization and expansion of irrigation systems will provide farmers access to water, allowing them to diversify and expand the area under high climate-resilient cropping systems.
8. Under this Output, the project directly complements in its scope the loan provided by AdB to GoV to establish large-scale irrigation infrastructure, bringing water to eight different farming areas across the two target regions. The complementary GCF grant resources will finance the incremental costs of achieving last-mile connectivity for the targeted poor/near-poor smallholders under the WEIDAP command areas by linking their plots to the WEIDAP irrigation systems. For the targeted rain fed farmers beyond the reach of the WEIDAP irrigation trunk lines, this Output will address water deficiencies due to climate change-induced rainfall variability and droughts. This Output will combine GCF and provincial government resources to support supplementary irrigation from
9. ADB/GoV financing for WEIDAP constitutes co-financing for the GCF-funded portion of this Output (Activities 1.2-1.4, below). GCF funding will not be used for the implementation localized sources, as well as enable farmers to increase on-farm productivity with efficient technologies such as sprinklers and drip irrigation. These investments will work in tandem with the resilient agricultural practices promoted under Output 2 to augment water productivity of diversified cropping systems, for instance, though intercropping, agroforestry, etc.

Activity 1.1: Establish large-scale irrigation infrastructure to bring irrigation water to eight farming areas across the target regions in the five provinces

10. This activity is co-financed through the ADB/GoV loan for the *Water Efficiency Improvement in Drought Affected Provinces (WEIDAP)* project in Dak Lak, Dak Nong, Binh Thuan, Ninh Thuan and Khanh Hoa provinces, comprising the overall geographic target area of the project proposed here. The WEIDAP project will be implemented to provide water to eight specific farming (command) areas in the five provinces and improve agricultural water productivity ('crop per drop') by increasing water use efficiency in irrigated agriculture. WEIDAP will provide irrigation water through development, upgrading or rehabilitation of mainline irrigation infrastructure.
11. WEIDAP provides significant investment under Activity 1.1 to establish functional large-scale irrigation infrastructure in the Central Highlands and South-Central Coast regions, including both construction and improvements to management, operations and maintenance. To climate-proof the WEIDAP investment, GCF funding will ensure adoption of climate-resilient agricultural practices and co-development and use of agro-climate information for climate risk management by all farmers in WEIDAP-served areas regardless of socio-economic status, as well as multi-stakeholder coordination for climate-resilient value chain development through climate innovation platforms.
12. WEIDAP's eight small and medium irrigation systems that will be upgraded, rehabilitated and expanded can be grouped into three categories (i) main pipeline systems connected to current reservoirs (either pumped or gravity fed); (ii) upgraded canals; and (iii) new weirs to provide improved pumping ponds from which farmers will extract water suited to their own requirements. Key sub-activities in developing modernised irrigation infrastructure in the eight command areas will: (i) pressurized pipe systems taking water from canals or reservoirs, and supplying hydrants located at a reasonable distance from a farmer's field; (ii) main system modernization including canal lining, control structure, balancing storage and installation of flow control and measurement devices with remote monitoring; and (iii) new and improved weirs which will replace farmer constructed temporary weirs and provide storage from which farmers can pump to irrigate HVCs.
13. The capacity of these irrigation systems takes into account the hydrology of the catchments supplying water and the potential coverage areas of the various crops and their respective water requirements as well as the requirement to sustain environmental river flows downstream of off-take or management structures.

14. In addition to the infrastructural investments, the WEIDAP project will also strengthen irrigation management services, specifically water allocation and delivery services, as well as maintenance of irrigation systems by conducting surface water balance assessments; (b) groundwater assessments in applicable subproject command areas; (c) developing an irrigation water sharing and allocation framework; and (d) provision of a real-time decision support system for farmers on optimizing crop water application.
15. The WEIDAP project will also ensure adoption of on-farm water management practices focused on improving on-farm water productivity in the subproject command areas. Productivity assessments will help benchmark water productivity standards for different crops under different agro-ecological conditions and be the basis for advisory services (information and training) to farmers on improving on-farm water management to cope with climate variability. Male and female farmers will be consulted and also receive technical advice on identifying and developing appropriate Water Efficiency Application Technologies (WEAT) systems that meets their individual requirements.
16. Key sub-activities include:
 - 1.1.1 Develop modernized irrigation infrastructures serving at least 19,200 ha in the eight command areas by installing 185 km of piped irrigation systems including (i) pressurized pipe systems taking water from canals or reservoirs, and supplying hydrants located at a reasonable distance from a farmer's field; (ii) main system modernization including canal lining, control structure, balancing storage and installation of flow control and measurement devices with remote monitoring; and (iii) new and improved weirs which will replace farmer constructed temporary weirs and provide storage from which farmers can pump to irrigate HVCs..

Activity 1.2: Establish last-mile connections between WEIDAP irrigation infrastructure and the poor and near poor farmer lands to help cope with increasing rainfall variability and drought

17. This activity will support vulnerable poor/near-poor farmers with less than one hectare of land to adapt to climate variability by overcoming barriers to last-mile connectivity to the WEIDAP systems constructed under Activity 1.1, thus enabling them access to sufficient, reliable water during extreme drought. These actions will link to and build directly on government WEIDAP investments to build 13 weirs, upgrade canals and build pipeline systems to connect 15 reservoirs across the five target provinces.
18. GCF resources will cover the costs of meeting the additional demands by poor/near-poor farmers not yet connected to WEIDAP for water and climate risk management. In close coordination with WEIDAP project management, GCF resources will deliver technical expertise to cover the additional costs of incorporating climate risk mitigation into the design and implementation of smallholder connections to WEIDAP infrastructure, as well as resources to cover the costs for poor/near-poor farmers of installing these connecting systems (pipes, water shifting valves, small water storage and others). Connectivity will be effected through financing contingent on completion of initial equipment training, as well as smallholder contributions of labor in co-designing, installing and maintaining the connecting systems. This support will be provided only after successful participation in Farmer Field Schools (FFS) (see Activity 2.1, below) and completion of courses on climate-resilient farming (including water efficiency practices) conducted in the commune.
19. To ensure last-mile connection by poor and near-poor, ethnic minority and women farmers to WEIDAP irrigation infrastructure, Activity 1.2 will provide them with locally available mobile pipes, pumps, water meters, shifting valves and small-scale on-farm water storage for last-mile connection ('last-mile connectivity support packages'). As the water supply will be regulated, farmers require on-farm storage systems as part of this support package to cover the gap between receiving the water from the irrigation system and using it in on-farm irrigation as well as to mitigate risks of weather variability and extreme weather events. Technical expertise for the detailed on-farm design of the individual or shared distribution systems also needs to be provided in tandem with farmer in-kind support.
20. Proposed last-mile connectivity support to be provided with GCF funding will include shared/private pumps and pipelines to connect to the improved canal systems' manifolds, water meters, control valves, transit tanks, shared/private pumps and pipelines, and on-farm storage systems.

21. To ensure ownership, benefiting households will be required to provide in-kind contributions of labor and use of small locally available construction tools, as part of design, construction and maintenance phases. The 'last-mile connectivity support packages' will be provided – combined with technical guidance, manuals and mentoring – using GCF financing since poor/near-poor, ethnic minority and women farmers are unable to afford this additional cost of adapting to climate-driven water insecurity. To not do so would leave them at a higher risk of water insecurity compared to the non-poor, particularly during extreme weather events.
22. In terms of O&M of the last-mile connectivity support packages, the connection systems do not require high maintenance and can therefore be self-maintained by the benefitting households with minor technical or peer-to-peer assistance. For shared systems, a water users group will be set-up or an existing farmer group engaged. In line with good practice on irrigation management in Viet Nam, these groups will be self-selected, manage their own codes of conduct and be mentored by local commune technical staff. Pictorial and local language O&M guidance notes and manuals will be developed and disseminated. The DARD Irrigation Department and IMC's technical staff will provide on-going technical support to all households with private and shared systems and throughout the project timeframe and immediately after.
23. Key sub-activities include:
 - 1.2.1 Design and construct 4,765 connection and distribution systems including installation and maintenance of irrigation equipment to cope with climate variability
 - 1.2.2 Train 4,765 poor and near poor farmers households on climate-risk informed utilization of irrigation equipment and system maintenance
 - 1.2.3 Establish Water Users Groups for O&M of communal or shared systems, including structures and agreements on potential funding mechanisms

Activity 1.3: Enhance supplementary irrigation for rain fed smallholders to cope with rainfall variability and drought

24. This activity will support poor/near-poor, ethnic minority and women farmers unable to connect to WEIDAP infrastructure to cover the climate-driven gaps they experience now or are likely to experience in the future in water availability. This will be achieved through construction or enhancement of supplementary water storage systems enabling them to better maintain minimum irrigation water supply during climate-induced droughts. These systems could serve as the groundwork for potential phased expansion of either the WEIDAP project or other investments as they will facilitate future connectivity investments.
25. To determine the extent to which water resources can be extracted and utilized in each sub-project area, as well as the impacts of climate change on water sources and water use in rain-fed production areas, the availability of water resources for pond solutions and agricultural production was assessed. Gaps were determined as part of project preparation by modeling water balances for key crops, soils and climate conditions to 2050.
26. The GCF will finance on-farm water storage systems for collecting rainwater or surface water. These facilities or farm ponds will help farmers to store water in the wet season for use at critical times during the dry season and as much as possible during extreme droughts.
27. Criteria for pond site selection were: options for upland, midland or flatland area; in reach of the most vulnerable people; arranged in accordance with the overall layout of the existing water collection system; ensuring maximum and sustainable water catchment under all climate scenarios; enhancement of the ability of gravity-fed irrigation; and not unnecessarily disrupting farming activities. Criteria for climate-resilient pond design are: ensuring sufficient supply of water for crops in the dry season; simple construction with easy maintenance; limited evaporation and permeability to avoid loss of stored water; inclusion of a water distribution system; integration with surface water collection, if possible; prevention of sedimentation; adaptability to changing water and climate conditions; use of bioengineering principles; and suitability for ethnic minorities and women, for example, not creating

additional workload. Design and construction of climate-proof ponds will ensure their ability to withstand extreme weather events such as cloudbursts and intense evaporation conditions (drought).

28. Support for resilient water storage systems will be combined with training on climate-resilient water resources management.
29. There are 1,159 climate resilient ponds (upgrading 484 ponds, construction of 490 household ponds and 185 shared ponds) proposed. Please see the Sub-assessment Report on Water Storage and Irrigation annexed to the Feasibility Study for maps of pond locations in the five target provinces.
30. Additional water balance modeling will be conducted in rainfed areas to confirm the most appropriate design and management for each pond and each location. The water balance modeling will use comprehensive mathematical tools and models and entail a detailed assessment of the available surface and rainwater sources, current status of existing ponds, soil conditions, local cropping systems and tree portfolio, climate risk and impact scenarios. It will ensure risk-informed, science-based and effective design for water resources sustainability under the different climate scenarios.¹
31. Based on the water balance modeling results, the initial design of the rainwater harvesting ponds conducted for this study will be further detailed or streamlined and outline the following components: precise site selection; dimensions and storage; water collection system; treatment of pond bottom losses; treatment of pond surface losses; water distribution system and resilience assurances for different climate scenarios.
32. External technical expertise is required for the co-design and landscaping of bioengineered climate-resilient ponds, including the training and mentoring of DARD Irrigation Department and other staff. These bioengineering techniques have been proven to maximize available natural water sources, significantly reduce evaporation rates and increase pond resiliency through well planned use of protection measures such as the planting of locally suitable plants (vetiver grass, bamboo) and trees or the pre-treatment of ponds (such as clay pellets or a particular clay e.g. bentonite). Pictorial and local language O&M guidance notes and manuals will be developed and disseminated alongside the technical support.
33. O&M of the shared ponds will be assured through the establishment of farmer-led 'pond management groups', comprised of gender-balanced and inclusive representation of the households benefiting from the pond. The group will be assembled at the pond design stage so they can be involved throughout the entire design, construction (or rehabilitation), use and management process. This includes monitoring and evaluating the construction phase. Pond management groups will be based on existing farmer interest groups, cooperatives or other community sharing mechanisms, to attract active community members and build on existing farmer-to-farmer networks. Rules and regulations for the use, management and O&M of the pond will be proposed, adopted and enforced by the members themselves, through majority agreement and ensuring gender equality and inclusiveness. The establishment of the pond management groups will be facilitated by the commune PPC, with technical and mentoring support provided by the commune DARD technical staff.
34. Key sub-activities include:

¹ Building on accepted good practice, the following initial water balance modeling method was applied: i) water resources assessment under different climate change scenarios (until 2050) based on current and past water availability trends; ii) water demand assessment under climate change (until 2050) for different crops and groups of users; and iii) water balance assessment spatially and over time, including appropriate technical design of ponds and water management practices. The final modeling after project approval will engage international and national hydrological and water resources management specialists, but also be used as a capacity building exercise for local DARD irrigation staff. To build on local knowledge but also increase ownership, farmers will be involved in this assessment as well as the pond design as much as possible, in line with participatory technology development good practice.

1.3.1 Construct or upgrade 1,159 climate-resilient ponds (based on site-specific designs construct 675 new ponds and upgrade 484 existing ponds)

1.3.2 Train over 16,000 poor and near-poor farmer beneficiaries in climate-resilient water resource management to enhance supply

1.3.3 Establish 185 pond-management groups for O&M, including structures and agreements on potential funding mechanisms

Activity 1.4: Increase smallholder capacities to apply on-farm water efficient practices and technologies to maximize water productivity in coping with rainfall variability and drought

35. To enhance water availability for climate-resilient agriculture, smallholders must adopt practices and technologies that maximize the efficiency of irrigation. This activity will support approximately 21,228 poor/near-poor households in target communes to apply water efficiency technologies and practices. This will include the provision of technical expertise to co-design, climate-resilient, low-cost technologies with poor farmers and train them in their application, as well as in their operation and maintenance. This work will build on ADB-funded research and technical advice on systemic water balance measurement and planning under the WEIDAP project.
36. This activity will support the installation of on-farm water efficiency systems for individual poor/near-poor smallholders via procurement by a third party (e.g. NGO). Farmers will receive this support contingent on (i) farmers' in-kind and cash contributions to the co-design and installation of the system (mechanisms, criteria, procedures to be developed during project preparation); (ii) commitment to maintaining the system, (iii) participation in Farmer Field School training courses on climate-resilient farming (including soil management to enhance moisture-holding capacity, recharge of groundwater, and water productivity) conducted in the village/commune.
37. Government agricultural extensionists will receive training to support farmers in acquiring the skills needed for water efficient farming. The project will train agricultural extension workers to provide technical expertise to help the farmers' groups with development, facilitation, and assistance in designing, installing, costing and ensuring the establishment of appropriate operation and maintenance systems.
38. This activity will directly complement GoV/ADB investments under the WEIDAP project in water metering technology for target areas, which includes research on improving water management and flow for the target areas done by domestic research institutes and experts.
39. The project will apply a holistic approach to on-farm water management to enhance the productivity of water made available for climate-resilient agriculture from last-mile connection and supplementary storage and irrigation on rain fed lands. As such, GCF financing will be applied to provide vulnerable poor/near-poor, ethnic minority and women farmers with affordable climate resilient on-farm water efficiency technologies. This will lower net water demand, increase crop water productivity, and enable cropping systems to withstand drought and precipitation shocks and stresses. The project will target the most vulnerable farmers, who unlike the better-off farmers, cannot afford available technologies.
40. A participatory technology development approach will be applied. The participatory technology development for promotion of climate resilient on-farm water efficiency will apply the following steps:
 - i) establish a technical support team comprised of experts from local authorities (DARD Departments of Irrigation, Agricultural Extension and Crop Production, Farmers' Union and VWU) and local private sector (material input suppliers, buyers of agricultural produce);
 - ii) organize orientation sessions with existing male/female farmer groups to explain the objectives of the activity and gain interest (by technical support team);
 - iii) farmers self-select or identify early adopters or farmer champions among poor and near-poor to engage in technology development process (facilitated by technical support team);
 - iv) conduct technology co-development process through adaptation of existing technologies and iterations of trial-and-error, including detailed documentation of what works and what doesn't,

costing, material availability, impact on yields and water productivity, etc., (farmer champions with technical support team);

v) peer-to-peer presentation of test results to other farmer champions and participatory selection or agreement on most suitable and resilient option(s) (facilitated by technical support team, and integrated into the Farmer Field School program);

vi) official endorsement by the commune and/or district PPC to support the replication process;

vii) development of pictorial and local language information sheets (by technical support team, with farmer champions' input);

viii) development of a dissemination or communication strategy for promotion of the technology (by mass organizations, with support of technical departments); ix) roll-out of the climate resilient on-farm water efficiency technologies, with support to the most vulnerable and the provision of information to all farmers.

41. The technology developed will be flexible and applicable to the crops grown by the poor and near-poor, cost-effective for one hectare or less of farm land, suitable for women and ethnic minorities to apply, not labor-intensive, use locally available materials and be easily maintained. It will increase water efficiency, reduce agricultural input costs and ensure resilience to the identified climate risks. The co-developed technology will likely not be as water-efficient as the more expensive technology, but will meet a minimum efficiency standard and serve as a stepping stone for the poor and near-poor to incrementally increase water productivity and income, allowing them to afford the more efficient technology in the medium or long term.
42. Criteria for selecting early adopters or farmer champions will be as follows: i) small-scale farmers, with one hectare or less of farm land; ii) representing most vulnerable groups (poor and near-poor, ethnic minorities and women); iii) benefiting from the project support for last-mile connectivity or on-farm water storage; and iv) availability to be engaged in the co-development process.
43. For the roll-out of the technology once developed, the project will provide grant support through vouchers to individual poor and near-poor smallholders conditional on: (i) farmers' in-kind contribution in installing the system, for example through labor or minor materials; (ii) commitment to maintaining the system, (iii) participation in Farmer Field School training courses on climate-resilient farming, including soil management to enhance moisture-holding capacity, potential groundwater recharge, and water productivity conducted in the commune – note that this activity is done in conjunction with activity 2.1, below, regarding training on climate-resilient agricultural practices and cropping systems. This activity will support approximately 21,228 poor/near-poor households in target communes to apply water efficiency technologies and practices. This work will build on ADB-funded research and technical advice on systemic water balance measurement and planning under the WEIDAP project. This activity will directly complement GoV/ADB investments under the WEIDAP project in water metering technology, which includes research on improving water management and flow for the target areas done by domestic research institutes and experts.
44. Government agricultural extensionists will receive training to support farmers to acquire the skills needed for water efficient farming. The project will train agricultural extension workers to provide technical expertise to help farmers' groups with development, facilitation, and assistance in designing, installing, costing and ensuring the establishment of appropriate operation and maintenance systems. For farmers' groups, where at least 50% of members are currently poor or near-poor, 20% of the costs of the technologies will be required to be financed by the farmers themselves. This mixed socio-economic group model will enable the project to extend benefits to additional farming households, help leverage community ownership for the project, and encourage farmer-to-farmer learning.
45. Key sub-activities include:
 - 1.4.1 Train over 21,200 farmers through 900 Farmer Field Schools on soil and biomass management to enhance moisture-holding capacity, recharge of groundwater, and water

productivity to cope with evolving climate risks on water security (in conjunction with Activity 2.1)

1.4.2 Train 30 DARD staff and champion farmers in 14 districts (one course in years 2, 4 and 6) to support farmers' groups in co-design, costing and O&M of climate-resilient, water efficient technologies

1.4.3 Install on-farm water efficiency systems for 8,621 poor/near-poor smallholders linked to performance-based investment support (linked to Activity 2.1)

1.4.4 Train smallholder farmers in five provinces on climate-risk informed O&M of water efficiency technologies

Output 2: Increased resilience of smallholder farmer livelihoods through climate-resilient agriculture and access to climate information, finance, and markets

46. Output 2 will enable poor/near-poor farmers to manage climate risk to their agro-ecosystems by applying climate-resilient soil and crop planning and management practices to reinforce the investments in water security (Output 1). The Output will enable poor/near-poor smallholder farmers across the Central Highlands and South-Central Coast regions to overcome information, skills, knowledge and financial barriers limiting their abilities to produce climate-resilient crops under conditions of increasing rainfall variability and drought. Smallholder farmers will acquire the skills and knowledge to enhance the resiliency and productivity of their agro-ecosystems, as well as to understand how to access credit and markets to ensure vital financial sustainability of the promoted shift to climate-resilient cropping systems.
47. Through Farmer Field Schools implemented at scale across the two regions, this Output will facilitate widespread adoption/application by vulnerable smallholders of climate-resilient agricultural practices and technologies. Smallholders will build on traditional knowledge and contemporary science to adapt their cropping systems to climate-resiliency requirements originating in localized analyses of rainfall variability, extreme weather events and agro-ecosystem vulnerability. Farmers will be trained in resilience-enhancing crop diversification, as a climate-risk reduction strategy, and soil management to build resilience to climate variability by enhancing soil fertility, organic matter, and biodiversity, improving soil structure, and limiting soil erosion.
48. For farmers to successfully market their climate-resilient production and continue to adapt to changing climate risks, this Output will facilitate value-chain and market linkages through innovative, multi-stakeholder Climate Innovation Platforms (CIPs). CIPs will create space for relevant project and non-project partners to collaboratively discuss the challenges of climate change and its impact on water resources and agricultural productivity within their agro-ecological zone and to discuss and promote innovative solutions towards resilient agricultural systems. Each platform will develop a common vision of how to achieve agricultural resilience in the province, integrating existing public and private plans and investments. The platform will identify, develop and promote straightforward and integrated strategies for developing climate-resilient and inclusive value chains, including equitable market access and credit. It will be a platform to engage other programs and projects and therefore facilitate coordination and synergies, information exchange and scaling of good practice from the GCF-financed project. The platform will bring together partners who would otherwise have limited opportunities for exchange and collaboration. The CIPs will focus on improving the agricultural systems towards pro-poor, ethnic minority inclusion and gender-responsiveness.
49. To ensure that smallholders are able to sustain post project climate resiliency of their agro-ecosystems under conditions of evolving climate variability, the project will leverage government co-financing to build the capacities of smallholders to access credit for investments in climate-resilient agricultural technologies and practices, operations and maintenance of irrigation infrastructure and efficiency equipment, and acquisition of essential climate-resilient inputs for crop production. At the same time, the project will work with lenders to streamline protocols and procedures, as well as to develop and apply appropriate instruments for lending to poor/near-poor smallholder farmers for their adaptation investments.

50. To enable climate-risk informed agricultural planning, this Output will also enhance the capacities of extension staff and the farmers in generation and use of agro-climate advisories. Increasing the quality and accessibility of climate information will enable smallholders to use a key climate risk management tool to enhance the resilience of farming systems in the Central Highlands and South-Central Coast regions. With systematic reception and interpretation of climate and weather information, smallholders will be able to plan for and manage the impacts of increased climate variability. As climate change increasingly challenges traditional local knowledge of key farming cycles (by, for example, raising the unpredictability of optimal planting dates) or increases the likelihood of unseasonable rain or droughts, farmers are increasingly in need of access to actionable weather and climate information that can help them cope with these changes.

Activity 2.1: Investments in inputs and capacities to scale up climate-resilient cropping systems and practices (soil, crop, land management) among smallholders through Farmer Field Schools

51. This activity will focus on empowering farmers with the skills and capacities, as well as continual access to information, to enable them to choose suitable options to increase the resilience of their farms and income streams. Analysis and identification of climate-resilient practices and technologies to be adopted and upscaled has been carried out as part of project preparation. By analyzing climate vulnerability, identifying existing cropping patterns, mapping soil types, and grouping similar communes based on these factors, models of climate-resilient cropping systems were defined for each cluster of communes. These models include shifting to more resilient crops or crop varieties, intercropping and crop diversification, and methods for improvement of water and soil management.
52. To strengthen the resilience and productivity of cropping systems and increase access to information, technical support and other resources and services supporting climate resilient agriculture (CRA), the project will implement comprehensive Farmer Field School programs, with one program for each of 14 sub-project sites. Each program will consist of one or more FFS linked to a particular Climate Innovation Platform located at agro-ecosystem level. The Farmer Field School programs will be demand-driven, practical and specific per agro-climate zone. Specific attention will be paid to reach women farmers and ethnic minorities, for example by setting up women-only classes, engaging women lead farmers and trainers, using local languages, applying flexible time and location of trainings and using visual materials and interactive formats.
53. The FFS program will focus on the promotion of CRA packages of crops, practices, and inputs customized by each agroecological zone level CIP. These CRA packages have been developed during project preparation based on an in-depth analysis of current and projected climate risks and impacts on water and agricultural productivity, baseline perennial and annual crop or tree systems, soil types, whether agro-ecosystems are rainfed or irrigated, local Government priorities, existing farmer good practices and taking into account gender and ethnic minority considerations. The CRA packages have been presented to communities (men's and women's groups, ethnic minorities, poor, near-poor and non-poor smallholders) and local authorities, discussed and refined, with cropping system priorities identified as a result (see the sub-assessment report on climate resilient agriculture for a table detailing the correspondence between communes, crops and climate-resilient alternatives).
54. At Farmer Field Schools, farmer champions selected from the different communes in the target regions will learn simple methods of analyzing local agroecosystem vulnerability using traditional knowledge and scientific information, evaluate and confirm appropriate climate risk mitigation measures, refine and adapt the CRA models for local farm-level application, and learn methods and practices of managing soil, water and crop genetic resources to ensure ongoing, iterative adaptation to continuing climate change. After "graduating" from FFS, these farmers will upscale this approach across the two regions by returning to their communities and training neighboring farmers with supervision and support from government and NGOs. By utilizing existing farmer extension services but strengthening their outreach, materials and farmer-to-farmer learning systems, the project will reach approximately 180,000 small farmer households, at least 50% of whom will be poor/near-poor farmers.
55. The provincial DARD AEC will lead the implementation of the FFS for the province and the district DARD AEC the implementation in the respective sub-project. Technical support for the design, content, training and organization of the FFS will be provided by an external non-Government research institute or NGO, and private sector partners will be engaged as trainers where the expertise is not available

within DARD. The Farmers' Union and the VWU will provide organizational support to DARD, use their vast networks to ensure outreach, and ensure gender and inclusion mainstreaming.

56. The FFS program will begin by sensitizing farmers and local authorities to the scope and purpose of the FFS, establish or re-activate FFS groups, and improve existing agricultural extension training materials and tools to incorporate climate risk and impact information, integrate technical details on CRA packages and ensure gender and inclusion mainstreaming. The CRA packages identified and consulted during the Feasibility Study will be finalized in consultation workshops led by DARD AEC, and core facilitators and trainers of trainers will be engaged and trained. Finally, these trainers will teach farmers in FFS about relevant topics within the CRA packages (see section 6.3 Recommendations to improve agricultural resilience in the Feasibility Study), who would then go back to their communities to train an additional number of their neighbors. The FFS and CRA would receive participatory monitoring, and FFS results would be documented for discussion and scaling support through CIPs and other platforms.
57. For poor and near-poor farmers, particularly ethnic minorities and women, their perception of the risk involved in borrowing money to implement a series of new CRA practices is expected to limit their interest in engaging with the project and participating in the FFS, affecting any subsequent adoption of the CRA practices and systems. To address this obstacle to full adoption and application of the CRA package, a conditional, **performance-based voucher system** will be integrated within the FFS to motivate poor and near poor farmers with financial incentives to participate in and complete the FFS program and apply the CRA packages. The system will allow farmers to redeem vouchers for a wide range of agricultural inputs sold by registered local private sector suppliers that are required as per the proposed CRA packages. After one or two years of this kind of support tied to performance at the FFS and on-farm and the development of a simple business plan, a farmer's participation in the voucher system will be phased out. Compared to traditional input subsidies or in-kind support, the voucher system is more cost effective, easier to implement, more flexible and tailored to different farmer profiles, stimulates local markets and private sector growth, limits the risk of crowding out private sector, and empowers farmers to make their own informed decisions on what they need in light of their specific household situations. Please refer to section 5.5. of the Feasibility studies for more details on the voucher system.
58. The voucher system will be developed and implemented through the following steps, replicating global good practice and experience from FAO Viet Nam during the recent drought recovery:
 - Consultations or sensitization with local authorities and communities to ensure buy-in;
 - Participatory market mapping and assessment and listing of agricultural supplies eligible for vouchers;
 - Participatory beneficiary selection;
 - Selection and contracting of suppliers;
 - Participatory design of vouchers;
 - Set up of beneficiary accountability mechanism;
 - Voucher distribution linked to participation in FFS and the development of a simple business plan;
 - Voucher redemption, reconciliation and reimbursement,
 - Monitoring of use of vouchers and market prices
59. The district DARD AEC will be responsible for developing, implementing and monitoring the voucher system, with technical support from a research organization or NGO, and organizational support from the Farmers' Union and the VWU. It will be implemented at sub-project CIP level and linked to the FFS program and the CRA packages.
60. Key sub-activities include:
 - 2.1.1 Sensitize smallholders to establish/re-activate 900 Farmer Field Schools
 - 2.1.2 Train DARD personnel and lead farmers, as well as other interested parties (NGOs, Farmers and Women's Unions, etc.) to build a cadre of farmer champions to galvanize adoption and application of CRA packages (15 provincial level workshops for 30 DARD

staff in years 2, 4 and 6; 28 district and 120 commune level trainings for 30 lead farmers in years 2 and 6)

- 2.1.3 Train farmers and value chain actors – particularly private sector input providers, buyers, processors, transporters - through 900 FFS on scaling up of climate resilient cropping systems and practices. (Each FFS will conduct 1-day trainings twice per year)
- 2.1.4 Investment support to 8,621 targeted poor/near poor smallholders to acquire inputs and technologies for implementation of the CRA packages through vouchers.
- 2.1.5 Participatory auditing of implementation of voucher systems for climate resilient cropping systems and practices (One 1-day meeting for 100 participants in each of the 60 communes in Years 2, 4 and 6)

61. Activity 2.2 Technical assistance for enhancing access to markets and credit for sustained climate-resilient agricultural investments by smallholders and value chain actors

The principal strategy for enabling access to reliable markets on a sustained basis will be the establishment of Climate Innovation Platforms (CIPs) that bring together representatives of the key stakeholders in specific value chains: growers; mass organizations, as well as cooperatives and other associations; input providers; buyers; lending institutions; GoV and NGO technical assistance organizations; key climate, market and agricultural information providers; and others, as relevant. These multi-stakeholder platforms will enable relevant value chain stakeholders to collaboratively discuss the challenges of climate change and its impact on water resources and agricultural productivity in their locality and to discuss and promote innovative solutions towards resilient agricultural systems. Each CIP will develop a strategy for the climate-resilient production and commercialization of at least one particular value-chain; stakeholders, will commit to collaborating in the implementation of the strategy they develop.

62. Establishment of CIPs, along with technical assistance to enhance access to markets and finance, is intended to leverage and sustain community and private sector financing during and after project implementation. CIPs will ensure fluid development, communication and discussion of any new climate vulnerability assessments and agro-climate advisories and market information, as well as agreements regarding production of climate-resilient crops. Private sector financing will be leveraged through agreements between poor/near-poor farmers and buyers who are participating in CIPs. The project will also enable smallholder producers' groups to access credit by linking them directly to lenders on the multi-stakeholder CIPs.
63. The CIPs will be created at two levels that will be linked to enhance information flow and coordination:
- Provincial CIPs: as policy dialogue, information sharing and scaling platforms;
 - Sub-project CIPs: at climate-agro-ecological system level, as technical collaboration, information sharing and monitoring platforms.
64. The provincial CIPs meet biennially, are chaired by the provincial DARD and bring together decision-makers, policy experts and technical advisors from different governmental organizations. A primary focus of these CIPs will be on improving the capacities of and support to poor/near-poor, ethnic minority and women for their inclusion in climate resilient value chains. Provincial CIPs will aim to improve understanding and collaboration among stakeholders across the various value chains within the agro-ecological zones in their provinces.
65. The sub-project CIPs (14) will be located at the level of agro-ecological zones and comprise clusters of communes with similar climate risks and agricultural profiles (key annual and perennial cropping systems, soil types and rainfed/irrigated areas).
66. The sub-project CIPs will meet on a six-monthly or annual basis and focus on the development of climate-resilient value chains, including productive and sustainable cropping systems, increased market access, and enabling farmers to obtain credit.

The specific objectives of the sub-project CIPs are:

- Implementation of solutions to challenges and bottlenecks for achieving climate resilient value chains, based on participatory analysis and mutual interests;
 - Establishment and nurturing of partnerships, including contractual relationships;
 - Coordination and synergy of various activities dealing with issues related to capacity building, access to input and services, local policies for promoting climate resilient agriculture options; linkages to market and engagement of potential private sectors;
 - Periodic exchange of experiences and knowledge to promote learning and refine activities among the stakeholders;
 - Scaling up and out of best practices and lessons from the project's sites through meetings, fairs and other networks.
67. The sub-project CIPS will be chaired by the district DARD and involve similar organizations as at provincial level. The DARD chairpersons and a representative number of sub-project CIP members as required will also participate in the provincial CIP to ensure institutional linkage and two-way reporting and information exchange. At the project initiation stage, the sub-project CIPs will each develop a five-year action plan for achieving climate resilient value chains, in line with the vision of the provincial CIPs, and incorporating activities as planned through the GCF-financed project, WEIDAP project and from other GoV and non-GoV projects and programs. The work plan will be monitored and updated on an annual basis, and progress towards inclusive agricultural resilience will be reported upon, including in the provincial CIPs.
68. To enable market linkages with input and technology suppliers and buyers for resilient agricultural products and to stimulate farmer-to-farmer and farmer-to-trader learning across scale, the project will organize sub-project CIP level farmer trade fairs. The fairs will be organized biennially and by the DARD AEC. Through the fairs, suppliers, traders and buyers will present resilient crop varieties, advances in irrigation or water-efficiency technologies, machinery, post-harvest and food processing techniques, etc. In addition, farmers will present their experience with successfully implemented CRA packages and encourage scaling by other farmers or private sector investment.
69. Market information will be accessed from a variety of existing sources such as private sector and government agencies – who are participating in the provincial as well as the sub-project CIPs - and packaged to accompany the agro-climate advisories produced under Activity 2.3, below. In this way, farmers have a complete menu of information available for better informed agricultural planning that is productive, sustainable and resilient to the identified climate risks. This activity will be linked to the CIP strategy and plans for development of resilient value chains and be integrated under the CIP work plans to ensure a systematic exchange of information and support for the establishment of long-term partnerships.
70. In addition to the voucher system described under Activity 2.1, above, as an incubator for farmer investment in improved CRA practices and technologies, the project will further increase access to credit by organizing FFS farmer-level agricultural credit information sessions. The key Government credit providers, the VBARD, VBSP and the VWU will be invited to participate in provincial and sub-project CIPs and will also be offered a platform for sharing updated information directly with farmers on credit products accessible to the poor and near-poor. Farmers will thereby receive better information and have an opportunity to inquire about information and discuss barriers to access directly with the credit providers. The project aims to provide credit providers with better information on farmer needs with the aim of having them develop tailored, pro-poor and improved credit products for CRA investments. The project will also seek collaboration with LienVietPostBank and VWU to present their 'Vi Viet' e-wallet services for improved access to small credit for poor and near-poor women in the target areas.
71. Through leveraged GoV co-financing, the project will invest in building capacities of smallholder farmers with the skills and information they need to plan and manage their agricultural production as a small business, including learning to access markets for climate-resilient farm products in order to generate the revenue required to sustain ongoing climate resiliency of their agroecosystems. At the same time, smallholders will learn how to manage financial resources, particularly credit, to permit them to purchase inputs, cover the costs of operations and maintenance of irrigation equipment and improve crop, soil and water management to enhance productivity and climate resiliency of their

agroecosystems. Farmers will attend Farmer Field Schools to learn the skills necessary for business planning, including analysis of market information, cost calculations, estimations of profit and loss, and investment planning. Farmers will learn operations and maintenance of key farm assets, as well as financial management to capitalize O&M funds and ensure financing is available for farm business operations.

72. Information will be accessed from a variety of existing sources² such as SMS-based systems of NGOs, private sector and government projects and packaged to accompany the agro-climate advisories developed under Output 2.3.

73. Key sub-activities include:

- 2.2.1 Establish and operationalize multi-stakeholder Climate Innovation Platforms (CIP) in each province and at the level of agro-ecological zones (Annual stakeholder meetings organized once every two years in each of the 5 provinces)
- 2.2.2 Provide technical assistance and training to enable market linkages with input, information and technology providers and buyers for climate-resilient agricultural production (two trainings, two networking workshops and three trade fairs in each of the 14 districts over four years)
- 2.2.3 Provide technical assistance and train farmers to enable access to credit through financial intermediaries (One workshop in each of the 60 communes in years 2 and 4)

Activity 2.3 Co-development and use of localized agro-climate advisories by smallholders to enhance climate-resilient agricultural production

74. This project will improve the current GoV forecasting and advisory systems towards a more farmer needs-driven agro-climate information service. This activity will develop and disseminate climate information in the form of agricultural advisories tailored to local agricultural systems and socio-economic conditions. This will be done by replicating Participatory Scenario Planning, a proven multi-stakeholder approach for enabling access to seasonal climate forecasts, understanding and interpretation of the forecasts and associated uncertainty into locally relevant information that is useful in decision making and planning for CRA and climate resilience. Official and scientific weather, climate and agricultural planning information will be combined with farmer knowledge and experience to jointly develop user-friendly and farmer-relevant advisories per season and per cropping system.

75. Linked to the development of the Climate Innovation Platforms, the project will assemble a technical group in charge of the co-development of seasonal and ten-to-fifteen-day agro-climate advisories, called the Agro-Climate Information Services (ACIS) technical group. The ACIS technical group will be led by the district DARD and be comprised of provincial hydro-meteorological services staff, district agricultural staff, mass organizations and representatives of the FFS lead farmers. DARD will be trained and technically supported by an external research organization or NGO experienced in developing agro-climate advisories through Participatory Scenario Planning processes. Sub-groups will be formed as required to produce tailored advisories for different cropping systems within the sub-project.

76. These groups will meet and discuss agricultural and climate information, trends and patterns at pre-season, post-season and 10-day/15-day periods. The platforms will use data and information provided by the network of weather stations, farmer champions, and other sources to develop and package easily accessible agro-climate advisories. Agro-climate and weather advisories will be developed for all 14 districts in the project and will enhance models that can support further replication at low cost.

77. The seasonal agro-climate advisories will be developed as follows, with steps repeated as needed to enhance iterative learning and adaptation feedback loops:

² For example, Viettel, AgriMedia through Vinaphone, VnSAT project by WB, Green Coffee project by the NGO ICCO

- Training of provincial hydro-meteorological staff on generating and interpreting downscaled weather forecasts and climate risk information for agricultural planning;
 - Agro-ecological zoning to support improved downscaling and advisory development;
 - Formation of ACIS technical group at the sub-project CIP level;
 - Training of ACIS technical group members on participatory scenario planning for development of agro-climate advisories, community facilitation and engagement with women and ethnic minorities;
 - Co-development of seasonal agro-climate advisories through Participatory Scenario Planning workshops;
 - Advisory dissemination or communication, through paper bulletins, village notice boards, radio, television, SMS and the GoV loudspeaker system;
 - Farmer-to-farmer advisory interpretation and learning sessions, facilitated by the lead farmers with mentoring support from the Farmers' Union and the VWU;
 - Development of ten-to-fifteen days agro-climate advisories;
 - Post-seasonal feedback and refinement of agro-advisories.
78. Advisories produced by multi-stakeholder platforms will be disseminated through traditional local administrative systems via written notifications, loudspeakers, TV and radio; through farmer champions from each platform disseminating to neighboring farmers in their commune/village; and through a partnership with a private sector operator to communicate via SMS and mobile phone applications. Where appropriate, translation to ethnic minority languages will also be supported. To enhance replication, the project will ensure that local government officials are also trained in the system and will encourage information sharing by the government in other districts to promote potential replication through government systems.
79. Key sub-activities include:
- 2.3.1 Train 50 hydromet and DARD staff on generating and interpreting down-scaled forecasts for use in agricultural planning (eight training over four years for 50 participants)
 - 2.3.2 Provide technical assistance for the formation ACIS technical groups and training of 420 participants at district level (1-day workshops for 30 participants in each of the 14 districts)
 - 2.3.3 Co-develop, through Participatory, Scenario Planning (PSP) of seasonal and 10-day/15-day agro-climate advisories with smallholder farmers (20 provincial level trainings for 30 staff and 56 district level trainings for 60 participants over four years)
 - 2.3.4 Disseminate advisories to 139,416 households in the 60 communes.

1.3 ENVIRONMENTAL AND SOCIAL RISK ASSESSMENT

80. As this project is supported by UNDP in its role as a GCF Accredited Entity, the project has been screened against UNDP's Social and Environmental Standards Procedure. The screening considered both the proposed activities to be undertaken as part of the GCF project and the associated WEIDAP project elements. The Social and Environmental Screening Template was prepared and the project deemed to be a moderate risk (Category B) project. Discussions on the impact assessment are provided in the Social and Environmental Screening Template, which provided the rationale for the project being classified as a moderate risk. This ESMF provides further discussion below.
81. An impact risk assessment was undertaken using the UNDP Social and Environmental Screening Procedure to assess the probability (expected, highly likely, moderately likely, not likely) (Table 1) and the impact of the risk (critical, severe, moderate, minor, negligible) (Table 2). From this, a significance value was attributed to the potential impact (negligible, low, medium, high and extreme) using the UNDP risk matrix (Table 3).

Table 1 Rating of Probability of Risk

Score	Rating
5	Expected

4	Highly Likely
3	Moderately likely
2	Not Likely
1	Slight

Table 2 Rating of Impact of Risk

Score	Rating	Definition
5	Critical	Significant adverse impacts on human populations and/or environment. Adverse impacts high in magnitude and/or spatial extent (e.g. large geographic area, large number of people, transboundary impacts, cumulative impacts) and duration (e.g. long-term, permanent and/or irreversible); areas impacted include areas of high value and sensitivity (e.g. valuable ecosystems, critical habitats); adverse impacts to rights, lands, resources and territories of indigenous peoples; involve significant displacement or resettlement; generates significant quantities of greenhouse gas emissions; impacts may give rise to significant social conflict
4	Severe	Adverse impacts on people and/or environment of medium to large magnitude, spatial extent and duration more limited than critical (e.g. predictable, mostly temporary, reversible). The potential risk impacts of projects that may affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples are to be considered at a minimum potentially severe.
3	Moderate	Impacts of low magnitude, limited in scale (site-specific) and duration (temporary), can be avoided, managed and/or mitigated with relatively uncomplicated accepted measures
2	Minor	Very limited impacts in terms of magnitude (e.g. small affected area, very low number of people affected) and duration (short), may be easily avoided, managed, mitigated
1	Negligible	Negligible or no adverse impacts on communities, individuals, and/or environment

Table 3 UNDP Risk matrix

Impact	5					
	4					
	3					
	2					
	1					
		1	2	3	4	5
	Probability					
Green = Low, Yellow = Moderate, Red = High						

82. When undertaking the risk assessment, all activities were assessed, including, hard/soft infrastructure and livelihood interventions (Table 4). Specific measures for each matter eg water, erosion, noise etc are discussed along mitigation measures later in this ESMF.

Table 4 Risk Assessment and Proposed Mitigation Measures

Activity	Unmitigated Impacts	Probability of Impact and Impact	Avoidance and Mitigation Measures	Probability of Impact and Impact post mitigation
Output 1: Enhanced water security for agricultural production for vulnerable smallholder farmers in the face of climate-induced rainfall variability and droughts				
<i>Activity 1.1: Establish large-scale irrigation infrastructure to bring irrigation water to eight farming areas across the target regions</i>				
	Loss of land, disruption of farming activities during construction leading to loss of income	Probability: 4 Impact: 2 Risk Level: Mod	Seek to minimise land required. Engage with EMs and if FPIC required, develop and implement an IPP. Early engagement with farmers to optimise opportunities for planting and harvest planning to minimise disruptions. Undertake construction in one area before moving to the next.	Probability:4 Impact: 2 Risk Level: Mod
	Potential contamination of groundwater due to construction activities, and potential contamination by fertilisers during operation.	Probability: 3 Impact: 3 Risk Level: Mod	Apply ESMF during construction Farmers to be trained in appropriate irrigation and fertilisation practices. Minimise use of chemical fertilisers.	Probability: 2 Impact: 3 Risk Level: Mod
	Construction impacts – air pollution, noise, waste, community safety	Probability: 4 Impact: 2 Risk Level:Mod	No burning of waste on site. Construction to be limited to hours of 7am-6pm Machinery to be fitted with required air and noise protection equipment and to be in good working order. Equipment to be sited to minimise impacts on sensitive receptors	Probability: 2 Impact: 2 Risk Level: Low

Annex IV– Environmental and Social Management Framework

Green Climate Fund Funding Proposal

Activity	Unmitigated Impacts	Probability of Impact and Impact	Avoidance and Mitigation Measures	Probability of Impact and Impact post mitigation
			<p>Earthworks to be confined to times of year when soil moisture is high to minimise dust, wet dirt roads down if necessary.</p> <p>Work force to be issued with appropriate PPE and training.</p> <p>High risk work sites to be fenced to minimise public access.</p> <p>Apply ESMF</p>	
	Pumping equipment operation – requires high voltage power supply to operate pumps, which has associated safety/heath risks.	<p>Probability: 2</p> <p>Impact: 3</p> <p>Risk Level: Mod</p>	<p>Pumping stations to be secured from public access.</p> <p>Private operators to be trained in high voltage pumping operations.</p>	<p>Probability: 1</p> <p>Impact: 3</p> <p>Risk Level: Low</p>
	Erosion and sedimentation – excavation and removal of vegetation will leave ground exposed to erosion and potential deterioration of surface water quality.	<p>Probability: 3</p> <p>Impact: 3</p> <p>Risk Level: Mod</p>	<p>Work areas to be limited in extent where possible ie complete small areas before moving to next area.</p> <p>Sediment and erosion controls to be employed (apply ESMF)</p> <p>Avoid earthworks when heavy rainfall is expected.</p> <p>Catchment management plan to be developed and implemented</p> <p>Apply ESMF</p>	<p>Probability: 2</p> <p>Impact: 2</p> <p>Risk Level: Low</p>

Annex IV– Environmental and Social Management Framework

Green Climate Fund Funding Proposal

Activity	Unmitigated Impacts	Probability of Impact and Impact	Avoidance and Mitigation Measures	Probability of Impact and Impact post mitigation
	Unexploded ordnance – poses risk of human injury	Probability: 2 Impact: 4 Risk Level: Mod	Mine clearance to be carried out prior to site handover	Probability: 1 Impact: 4 Risk Level: Low
	Improper design – SCADA facilities may impose incorrect release patterns from reservoirs	Probability: 2 Impact: 2 Risk Level: Low	Review detailed engineering design work	Probability: 1 Impact: 2 Risk Level: Low
	Impacts to ecology by labourers and construction workers	Probability: 2 Impact: 3 Risk Level: Mod	Labourers and construction workers will be prohibited from collecting native species at all times during the construction contract. Apply ESMF	Probability: 2 Impact: 2 Risk Level: Low
	Community OHS risk - Increased vehicular movement around and within the sites	Probability: 3 Impact: 2 Risk Level: Mod	High risk work sites to be fenced during their operation sot minimise public access Training to be given to drivers to ensure understading of site requirements. Non-conforming drivers to be automatically replaced	Probability: 2 Impact: 2 Risk Level: Low
	Construction waste – solid waste will increase during construction eg bulk transport and packing waste, waste from construction camps, offcuts and scrap materials,	Probability: 4 Impact: 2 Risk Level: Mod	Apply ESMF	Probability: 3 Impact: 2 Risk Level: Low

Activity	Unmitigated Impacts	Probability of Impact and Impact	Avoidance and Mitigation Measures	Probability of Impact and Impact post mitigation
	Lack of O&M can result in failure of schemes	Probability: 2 Impact: 3 Risk Level: Mod	Irrigation management committees (IMCs) to be formed. Build capacity of IMCs. O&M funds to be set up. Designs to consider O&M and seek to minimise cost/requirement.	Probability: 2 Impact:2 Risk Level: Low
	In-stream infrastructure – impacts to flow Barrages and weirs can prevent upstream migration of fish	Probability: 2 Impact:3 Risk Level: Mod	Hydrology and hydraulics to be considered in design Design to allow for fish passage Include sediment traps / scouring or ability to remove manually	Probability: 2 Impact:2 Risk Level: Low
<i>Activity 1.2: Establish last-mile connections between WEIDAP irrigation infrastructure and the vulnerable poor and near poor farmer lands to help cope with increasing rainfall variability and drought</i>				
	Loss of land eg hydrant points	Probability: 4 Impact: 2 Risk Level: Mod	Minimise area of land required. Engage with farmers to identify sites that will have least impact. Implement EM Action Plan and if triggered, develop and implement IPP.	Probability: 3 Impact:2 Risk Level: Mod
	Disruption to farming during construction	Probability: 4 Impact: 2 Risk Level: Mod	Farmers to be given adequate notification to allow for planning of planting/harvesting in affected areas. Minimise construction footprint	Probability: 2 Impact:2 Risk Level: Low

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Activity	Unmitigated Impacts	Probability of Impact and Impact	Avoidance and Mitigation Measures	Probability of Impact and Impact post mitigation
	Loss of biodiversity due to expansion of perennial crops	Probability: 2 Impact: 3 Risk Level: Mod	Loss of biodiversity expected to be low as mixed cropping proposed and much of command area planned for rice will be converted to perennial crop.	Probability: 2 Impact: 2 Risk Level: Low
	Increase in nutrient runoff/contamination of groundwater due to increased fertiliser use	Probability: 3 Impact: 3 Risk Level: Mod	Adoption of Water Efficient Agriculture Techniques will result in reduced applications of fertiliser and reduced fertiliser infiltration to groundwater.	Probability: 2 Impact: 3 Risk Level: Mod
	Irrigation can lead to over-extraction of water if water resource not appropriately managed.	Probability: 3 Impact: 3 Risk Level: Mod	Improve climate monitoring system to enable better forecasting and management of water resources Undertake hydrological assessments to determine flow and intra/inter-annual variations of water resources Upgrade existing schemes to make more water efficient/climate proof	Probability: 2 Impact: 3 Risk Level: Mod
	Community OHS risk - Increased vehicular movement around and within the sites	Probability: 3 Impact: 3 Risk Level: Mod	High risk work sites to be fenced during their operation to minimise public access Training to be given to drivers to ensure understanding of site requirements. Non-conforming drivers to be automatically replaced Implement SEP	Probability: 2 Impact: 2 Risk Level: Low

Activity	Unmitigated Impacts	Probability of Impact and Impact	Avoidance and Mitigation Measures	Probability of Impact and Impact post mitigation
	Erosion and sedimentation – excavation and removal of vegetation will leave ground exposed to erosion and potential deterioration of surface water quality.	Probability: 3 Impact: 3 Risk Level: Mod	Sediment and erosion controls to be employed (apply ESMF) Avoid earthworks when heavy rainfall is expected. Apply ESMF	Probability: 2 Impact: 2 Risk Level:Low
<i>Activity 1.3: Enhance supplementary irrigation of rain fed smallholders to cope with rainfall variability and drought</i>				
	Rainfall insufficient to fill ponds adequately Pond size inappropriate for water needs	Probability: 3 Impact:3 Risk Level: Mod	Detailed engineering analysis and design	Probability: 2 Impact: 2 Risk Level: Low
	Construction OHS risks	Probability: 3 Impact: 2 Risk Level: Mod	Training and adoption of OHS practices, implementation of ESMF	Probability: 2 Impact: 2 Risk Level: Low
	Health and safety risks eg: drowning hazard (water storages)	Probability: 2 Impact:4 Risk Level:Mod	Fence water storages where appropriate	Probability: 1 Impact: 4 Risk Level:Mod
	O&M practices not adopted or sustained	Probability: 2 Impact: 4 Risk Level: Mod	Operationalize O&M, provide training, setup sustainable funding mechanisms	Probability: 1 Impact: 2 Risk Level: Low

Activity	Unmitigated Impacts	Probability of Impact and Impact	Avoidance and Mitigation Measures	Probability of Impact and Impact post mitigation
<i>Activity 1.4: Increase smallholder capacities to apply on-farm practices and technologies to maximize water efficiency to cope with rainfall variability and drought</i>				
	<p>Training does not reach appropriate representative group.</p> <p>Representation of women and other vulnerable groups poor</p>	<p>Probability: 3</p> <p>Impact: 2</p> <p>Risk Level: Mod</p>	<p>Partipatory approach with community input to identification of lead farmers to attend Farmer Field Schools (FFS).</p> <p>Engage broad group and in sufficient numbers</p> <p>Implement Gender Assessment Action Plan, Minority Action Plan and IPP, if required..</p>	<p>Probability: 2</p> <p>Impact: 2</p> <p>Risk Level: Low</p>
	<p>Lead farmers fail to pass on knowledge or limited thereby jeopardising sustainability</p>	<p>Probability: 2</p> <p>Impact: 3</p> <p>Risk Level: Mod</p>	<p>Knowledge transfer facilitated by organisation of workshops and on-site assistance for lead farmer to engage additional farmers.</p> <p>FFS provides collaborative learning space for lead farmers. Participatory approach builds ownership and commitment.</p> <p>Use a participatory action-research approach that builds on discussion and analysis of farmers' priorities and problems to select the appropriate tested techniques or practices to apply.</p> <p>Implement GAP and EM Action Plan</p>	<p>Probability: 2</p> <p>Impact: 2</p> <p>Risk Level: Low</p>

Activity	Unmitigated Impacts	Probability of Impact and Impact	Avoidance and Mitigation Measures	Probability of Impact and Impact post mitigation
	Water efficient technology not taken up or not sustained	Probability: 2 Impact: 3 Risk Level: Mod	Demonstrate effectiveness through FFS, farmers to contribute to investment, provide training in O&M and improved financial management for O&M costs.	Probability: 1 Impact: 2 Risk Level: Low
Output 2: Increased resilience of smallholder farmer livelihoods through climate-resilient agriculture and access to climate information, finance, and markets				
<i>Activity 2.1: Investments in inputs and capacities to scale up climate-resilient cropping systems and practices (soil, crop, land management) among smallholders through Farmer Field Schools</i>				
	Representation of women and other vulnerable groups poor	Probability: 3 Impact: 3 Risk Level: Mod	Implement Gender Assessment Action Plan and EM Action Plan.	Probability: 2 Impact: 2 Risk Level: Low
	Potential loss of trained staff and knowledge	Probability: 3 Impact: 3 Risk Level: Mod	Train the trainer Consider a mentor/mentee approach Succession planning	Probability: 2 Impact: 3 Risk Level: Mod
	Priority climate driven issues not selected/dealt with. CRA packages inappropriate or poorly implemented.	Probability: 2 Impact: 3 Risk Level: Mod	Participatory approach to identify farmer needs. Identification and refining of CRA package components to address production problems and implementation on farmer plots and centralized learning locations	Probability: 1 Impact: 2 Risk Level: Low

Activity	Unmitigated Impacts	Probability of Impact and Impact	Avoidance and Mitigation Measures	Probability of Impact and Impact post mitigation
<i>Activity 2.2: Technical assistance for enhancing access to markets and credit for sustained climate-resilient agricultural investments by smallholders and value chain actors</i>				
	Women and vulnerable groups not appropriately represented	Probability: 3 Impact: 3 Risk Level: Mod	Implement Gender Action Plan and EM Action Plan	Probability: 1 Impact: 2 Risk Level: Low
<i>Activity 2.3: Co-development and use of localized agro-climate advisories by smallholders to enhance climate-resilient agricultural production</i>				
	Forecasts not regular or consistent	Probability: 2 Impact: 3 Risk Level: Mod	Operationalise analysis of data and production of products using standard operating procedures supporting software.	Probability: 1 Impact: 3 Risk Level: Low
	Farmers don't receive weather information in a timely manner and/or in a form that is not easily understood.	Probability: 2 Impact: 3 Risk Level: Mod	Feedback on the usefulness of the information to be provided to DARD to enable improved tailoring of products Use multiple information dissemination channels, including SMS-based advisories and incorporate indigenous knowledge into formal information products	Probability: 1 Impact: 2 Risk Level: Low
	Farmers don't trust weather forecasts or don't understand information/actions required	Probability: 2 Impact: 2 Risk Level: Lo	DARD officers to be first point of call for weather/climate related questions from farmers and communities. These outreach officers to be supported with training and printed materials	Probability: 1 Impact: 2 Risk Level: Low

1.3.1 Assumptions Underpinning the Development of the Environmental and Social Management Framework

83. The following assumptions have been made in the preparation of this ESMF:

- safeguard instruments already prepared under the WEIDAP project can be considered as linked documents;
- none of the interventions will require the resettlement of people ie there will be no loss of homes or similar infrastructure;
- none of the interventions will be conducted in protected areas or sensitive locations;
- appropriate erosion and sediment control will be undertaken during all stages of the projects; and
- there will be no release of pollution and/or chemicals as a result of the projects.

1.3.2 Purpose and Objectives of the Environmental and Social Management Framework

84. An ESMF is a management tool used to assist in minimizing the impact to the environment and socially; and establish a set of environmental and social objectives. It has been prepared to support the implementation of the GCF project “Strengthening the resilience of smallholder agriculture to climate change-induced water insecurity in the Central Highlands and South-Central Coast regions of Vietnam”. The GCF project will be undertaken in association with the WEIDAP project across 14 districts and 60 communes. There are a number of safeguard instruments already prepared for the WEIDAP project and these have been considered and should continue to be considered in the context of this ESMF.

85. The ESMF provides the framework to guide the development of sub-project or site/issue specific environmental and social management plans, as required. As a framework, it provides the flexibility for the inclusion of existing plans or procedures that meet the project safeguard requirements, for example, relevant WEIDAP safeguard instruments, plans and procedures may be adopted as part of the GCF project safeguards implementation provided they meet the objectives of the ESMF.

86. To ensure the environmental and social objectives of the projects are met, this ESMF will be used by the project implementers to structure and control the environmental and social management safeguards that are required to avoid or mitigate adverse effects on the environment and communities.

87. The environmental and social objectives of the projects are to:

- improve the water supply in the targeted areas and introduce water conservation measures;
- provide locally relevant weather forecasts to farmers so that better use of water resources is made and adequate measures are undertaken prior to any extreme event;
- improve communication and cooperation between various stakeholders
- encourage good management practices through planning, commitment and continuous improvement of environmental practices;
- minimise or prevent the pollution of land, air and water pollution;
- protect native flora, fauna and important ecosystems;
- comply with applicable laws, regulations and standards for the protection of the environment;
- adopt the best practicable means available to prevent or minimise environmental impact;
- describe monitoring procedures required to identify impacts on the environment; and
- provide an overview of the obligations of MARD and UNDP staff and contractors in regard to environmental obligations.

88. The ESMF will be updated from time to time by the implementing Project Management Unit (PMU)/contractor in consultation with the UNDP staff and DARD to incorporate changes in the detailed design phase of the projects.

1.3.3 Screening Procedure of the Environmental and Social Management Framework

89. Initial screening was undertaken using UNDPs Social and Environmental Screening Procedure (SESP). Further assessment of the proposed activities was undertaken, and risks and potential mitigations presented (Table 4).

90. The UNDP SES and GCF ESS applies to all phases of the project, therefore, during project implementation, it may be necessary to screen sub-projects and/or sub-activities prior to implementation. Selection of appropriate sub-projects and detailed design of sub-projects will be done in conjunction with local people as part of the early implementation. Screening will be done against the UNDP SESP. DARD and UNDP are responsible for ensuring that screening of sub-projects and public disclosure occurs. Any sub-projects that meet the criteria of the Exclusion List (below) will not be considered further.

1.3.3.1 Exclusion List

91. No activities considered potentially “high-risk” will be permitted
92. In addition, project activities will be screened against the following “negative list” or “exclusion list”. The following sub-projects or activities will be deemed ineligible for the Building climate resilience of vulnerable agricultural livelihoods in southern Zimbabwe project if they:
- Involve significant conversion or degradation of natural habitats and/or may cause measureable adverse impacts to critical natural habitats;
 - Risk the introduction of alien and potentially invasive alien species;
 - May negatively affect endangered species;
 - Involve physical or economic displacement of people;
 - Could result in damage or loss to cultural heritage;
 - Do not meet minimum design standards with poor design or construction quality, particularly if located in vulnerable areas;
 - Require or involve:
 - o Production or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements;
 - o Purchase, application or storage of harmful pesticides or hazardous materials;
 - o Production or activities involving forced labour / harmful child labour;
 - o Production or trade in wood or other forestry products from unmanaged forests;
 - o Trade in wildlife or wildlife products regulated under CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora).

1.3.3.2 Screening of sub-projects

93. This section sets out a process for screening sub-projects and associated elements during project implementation. Any sub-project and associated elements developed during the Project should be evaluated according to the screening process described below to determine the potential risk of associated environmental and social impacts, and associated mitigation options.
94. The process consists of the following steps:
95. Step1: at the time of preparing Terms of Reference for each sub-project or associated element (TA or services delivery component), each sub-project or associated element shall be screened and categorized, with a decision made to proceed with further project formulation, or to “design out” potential adverse impacts, by modifying the proposal to ensure it remains within Category B or C, and identify relevant safeguards instruments.
96. Sub-projects will be screened against Vietnamese Law as part of Step 1. Activities will be assessed against MoNRE requirements to determine whether an EIA will be required (refer S 2.2). DARD is responsible to have MoNRE assess any SEAs or EIAs that may be required as per Vietnamese law.
97. Step 2: Preparation of required safeguards instruments (EIA &/or ESMP) including stakeholder consultations as necessary
98. Step 3: Review of prepared safeguards instruments as per Vietnamese law and UNDP/GCF safeguards policies; additional stakeholder consultations as deemed necessary.
99. Step 4: Disclosure of approved instruments locally and on UNDP’s website. In the case of Category B sub-projects, the EIA and/or ESMP will be disclosed at least 30 days in advance of the approval

decision. The safeguard reports will be available in both English and the local language. The reports will be submitted to GCF and made available to GCF via electronic links in both UNDPs and the GCF's website as well as in locations convenient to affected peoples in consonance with requirements of GCF Information Disclosure Policy and Section 7.1 of (Information Disclosure) of GCF Environmental and Social Policy.

100. Step 5: Implementation – monitoring, reporting and remedial measures. Ongoing consultations and community engagement.

1.3.4 Land Issues

101. All land in Vietnam belongs to the population as a whole. The state administers the land on its behalf, and citizens and organizations rely upon land-use rights but do not own land.
102. Beginning in the late 1980s, Vietnam implemented reform processes that included the allocation of land-use rights to farmers. By 2009, the state had allocated to land users 72% of Vietnam's total land area and almost all of its agricultural land. By 2010, it had issued land-right certificates covering roughly half of Vietnam's land parcels and more than 90% of farm households.
103. Tenure rights in Vietnam are essentially usufruct rights, meaning that right holders may use land, but cannot own it. Use rights include the right to a state-issued land-use right certificate (LURC), which entitles holders to sell, rent, exchange, mortgage and bequeath their use rights, and to exclude others from the land. The state may grant use rights, and users may also legally acquire use rights through lease, inheritance or grant from a family member and purchase. LURCs are necessary for formal state recognition of a user's rights and for secured tenure, formal land transactions, access to formal credit and legal protection of land-use rights.
104. While Vietnam's laws emphasize gender equality regarding access to and use of property and land, in practice women hold fewer rights to land. As compared to men, women are allocated smaller plots and receive less land overall, and although the law requires that LURCs list the names of both spouses for jointly held property, women are not equally represented on LURCs. ³
105. The law allows the state to acquire land used by citizens for a wide range of purposes, including national defense and security, national interest, public interest and economic development. Land for installation of the WEIDAP major pipelines, pump stations and hydrants will be required. The households that will be affected will be compensated for the loss of land.
106. No resettlement of people or infrastructure, such as houses will be required by the project. The 'last mile' activities of the GCF project are unlikely to have any significant impact. None the less, the safeguard documents associated with land issues eg Resettlement and Ethnic Minority Development Plans prepared for WEIDAP should be referenced if there is likely to be significant loss of productivity (including temporary) due to the project.

1.3.5 Indigenous Peoples

107. The definition of ethnic minority status in Vietnam is based on the criteria of: (i) a language different from the national language; and (ii) long traditional residence on, or relationship with, land and long traditional social institutions; (iii) a self-provided production system; and (iv) a distinct cultural identity and self-identification as a distinct cultural group that is accepted by neighboring ethnic groups.
108. The Constitution of Viet Nam (2013), Art. 5 acknowledges equality and equal rights among ethnic groups, upon which also the Government policy and programs on ethnic minority development are based upon. Constitution 2013, Articles 58 and 61 point out that ethnic minorities and people living in the mountainous regions are given priority in education and health care services.
109. The main vehicle for implementing government policies concerning ethnic minorities is through the Committee for Ethnic Minorities (CEMA).

³ <https://www.land-links.org/country-profile/vietnam/>

110. All five target provinces have indigenous ethnic minority populations such as the Cham, Raglai and Chau Ro in the South-Central Coast and the E De, Gia Lai and Mo Nong (or M'Nong) in the Central Highlands. The indigenous ethnic groups all live under a matriarchal social system. The Central Highlands also have a large share of immigrated minority groups such as Tay, Nung, Thai, Muong, H'Mong, K'Ho, Chu Ru ea. who mainly came from the North decades ago as part of Government-supported internal labor migration. These latter groups as well as the Kinh are patriarchal.
111. While all five target provinces have different ethnic minority groups, their share out of the total population is highest in Dak Nong (29%), Ninh Thuan (23.1%) and Dak Lak (19.6%). There is a clear correlation between poverty and ethnic minority background, with the poverty rate among ethnic groups in these provinces particularly high in Khanh Hoa (68.6%), Dak Nong (40.8%), Ninh Thuan (38.8%), Dak Lak (37.2%) and Binh Thuan (19.5%) compared to the national poverty rate among the entire population. Ethnic minority poverty is particularly high in remote upland areas and in communes with higher rates of ethnic minority population.
112. In Vietnam, indigenous people are able to claim their lands. The project targets indigenous people as they are often the most vulnerable. Indigenous farmers will be able to connect to the irrigation scheme and/or benefit from improved agricultural practices as a result of the project. The project does not require farmers to move, land required will be for farm infrastructure (pipes, ponds etc) and will be owned and managed by the farmers.
113. As part of the development of this project, consultation has been undertaken with indigenous groups in the areas being targetted by the project. From the concept development stage, there was recognition by the Government of Viet Nam that the primary target group of this project should be the most vulnerable populations and that ethnic minority groups account for a disproportionate share of poor households in the country. shows that in the five provinces targeted in this project, 20-69% of ethnic minorities belong to the poor category and another 9-15% to the near poor category. The likelihood of ethnic minorities being either a poor or near-poor household is systematically higher than for non-EM groups.

Table 5 Poor, near poor and ethnic minorities in target provinces (refer Appendix 1)

	Whole Country	Khanh Hoa	Ninh Thuan	Binh Thuan	Dak Lak	Dak Nong
Rate of poor household as whole	9.88	9.87	14.93	5.81	19.37	19.26
Rate of poor household among ethnic minority	23.1	68.6	38.8	19.54	37.17	40.75
Rate of near poor in households as whole	5.22	6.96	8.82	3.95	8.28	6.15
Rate of near poor households among ethnic minority	13.6*	9.8	14.95	8.66	10.91	8.6

114. The ESMF contains requirements for social inclusion and provides a grievance mechanism.
115. The project recognises that, as per the GCF Indigenous Peoples Policy, “indigenous peoples often have identities and aspirations that are distinct from mainstream groups in national societies and are disadvantaged by traditional models of mitigation, adaptation and development. In many instances, they are among the most economically marginalized and vulnerable segments of the population. The economic, social and legal status of indigenous peoples frequently limit their capacity to defend their rights to, and interests in, land, territories and natural and cultural resources, and may restrict their ability to participate in and benefit from development initiatives and climate change actions.”
116. The risk assessment (refer SESP) undertaken as part of the project development indicated that the risk of adverse impacts from the project to ethnic minorities was low, therefore the ESMF could adequately cover risks associated with EMs and a separate Indigenous Peoples Plan was not required at this stage. None the less, given the importance of ensuring that the needs of ethnic minorities continues to be considered and met throughout the project, in addition to the specific references to EMs

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that are made in this document and other safeguard documents eg Gender Action Plan and Stakeholder Engagement Plan, an Ethnic Minorities Action Plan has been prepared (Appendix 4).

117. Furthermore, prior to implementation, each sub-project/sub-activity will be assessed to identify whether any previously unidentified adverse impacts to EMs are likely and whether the need for FPIC and an IPP is triggered using the questions in Table 5. Where a 'yes' answer is returned, there is likely to be a need for FPIC and an IPP would be prepared based on the IP Planning Framework (Appendix 5).

Table 6 Checklist for appraising whether an activity may require an FPIC process

No.	FPIC Screening Questions	Yes / No
1	Will the activity involve the relocation/resettlement/removal of an indigenous population from their lands?	
2	Will the activity involve the taking, confiscation, removal or damage of cultural, intellectual, religious and/or spiritual property from indigenous peoples?	
3	Will the activity adopt or implement any legislative or administrative measures that will affect the rights, lands, territories and/or resources of indigenous peoples (e.g. in connection with the development, utilization or exploitation of mineral, water or other resources; land reform; legal reforms that may discriminate de jure or de facto against indigenous peoples, etc.)?	
4	Will the activity involve natural resource extraction such as logging or mining or agricultural development on the lands/territories of indigenous peoples?	
5	Will the activity involve any decisions that will affect the status of indigenous peoples' rights to their lands/territories, resources or livelihoods?	
6	Will the activity involve the accessing of traditional knowledge, innovations and practices of indigenous and local communities?	
7	Will the activity affect indigenous peoples' political, legal, economic, social, or cultural institutions and/or practices?	
8	Will the activity involve making commercial use of natural and/or cultural resources on lands subject to traditional ownership and/or under customary use by indigenous peoples?	
9	Will the activity involve decisions regarding benefit-sharing arrangements, when benefits are derived from the lands/territories/resources of indigenous peoples (e.g. natural resource management or extractive industries)?	
10	Will the activity have an impact on the continuance of the relationship of the indigenous peoples with their land or their culture?	

118. This will ensure that all GCF-financed activities will avoid adverse impacts on indigenous peoples, and when avoidance is not possible, will minimize, mitigate and/or compensate appropriately and equitably for such impacts, in a consistent way and improve outcomes over time; promote benefits and opportunities; and respect and preserve indigenous culture, including the indigenous peoples' rights to lands, territories, resources, knowledge systems, and traditional livelihoods and practices.

1.4 OVERVIEW OF INSTITUTIONAL ARRANGEMENTS FOR THE ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK PLAN

119. The ESMF will be assessed for each sub-project by the DARD and UNDP prior to any works being undertaken. The ESMF identifies potential risks to the environment and social matters from the projects and outlines strategies for managing those risks and minimising undesirable environmental and social impacts. Further, the ESMF provides a Grievance Redress Mechanism for those that may be impacted by the projects that do not consider their views have been heard.
120. The DARD will be responsible for the supervision of the ESMF. The UNDP will gain the endorsement of the DARD and will ensure the ESMF is adequate and followed. The PMU will ensure timely remedial actions are taken by the contractor where necessary.

1.4.1 Administration

121. The DARD will be responsible for the revision or updates of this document during the course of work. It is the responsibility of the person to whom the document is issued to ensure it is updated.
122. The site supervisor will be responsible for daily environmental inspections of the construction site. The DARD will cross check these inspections by undertaking monthly audits.
123. The contractor will maintain and keep all administrative and environmental records which would include a log of complaints together with records of any measures taken to mitigate the cause of the complaints.
124. The contractor will be responsible for the day to day compliance of the ESMF.
125. The DARD will be the implementing agency and will be responsible for the implementation and compliance with the ESMF via the collaborating partners and contractors. The ESMF will be part of any tender documentation.
126. The Supervising Engineer/Project Manager will supervise the contractor, while the DARD will be responsible for environment and social issues.

1.4.2 Capacity Building

127. The project includes a number of capacity building activities, both for the private and government sectors. Capacity building will include:
- training trainers to lead Farmer Field Schools
 - hands-on farm schools, where lead farmers will be trained so that they can train additional farmers;
 - farmer-to-farmer extension workshops
 - organisational and management training for Irrigation Management Committees, including training in interpretation of climate, weather and agricultural advisories so that they may better disseminate information and implement measures on their irrigation schemes;
 - creation of multi-stakeholder Climate Innovation Platforms to improve production and market linkages as well as value chain partnerships for specific crops
 - train DARD, hydromet staff, ACIS and community observers in collecting data, downscaling meteorological data, and climate/agricultural planning.

2 LEGAL AND INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL MATTERS

2.1 LEGISLATION, POLICIES AND REGULATIONS

128. The following key legislation is relevant to the project:

- Constitution of the Socialist Republic of Vietnam. (2013)
- Decision No. 90/1999/QĐ-BNN-BVTV promulgating a list of pesticides permitted to be used or restricted and banned from being used in Vietnam
- Land Law (2014)
- Law on Hydro-meteorology (2015).
- Law on Irrigation (2017)
- Law on Natural Disaster Prevention and Control (2013)
- Law on Water Resources (2013)
- Decree No 38.2015ND-CP dated 24.4.2015 on the management of wastes and scraps
- Law on Environmental Protection (2014)
- Law on Compulsory Purchase and Requisition of Property (2008)
- Law on Forest Protection and Development (2005)
- Law on Urban Planning (2009)
- Decree Providing Strategic Environmental Assessment, Environmental Impact Assessment and Environmental Protection Commitment
- Circular No 34.2017TT-BTNMT on regulations of retrieval and treatment of discarded products
- Decree No 38.2015ND-CP on the management of wastes and scraps
- Biodiversity Law (2009)
- Law on Cooperatives (2012)
- Law on Water Resources (2012)
- Law on Gender Equality (2007)

129. The following policies and strategies are relevant to the project:

- National Strategy on Environment Protection (NSEP) to 2020, with vision to 2030 (2012).
- National Strategy and Action Plan on Biodiversity by 2020 (2013)
- National Strategy on Gender Equality 2011-2020 was approved in 2011
- Ten-year Socio-Economic Development Strategy (SEDS) and the Five-year Socio-Economic Development Plans (SEDPs).
- Livestock Development Strategy (2008)
- Strategy on Science and Technology in Agriculture and Rural Development (2012)
- National Action Plan on the Implementation of the 2030 Agenda for Sustainable Development (2017)
- National Targeted Program on New Rural Development (NTP NRD) 2016-2020
- National Targeted Program on Sustainable Poverty Reduction (NTP SPR) 2016-2020
- Master Plan on Economic Restructuring 2013-2020
- Master Plan for Aquaculture Development (2013)
- Agriculture Restructuring Plan (ARP) 2013-2020 (2013)
- Vietnam Green Growth Strategy (2012)
- Action Plan for the Development of Advanced and Water Saving Irrigation for Upland Crops to Assist Water Resources Sector Restructuring 2015
- Agricultural Cooperatives Innovation and Development Plan (2014)
- Action Plan on Crop Restructuring (2014, with update in 2016)
- Rice Market Development Strategy (2017)
- Action Plan Framework for Adaptation and Mitigation of Climate Change of the Agriculture and Rural Development Sector for 2008-2020 (2008)

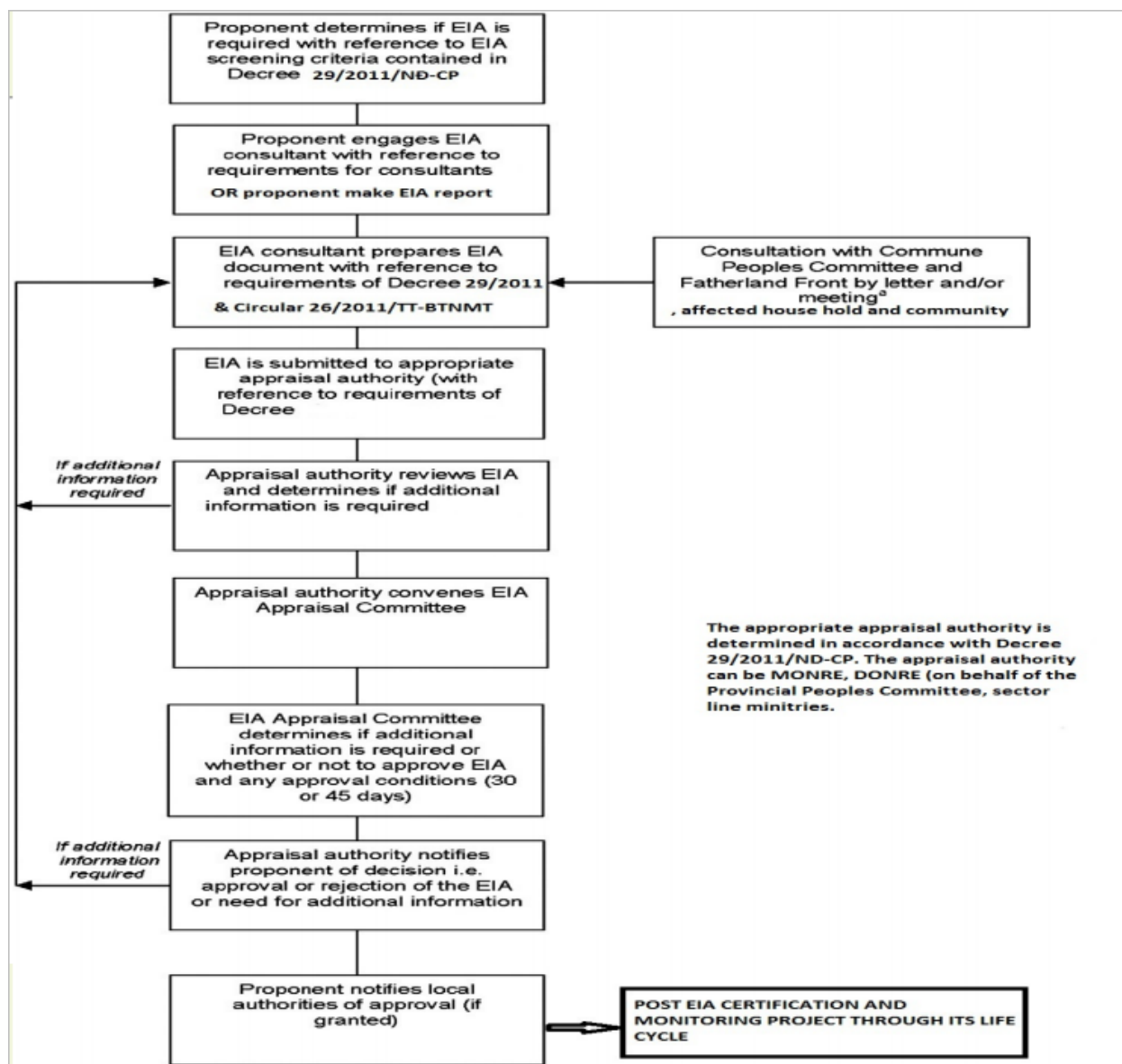
- National Water Resources Strategy (2005)
- National Strategy and Target Program for Rural Water Supply and Sanitation (2011)
- National Strategy on Natural Disaster Prevention, Response and Mitigation (2007)
- National Target Program to Respond to Climate Change 2008)

2.2 ENVIRONMENTAL IMPACT ASSESSMENT IN VIETNAM

130. The EIA process in Vietnam consists of the following stages:

- Screening,
- Assessment,
- Review,
- Approval and Monitoring.

131. Regarding the timing of the EIA process, Article 13 of the SEA and EIA Decree (2011) stipulates that the EIA report shall be made concurrently with the formulation of the feasibility study report of the investment project. The feasibility study is then also part of the dossier of request for the appraisal and approval of the EIA report.



Screening

132. Screening decision is made by Appraisal Council or Appraisal Services Organisation formulated at National or Provincial level depending on the project.
133. Screening is done with a list provided as an appendix of the EIA Decree No. 29/2011/ND-CP. The list contains thresholds based on project feature size/capacities against which EIA requirement is determined. A preliminary EIA report is presented as part of the starting dossier for EIA licence application. This preliminary EIA report alongside a feasibility study (or investment report) of the project act to inform the screening decision authority on the level of EIA required.
134. Provisions for protection and conservation of sensitive areas exist. A full EIA is required for any project with likely effects on such areas.

Assessment process

135. Proponents are required to send the assessment documents to People's committee and people council at community level. The council may request public involvement in case of a contentious issue. It is required to record complains and deliberations during public meetings and include them as part of the EIA report.

Review process

136. The project owner shall submit a dossier of request for appraisal of an environmental impact assessment report to a competent agency. An appraisal agency shall check for completeness. The appraisal agency shall then set up an appraisal council or select an appraisal service provider. No further specifications are given regarding the EIA review process.
137. On the basis of the appraisal agency's notice of appraisal results of the environmental impact assessment report, the project owner shall carry out one of the following activities:
138. a) Making another environmental impact assessment report and submitting it to the appraisal agency for appraisal, if its environmental impact assessment report is not approved. The appraisal time limit and procedures are the same as for the first report;
139. b) Modifying and supplementing the environmental impact assessment report and submitting it to the appraisal agency for consideration and submission to a competent authority for issuance of an approval decision, if the environmental impact assessment report is approved on condition of modification and supplementation. The time limit for modification and supplementation of the report is not counted in the time limit for appraisal and approval of the environmental impact assessment report;
140. c) Sending the environmental impact assessment report to a competent agency for issuance of an approval decision under regulations, if the report is approved without modification and supplementation.

Decision-making

141. EIA report approval is a requirement for, but separate from, the decision on required permits for project approval.
142. Depending on scale and level of project, it may be the Department of EIA and Appraisal-MoNRE or other ministries/ Governmental bodies at national level or the People Committee at the local level which approve the EIA report.
143. Once the EIA reports are approved, an approval decision is issued and the EIA reports are they are certified. Decisions, including the reasons thereof, are communicated to the proponent in writing.
144. The decision is made public. A report on the decision as well as the certified EIA report are sent to various institutions, depending on which leve the approval decision has been taken.

Monitoring, Compliance and Enforcement

145. An environmental control program is part of the EIA report and then serves as a basis for the development of a environmental control plan after the EIA report has been approved. The agency approving the EIA report is responsible for inspection.
146. Suspension of permit of operation or other penalizing measures are issued if the proponent does not comply with measures in the already approved environmental protection plan.

Public participation

147. The new LEP (2005) and the regulations under it (Decree No.80/2006/ND-CP, Decree No. 21/2008/ND-CP, Decree No 29/2011/ND-CP) include provisions for public consultations at two stages - in preparation phase and in review phase of the EIA report.
148. The consultation process during the process of EIA reporting is determined to be as follows: The people to be consulted are the People's Committee of the affected commune and representatives of the affected communities and organizations. The project owner has to send them a written request for consultation together with brief documents on the major investment items of the project, on environmental issues and on environmental protection measures. When necessary, the People's Committee may then convene the representatives of the affected communities and organizations to a meeting and notify the project owner of it. The project owner shall be part of the meeting. Its results have to be recorded in writing and signed by the present parties. Within 15 working days after receiving the written request for consultation, the People's Committee should then send a written reply to the project owner and publish it. If it does not do so, it is assumed that the people agree to the project plan. Agreeing and disagreeing opinions will be summarized in the EIA report.
149. The proponent, public/ NGOs and private parties can appeal against decisions approving EIA reports.

2.3 MULTILATERAL AGREEMENTS AND BIODIVERSITY PROTOCOLS

150. The Government of Vietnam is a signatory to a number of international and regional agreements and conventions, which are related to the environment. They include:
- 1948 Constitution of the International Rice Commission
 - 1951 International Plant Protection Convention
 - 1956 Plant Protection Agreement for the Asia and Pacific Region
 - 1969 Agreement establishing a Food and Fertiliser Technology Centre for the Asian and Pacific Region
 - 1971 Convention on Wetlands of International Importance especially as Waterfowl Habitat
 - 1971 Agreement establishing the Pepper Community
 - 1972 Convention concerning the Protection of the World Cultural and Natural Heritage
 - 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora
 - 1978 Agreement for the Establishment of a Centre on Integrated Rural Development for Asia and the Pacific
 - 1979 Amendment to the Convention on International Trade in Endangered Species of Wild Fauna and Flora
 - 1985 Vienna Convention for the Protection of the Ozone Layer
 - 1991 International Convention for the Protection of New Varieties of Plants (consolidated version)
 - 1992 United Nations Framework Convention on Climate Change
 - 1997 Kyoto Protocol to the United Nations Framework Convention on Climate Change
 - 1998 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade
 - 1992 Convention on Biological Diversity
 - 2000 Cartagena Protocol on Biosafety to the Convention on Biological Diversity
 - 2001 Stockholm Convention on Persistent Organic Pollutants
 - 2012 Agreement on the Establishment of the Global Green Growth Institute
 - 2015 Paris Agreement

2.3.1 Alignment of National Policies and Laws with GCF Safeguard Standards

The project is designed to conform to GCF environmental and social policies and standards as outlined in the Environmental and Social Policy, Indigenous Peoples Policy and the Performance Standards. This section shows how Vietnam's national policies and laws are aligned to the specific GCF Performance Standards.

2.3.1.1 *Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts*

151. Equivalent with regulations under the Law on Environmental Protection (2014). Articles 18 –28, section 3 on “Environment Impact Assessment” under the Law; and articles 29-34 under section 4 on “Environmental Protection Plan” of the Environmental Law align with the GCF Standard.
152. Viet Nam Law on Environmental Protection (LEP) requires Environmental Impact Assessment (EIA) for all projects, which helps to identify funding proposal's environmental and social risks impacts and identify and implement mitigation measures to reduce impacts.
153. The EIA process requires full consultation with affected communities in and around project areas, including communications, compensation if needed, and implementation of mitigations measures.

2.3.1.2 *Performance Standard 2: Labor and Working Conditions*

154. Equivalent and full alignment with regulations under the Labour Law 2012:
 - Fair treatment, non-discrimination, equal opportunity is specifically stipulated under the Article 4. State policies on labour - defines that “2. Guarantee the legitimate rights and interests of employers, to ensure lawful, democratic, fair and civilized labor management, and to promote corporate social responsibility.” And the Article 90. Salaries - stipulates that “3. Employers shall pay salaries fairly without discrimination against genders of employees who perform equal works.” In addition, the Law No. 51/210/QH12 on Persons with Disability also provides complimentary protection of right of people with disability in labour and working conditions
 - Good worker–management relationship is specified under the Article 5 on Responsibility of Employer, provide clear guidance and promote safety and health for workers, especially vulnerable workers.
 - Comply with national employment and labour laws;
 - Protect workers, in particular those in vulnerable categories; (CHAPTER XI); Additional regulations to provide support for labour and working conditions on their safety and hygiene is detailed under the Law No. 84/2015/QH13 on Safety and Hygiene of Labour.

Promote safety and health; (See CHAPTER IX). Article 5 on Responsibility of Employer, provide clear guidance and promote safety and health for workers, especially vulnerable workers.

Avoid use of forced labour or child labour. (CHAPTER XI). Besides, the Law No. 10/2016/QH13 on Children provide overall legislation framework to protect child rights in different context.

2.3.1.3 *Performance Standard 3: Resource Efficiency and Pollution Prevention*

155. Alignment with regulations under the Law on Environmental Protection (LEP, 2014)
156. Key articles under the Law that directly emphasize GCF principles include: Article 4 on Principles of environmental protection; Article 6. Course of actions that are advised to take to protect the environment. Many related chapters in the Environmental Law detail out the specific practices and requirement on environment, natural resource and climate change issues.
157. Viet Nam Law on Environmental Protection (LEP) requires Strategic Environmental Assessment for all development policies and plans and Environmental Impact Assessment for all project, to ensure avoid, minimize, reduce environmental pollutions, including demanding implementation of mitigation measure to reduce potential impacts/pollutions.

158. The Laws on Biodiversity, Land, Forest, Water, Minerals, Energy Development, Energy Efficiency, Construction, Transport, Investments and related regulations include principles and measures to ensure sustainable development and resource efficiency.

2.3.1.4 Performance Standard 4: Community Health, Safety, and Security

159. In most of the case, the standard will be regulated in alignment with regulations under the Civil Code (2015). The code protects personal rights in accordance with relevant human rights, include right to life, safety of life, health and body, which may refer to different articles 25-39 under Section 2 on Personal Rights Protection of properties are regulated under the Chapter VII of the Civil Code

160. In special circumstances, due to national defense and security, social safety and order, social ethics and the community's health, beside the civil code the other law will be applied, including:

- Law on community health protection (1989, under consideration for revision,)
- Law on national security (2004) and related decrees and circulations under the law.

2.3.1.5 Performance Standard 5: Land Acquisition and Involuntary Resettlement

161. Equivalent with regulations under the Land Law (2014). Specifically, the standard closely aligns with the Chapter 6 of the Land law on Land Recovery, Land Requisition, Compensation, Support and Resettlement under the Land Law.

2.3.1.6 Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

162. The Viet Nam Biodiversity Law (2009) and its implementation regulation provides clear framework for “biodiversity conservation and sustainable development; rights and obligations of organizations, households and individuals in the biodiversity conservation and sustainable development”

163. Biodiversity Law/Article 6. State management responsibilities for biodiversity: “1. The Government performs the unified state management of biodiversity. ...”

164. Biodiversity Law/Chapter 3 provide guidance, principles and actions to maintain ecosystems and their services. “CHAPTER III - CONSERVATION AND SUSTAINABLE DEVELOPMENT OF NATURAL ECOSYSTEMS”

165. Law on Environmental Protection stipulate requirements on Strategic Environmental Assessment, requiring the integration of conservation needs and environmental protection into all development strategies and plans.

166. The Viet Nam Law on Forestry (2017) and its subordinate regulations stipulate a range of principles and rules in sustainable management of forest resources.

167. Article 3 sets Rules for forestry operation that require “manage forest areas and quality sustainably to ensure the harmony with targets for socio-economic development, national security, biodiversity conservation...”

168. Chapter II/Section 4 provides clear guidance on closing natural forest for restoration of biodiversity and protection functions.

169. Chapter IV/Article 37. Forest ecosystem protection stipulates that “State authorities, organizations, households, individuals and communities directly affecting forest ecosystems or forest organism growth and development shall conform to provisions stated herein and regulations of law on environmental safety, biodiversity protection...”

2.3.1.7 Performance Standard 7: Indigenous Peoples

170. The Civil code (2014) provides basic protection of rights of different ethnic groups, including their rights to identity and rights to re-identify ethnicity.

171. Following the Article 7 of the Civil code, the law ensures the preservation of national identities, respect and promote good customs, practices and traditions, solidarity, mutual affection and cooperation, the principle of every individual for the community and the community for every individual and the noble ethical values of ethnicities living together on Vietnamese soil.
172. Besides the civil law, there are existing legal framework and strategies where rights of ethnic minorities are protected, prioritised and strengthened, including: -
- Mar 2011: the 10-year national socio-economic development strategy (2011-2020) highlighted the importance of health and education services for EM people. The policy was followed by the Prime Minister's Decision No. 2356/QĐ-TTg (2013) on issuing the Action-plan for implementation of the Strategy on EM work by 2020: i) Made a long term vision and priority to develop EM areas; and ii) Clearly identified the list of tasks and master-plan for implementation of the Strategy on EM work by 2020
 - Prime Minister's Decision No. 1557/QĐ-TTg (Sep, 2015) on approval of some indicators for implementation of the MDGs acceleration for EM and linked to SDGs after 2015 (MAP-EM): i) integrated and combine the EM indicators development with MDGs and SDGs after 2015; ii) integrated EM indicators development into SEDP in middle term, work-plans of each line ministry, sector and localities; and iii) combined different resources for EM development and participation in SED process.
 - 2011 and 2016: The National Targeted Programme for Poverty Reductions (period 2011-2015 and 2016-2020): i) Article 3: poor households in ethnic minority areas and women of poor households shall be given priority; ii) a separate Programme (P135) for supporting extreme difficulty-hit communes, border communes, communes in safety zones, extreme difficulty-hit mountainous hamlets/villages (mostly the EM groups living areas).
 - National Assembly's Resolution No. 88/2019/QH14 (Nov, 2019) on approval of the Master Plan for Socio-economic Investment and Development for Ethnic Minority, Mountainous and Extremely Difficult Areas 2021-2030.

2.3.1.8 Performance Standard 8: Cultural Heritage

173. Law on Cultural Heritage passed in 2001 (and was amended in 2009) provides clear legal framework on enhance the State management effectiveness and raise the people's sense of responsibility for taking part in the protection and promotion of the cultural heritage value.
174. The Law covers two chapters (Chapter III and IV) which detail the protection and promotion of the values of intangible and tangible cultural heritages.
175. Chapter V/Article 63. "The State adopts policies and measures for boosting cooperative relationship with foreign countries, organizations and individuals in the protection and promotion of the values of cultural heritage on the basis of respect for each other's independence, national sovereignty, equality and mutual benefit..."

3 IMPLEMENTATION AND OPERATION

3.1 GENERAL MANAGEMENT STRUCTURE AND RESPONSIBILITIES

176. The national executing entity - also referred to as the national 'Implementing Partner' (IP) in UNDP terminology - for this project is Ministry of Agriculture and Rural Development (MARD). Within MARD, the 'Central Projects Office' (CPO) is delegated to coordinate the project.
177. Nationally implementation responsibility will be assigned to a project Management Unit (PMU) within the CPO of MARD while in the provinces, implementation will be assigned to a suitably qualified provincial agency nominated by the PPC (likely to be the Departments of Agriculture and Rural Development – DARD) as implementing agencies.
178. The project organization structure is as shown in figure 3: This project is arranged as an Umbrella project according to ODA management terminology of the Vietnamese government.

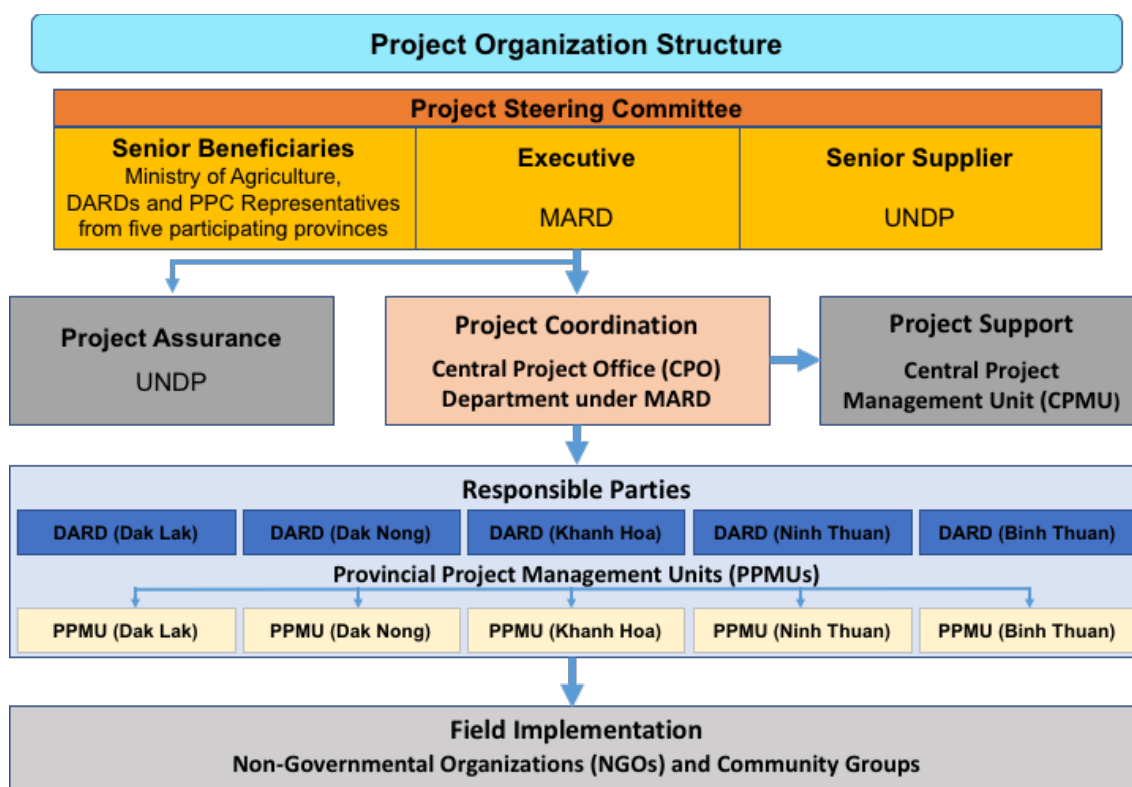


Figure 3 Project organisation structure

3.1.1 Project Board and sub-committee

179. The project will be governed by a Project Steering Committee (PSC). The PSC is co-chaired by UNDP and MARD and comprises the following organizations: CPO/MARD, UNDP, and the five PPCs of Dak Lak, Dak Nong, Khanh Hoa, Ninh Thuan and Binh Thuan province. The Project Board is responsible for making, by consensus, management decisions when guidance is required by the National Project Director. Project Board decisions will be made in accordance with standards that shall ensure management for development results, best value for money, fairness, integrity, transparency and effective international competition. The Project Board will meet every six months.
180. The following parties will enter into agreements with MARD to assist in successfully delivering project outcomes and are directly accountable to MARD as outlined in the terms of their agreement:

Department of Agriculture and Rural Development (DARD) of Dak Lak, Dak Nong, Khanh Hoa, Ninh Thuan and Binh Thuan provinces will serve as the 'Responsible Parties (RPs)' for the execution of the two outputs and activities in each of the five targeted provinces.

181. In accordance with HPPMG and Viet Nam's ODA regulations, MARD's Minister will delegate authority to the PPCs of five participating provinces to take the roles and responsibilities for designated outputs/activities. On behalf of MARD, CPO will be coordinating five PPCs on planning, management, implementing and M&E of the project based on the signed agreements.

3.1.2 Central Project Management Unit (CPMU)

182. CPO will establish a Central Project Management Unit (CPMU) to support project implementation. The CPMU will play a key role as Project Manager. The CPMU also coordinates and provides technical support to the Provincial Project Management Units (PPMUs) with quarterly and annual planning. CPMU is responsible for supervising and expediting the implementation progress of the RPs activities.
183. Provincial project management units (PPMUs) housed in DARDs fulfill the responsibility for delivering activities under their component projects including procurement, account operations, preparation of progress reports and necessary implementation evaluation reports. As per the umbrella arrangement the PPCs role is to sign off the Provincial Project Procurement Plan
184. The National Project Director will run the project on a day-to-day basis on behalf of MARD within the parameters laid down by the Project Board. The National Project Director position will end when the final project terminal evaluation report and other documentation required by the GCF and UNDP have been completed and submitted to UNDP. The National Project Director is responsible for day-to-day management and decision-making for the project. The National Project Director's prime responsibility is to ensure that the project produces the results specified in the project document to the required standard of quality and within the specified constraints of time and cost.

3.1.3 Project Assurance

185. UNDP's overall role as an Accredited Entity is to provide oversight and quality assurance through its Headquarter, Regional, and Country Office units. The role includes: (i) project preparation oversight; (ii) project implementation oversight and supervision, including financial management; and (iii) project completion and evaluation oversight. It also includes oversight roles in relation to reporting and knowledge management.
186. The "project assurance" function of UNDP is to support the Project Board by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. Project assurance has to be independent of the Project Manager; therefore, the Project Board cannot delegate any of its assurance responsibilities to the Project Manager. A UNDP Programme Officer, or M&E Officer, holds the Project Assurance role on behalf of UNDP.
187. The "senior supplier" role of UNDP is to represent the interests of the parties which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The senior supplier's role must have the authority to commit or acquire supplier resources required. If necessary, more than one person may be required for this role. The Implementing Partner/Executing Entity, UNDP, and/or donor(s) would be represented under this role.

3.2 PROJECT DELIVERY AND ADMINISTRATION

3.2.1 Project Delivery

188. The project will be delivered on the ground via the MARD through its subsidiary departments. In addition, collaboration with Commune Committees, existing NGOs and local communities is expected UNDP.

3.2.2 Administration of Environmental and Social Management Framework

189. As the implementing agency, MARD will be responsible for the implementation with the ESMF via the delivery organisations, in particular DARD.
190. The ESMF and any relevant safeguard instruments already prepared under the WEIDAP project will be part of any tender documentation. The DARD will be responsible for the revision or updates of this document during the course of work. It is the responsibility of the person to whom the document is issued to ensure it is the most up to date version.
191. The UNDP and DARD are accountable for the provision of specialist advice on environmental and social issues to the delivery organisations (eg contractors and/or NGOs) and for environmental and social monitoring and reporting. The DARD or its delegate will assess the environmental and social performance of the delivery organisations (eg contractors) in charge of delivering each component throughout the project and ensure compliance with the ESMF. During operations the delivery organisations will be accountable for implementation of the ESMF. Personnel working on the projects have accountability for preventing or minimising environmental and social impacts.
192. The Field Officer will be responsible for daily environmental inspections of the project/construction site. The DARD or its delegate will cross check these inspections by undertaking monthly audits.
193. The delivery organisation eg contractor will maintain and keep all administrative and environmental records, which would include a log of complaints together with records of any measures taken to mitigate the cause of the complaints.
194. The delivery organisation will be responsible for the day to day compliance of the ESMF.

3.2.3 Environmental procedures, site and activity-specific work plans/instructions

195. Environmental procedures provide a written method describing how the management objectives for a particular environmental element are to be obtained. They contain the necessary detail to be site or activity-specific and are required to be followed for all construction works. Site and activity-specific work plans and instructions are to be issued. These may include plans and procedures developed as part of the WEIDAP project or follow examples from previously successful work undertaking similar projects by the UNDP, FAO, IFAD, World Bank, ADB, Oxfam and World Vision.
196. The need for ESMPs and/or environmental procedures should be based on the outcomes of screening of sub-projects and stakeholder engagement (appropriate stakeholder is central to the identification of potential risks and development of suitable mitigation measures). ESMPs may draw on the issues/actions already outlined in the ESMF, adding to them to make them site or activity specific.
197. Environmental procedures, site and activity specific work plans can be prepared by DARD or its delegate (including the contractor), but must be approved by DARD prior to site work commencing.

3.2.4 Environmental incident reporting

198. Any incidents, including non-conformances to the procedures of the ESMF are to be recorded using an Incident Record and the details entered into a register. For any incident that causes or has the potential to cause material or serious environmental harm, the Field Officer shall notify the Project Manager as soon as possible. The delivery organisation/contractor must cease work until remediation has been completed as per the approval of DARD.

3.2.5 Daily and weekly environmental inspection checklists

199. A daily environmental checklist is to be completed at each work site by the relevant Field Officer and maintained within a register. A weekly environmental checklist is to be completed and will include reference to any issues identified in the daily checklists completed by the field officers. The completed checklist is to be forwarded to DARD for review and follow-up if any issues are identified.

3.2.6 Corrective Actions

200. Any non-conformances to the ESMF are to be noted in weekly environmental inspections and logged into the register. Depending on the severity of the non-conformance, the Field Officer may specify a corrective action on the weekly site inspection report. The progress of all corrective actions will be tracked using the register. Any non-conformances and the issue of corrective actions are to be advised to DARD.

3.2.7 Review and auditing

201. The ESMF and its procedures are to be reviewed at least every two months by UNDP staff and DARD.

202. The ESMF will be reviewed and amendments made if:

- There are relevant changes to environmental conditions or generally accepted environmental practices; or
- New or previously unidentified environmental risks are identified; or
- Information from the project monitoring and surveillance methods indicate that current control measures require amendment to be effective; or
- There are changes to environmental legislation that are relevant to the project; or
- There is a request made by a relevant regulatory authority; or
- Any changes are to be developed and implemented in consultation with UNDP Staff and DARD. When an update is made, all site personnel are to be made aware of the revision as soon as possible eg through a tool box meeting or written notification.

3.2.8 Monitoring, evaluation and reporting

203. CPMU is responsible for the monitoring and evaluation of the performance of the ESMF. Field Officers and/or contractors will be responsible for day-to-day checks and reporting to PPMUs. PPMUs will collate and report to CPMU on a monthly basis. Any environmental incidents should be immediately reported to CPMU/CPO.

204. The CPMU will report monthly to CPO on status of safeguard instruments and any non-conformances. DARD (or its delegate) and UNDP will review the ESMF and associated documents every two months to ensure that they remain appropriate to the projects needs.

205. In addition, separate monitoring and evaluation assessments may be undertaken as required eg mid-term and terminal evaluations. Such evaluations should provide evidence of positive and negative performance and summarise lessons learnt and/or make recommendations for improvements that can be incorporated into the ESMF.

206. CPO will collate all monitoring and evaluation data and present summary reports at Steering Committee meetings. The reports will provide the basis for the annual environmental and social performance report by UNDP, as the Accredited Entity, to GCF.

3.3 TRAINING

207. Delivery organisations have the responsibility for ensuring systems are in place so that relevant employees, contractors and other workers are aware of the environmental and social requirements for construction, including the ESMF.

208. All project personnel will attend an induction that covers health, safety, environment and cultural requirements.

209. All workers engaged in any activity with the potential to cause serious environmental harm (e.g. handling of hazardous materials) will receive task specific environmental training.

4 COMMUNICATION

4.1 PUBLIC CONSULTATION AND ENVIRONMENTAL AND SOCIAL DISCLOSURE

210. The project was discussed with a wide range of stakeholders including relevant government departments, industry groups, NGOs, and individual community members and approved by Government (Appendix 1). Extensive on-ground consultation has been undertaken during the design of the project (as well as during the earlier projects that this project is aiming to upscale) and it is expected that consultation with any affected communities will continue.
211. During consultations as part of the design of this project, views of ethnic minorities were incorporated by inviting representatives of these groups, representatives from Committees of Ethnic Minorities and NGOs that are supporting issues related to ethnic minorities. Further details are contained in Appendix 1.
212. The ESMF includes public consultation as part of the stakeholder engagement plan, which is contained in Appendix 2. Supplementing the SEP is an Ethnic Minority Action Plan, and where it is determined that FPIC is required (refer S1.3.5) a Indigenous Peoples Plan will be prepared (Appendix 5).
213. The UNDP and DARD will develop and release updates on the project on a regular basis to provide interested stakeholders with information on project status. Updates may be via a range of media eg print, radio, social media or formal reports. A publicized telephone number will be maintained throughout the project to serve as a point of contact for enquiries, concern, complaints and/or grievances. All enquiries, concern, complaints and/or grievances will be recorded on a register and the appropriate manager will be informed. All material must be published in Vietnamese and local languages as appropriate.
214. Where there is a community issue raised, the following information will be recorded:
 - a. time, date and nature of enquiry, concern, complaints and/or grievances;
 - b. type of communication (e.g. telephone, letter, personal contact);
 - c. name, contact address and contact number;
 - d. response and investigation undertaken as a result of the enquiry, concern, complaints and/or grievances; and
 - e. actions taken and name of the person taking action.
215. Some enquiries, concern, complaints and/or grievances may require an extended period to address. The complainant(s) will be kept informed of progress towards rectifying the concern. All enquiries, concerns, complaints and/or grievances will be investigated and a response given to the complainant in a timely manner. A grievance redress mechanism has been included in the ESMF to address any complaints that may not be able to be resolved quickly.
216. Nominated PMU/contractor staff will be responsible for undertaking a review of all enquiries, concern, complaints and/or grievances and ensuring progress toward resolution of each matter.

4.2 COMPLAINTS REGISTER AND GRIEVANCE REDRESS MECHANISM

217. Culturally, Vietnam is not a litigious society. A large number of disputes are resolved outside of court. Vietnamese laws also highly emphasize the role of mediation. Mediation is a mandatory part of certain litigation procedures such as civil litigations, labour and marriage and family litigations. The State encourages the resolution of civil and family disputes and violations of the law which do not amount to

criminal offences by means of mediation. At the local community, groups of non-professional mediators are set up to carry out this mediation mandate⁴.

218. During the construction and implementation phases of any project, a person or group of people can be adversely affected, directly or indirectly due to the project activities. The grievances that may arise can be related to social issues such as eligibility criteria and entitlements, disruption of services, temporary or permanent loss of livelihoods and other social and cultural issues. Grievances may also be related to environmental issues such as excessive dust generation, damages to infrastructure due to construction related vibrations or transportation of raw material, noise, traffic congestions, decrease in quality or quantity of private/ public surface/ ground water resources during irrigation rehabilitation, damage to home gardens and agricultural lands etc.
219. Should such a situation arise, there must be a mechanism through which affected parties can resolve such issues in a cordial manner with the project personnel in an efficient, unbiased, transparent, timely and cost-effective manner. To achieve this objective, a grievance redress mechanism has been included in ESMF for this project.
220. The project allows those that have a complaint or that feel aggrieved by the project to be able to communicate their concern, complaints and/or grievances through an appropriate process. The Complaints Register and Grievance Redress Mechanism set out in this ESMF are to be used as part of the project and will provide an accessible, rapid, fair and effective response to concerned stakeholders, especially any vulnerable group who often lack access to formal legal regimes.
221. While recognising that many complaints may be resolved immediately, the Complaints Register and Grievance Redress Mechanism set out in this ESMF encourages mutually acceptable resolution of issues as they arise. The Complaints Register and Grievance Redress Mechanism set out in this ESMF has been designed to:
 - a. be a legitimate process that allows for trust to be built between stakeholder groups and assures stakeholders that their concerns will be assessed in a fair and transparent manner;
 - b. allow simple and streamlined access to the Complaints Register and Grievance Redress Mechanism for all stakeholders and provide adequate assistance for those that may have faced barriers in the past to be able to raise their concerns;
 - c. provide clear and known procedures for each stage of the Grievance Redress Mechanism process, and provides clarity on the types of outcomes available to individuals and groups;
 - d. ensure equitable treatment to all concerned and aggrieved individuals and groups through a consistent, formal approach that, is fair, informed and respectful to a concern, complaints and/or grievances;
 - e. to provide a transparent approach, by keeping any aggrieved individual/group informed of the progress of their complaint, the information that was used when assessing their complaint and information about the mechanisms that will be used to address it; and
 - f. enable continuous learning and improvements to the Grievance Redress Mechanism. Through continued assessment, the learnings may reduce potential complaints and grievances.
222. Eligibility criteria for the Grievance Redress Mechanism include:
 - a. Perceived negative economic, social or environmental impact on an individual and/or group, or concern about the potential to cause an impact;
 - b. clearly specified kind of impact that has occurred or has the potential to occur; and explanation of how the project caused or may cause such impact; and
 - c. individual and/or group filing of a complaint and/or grievance is impacted, or at risk of being impacted; or the individual and/or group filing a complaint and/or grievance demonstrates that it has authority from an individual and or group that have been or may potentially be impacted on to represent their interest.

⁴ http://www.nyulawglobal.org/globalex/Vietnam.html#_Alternative_Dispute_Resolution

223. Local communities and other interested stakeholders may raise a grievance/complaint at all times to the DARD. Affected local communities should be informed about the ESMF provisions, including its grievance mechanism and how to make a complaint.

4.2.1 Complaints Register

224. Where there is a community issue raised, the following information will be recorded:
225. A complaints register will be established as part of the project to record any concerns raised by the community during construction. Any complaint will be advised to the UNDP and DARD within 24 hours of receiving the complaint. The complaint will be screened. Following the screening, complaints regarding corrupt practices will be referred to the UNDP for commentary and/or advice along with the DARD.
226. Wherever possible, the project team will seek to resolve the complaint as soon as possible, and thus avoid escalation of issues. However, where a complaint cannot be readily resolved, then it must be escalated.
227. A summary list of complaints received and their disposition must be published in a report produced every six months.

4.2.2 Grievance Redress Mechanism

228. The Grievance Redress Mechanism has been designed to be problem-solving mechanism with voluntary good-faith efforts. The Grievance Redress Mechanism is not a substitute for the legal process. The Grievance Redress Mechanism will as far as practicable, try to resolve complaints and/or grievances on terms that are mutually acceptable to all parties. When making a complaint and/or grievance, all parties must act at all times, in good faith and should not attempt to delay and or hinder any mutually acceptable resolution.
229. In order to ensure smooth implementation of the Project and timely and effectively addressing of problems that may be encountered during implementation, a robust Grievance Redress Mechanism, which will enable to the Project Authorities to address the grievances of the stakeholders of the Project has been established.
230. All complaints and/or grievances regarding social and environmental issues can be received either orally (to the field staff), by phone, in complaints box or in writing to the UNDP, DARD or the Construction Contractor. A key part of the grievance redress mechanism is the requirement for the DARD/PMU and construction contractor to maintain a register of complaints and/or grievances received at the respective project site offices. All complainants shall be treated respectfully, politely and with sensitivity. Every possible effort should be made by the DARD/PMU and construction contractor to resolve the issues referred to in the complaint and/or grievance within their purview. However, there may be certain problems that are more complex and cannot be solved through project-level mechanisms. Such grievances will be referred to the Grievance Redress Committee. It would be responsibility of the DARD to solve these issues through a sound / robust process.
231. The Grievance Redress Mechanism has been designed to ensure that an individual and/or group are not financially impacted by the process of making a complaint and/or grievance. The Grievance Redress Mechanism will cover any reasonable costs in engaging a suitably qualified person to assist in the preparation of a legitimate complaint and/or grievance. Where a complaint and/or grievance is seen to be ineligible, the Grievance Redress Mechanism will not cover these costs.
232. Information about the Grievance Redress Mechanism and how to make a complaint and/or grievance must be placed at prominent places for the information of the key stakeholders.
233. The Safeguards officer in the PMU will be designated as the key officer in charge of the Grievance Redress Mechanism. The Terms of Reference for these positions (as amended from time to time) will have the following key responsibilities:
- coordinate formation of Grievance Redress Committees before the commencement of constructions to resolve issues;

- b. act as the focal point at the PMU on Grievance Redress issues and facilitate the resolution of issues within the PMU;
 - c. create awareness of the Grievance Redress Mechanism amongst all the stakeholders through public awareness campaigns;
 - d. assist in redress of all grievances by coordinating with the concerned parties;
 - e. maintain information on grievances and redress;
 - f. monitor the activities of DARD on grievances issues; and
 - g. prepare the progress for monthly/quarterly reports.
234. A two tier Grievance Redress Mechanism structure has been developed to address all complaints and/or grievances in the project. The first tier redress mechanism involves the receipt of a complaint and/or grievance at the Commune/District level. The stakeholders are informed of various points of making a complaint and/or grievance (if any) and the PMU collect the complaints and/or grievances from these points on a regular basis and record them. This is followed by coordinating with the concerned people to redress the grievances. The Safeguards Officer of the PMU will coordinate the activities at the respective District level to address the grievances and would act as the focal point in this regard. The Community Development Officer of the Local Authority or in the absence of the Community Development Officer, any officer given the responsibility of this would coordinate with the Safeguards and Gender Manager of the PMU and DARD in redressing the grievances. The designated officer of the Local Authorities is provided with sufficient training in the procedure of redress to continue such systems in future.
235. The grievance can be made orally (to the field staff), by phone, in complaints box or in writing to the UNDP, DARD or the Construction Contractor. Complainants may specifically contact the Safeguards Officer and request confidentiality if they have concerns about retaliation. In cases where confidentiality is requested (i.e. not revealing the complainant's identity to UNDP, DARD and/or the Construction Contractor). In these cases, the Safeguards Officer will review the complaint and/or grievance, discuss it with the complainant, and determine how best to engage project executing entities while preserving confidentiality for the complainant.
236. As soon as a complaint and/or grievance is received, the Safeguards Officer would issue an acknowledgement. The Community Development Officer receiving the complaint and/or grievance should try to obtain relevant basic information regarding the grievance and the complainant and will immediately inform the Safeguards Officer in the PMU.
237. The PMU will maintain a Complaint / Grievance Redress register at the District Level. Keeping records collected from relevant bodies is the responsibility of PMU.
238. After registering the complaint and/or grievance, the Safeguards Officer will study the complaint and/or grievance made in detail and forward the complaint and/or grievance to the concerned officer with specific dates for replying and redressing the same. The Safeguards Officer will hold meetings with the affected persons / complainant and then attempt to find a solution to the complaint and/or grievance received. If necessary, meetings will be held with the concerned affected persons / complainant and the concerned officer to find a solution to the problem and develop plans to redress the grievance. The deliberations of the meetings and decisions taken are recorded. All meetings in connection with the Grievance Redress Mechanism, including the meetings of the Grievance Redress Committee, must be recorded. The Safeguards Officer for the Grievances Redress Mechanism will be actively involved in all activities.
239. The resolution at the first tier will be normally be completed within 15 working days and the complaint and/or grievance will be notified of the proposed response through a disclosure form. The resolution process should comply with the requirements of the Grievance Redress Mechanism in that it should, as far as practicable, be informal with all parties acting in good faith. Further, the Grievance Redress Mechanism should, as far as practicable, achieve mutually acceptable outcomes for all parties.
240. Should the grievance be not resolved within this period to the satisfaction of the complainant, the grievance will be referred to the next level of Grievance Redress Mechanism. If the social safeguard

and gender officer feels that adequate solutions can be established within the next five working days, the officer can decide on retaining the issue at the first level by informing the complainant accordingly. However, if the complainant requests for an immediate transfer to the next level, the matter must be referred to the next tier. In any case, where the issue is not addressed within 20 working days, the matter is referred to the next level.

241. Any grievance related to corruption or any unethical practice should be referred immediately to the the Office of Audit and Investigation within the UNDP in New York.
242. The Grievance Redress Committee formed at every sub-district level would address the grievance in the second tier. A Grievance Redress Committee will be constituted for every district by the circulars issued by the Peoples Committee, who would also be the Chairman of the GRM Committee.
243. The Safeguard Officer from the PMU will coordinate with the respective Commissioner of Local Government in getting these Committees constituted for each Province and get the necessary circulars issued in this regard so that they can be convened whenever required.
244. The Terms of Reference for the Grievance Redress Committee are:
 - a. providing support to the affected persons in solving their problems;
 - b. prioritize grievances and resolve them at the earliest;
 - c. provide information to the PMU and DARD on serious cases at the earliest opportunity;
 - d. Coordinate with the aggrieved person/group and obtain proper and timely information on the solution worked out for his/her grievance; and
 - e. study the normally occurring grievances and advise PMU, National and District Steering Committee on remedial actions to avoid further occurrences.
245. The Grievance Redress Committee will hold the necessary meetings with the aggrieved party/complainant and the concerned officer and attempt to find a solution acceptable at all levels. The Grievance Redress Committee would record the minutes of the meeting.
246. Grievance Redress Committee will communicate proposed responses to the complainant formally. If the proposed response satisfies the complainant, the response will be implemented and the complaint and/or grievance closed. In cases where a proposed response is unsatisfactory to the complainant, the Grievance Redress Committee may choose to revise the proposed response to meet the complainant's remaining concerns, or to indicate to the complainant that no other response appears feasible to the Grievance Redress Committee. The complainant may decide to take a legal or any other recourse if s/he is not satisfied with the resolutions due to the deliberations of the three tiers of the grievance redress mechanism.
247. In addition to the project-level and national grievance redress mechanisms, complainants have the option to access UNDP's Accountability Mechanism, with both compliance and grievance functions. The Social and Environmental Compliance Unit investigates allegations that UNDP's Standards, screening procedure or other UNDP social and environmental commitments are not being implemented adequately, and that harm may result to people or the environment. The Social and Environmental Compliance Unit is housed in the Office of Audit and Investigations, and managed by a Lead Compliance Officer. A compliance review is available to any community or individual with concerns about the impacts of a UNDP programme or project. The Social and Environmental Compliance Unit is mandated to independently and impartially investigate valid requests from locally impacted people, and to report its findings and recommendations publicly.
248. The Stakeholder Response Mechanism offers locally affected people an opportunity to work with other stakeholders to resolve concerns, complaints and/or grievances about the social and environmental impacts of a UNDP project. Stakeholder Response Mechanism is intended to supplement the proactive stakeholder engagement that is required of UNDP and its Implementing Partners throughout the project cycle. Communities and individuals may request a Stakeholder Response Mechanism process when they have used standard channels for project management and quality assurance, and are not satisfied with the response (in this case the project level grievance

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Green Climate Fund Funding Proposal redress mechanism). When a valid Stakeholder Response Mechanism request is submitted, UNDP focal points at country, regional and headquarters levels will work with concerned stakeholders and Implementing Partners to address and resolve the concerns. Visit www.undp.org/secu-srm for more details. The relevant form is attached at the end of the ESMF.

249. GCF also have their own Independent Redress Mechanism (IRM) which addresses complaints by people who believe they are negatively affected or may be affected by projects or programmes funded by the GCF. In the case of grievances in relation to affected indigenous peoples, the GCF Indigenous Peoples Specialist is also available. Further information and links to submit complaints can be found at: <https://irm.greenclimate.fund/>

5 KEY ENVIRONMENTAL AND SOCIAL INDICATORS

250. This section identifies the key environmental and social indicators identified for the project and outlines respective management objectives, potential impacts, control activities and the environmental performance criteria against which these indicators will be judged (i.e. audited).
251. This section further addresses the need for monitoring and reporting of environmental performance with the aim of communicating the success and failures of control procedures, distinguish issues that require rectification and identify measures that will allow continuous improvement in the processes by which the projects are managed.

5.1 CLIMATE

252. Viet Nam is characterized by a humid subtropical climate with four separate seasons – spring, summer, autumn and winter – in the north, and a tropical savanna climate with only two seasons – dry and wet – in the south. The climate is strongly affected by two monsoons, the North-East ‘winter’ monsoon (December-March) and the South-West ‘summer’ monsoon (June-September) (Figure 4), bringing strong winds, enhanced precipitation and heavy rainfall events.
253. The complex topography results in strong spatial variations in temperature and rainfall, particularly during the monsoon seasons. Average annual precipitation is around 1,820mm. It varies from an average 1,600-2,200mm in the midlands and plains to 2,000-2,500mm in the mountainous areas. The rainy season lasts from April-May to October-November. The dry season lasts either from December to February or from January to March depending on the specific location. The driest area is in the southern region of the South-Central Coast (Figure 5). Average temperature varies from 15°C in winter to 25°C in summer. Temperature during the hottest days is 38-40°C and during the coldest days 11-14°C, in the north. Humidity level varies from 80 to 100 percent.
254. Viet Nam’s weather and climate are also influenced by the El Niño Southern Oscillation (ENSO) climate system. During El Niño years, the monsoon influence weakens and the central and southern regions of Viet Nam deal with 10 to 30 percent less rainfall than usual and an increased drought risk. Conversely, during La Niña years the monsoon is strengthened and the total rainfall for the same regions increases by about 10 percent compared to usual, increasing flood and landslide risks.⁵ In addition, storm frequency and intensity increases in the year after an El Niño as oceans have warmed up more than usual.

5.1.1 Central Highlands and South-Central Coast

255. Both the Central Highlands and South-Central Coast are located in the tropical savanna climate zone, but have several local sub-climate zones due to the varied topography: upland or mountainous areas are on average wetter, lowland and coastal areas are drier, and the plateau regions of the Highlands are in between.
256. The annual rainfall in the Central Highlands ranges from 1400mm to 2000mm. Monthly rainfall is highest from May to October, accounting for about 80 percent of the annual amount. The average monthly rainfall during the rainy season exceeds 200mm and reaches its peak in August and September. The air temperature is lower in comparison with other regions, ranging from 21°C to 24°C. The maximum temperatures are in April and May and can reach up to 27°C to 31°C.
257. The annual rainfall in the South-Central Coast ranges from 700 to 800mm in the lowlands to 1,300mm in the upland areas, with 90 percent of it provided during the wet season. The most northern part of the region is one of the wettest in Viet Nam, while the southern part – with Khanh Hoa, Ninh Thuan and Binh Thuan – the driest. Monthly rainfall in the three provinces is highest from May to November. The

⁵ Thang V. V., Hieu T. N., ea. (2015). Effects of ENSO on Autumn Rainfall in Central Vietnam; and Thang V. V. (2016). Characteristics of moisture transport in ENSO events in Vietnam. Vietnam Institute of Meteorology, Hydrology and Climate Change, Ministry of Natural Resources and Environment.



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average monthly rainfall during the rainy season is around 200-350mm and reaches its peak in September-October. Some of the driest areas having six to nine dry months a year with less than 500mm annual rainfall. The average air temperature is between 22°C and 26°C, with highest in April and May, from 26°C to 28°C.

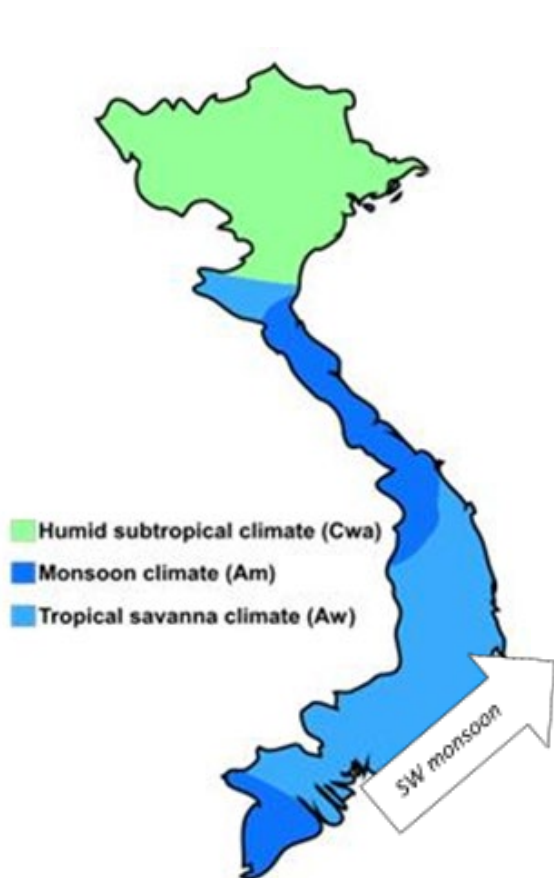


Figure 4 Climate zones in Viet Nam

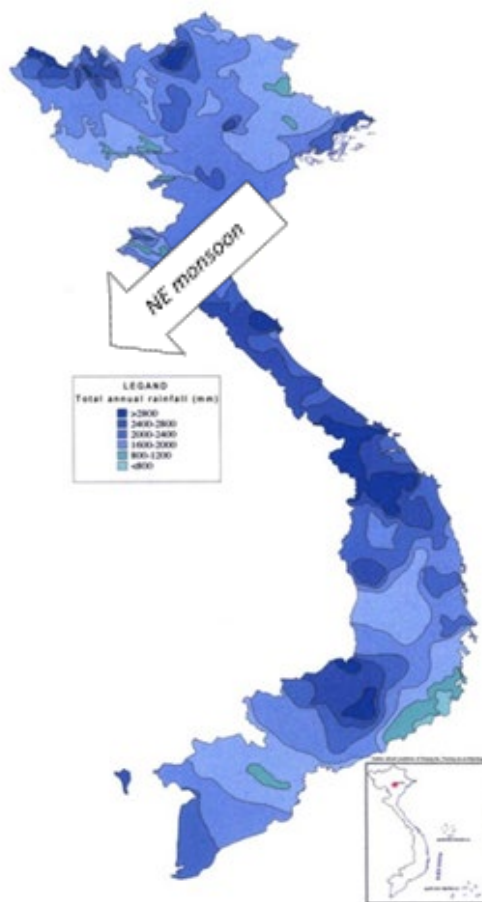


Figure 5 Average annual precipitation in Viet Nam

5.2 ECOLOGY

5.2.1 Background

5.2.1.1 National Parks and Sensitive Areas

South Coast

- Khan Hoa - There is no impact on protected or environmentally sensitive areas as they do not exist in close proximity to the command area
- Ninh Thuan – some sub-project areas are relatively close to a coastal national park, however the impact from the planned irrigation is considered not significant as agriculture is already extensively carried out in the command area. Furthermore, the natural drainage lines run in the opposite direction to the national park.
- Bin Thuan - protected or environmentally sensitive areas do not exist in close proximity to the command area

Central Highlands

- Dak Lak -There are no conservation reserves, environmentally sensitive areas within close proximity to any of the planned schemes in Dak Lak.
- Dak Nong

5.2.1.2 Threatened Species in Vietnam

258. The following species appear on the IUCN Red List of Threatened Species⁶:

- Vietnamese Greenfinch (*Chloris monguilloti*) – Least Concern - *Carduelis monguilloti* is endemic to the Da Lat plateau of south Annam, Vietnam, where it is locally common. It occurs in open pine forest, including *Pinus kesiya* forest, secondary growth, and forest edges near to cultivation from 1,050-1,900 m, although it has been reported as low as 600 m (S. Mahood in litt. 2012). As well as feeding on seeds from *Pinus* trees it has been seen flycatching recently hatched termites. The area of suitable habitat for this species is actually thought to be increasing as a result of deforestation, which leads to increases in the area of scrub and Khasi pine *Pinus kesiya* forest, the growth of which is stimulated by fire.
- Vietnam Rice Frog (*Microhyla annamensis*) – Vulnerable - This species is known with certainty only between 1,000–2,000 m Asl on the Langbian Plateau in the southern reaches of the Vietnamese Central Highlands (Smith 1923, Poyarkov et al. 2014). This species occurs in montane evergreen mixed forest and has mostly been observed on the forest floor (Poyarkov et al. 2014). Within the Langbian Plateau, breeding has been observed on Bidoup Mountain during July and on Chu Pan Phan Mountain during March and April (Poyarkov et al. 2014). Breeding occurs after heavy rains, when calling males, gravid females and amplexing pairs have been observed adjacent to forest streams (Poyarkov et al. 2014). The species' tadpoles develop in temporary pools or slow-flowing stream sections (Poyarkov et al. 2014). Habitat loss and degradation due to rapidly expanding agriculture is an ongoing threat to biodiversity throughout Southeast Asia (Sodhi et al. 2009). In the Central Highlands of Viet Nam large areas of forest are converted to agricultural land to grow cash crop plantations.
- Vietnam Sucker Frog (*Odorrana chapaensis*) – Near Threatened - This species is known from Hekou and Luchun Counties in south Yunnan Province, China (where Zhao and Adler (1993) referred to it under its *Amolops macrorhynchus* synonym), from Sa Pa in extreme northern Viet Nam (Bourret 1942), and from the extreme northern Annamite Mountains (S. Swan pers. comm.) of Viet Nam. It is likely that this species occurs more widely than current records suggest. It has been recorded from 800-1,700m ASL. Listed as Near Threatened since the species depends on streams in primary forest, and so its Area of Occupancy is probably not much greater than 2,000km², and the extent and quality of its habitat is declining, thus making the species close to

⁶ The IUCN Red List of Threatened Species. Version 2017-3. <http://www.iucnredlist.org> accessed 15 May 2018

qualifying for Vulnerable. It is found in clear, swift-moving streams, and on the ground in closed-canopy primary forest up to four metres from water. It inhabits waterfalls during breeding.

- Vietnam Fals Bloodsucker (*Psuedocalotes brevipes*) – Least Concern - This species is known from the Tonkin region of northern Viet Nam and from Guangxi, China. This species has been collected in montane areas (Smith 1935). There is little information available on the species, however, members of this genus are usually found on trees and bushes in tropical montane forest (Hallermann and Böhme 2000).
- Vietnamese Flying frog (*Rhacophorus calcaneus*) – near Threatened - This species is known from the Kon Tum Plateau of southern and central Viet Nam, the limestone region of central Lao People's Democratic Republic, and the Annamite mountain region and Tam Dao (from referred juveniles), northern Viet Nam (Inger et al. 1999, Stuart 1999). It is unclear whether or not the patchy distribution represents actual patchy occurrence, habitat specialization or limited survey effort. It has been recorded at altitudes between 700 and 1,250 m asl in Viet Nam, and from 220-1,300 m asl in the Lao People's Democratic Republic (Stuart 1999, 2005). It is restricted to undisturbed evergreen rainforest, and is generally observed on streamside vegetation.
- Vietnamese Mousedeer (*Tragulus versicolor*) – Data Deficient - There is no information on the current range or population status of *T. versicolor* because of a lack of appropriate survey work for the species in appropriate areas of Viet Nam. The specimens used by Thomas (1910) to describe this species were acquired at Nhatrang on the coast of southern Viet Nam

5.2.2 Performance Criteria

259. The following performance criteria are set for the construction of the projects:

- a. no clearance of vegetation outside of the designated clearing boundaries;
- b. no death to native fauna as a result of clearing activities;
- c. no deleterious impacts on aquatic environments and terrestrial habitats;
- d. no introduction of new weed species as a result of construction activities; and
- e. no increase in existing weed proliferation within or outside of any project footprint as a result of construction activities.

5.2.3 Monitoring

260. A flora and fauna monitoring program will be implemented (Table 6).

261. Weed monitoring will be undertaken and appropriate action taken in the event of alien or noxious species being identified.

262. The delivery organisation will when undertaking works, compile a weekly report to DARD outlining:

- a. any non-conformances to this ESMF;
- b. the areas that have been rehabilitated during the preceding week; and
- c. details of the corrective action undertaken.

5.2.4 Reporting

263. All flora and fauna monitoring results and/or incidents will be tabulated and reported as outlined in the ESMF. The DARD must be notified in the event of any suspected instances of death to native fauna and where vegetation is detrimentally impacted.

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Table 7 Flora and Fauna Management Measures

Issue	Control Activity (and Source)	Action Timing	Responsibility	Monitoring and Reporting
FF1. Habitat loss and disturbance of fauna	FF1.1 Limit vegetation clearing and minimise habitat disturbance through adequate protection and management of retained vegetation.	During construction	Field Officer	Maintain records
	FF1.2: Minimise noise levels and lighting intrusion throughout construction and operation in the vicinity of any sensitive locations.	During construction	Field Officer	Daily and maintain records
	FF1.3: Ensure that all site personnel are made aware of sensitive fauna/habitat areas and the requirements for the protection of these areas.	During construction	Contractor	Maintain records
	FF1.4 Minimise disturbance to on-site fauna and recover and rescue any injured or orphaned fauna during construction and operation.	During construction	Contractor	Daily and maintain records, report
	FF2.1: Implement an ESCP to reduce the spread of weeds through erosion and sediment entering any waterways and therefore spreading.	Pre and during construction	Contractor	Maintain records
	FF2.2: Revegetate disturbed areas using native and locally endemic species that have high habitat value.	During construction	Field Officer	As required and maintain records
FF2. Introduced flora and weed species	FF2.3: Minimise disturbance to mature remnant vegetation, particularly canopy trees.	During construction	Field Officer	Daily and maintain records
	FF2.4: Seed is to be weed free	Operation	Field Officer	Maintain records
	FF2.5: Environmental weeds and noxious weeds within the project footprints shall be controlled.	During and post construction	Field Officer	Weekly and maintain records

5.3 GROUNDWATER

5.3.1 Background

5.3.1.1 *Groundwater*

264. The groundwater resources in Viet Nam are abundant – with the total potential exploitable reserves of the country's aquifers estimated at nearly 60 bill. m³ per year. The availability varies from abundant resources in the Mekong River Delta to somewhat limited resources in the North Central Region. In the Central Highlands groundwater is exploited heavily for irrigation of cash crops resulting in shortages of water in parts of this region. ⁷.
265. The project will utilise surface water, harvested and stored in dams and reservoirs, to then be distributed via the project pipelines. Groundwater will not be used as part of the project, in fact the project aims to reduce reliance by farmers on groundwater.
266. Potential impacts to groundwater are from contamination as a result of construction activities eg spills or sedimentation, or contamination during operation eg fuel/oil spills or excessive fertiliser application.

5.3.1 Performance Criteria

267. The following performance criteria are set for the project:
- a. no significant decrease in the quality and quantity of groundwater as a result of construction and operational activities in proximity to the projects;
 - b. effective implementation of site-specific EDSCPs and other measures to protect groundwater.
268. By following the management measures set out in the ESMF the project will not have a significant impact on water quality across the broader area.

5.3.2 Monitoring

269. Groundwater will not be used as part of the project, therefore no specific groundwater monitoring program is required. However, there is the potential for groundwater to be unintentionally impacted by the project eg as a result of spills or other sources of contamination.
270. Refer to Table 7 for the monitoring requirements for groundwater.

5.3.3 Reporting

271. All water quality monitoring results and/or incidents will be tabulated and reported as outlined in the ESMF. The DARD must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level with respect to water quality is exceeded.

⁷ <http://www.wepa-db.net/policies/state/vietnam/groundwater.htm>

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Table 8 Groundwater management measures

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
GW 1: Increase of gross pollutants, hydrocarbons, metals and other chemical pollutants into the groundwater and/or surface water environment.	GW1.1: Conduct regular surface and groundwater quality monitoring in location where the groundwater is likely to be impacted, including assessing the changes to groundwater quality.	Construction and operation phase	Field Officer	Weekly and as required with reporting to DARD and UNDP
	GW1.2: Prevent contaminated surface water from entering aquifers via boreholes and wells - protect from runoff and flooding and keep surrounds clean.	All phases	All Personnel	Weekly
	GW1.3: Designated areas for storage of fuels, oils, chemicals or other hazardous liquids should have compacted impermeable bases and be surrounded by a bund to contain any spillage. Refuelling to be undertaken in areas away from water systems.	Entire construction and operation phase	All Personnel	Weekly with reporting to DARD and UNDP
	Technical support should be made available to farmers in the area so they understand the need to apply fertilizer and agro-chemicals in the right quantities so as not to impact on nitrification of ground water	Operation	DARD/Farmers	Maintain records
	GW1.5: Check all vehicles, equipment and material storage areas daily for possible fuel, oil and chemical leaks. Undertake refuelling at designated places away from water systems.	All phases	All Personnel	Daily and maintain records
	GW 1.6: Minimise the use of herbicides, pesticides and other chemicals and use only biodegradable herbicides that have minimal impact on water quality and fauna. Use only as per directions	All phases	All Personnel	Weekly reporting to DARD and UNDP

5.4 SURFACE WATER

5.4.1 Background

272. Viet Nam has a dense river network—2360 rivers with a length of more than 10 km. In Viet Nam, irrigation places the largest burden on water resources. The project involves the harvesting and storage of water in reservoirs, which is then transferred via canals and pipes to smaller tanks and ponds for distribution to individual farms. The Feasibility Study contains maps of surface water networks, both natural and artificial.
273. As discussed in Section 5.1, the annual rainfall in the Central Highlands ranges from 1400mm to 2000mm. Monthly rainfall is highest from May to October, accounting for about 80% of the annual amount. The average monthly rainfall during the rainy season exceeds 200mm and reaches its peak in August and September.
274. The annual rainfall in the South-Central Coast ranges from 700 to 800mm in the lowlands to 1,300mm in the upland areas, with 90% of it provided during the wet season. The most northern part of the region is one of the wettest in Viet Nam, while the southern part – with Khanh Hoa, Ninh Thuan and Binh Thuan – the driest. Monthly rainfall in the three provinces is highest from May to November. The average monthly rainfall during the rainy season is around 200-350mm and reaches its peak in September-October. Some of the driest areas having six to nine dry months a year with less than 500mm annual rainfall.
275. The rainfall patterns vary from area to area. Maps and graphs for rainfall are contained within the Feasibility Study. The severity of rainfall can affect risk of flooding and erosion, so must therefore be considered in any construction and operation plans.

5.4.2 Performance Criteria

276. The following performance criteria are set for the construction of the projects:
- no significant decrease in water quality as a result of construction and operational activities;
 - water quality shall conform to any approval conditions stipulated by UNDP, DARD and/or other government departments, or in the absence of such conditions follow a 'no worsening' methodology; and
 - effective implementation of site-specific EDSCPs.

5.4.3 Monitoring

277. Having water of a quality that is fit for purpose is important. Water quality can affect plant growth, livestock health, soil quality, farm equipment and domestic use. The quality of a water source is also variable depending upon weather and external inputs.
278. Evaporation increases the concentrations of salts while a flush of water dilutes salts but may increase sediment and fertilisers, and manure or nutrient runoff. Monitoring should be done regularly and more frequently in summer or in periods of prolonged moisture stress.
279. Table 8 outlines the monitoring required.

5.4.4 Reporting

280. All water quality monitoring results and/or incidents will be tabulated and reported as outlined in the ESMF. The DARD must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level with respect to water quality is exceeded.

Table 9 Water Quality Management Measures

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
W1: Elevated suspended solids and other contaminants in surface water systems.	W1.1: Develop and implement a site specific Erosion, Drainage and Sediment Control Plan (EDSCP) to address drainage control, sediment and erosion controls and stockpiling of materials including soil during construction of all components of the projects. EDSCP measures to be inspected regularly to ensure all devices are functioning effectively.	Pre Earthworks	Field Officer	Initial set up and then as required with reporting to DARD and UNDP
	W1.2: Designated areas for storage of fuels, oils, chemicals or other hazardous liquids should have compacted impermeable bases and be surrounded by a bund to contain any spillage. Refuelling to be undertaken in areas away from water systems.	Entire construction and operation phase	All Personnel	Weekly with reporting to DARD and UNDP
	W1.3: Conduct regular surface and groundwater quality monitoring in location where the groundwater is likely to be impacted including assessing the changes to groundwater quality.	Entire construction and operation phase	Field Officer	Weekly and as required with reporting to DARD and UNDP
	W1.4: Schedule works in stages to ensure that disturbed areas are revegetated and stabilised progressively and as soon as practicable after completion of works.	Avoid undertaking bulk earthworks during wet season	Field Officer and DARD	Maintain records
	W1.5: Construction materials will not be stockpiled in proximity to aquatic environment that may allow for release into the environment. Construction equipment will be removed from in proximity to the aquatic environment at the end of each working day or if heavy rainfall is predicted	Entire construction and operation phase	Field Officer	Maintain records

5.5 AIR QUALITY

5.5.1 Background

281. The project areas are predominantly village or rural in character. Existing air quality reflects those environments, with dust being the main air quality nuisance, but smoke and engine emissions can also cause nuisance.
282. All construction activities have the potential to cause air quality nuisance. Workers involved in construction and operation activities should be familiar with methods minimising the impacts of deleterious air quality and alternative construction procedures as contained in Vietnam legislation or good international industry practice.

5.5.2 Performance Criteria

283. The following performance criteria are set for the construction of the projects:
- a. release of dust/particle matter must not cause an environmental nuisance;
 - b. undertake measures at all times to assist in minimising the air quality impacts associated with construction and operation activities; and
 - c. corrective action to respond to complaints and/or grievances is to occur within 48 hours.

5.5.3 Monitoring

284. A standardised air monitoring program has been developed for the projects (Table 9). The program is subject to review and update at least every two months from the date of issue. Importantly:
- a. the requirement for dust suppression will be visually observed by site personnel daily and by DARD and UNDP staff when undertaking routine site inspections; and
 - b. Vehicles and machinery emissions – visual monitoring and measured when deemed excessive.

5.5.4 Reporting

285. All air quality monitoring results and/or incidents will be tabulated and reported as outlined in the ESMF. The DARD must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level with respect to air quality is exceeded.

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Table 10 Air Quality Management Measures

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
A.1 Increase in dust levels at sensitive receptors	A1.1: Implement effective dust management measures in all areas during design, construction and operation.	Pre and during construction	All Personnel	Daily and maintain records
	A1.2: Restrict speeds on roads and access tracks.	During construction	Field Officer	Daily and maintain records
	A1.3: Manage dust/particulate matter generating activities to ensure that emissions do not cause an environmental nuisance at any sensitive locations	During construction	Field Officer	Daily and maintain records
	A1.4: Construction activities should minimise risks associated with climatic events (check forecasts).	During construction	Field Officer	Daily and maintain records
	A1.5: Implement scheduling/staging of proposed works to ensure major vegetation disturbance and earthworks are minimised.	Entire construction	Contractor	Daily and maintain records
	A1.6: Locate material stockpile areas as far as practicable from sensitive receptors. Cover if appropriate.	During construction	Field Officer	Daily and maintain records
	A1.7: Source sufficient water of a suitable quality for dust suppression activities complying with any water restrictions.	During construction	Field Officer	Daily and maintain records
	A1.8: Schedule revegetation activities to ensure optimum survival of vegetation species.	During construction	Field Officer	Maintain records
	A1.9: Rubbish receptacles should be covered and located as far as practicable from sensitive locations	During construction	Field Officer	Maintain records

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Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
A2. Increase in vehicle / machinery emissions	A2.1 Ensure vehicles/machines are switched off when not in use.	During construction	Field Officer	Daily and maintain records
	A2.2 Ensure only vehicles required to undertake works are operated onsite.	During construction	Field Officer	Daily and maintain records
	A2.3 Ensure all construction vehicles, plant and machinery are maintained and operated in accordance with design standards and specifications.	During construction	Field Officer	Daily and maintain records
	A2.4 Develop and implement an induction program for all site personnel, which includes as a minimum an outline of the minimum requirements for environmental management relating to the site.	Pre and during construction	Contractor	Daily and maintain records
	A2.5 Locate construction vehicle/plant/equipment storage areas as far as practicable from sensitive locations.	During construction	Field Officer	Daily and maintain records
	A2.6 Direct exhaust emissions of mobile plant away from the ground.	During construction	Field Officer	Daily and maintain records

5.6 NOISE AND VIBRATION

5.6.1 Background

286. Due to the limited urban development and heavy industry, environmental noise is relatively low.
287. All construction and operation activities have the potential to cause noise nuisance. Vibration disturbance to nearby residents and sensitive habitats is likely to be caused through the use of vibrating equipment. Blasting is not required to be undertaken as part of this project.
288. The use of machinery or introduction of noise generating facilities could have an adverse effect on the environment and residents if not appropriately managed.
289. Contractors involved in construction activities should be familiar with methods of controlling noisy machines and alternative construction procedures as contained within specific Vietnam legislation or in its absence, good international industry practice may be used if the legislation has not been enacted.
290. Potential noise sources during construction and operation may include:
- heavy construction machinery
 - power tools and compressors
 - delivery vehicles
 - pumps
 - farm machinery.

5.6.2 Performance Criteria

291. The following performance criteria are set for the construction of the projects:
- noise from construction and operational activities must not cause an environmental nuisance at any noise sensitive place;
 - undertake measures at all times to assist in minimising the noise associated with construction activities;
 - no damage to off-site property caused by vibration from construction and operation activities; and
 - corrective action to respond to complaints and/or grievances is to occur within 48 hours.

5.6.3 Monitoring

292. A standardised noise monitoring program has been developed for the projects (Table 10). The program is subject to review and update at least every two months from the date of issue. Importantly, the contractor will:
- ensure equipment and machinery is regularly maintained and appropriately operated; and
 - carry out potentially noisy construction activities during 'daytime' hours only.

5.6.4 Reporting

293. All noise monitoring results and/or incidents will be tabulated and reported as outlined in the ESMF. The DARD must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level with respect to noise is exceeded.

Table 11 Noise and Vibration Management Measures

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
N1: Increased noise levels	N1.1: Select plant and equipment and specific design work practices to ensure that noise emissions are minimised during construction and operation including all pumping equipment.	All phases	Contractor	Maintain records
	N1.2: Specific noise reduction devices such as silencers and mufflers shall be installed as appropriate to site plant and equipment.	Pre and during construction	Contractor	Maintain records
	N1.3 Minimise the need for and limit the emissions as far as practicable if noise generating construction works are to be carried out outside of the hours: 7am-6pm	Construction phase	All Personnel	Daily and maintain records
	N1.4: Consultation with nearby residents in advance of construction activities particularly if noise generating construction activities are to be carried out outside of 'daytime' hours: 7am-6pm.	Construction phase	All Personnel	Daily and maintain records
	N1.5 The use of substitution control strategies shall be implemented, whereby excessive noise generating equipment items onsite are replaced with other alternatives.	Construction phase	All Personnel	Daily and maintain records
	N1.6 Provide temporary construction noise barriers in the form of solid hoardings where there may be an impact on specific residents.	Construction phase	Field Officer	Daily and maintain records
	N1.7 All incidents complaints and non-compliances related to noise shall be reported in accordance with the site incident reporting procedures and summarised in the register.	Construction phase	Field Officer	Maintain records

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Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
N1: Increased noise levels	N1.8 The contractor should conduct employee and operator training to improve awareness of the need to minimise excessive noise in work practices through implementation of measures.	Pre and during construction	Contractor	Maintain records
N2. Vibration due to construction	N2.1: Identify properties, structures and habitat locations that will be sensitive to vibration impacts resulting from construction and operation of the project.	Pre and during construction	Contractor	Maintain records
	N2.2: Design to give due regard to temporary and permanent mitigation measures for noise and vibration from construction and operational vibration impacts.	Pre-construction	Contractor	Maintain records
	N2.3: All incidents, complaints and non-compliances related to vibration shall be reported in accordance with the site incident reporting procedures and summarised in the register.	Construction phase	Field Officer	Maintain records
	N2.4: During construction, standard measure shall be taken to locate and protect underground services from construction and operational vibration impacts.	Construction phase	Field Officer	Maintain records

5.7 EROSION, DRAINAGE AND SEDIMENT CONTROL

5.7.1 Background

294. The sites vary topographically and in soil types. The project is focused on climate resilient farming, including better use of water and soil resource, therefore management of drainage and erosion is important. Interventions need to consider both short and long-term impacts, as well as natural events such as flooding that are beyond the project control.

295. Risks of erosion exist both during the construction phase and the operation phase.

5.7.2 Topography

296. Mountains, hills and plateaus cover more than three-quarters of the country, although over 70 percent of the country lies below 500m above sea level. About 25 percent of the total land area is covered by lowlands or plains.

297. Project target areas are focused in two regions: the Central Highlands and the South-Central Coast.

298. The Central Highlands, in terms of topography, the region forms the eastern part of a series of contiguous plateaus located 500m up to 1,500m above sea level, expanding to the south of Lao People's Democratic Republic and north-east of Cambodia. The plateaus are surrounded by the South Annamite mountain range. Around 44.4 percent of the land is agricultural land, with Gia Lai and Dak Lak having the largest agricultural land area. Around 45.8 percent of the total land area is forestry land.

299. The South-Central Coast region has a complex topography with meandering upland and lowland areas, forests, dunes, and sandy and rocky soils. The highest mountains in the southern part of this region, bordering the Central Highlands, can reach up to 1000m. Around 24.9 percent of the land in the entire region is agricultural land, with Binh Thuan having the largest agricultural land area. Around 53.3 percent of the total land area is forestry land.⁸

300. The project target areas are generally on the flatter valley floors, with some rainfed farming occurring along the sloping margins. Steep or excessively rocky areas will not form part of the project.

5.7.3 Soils

301. Figure 6 provides a map of soil types across Vietnam.

302. Vietnam has an estimated cultivable soil base of 26.6 M ha. Approximately 9.3 Mha (35%) is presently used for agriculture. Another 11.6 M ha (44%) is covered by forest vegetation⁹.

303. The broad types of cultivable soil found in Vietnam are:

- Ferralitic soils are the most commonly occurring soil type. They are derived from a variety of parent materials (e.g. metamorphic and igneous rocks, sandstone, clay-shale, old alluvium sediment) and cover large areas on Vietnam's mountainous regions. These soils are mostly acid and have low soil fertility status.
- Red soils, together with ferralitic soils, provide the main potential land reserve for the expansion of perennial upland crops.

⁸ From this section forward, when discussing the South-Central Coast, the analysis will focus on the southern section, with the three target provinces.

⁹ [http://www.ipni.net/ppiweb/filelib.nsf/0/A4B2E636D56B7F1E48256DF300122CCA/\\$file/2%20Introduction%20to%20soils.pdf](http://www.ipni.net/ppiweb/filelib.nsf/0/A4B2E636D56B7F1E48256DF300122CCA/$file/2%20Introduction%20to%20soils.pdf)

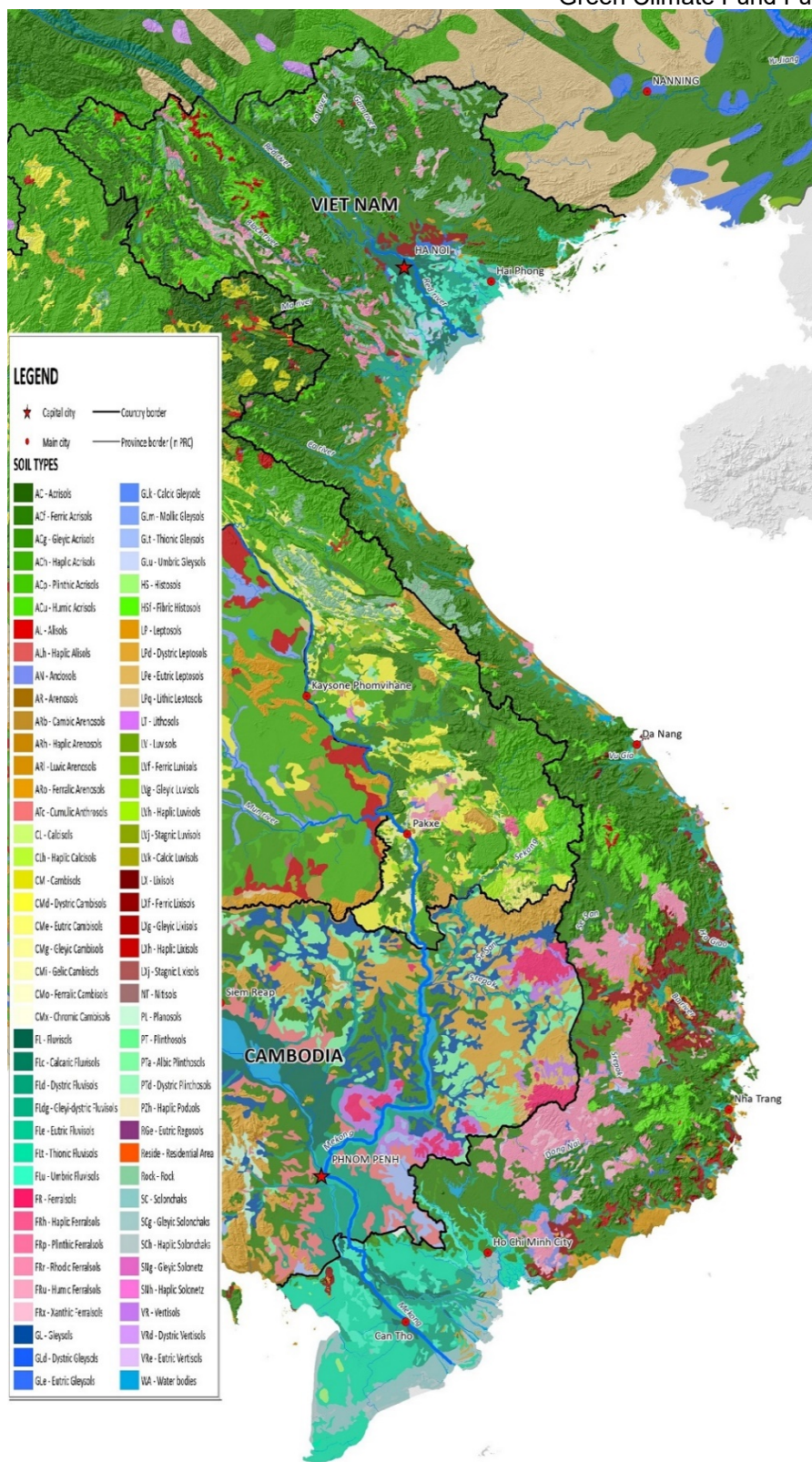


Figure 6 Soils of Viet Nam (FAO)

- alluvial soils of Vietnam's river basins are occupied largely by lowland annual cropping systems
- marine sandy soils of the coastal areas (lowland annual cropping systems)
- gley soils of North and North Central Vietnam (lowland annual cropping systems).

304. Soil erosion depends on several parameters such as type of soil, slope, vegetation, the nature of topography and rainfall intensity. The loss of soil stability and soil erosion can take place due to the removal of vegetation cover, and numerous construction activities. It can cause the loss of soil fertility and induce slope instability. Land preparation for the project could result in blockage or alteration of natural flow paths causing changes in the drainage patterns in the area. Effective and efficient mitigation measures can not only reduce, but could improve the conditions over the existing conditions.

305. Rainfall can have a significant impact on the ability to manage environmental impacts, particularly in terms of managing drainage, erosion and sedimentation. Therefore activities which involve significant disturbance of soil or operating with drainage lines and waterways should be planned to be undertaken during the driest months. It is also important to ensure that all required erosion and sediment control mechanisms are in place before the onset of the wet season.

306. Activities that have the potential to cause erosion should be undertaken with the likely weather conditions in mind.

5.7.4 Performance Criteria

307. The following performance criteria are set for the projects:

- a. no build-up of sediment in the aquatic environments and/or surface and/or groundwater as a result of construction and operation activities;
- b. no degradation of water quality on or off site of all projects;
- c. all water exiting the project site and/or into groundwater systems is to have passed through best practice erosion, drainage and sediment controls; and
- d. effective implementation of site-specific EDSCP.

308. By following the management measures set out in the ESMF, construction and operation activities of the projects will not have a significant impact as a result of sedimentation across the broader area.

5.7.5 Monitoring

309. A standardised sediment control monitoring program has been developed for the projects (Table 11). The program is subject to review and update at least every two months from the date of issue. The Field Officer will be required to:

- a. conduct site inspections on a weekly basis or after rainfall events exceeding 20mm in a 24-hour period;
- b. develop a site-specific checklist to document non-conformances to this ESMF or any applicable EDSCPs; and
- c. communicate the results of inspections and/or water quality testing and ensure that any issues associated with control failures are rapidly rectified and processes are put in place to ensure that similar failures are not repeated.

5.7.6 Reporting

310. All sediment and erosion control monitoring results and/or incidents will be tabulated and reported as outlined in the ESMF. The DARD must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level with respect to erosion and sediment control is exceeded.

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Table 12 Erosion, Drainage and Sediment Control Measures

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
E1: Loss of soil material and sedimentation to the surface and/or groundwater systems from site due to earthwork activities	E1.1: Develop and implement an EDSCP for any surface works, embankments and excavation work, water crossings and stormwater pathways.	Construction phase	All Personnel	Maintain records
	E1.2: Ensure that erosion and sediment control devices are installed, inspected and maintained as required.	Construction phase	All Personnel	Maintain records
	E1.3: Schedule/stage works to minimise cleared areas and exposed soils at all times.	Pre and during construction	Field Officer	Maintain records
	E1.4: Incorporate the design and location of temporary and permanent EDSC measures for all exposed areas and drainage lines. These shall be implemented prior to pre-construction activities and shall remain onsite during work	Pre and during construction	Field Officer	Maintain records
	E1.5: Schedule/stage proposed works to ensure that major vegetation disturbance and earthworks are carried out during periods of lower rainfall and wind speeds.	Pre and during construction	Field Officer	Maintain records
	E1.6: Strip and stockpile topsoil for use during revegetation and/or place removed soils back on to agricultural lands.	Pre and during construction	Field Officer	Maintain records
	E1.7: Schedule/stage works to minimise the duration of stockpiling topsoil material. Vegetate stockpiles if storage required for long periods.	During construction	All Personnel	Maintain records
	E1.8: Locate stockpile areas away from drainage pathways, waterways and sensitive locations.	Pre and during construction	Field Officer	Maintain records

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
E1: Loss of soil material and sedimentation to the surface and/or groundwater systems from site due to earthwork activities	E1.9: Design stormwater management measures to reduce flow velocities and avoid concentrating runoff.	Pre and during construction	Field Officer	Maintain records
	E1.10: Include check dams in drainage lines where necessary to reduce flow velocities and provide some filtration of sediment. Regularly inspect and maintain check dams.	Pre and during construction	Field Officer	Maintain records
	E1.11: Mulching shall be used as a form of erosion and sediment control and where used on any slopes (dependent on-site selection), include extra sediment fencing during high rainfall.	During construction	All Personnel	Maintain records
	E1.12: Bunding shall be used either within watercourses or around sensitive/dangerous goods as necessary.	During construction	All Personnel	Maintain records
	E1.13: Grassed buffer strips shall be incorporated where necessary during construction to reduce water velocity.	During construction	Field Officer	Maintain records
	E1.14: Silt fences or similar structures to be installed to protect from increased sediment loads.	During construction	Contractors	Maintain records
	E1.15: Excess sediment in all erosion and sediment control structures (eg. sediment basins, check dams) shall be removed when necessary to allow for adequate holding capacity.	During construction	Contractors	Maintain records

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Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
E2: Soil Contamination	E2.1: If contamination is uncovered or suspected (outside of the project footprints), undertake a Stage 1 preliminary site contamination investigation. The contractor should cease work if previously unidentified contamination is encountered and activate management procedures and obtain advice/permits/approval (as required).	Construction phase	All Personnel	Daily and maintain records
	E2.2: Adherence to best practice for the removal and disposal of contaminated soil/ material from site (if required), including contaminated soil within the project footprints.	Construction phase	All Personnel	Daily and maintain records
	E2.3: Drainage control measures to ensure runoff does not contact contaminated areas (including contaminated material within the project footprints) and is directed/diverted to stable areas for release.	Construction phase	All Personnel	Daily and maintain records
	E2.4: Avoid importing fill that may result in site contamination and lacks accompanying certification/documentation. Where fill is not available through on site cut, it must be tested in accordance with geotechnical specifications.	Construction phase	All Personnel	Daily and maintain records
E3: Disposal of excess soil/silt	E3.4: Silt removed from dams/canals/weirs during rehabilitation / maintenance is to be beneficially reused eg composted, returned to farm land. Silt should be tested to confirm suitability for proposed use	Construction and operation phases	Contractor / Operator	Maintain records

5.8 WASTE MANAGEMENT

5.8.1 Background

311. As the implementing agency, the DARD advocate good waste management practice. The preferred waste management hierarchy and principles for achieving good waste management is as follows:
- waste avoidance (avoid using unnecessary material on the projects);
 - waste re-use (re-use material and reduce disposing);
 - waste recycling (recycle material such as cans, bottles, etc.); and
 - waste disposal (all petruscible and/or contaminated waste to be dumped at approved landfills).
312. The key waste streams generated during construction are likely to include residual sediment and construction wastes such as:
- the excavation wastes unsuitable for reuse during earthworks;
 - wastes from construction and drilling equipment maintenance. Various heavy vehicles and construction equipment will be utilised for the duration of the construction phase. Liquid hazardous wastes from cleaning, repairing and maintenance of this equipment may be generated. Likewise leakage or spillage of fuels/oils within the site needs to be managed and disposed of appropriately;
 - non-hazardous liquid wastes will be generated through the use of workers' facilities such as toilets; and
 - general wastes including scrap materials and biodegradable wastes.
313. Key waste streams generated during operations are likely to include:
- excavated sediment (primarily sand silt, which can be used for spread on suitable areas);
 - fertiliser runoff
 - animal and plant wastes
 - packaging; and
 - used oil and machinery parts.
314. Workers involved in construction and operational activities should be familiar with methods minimising the impacts of clearing vegetation to minimise the footprint to that essential for the works and rehabilitate disturbed areas. By doing these activities, the projects should minimise the impact of waste generated by the project.

5.8.2 Performance Criteria

315. The following performance criteria are set for the construction of the projects:
- waste generation is minimised through the implementation of the waste hierarchy (avoidance, reduce, reuse, recycle);
 - no litter will be observed within the project area or surrounds as a result of activities by site personnel;
 - no complaints received regarding waste generation and management;
 - any waste from on-site portable sanitary facilities will be sent off site for disposal by a waste licensed contractor; and
 - waste oils will be collected and disposed or recycled off-site.

5.8.3 Monitoring

316. A waste management monitoring program has been developed for the projects (Table 12). The program is subject to review and update at least every two months from the date of issue.

5.8.4 Reporting

317. The DARD as implementing agency must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level with respect to waste is exceeded.

Table 13 Waste Management Measures

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
WT1: Production of wastes and excessive use of resources	WT1.1: Preference shall be given to materials that can be used to construct the project that would reduce the direct and indirect waste generated.	Pre and during construction	Contractor	Maintain records
	WT1.2: Daily waste practices shall be carried out unless these are delegated to the activities of external waste management bodies.	During construction	Field Officer	Daily and maintain records
	WT1.3: The use of construction materials shall be optimised and where possible a recycling policy adopted.	During construction	Field Officer	Weekly and maintain records
	WT1.4: Separate waste streams shall be maintained at all times i.e. general domestic waste, construction and contaminated waste. Specific areas on site shall be designated for the temporary management of the various waste streams.	During construction	Field Officer	Weekly and maintain records
	WT1.5: Any contaminated waste shall be disposed of at an approved facility.	During construction	Field Officer	Weekly and maintain records
	WT1.6: Recyclable waste (including oil and some construction waste) shall be collected separately and disposed of correctly.	During construction	Field Officer	Weekly and maintain records
	WT1.7: Waste sites shall be sufficiently covered to ensure that wildlife does not have access.	During construction	Field Officer	Daily
	WT1.8: Disposal of waste shall be carried out in accordance with the Government of Vietnam requirements.	During construction	Field Officer	Weekly and maintain records
	WT1.9: Fuel and lubricant leakages from vehicles and plant shall be immediately rectified.	During construction	Contractor / Field Officer	Daily and maintain records

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Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
WT1: Production of wastes and excessive use of resources	WT1.10: Major maintenance and repairs shall be carried out off-site whenever practicable.	During construction	Field Officer	Weekly and maintain records
	WT1.11: Where possible, fuel and chemical storage and handling shall be undertaken at central fuel and chemical storage facilities, such as petrol stations.	During Construction	Field Officer	Daily and maintain records
	WT1.12: On-site storage of fuel and chemicals shall be kept to a minimum.	During Construction	Contractor	Daily, maintain records and report any incidents
	WT1.13: Any waste oils and lubricants are to be collected and transported to recyclers or designated disposal sites as soon as possible.	During Construction	Field Officer	Daily and maintain records
	WT1.14: Any dangerous goods stored on site shall be stored in accordance with Vietnamese regulations.	During Construction	Contractor	Daily and maintain records
	WT1.15: Recycle concrete from demolished canals etc	During Construction	Contractor	Maintain records

5.9 SOCIAL MANAGEMENT

5.9.1 Background

318. In Vietnam, there are residing 54 ethnic groups, in which the Kinh ethnicity (the ethnic majority) takes up to 86% of the population (TCTK, 2010). The rest of the ethnic groups (53) accounted for approximately 14% of the population, in which the second most populous ethnic group after Kinh accounted for less than 2% of the population reflecting the huge disparity in population between the ethnic majority and ethnic minority (EM).
319. In rural areas, more women (63% of working women) are engaged in agricultural production than men (57% of working men), however women are mainly employed in informal jobs or subsistence agriculture putting them at greater risk from climate and disaster impacts affecting agriculture. As a large proportion of women farmers (45%) are self-employed they do not receive social security benefits and lack access to insurance, which leaves them vulnerable and insecure. Women are particularly disproportionately affected in climate-related disasters when resources are scarce, due to the disaster, because they spend additional time collecting water, food and fuel which is primarily a women's responsibility.
320. Unequal access to and control over land and productive assets, training, information, technology, extension services and finance limit women's opportunities and capacity for resilience. Few rural women can access vocational training, extension services, finance, technology, markets and trader networks (29%) compared to men (40%), and training available to women is often short-term and concentrates on 'traditional' women's skills such as less technical production and processing techniques. Heads of households, who are generally male members, are invited to community meetings where disaster and climate information is shared but information shared in meetings is usually not passed on to women and other family members.
321. The roles of women differ between Kinh and ethnic minority households. In Kinh households, men are the heads of households while women assume that responsibility in EM families because of matriarchal cultures. As a result, decision making is often delegated to husband in Kinh household and to wife in EM households.
322. Men are mainly responsible for heavier production work, while women spend more time on un-paid domestic work such as taking care children, cooking, cleaning etc. In agricultural production, the intra-household tasks and responsibilities tend to be husbands having responsibility for soil preparation, watering and operating motorized equipment while the wife is responsibility for harvesting. Among younger couples, there is an increasing tendency for sharing housework. However, due to the pervasive influence of conservative traditional culture, many young women continue to be responsible for housework.
323. The main challenges faced by female farmers relate to their limited ownership of productive assets as well as their restricted access to knowledge, technology, services and markets. While these constraints are also faced by the male small-scale farmers, they are exacerbated for female farmers.
324. In focus group discussions, married women report that they only attend agricultural extension training when their husbands are temporarily absent. They also often mention conflicting housework and caring responsibilities as a reason for non-participation.
325. The project has been designed with the assistance of stakeholders, including women and EM groups, and aims to provide benefits to the broader community. Records of stakeholder consultation are contained within Appendix 1. Notwithstanding, as with any project that involves construction, some dissatisfaction can occur and conflicts may arise. It is important that potential areas of tension are recognised early and appropriate actions taken to avoid or minimise conflict.
326. All five target provinces have indigenous ethnic minority populations such as the Cham, Raglei and Chau Ro in the South-Central Coast and the E De, Gia Lai and Mo Nong (or M'Nong) in the Central Highlands. The indigenous ethnic groups all live under a matriarchal social system. The Central Highlands also have a large share of minority groups such as Tay, Nung, Thai, Muong, H'Mong, K'Ho,

Chu Ru ea, who mainly migrated from the North decades ago as part of Government-supported internal labor migration. These latter groups as well as the Kinh are patriarchal.

327. While all five target provinces have different ethnic minority groups, their share of the total population is highest in Dak Nong (29%), Ninh Thuan (23.1%) and Dak Lak (19.6%). Ethnic minority poverty is particularly high in remote upland areas and in communes with higher rates of ethnic minority population.
328. The needs, barriers, priorities and challenges faced by poor and near-poor smallholder farmers are often exacerbated in ethnic minority groups. The mitigation measures below apply to all stakeholders, but some are more specific to ethnic minorities (as indicated).

5.9.2 Performance Criteria

329. The following performance criteria are set for the project:
- a. the community has been provided its free prior informed consent and project elements have been designed with their informed consultation and participation throughout the project;
 - b. all stakeholders are appropriately represented;
 - c. avoid adverse impacts to local community during construction and operations and where not possible, minimise, restore or compensate for these impacts;
 - d. cultural heritage is not adversely impacted;
 - e. community health and safety is protected and overall well-being benefits derived from the project;
 - f. complaint and grievance mechanisms are put in place and proactively managed; and
 - g. long-term social benefits are achieved.
330. Local stakeholders and community members have a key role to play in the implementation and monitoring of the project.
331. Consultation with stakeholders will continue. This will help ensure that stakeholders continue to be aware of the project, its progress and any changes in the project. It will also assist in identifying any issues as they arise.
332. DARD will be responsible for advisory support and extensions services to local beneficiaries along with being responsible for distributing material inputs and providing technical training and backstopping in the implementation of programme activities.

5.9.3 Reporting

333. Records of all consultations are to be kept and reported on monthly basis.
334. The DARD must be notified in the event of any individual or community complaint or dissatisfaction and ensure the Grievance Redress Mechanism is complied with.

Table 14: Social Management Measures

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
SM1: Use of Community Land	SM 1.1: Carry out community consultation on the purpose and benefits of making changes to land use	Pre-construction	DARD	Maintain records
	SM 1.2: Get community buy-in on any change of land use.	Pre-construction	DARD	Maintain records
	SM 1.3: Ensure compliance with the Grievance Redress Mechanism process	All phases	DARD	Maintain records
	SM 1.4: If indigenous land, ensure that FPIC is achieved (implement an IPP)	Pre-construction	DARD	Maintain records
SM2: Public nuisance caused by construction/operation activities (eg noise, dust etc)	SM 2.1: Carry out community consultation prior to undertaking activities	Pre-construction	DARD	Maintain records
	SM 2.2: Implement appropriate management plans (refer to Noise, Air, ESCP, and Waste sections of the ESMF)	Construction and operation	Site supervisor and DARD	Daily and maintain records
	SM 2.3: Ensure compliance with the Grievance Redress Mechanism process	All phases	DARD	Maintain records
SM3: Social Equity	SM3.1 Equitable representation - ensure the representation of EMs in project activities, including empowering them as key resources for project implementation, from designing water system to assessing climate service needs for the EM groups, or facilitating livelihood schemes for targeted beneficiaries.	All phases	DARD	Maintain records

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SM3.2: Women's groups and the Women's Union actively participate during the detailed design phase to identify routing of pipe alignments and locations of hydrant off takes from the buried pipes.

Pre-construction DARD Maintain records

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
SM3: Social Equity	SM3.3: Ensure women account for at least 50% of participants in consultation meetings and sharing information on water allocation/planning framework to prioritize water allocation (particularly where irrigation water is used for domestic/household purposes).	Pre-Construction / Construction	DARD	Maintain records / annual reporting
	SM3.4: Water allocation and planning - Water allocation/planning framework must ensure that male and female headed households in command areas have equal access to water/irrigation scheme whilst recognizing that priority allocation to high valued crops (over rice).	Operation	DARD	Maintain records
	SM3.5: Community facilitators (being residents of local command area communities) will be involved in disseminating information on water allocation/ planning framework and associated priorities for crops and other activities. Where appropriate, at least 30% of community facilitators shall be ethnic minority people and 30% shall be women.	All phases	DARD	Maintain records
	SM3.5: Communications, training, and gender materials used for dissemination of information must be suitable with local cultures and languages, particularly for EMs.	All phases	DARD Contractor	/ Maintain records
	SM3.6: Implement Gender Action Plan and EM Action Plan (Appendix 4) and if triggered, develop IPP and obtain FPIC.	All phases	All personnel	Maintain records

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
	SM3.7: EMs often have own ways of learning, information sharing and application of knowledge. Provide support and ToT training to the respected people in ethnic groups (elders, nominated heads etc) to enhance learning opportunities for EMs. Establish and facilitate peer-learning groups through exchange and learning visits among EMs, villages and communes.	Design and implementation phase	DARD	Training records
SM3: Social Equity	SM3.8 Provide training to extension workers, giving priorities to the workers from the EM groups, then these workers will transfer knowledge and techniques and experiences to larger communities.	Implementation	DARD	Maintain records
SM4: Compensation for loss of land or productivity	SM4.1: No physical resettlement of people or assets to occur. However refer to WEIDAP “Resettlement Plan” if significant unanticipated loss of productivity or loss of land occurs as a result of the project	All phases	DARD	Maintain records
SM5: Physical and Economic Connectivity	SM5 .1: Ensure Women and EM groups as project targeted beneficiaries and highly prioritized in the beneficiaries’ selection process.	Design and implementation	All personnel	Maintain records / annual review
	SM5.2: Support establishment of shared interest groups to promote planting of the same crops and share experiences and learning to improve quality and yields, and collectively negotiate prices	Implementation	DARD	Maintain records
	SM5.3: Introduce collective buying or selling practices, poor, near-poor and EM groups to increase purchasing/selling power.	Implementation	DARD	Annual review
	SM5.4: Improve access of EMs to affordable credit through coordination with on-going micro-credit schemes established the the National Poverty Reduction Programme, Women Union and Farmer Union (#135).	Design and Implementation	DARD	Maintain records

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
SM5: Physical and Economic Connectivity	SM5.5: As part of the livelihood assessment and planning in the project, explore options to promoting for new economic and income generation opportunities.	Design phase	DARD	Maintain records
	SM5.6: Encourage mainstreaming of green natural based solutions for new livelihood opportunities for youth and women EM generation in combination with the vocational training for EM groups, using their own languages	All phases	DARD	Maintain records
	SM5.7: Livelihood programme should be designed with focus on high-value and indigenous agriculture commodities. Promote EM knowledge on how to improve post-harvet processing, packaging and branding of such products.	Design and implementation	DARD	Maintain records
	SM5.8: Introduce incentive for private sector partnership to improve market access for EM products.	Implementation	DARD	Maintain records

5.10 ARCHAEOLOGICAL AND CULTURAL HERITAGE

5.10.1 Background

335. No archaeological or cultural heritage sites have been reported as part of the feasibility/initial design phase. This does not mean that there are none, but it does make the likelihood low.

5.10.2 Performance Criteria

336. The following performance criteria are set for cultural heritage issues related to the project:

- a. There will be no impact on any important Archaeological, Indigenous and/or Cultural Heritage sites;
- b. Manage any specific sites of important Archaeological, Indigenous and/or Cultural significance (significant sites);

5.10.3 Monitoring

337. Local stakeholders and community members have a key role to play in the implementation and monitoring of the project.

338. Consultation with stakeholders will continue. This will help ensure that stakeholders continue to be aware of the project, its progress and any changes in the project. It will also assist in identifying any issues as they arise.

339. DARD will be responsible for advisory support and extensions services to local beneficiaries along with being responsible for distributing material inputs and providing technical training and backstopping in the implementation of programme activities.

5.10.4 Reporting

340. Records of all consultations are to be kept and reported on monthly basis.

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Green Climate Fund Funding Proposal

Table 15: Archaeological and Cultural Heritage

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
CH1: Damage or disturbance to significant important Archaeological, Indigenous and/or Cultural Heritage during the earth disturbances and land clearing activities	CH1.1: Should any important Archaeological, Indigenous and/or Cultural Heritage sites, immediately cease work within the area that the site has been observed and consult with the relevant Museum/traditional owner groups, UNDP, DARD and archaeologist available for implementation during construction.	Pre and during construction	Contractor	Daily, maintain records and immediately notify UNDP and DARD of any find

5.11 EMERGENCY MANAGEMENT MEASURES

341. In the event of actions occurring, which may result in serious health, safety and environmental (catastrophic) damage, emergency response or contingency actions will be implemented as soon as possible to limit the extent of environmental damage.
342. The delivery organisation will need to incorporate emergency responses into the project complying with the requirements under the Occupational, Health and Safety Policy of the delivery organisation and the relevant Vietnamese legislation.

5.11.1 Performance Criteria

343. The following performance criteria are set for the construction of the projects:
- no incident of fire outbreak;
 - no failure of water retaining structures;
 - no major chemical or fuel spills;
 - no preventable industrial or work related accidents;
 - provide an immediate and effective response to incidents that represent a risk to public health, safety or the environment; and
 - minimise environmental harm due to unforeseen incidents.

5.11.2 Monitoring

344. An emergency response monitoring program has been developed for the projects (Table 15). The program is subject to review and update at least every two months from the date of issue. Importantly, visual inspections will be conducted by Field Officer daily with reporting to DARD and UNDP staff on a weekly basis (minimum) noting any non-conformances to this ESMF.

5.11.3 Reporting

345. The DARD and UNDP staff must be notified immediately in the event of any emergency, including fire or health related matter including those that have resulted in serious environmental harm.

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Green Climate Fund Funding Proposal

Table 16 Emergency Management Measures

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
E1. Fire and Emergency management and prevention strategies implemented	E1.1: Flammable and combustible liquids bunding/storage areas to be designed in accordance with appropriate international standards	Pre and during construction	Contractor	Daily and maintain records
	E1.2: Fire extinguishers are to be available on site	During construction	Contractor	Daily and maintain records
	E1.3: No open fires are permitted within the project area	During construction	Field Officer	Daily and maintain records
	E1.4: Communication equipment and emergency protocols to be established prior to commencement of construction activities.	Pre and during construction	Field Officer / Contractor	Maintain records
	E1.5: Train all staff in emergency preparedness and response (cover health and safety at the work site). Coordinate with NDMO.	During construction	Field Officer	Daily and maintain records
	E1.6: Check and replenish First Aid Kits	During construction	Field Officer	Daily and maintain records
	E1.7: Use of Personal Protection Equipment	During construction	All Personnel	Daily and maintain records

6 BUDGET FOR ESMF IMPLEMENTATION

346. A budget has been prepared for the implementation of the ESMF as follows:

Item	Cost
ESMF Updating and Auditing	\$20,000
General ESMF Expenses	\$10,000
Water Quality Monitoring	\$100,000
Water Quality Sample Laboratory Analysis	\$50,000
Sediment Sample Field Testing	\$50,000
Erosion, Drainage and Sediment Control	\$200,000
Groundwater monitoring	\$100,000
Stakeholder Engagement Workshops	\$200,000
Grievance Redress Mechanism	\$60,000
Total	\$790,000

Appendix One: Consultation and Stakeholder Engagement Summary

STAKEHOLDER CONSULTATIONS REPORT

Summary of consultations made for the Feasibility Study and Proposal Development

“Strengthening the resilience of smallholder agriculture to climate change-induced water insecurity in the Central Highlands and South-Central Coast regions of Vietnam” Project



The project responds to an initial written request from Ministry of Agriculture and Rural Development (MARD) to UNDP to work with ADB to develop stronger coordinated support to build the resilience of farmers in areas covered by the WEIDAP project. The Concept Note was shared with MARD and ADB to ensure complementarity of the two projects at the onset. MPI as NDA for GCF proposal, was also routinely briefed on the progress of the proposal development. Multi-stakeholder consultations with senior government stakeholders at central and local level, key multi-lateral and UN partners, particularly the Asian

Development Bank, civil society organizations and vulnerable groups of poor/near poor, ethnic and women-headed households have been conducted during the feasibility study and proposal development.

Key consultation meetings for the FS/Proposal development include:

- Scoping mission to Central Highland region: August 2017 and to South Central Coastal region: September 2017
- Consultation meeting with MARD departments and ADB on 19 October 2017
- 14 consultations with NGOs and international donors, two with private sector entities, 15 with DARDs, districts and communes, and 10 with farmer groups in Dak Lak, Dak Nong, Binh Thuan, Ninh Thuan, and Khanh Hoa, to collect information on vulnerability to climate change; priorities and needs; current projects and programs on climate change adaptation; poverty reduction; ethnic minorities' support; sustainable agriculture development; and gaps and recommendations.
- Field consultation mission to Dak Lak, Dak Nong and Ninh Thuan for feedback on the Concept Note and to collect further information on gender equality, ethnic minority engagement, irrigation technologies and access to information (16-20 January 2018)
- Field consultation mission on Economic and Social & Environmental Safeguards with participation of BRH experts to collect further information on ethnic issues and engagement, traditional political/leadership structures, land ownership, etc. The mission took place in Ninh Thuan from 3-4 April 2018 as part of BRH mission to Viet Nam to meet/consult with different stakeholders (MPI, MARD, ADB, CERDA – GCF observer organisation)
- Final consultation mission to the five target provinces to consult with local authorities and households on proposed CRA packages and pond O&M plan (3-10 May 2018).
- Final technical meeting with CPO and five DARD representatives to update/consult final project design, clarify co-financing requirements and next steps
- Validation workshop in September 2018 with participation of all stakeholders (relevant ministries, five DARDs, CSOs, research institutes, development partners, ADB, UN agencies)

Overview of consultations carried out during the feasibility study and proposal development	
Total number of irrigation schemes visited as part of pre-feasibility and feasibility irrigation sub assessment, in combination with WEIDAP missions	50
Total number of farming communities met – on rain-fed and irrigated land - as part of the pre-feasibility and feasibility study.	35
Total number of consultations that involved community representatives (individuals and groups) during pre-feasibility and feasibility studies and sub assessments	80
Total number of resource persons and key stakeholders interviewed during pre-feasibility and feasibility studies and sub assessments	150

Engagement of ethnic minority groups during the design phase

From the concept development stage, there was recognition by the Government of Viet Nam that the primary target group of this project should be the most vulnerable populations and that ethnic minority groups account for a disproportionate share of poor households in the country.

	Whole country	Khanh Hoa	Ninh Thuan	Binh Thuan	Dak Lak	Dak Nong
Rate of poor household as whole	9.88	9.87	14.93	5.81	19.37	19.26
Rate of poor household among ethnic minority	23.1 (*)	68.6	38.8	19.54	37.17	40.75
Rate of near poor household as whole	5.22	6.69	8.82	3.95	8.28	6.15
Rate of near poor household among ethnic minority	13.6 (*)	9.8	14.95	8.66	10.91	8.6

Source: MOLISA and provincial DOLISA, 2016

(*) Social- Economic Survey of Ethnic minority in Vietnam conducted by CEMA and GSO, 2015

The table above shows that in the five provinces targeted in this project, 20-69% of ethnic minorities belong to the poor category and another 9-15% to the near poor category. The likelihood of ethnic minorities being either a poor or near-poor household is systematically higher than for non-EM groups.

During consultations as part of the design of this project, views of ethnic minorities were incorporated by inviting representatives of these groups, representatives from Committees of Ethnic Minorities and NGOs that are supporting issues related to ethnic minorities, as described below.

1) Consultations with farming communities

Annex A to this document shows that representatives from ethnic minority groups (highlighted in yellow) who have participated in consultations with farming communities that took place throughout the course of 2018. As the attendance sheets indicate, some consultations were dedicated to ethnic minorities. Two Focus Group Discussions with women's farmer groups, totaling 25 ethnic minority women, also took place in September 2018 (See meeting summary in Annex B).

2) Engagement of representatives of Committees of Ethnic Minorities

CEM is the government body that has presence at the central and provincial levels, and they have been invited to all key sub-national and national consultations. Annex C presents attendance sheets of government consultations that took place in 2018 with participation by the representatives of CEM (highlighted in yellow).

3) Engagement of NGOs

Three NGOs that are active in supporting ethnic minorities have been engaged in national consultations. They participated in two national consultations including the national validation workshop in September 2019. The profiles of these NGOs are included in Annex D.

Consultations with key government stakeholders and relevant actors				
Date and location	Event	Objective	Participants	
30 May 2017	Meeting ICD	To clarify UNDP GCF Idea Note scope, that is complementary and not overlapping with other projects like UN REDD+	Mr Chu Van Chuong, ICD Jenty Kirsch-Wood, UNDP Pham Thi Lien Phuong, UNDP	
27 July 2017	First meeting with CPO on the idea note	To explore the scope and key project designs under ADB project, synergies and complementarity with GCF project	Mr Vu Ngoc Chau, CPO Nguyen Duc Mien, CPO Jenty Kirsch-Wood, UNDP Dao Xuan Lai, UNDP Pham Thi Lien Phuong	
Aug-Sep 2017	Scoping consultation mission to Central Highland (9-14 Aug) and to South Central Coastal provinces (10-19 Sep)	To collect information and data to develop a concept note and pre-feasibility study for a GCF funded project proposal To consult with local authorities at different levels on their expectations and needs as well as get	CPO, UNDP, FS and Concept Note consultants. Srilita Kamilla, UNDP Regional Technical Advisor participated in the mission to Central Highlands region	

		initial feedback on the proposed project activities.	
19 October 2017	Consultation meeting with relevant MARD departments and ADB on the Concept Note	To consult with MARD Departments on technical aspects for the Concept Note, to ensure that it is in line with Vietnam's priorities and GCF requirements. UNDP had a brief introduction of the GCF concept note. Stakeholders discuss technical designs, provided inputs for developing into a final draft of CN. ADB welcomed and fully supported the project as the two projects have strong links.	Representatives from MARD: <ul style="list-style-type: none"> - International Cooperation Department - CPO - Agro Processing Department - Planning Department - National Center for Agricultural Extension services - IPSARD UNDP (Dao Xuan Lai, Jenty Kirsch-Wood, Pham Thi Lien Phuong) ADB Concept note/FS consultant
6 February 2018	GCF Stakeholder Consultation Workshop, Green One UN House	To consult with all stakeholders of the Concept Note. The CN, the theory of change and the pre-feasibility study were presented by Proposal Development and FS Consultant to participants. It was emphasized that the proposal development was an iterative process and the project would go deeper into the analysis with the feasibility study. The time plan for submission was presented.	Chaired by Mr Chu Van Chuong (Deputy Director General of ICD/MARD) and Ms Caitlin Wiesen (UNDP Country Director) <p>Participants include:</p> <ul style="list-style-type: none"> - MARD representatives (CPO, ICD) - ADB (Sanath – Senior Natural Resources Economist) - Women's Union, Farmers' Union, Red Cross - WB, IFAD - Embassies - NGOs (Action Aid, SNV) - Women's Union, Red Cross - Private sector: Agri Media -

3-6 April 2018	Field consultation mission to Ninh Thuan province to collect information for Economic and Social & Environmental Safeguards Analyses as part of the expert mission to Viet Nam to meet and consult with key stakeholders at central and provincial level	<p>To collect further information on ethnic issues and engagement, traditional political/ leadership structures, land ownership, etc., at the field level (especially local authorities and people)</p> <p>To consult with key stakeholders in greater detail on the proposal</p> <p>To work with the technical team on key details of the technical sub-assessments, FS and Proposal</p>	<p>CPO (Vu Ngoc Chau – Director of WEIDAP project, Pham Minh Yen, Tran Van Hang)</p> <p>UNDP BRH experts (Srilata Kamila, Phillip Michael Harington, Babatunde Olukawayode Abidoye), Nick Remple – Proposal Development consultant,</p> <p>Consultation meetings with representatives of MPI, MARD, ADB, CERDA – local NGO/GCF observer organisation</p> <p>Technical team (Miguel Coulier – FS, Dam Viet Bac – Agriculture, Nguyen Van Manh – Water, Duong Van Kham/Nguyen Huu Quyen - Climate Information and Le Van Son – Gender)</p>
3-10 May 2018	Final consultation mission to five target provinces	The final CN and project scope were presented to provincial stakeholders for feedback and further information was collected and the feasibility explored of proposed CRA packages, Climate Innovation Platforms, voucher system, private sector engagement, credit options, shared ponds, O&M)	<p>CPO (Nguyen Duc Mien – staff)</p> <p>UNDP (Pham Thi Lien Phuong)</p> <p>Technical team (Agriculture, Irrigation, Gender)</p>
8 June 2018	Meeting between UNDP and CPO	<p>To update the progress of GCF proposal formulation. WEIDAP Director informed that the pre-FS of WEIDAP project was approved on 18 May 2018. This is the right timing as we going to prepare for this grant project.</p> <p>Regarding implementation arrangements, these are critical to accelerate and maintain project delivery. Both sides agree on next steps and indicative timelines (Co-F letter, LOA)</p>	<p>CPO:</p> <ul style="list-style-type: none"> - Mr Nguyen Hong Phuong (new WEIDAP Director), - Mr Vu Ngoc Chau (old WEIDAP Director) - Mr Nguyen Duc Mien - Ms Pham Minh Yen - Mr Nhat (interpreter) <p>UNDP</p> <ul style="list-style-type: none"> - Akiko Fujii, Deputy Country Director - Dao Xuan Lai - Jenty Kirsch-Wood - Pham Thi Lien Phuong

		and agree to communicate more regularly once we have semi-package	
15 June 2018	Meeting with CPO and DARDs at	To present project design and get feedback, Co-F requirement	<p>CPO</p> <ul style="list-style-type: none"> - Mr Pham Dinh Van, Vice Director - Nguyen Duc Mien - Pham Minh Yen <p>DARD representatives</p> <ul style="list-style-type: none"> - Mr Vu Duc Con – Vice Director Dak Lak - Nguyen Quang – Khanh Hoa - Dang Kim Cuong – Vice Director Ninh Thuan; - Le Duc Thuan – Director of Irrigation sub-Dep of Dak Nong - Nguyen Huu Phuoc - - Mr Le Duc Dung – Vice Director of WEIDAP Binh Thuan <p>Technical team:</p> <ul style="list-style-type: none"> - Dam Viet Bac - Nguyen Huu Quyen - Nguyen Van Manh <p>UNDP</p> <ul style="list-style-type: none"> - Mr Dao Xuan Lai - Mr Jenty Kirsch-Wood - Pham Thi Lien Phuong

Meetings and key correspondence with development partners			
3 April 2017	Meeting CPO and ADB	To get understanding of ADB loan project, key designs and seek for their support and information sharing	ADB, CPO and UNDP
16 April 2017	Meeting with IFAD and FAO	To provide update on status of the preparation of a UNDP led project; to obtain technical inputs and suggestions from colleagues of FAO and IFAD; and explore possible engagement of the UN agencies in the implementation of the project if it is approved by GCF.	<p>Nguyen Thanh Tung (Country Programme Officer – IFAD)</p> <p>Nguyen Song Ha (Assistant FAO Representative – Programme)</p> <p>UNDP</p> <p>Srilata Kammilla</p> <p>Dao Xuan Lai</p> <p>Pham Thi Lien Phuong</p>
1 June 2018	Follow-up meeting with IFAD	To follow up on possible engagement with IFAD Lending programme: IFAD is in the difficult stage.	Thomas Rath - Country Director and Representative for Vietnam, Thailand and Lao PDR, IFAD

		Technical fit with IFAD's programme. The challenge is that IFAD as funding agency cannot receive money from other agencies for their provision of services, but can issue a letter of agreement with UNDP as part of UN collaboration	Nguyen Thanh Tung - Country Programme Officer, IFAD Dao Xuan Lai: Head of Climate Change and Environment Unit, UNDP Jenty Kirsch-Wood - Senior Technical Advisor, CC&DRR, UNDP Pham Thi Lien Phuong – Coordinator of GCF-UNDP proposal development
12 July 2018	Meeting with FAO	Sharing of GCF concept note and some ideas for their possible engagement (CRA FFS capacity building)	Nguyen Song Ha – FAO Programme Assistant Jenty Kirsch-Wood Pham Thi Lien Phuong

UNDP regional technical advisor mission to Viet Nam			
Date and location	Event	Objective	Participants
9-14 August 2017	UNDP Regional Technical Advisor Mission to Viet Nam, Central Highland region for sc	The mission focused on providing support and guidance to finalize the development of the concept note and pre-feasibility study. To consult with local authorities of different levels on their expectations and needs as well as get initial feedback on the proposed project activities.	Srilata Kammila, <i>Adaptation Advisor, UNDP Regional Service Centre, CPO, UNDP CO, FS and CN consultants</i>

Submission of Concept Note and Pre-feasibility study for the GCF			
21 December 2017	Submission of Concept note and pre-feasibility study for the Green Climate Fund		UNDP

Development of Proposal and Feasibility study			
July 2017- January 2018	Employment of team of consultants for the development of the sub assessments for the feasibility study and start of consultations processes with relevant	Irrigation sub assessment, agriculture sub assessment, gender sub assessment, climate information sub assessment	UNDP and technical team

	stakeholders. Documented in each sub assessment report.		
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Proposal development mission to Viet Nam			
16-20 January 2018	Field consultation mission to Dak Lak, Dak Nong and Ninh Thuan for getting feedback on the Concept Note	To get provincial feedback on the Concept Note draft and to collect further information on gender equality, ethnic minority engagement, climate resilient agriculture, irrigation technologies and access to information Meeting DARD staffs, and all relevant Departments at provincial level, and consult with local authority and households at selected communes of 6 districts of 3 provinces	Consultants (Nick Remple - Proposal development, Miguel Coulier - FS, Dam Viet Bac - Agriculture, Le Van Son - Gender) CPO staff (Mr Vu Ngoc Chau – Director of ADB WEIDAP project; Tran Viet Anh - staff) UNDP (Dao Xuan Lai, Jenty Kirsch-Wood, Pham Thi Lien Phuong)

Overview of consultations per feasibility sub assessment

a. Consultative interviews and correspondence with key stakeholders for FS development:

Date and location	Meeting and Objective	Participants
5 September 2017, ICRAF office	Agro-climate advisories, agroforestry	UNDP FS/CN consultant and Elisabeth Simelton, climate scientist, ICRAF
6 September 2017, IDE office	Water efficiency technology	FS/CN consultant and Nguyen Van Quang, Director of IDE
8 September 2017, SNV	Value chain, EM	UNDP FS/CN consultant and Tran Tu Anh, Climate change specialist, SNV
21 August 2017, FAO	Drought risk index, voucher system for CSA, Forecast-based Financing	UNDP FS/CN consultant and Operations Coordinator, Roberta Tranquilli FAO
23 August 2017, BTC	Water program in Ninh Thuan	UNDP FS/CN consultant and Water program in Ninh Thuan
24 August 2017, IDH	On-going coffee and pepper cultivation initiatives Central Highlands	UNDP FS/CN consultant and Vietnam Coffee Coordinating Board (General Director IPSARD)
25 August 2017, Oxfam	Ninh Thuan and Dak Nong livelihood programming	UNDP FS/CN consultant and Vu Minh Hai and CC-DRR team, Oxfam
28 August 2017, IFAD	Value chain, EM, credit	UNDP FS/CN consultant and Sauli Hurri and Nguyen Quang, IFAD
28 August 2017, Agrimedia	Climate information – met stations, SMS service	UNDP FS/CN consultant and Agrimedia Director

29 August 2017, ICCO	Climate information, SMS	UNDP FS/CN consultant and ICCO
30 August 2017, VNSAT	Water efficiency technology, credit support, Central Highlands	UNDP FS/CN consultant, GCF Project Coordinator and CPO MARD VNSAT program, Mr Son
30 August 2017, CARE	Climate information, VSLA, gender and EM programming	UNDP FS/CN consultant and Luu Thi Thu Giang, climate change specialist, CARE
31 August 2017, Mimosatek (on skype)	Conversation of costing and design of sesame interventions	UNDP FS/CN consultant and Lan Anh Le, Mimosatek
21 August 2017	Small grants program, water harvesting model in S-Central Coast, experience with credit programs	FS/CN consultant and GEF SGP Portfolio manager Nguyen Thi Thu Huyen

b. Consultations for agriculture sub assessment

- DaK Nong, Dak Lak, Binh Thuan: 31 January 2017 - 5 February 2018
- Ninh Thuan, Khanh Hoa: 6-9.3.2018

Dak Lak province

Meeting at DARD Dak Lak

Ord. No.	Full name	Position/Address	Contact
1	Vu Minh Duc	Team leader of ADB8 project preparation	Ducvuminh@gmail.com
2	Pham Cong Minh	ADB8 project preparation group	
3	Nguyen Van Nam	Dak LaK Provincial Extension Centre	vannamttkn@gmail.com
4	Tran Van Cao	Crop Production and Plant Protection Sub Department	vancaopttbvtvdaklak@gmail.com
5	Duong Tin Duc	Dak LaK Provincial New Rural Development Program Office	

Meeting at Ea Hleo district of DaK Lak province

Ord. No.	Full name	Position/Address	Contact
1	KSor Aflai	District DARD	aflaipnneahleo@gmail.com
2	Ha Tuan Hoi	Agricultural Extension Station	Tuanhoi2671@gmail.com
3	Y Luyen Nie Kdam	Vice chairman of Farmer's Union	
4	Bui Cong Lang	Head of District DARD	langeahleo@gmail.com
5	Y Niem Eban	District DARD	

Meeting at Krong Pak district of DaK Lak province

Ord. No.	Full name	Position/Address	Contact
1	Nguyen Huy Hoang	Head of Krong Pak District DARD	hoangnh@krongpak.daklak.gov.vn
2	Mrs Tuyen	District DARD	

Dak Nong province

Meeting at Dak Nong DARD

Ord. No.	Full name	Position/Address	Contact
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1	Nguyen Van Tuan	Dak Nong Provincial New Rural Development Program Office	vanphongdieuphoidaknong@gmail.com
2	Nguyen Thi Thao	Provincial Agricultural Extension Centre	Thaolinh8107@gmail.com
3	Hoang Ngoc Duyen	Crop Production and Plant Protection Sub Department	

Meeting at Cu Jut district of DaK Nong province

Ord. No.	Full name	Position/Address	Contact
1	Do Duy Nam	District DARD	Namtaynguyen207@gmail.com
2	Dao Thi Bien	District Irrigation Unit	daothibiennt@gmail.com
3	Nguyen Thi Tuyet Lan	Women's Union	
4	Nguyen Van Trong	Farmer's Union	
5	Nguyen Anh Tu	Vice Chairman of District People's Committee	nguyenanhtukl@gmail.com

Meeting at DaK Mil district of DaK Nong province

Ord. No.	Full name	Position/Address	Contact
1	Le Minh Tai	District DARD	Leminhtai1988@gmail.com
2	Hoang Xuan Vinh	Labour Invalids and Social Affairs Unit	
3	Cao Duong Thanh	Farmer's Union	
4	Nguyen Ba Cuong	Agricultural Extension Station	
5	Le Thi Phuong Hoa	Women's Union	
	Y PYum Bon Jun Yuh	Duc Minh Commune	

Khanh Hoa Province

Meeting at Khanh Hoa DARD

Ord. No.	Full name	Position/Address	Contact
1	Trinh Duy An	Provincial Irrigation Department of DARD	antrinhduy@gmail.com
2	Pham Huy Truong	Provincial Irrigation Department of DARD	
3	Luong Kim Ngan	Provincial Agricultural Extension Centre	kimnganbvtv@gmail.com
4	Le Thi Mai Lien	DARD	
5	Le Quoc Toan	Provincial Farmer Union	Quoctoan.ttdnnd@gmail.com
6	Nguyen Van Khuong	Provincial Department of Ethnic Minorities	
7	Nguyen Thi Thanh Thuy	Provincial New Rural Development Program Office	
8	Nguyen Ngoc Bao	Provincial Irrigation Department	

Meeting at Cam Lam district of Khanh Hoa province

Ord. No.	Full name	Position/Address	Contact
1	Trinh Duy An	Provincial DARD	antrinhduy@gmail.com
2	Nguyen Quoc Huy	Agricultural Extension Station	huyfantasy@gmail.com
3	Tran Thi Nhai	Ethnic Minority Unit	
4	Do Thi Thuy	Labour Invalids and Social Affairs Unit	

5	Do Thi Thuy	Agricultural & Fishery Extension Station	
6	Tran Ngo Quoc Cuong	District DARD	tranngoquoccuong@gmail.com
7	Le Thanh Huy	Vice chairman of Suoi Cat Commune People's Committee (CPC)	
8	Nguyen Minh Tam	Commune agricultural extension staff	

Binh Thuan province

Meeting at Binh Thuan DARD

Ord. No.	Full name	Position/Address	Contact
1	Nguyen Hoai Dieu	Provincial New Rural Development Program Office	Nguyendieu0606@gmail.com
2	Nguyen Quoc Vinh	ADB8 Project Management Board	Quocvinh202@gmail.com
3	Tran Minh Tan	Crop Production and Plant Protection Sub Department	
4	Le Ngoc Minh	Provincial Agricultural Extension Centre	lengocminhbt@gmail.com

Meeting at Duc Linh district of Binh Thuan province

Ord. No.	Full name	Position/Address	Contact
1	Nguyen Xuan Nghi	District DARD	

Ninh Thuan province

Meeting at Ninh Thuan DARD

Ord. No.	Full name	Position/Address	Contact
1	Nguyen Van Binh	Ninh Thuan Provincial DARD	nvbinhsonn@gmail.com
2	Phan Dinh Thinh	Science and Technology Department, Provincial DARD	
3	Vu Minh Tam	Crop Production and Plant Protection Sub Department	
4	Tran Thi Kim Quyen	Department of Labour Invalids and Social Affairs	
5	Nguyen Lai Minh Viet	Provincial Agricultural Extension Centre	
6	Nguyen Dinh Trung	Provincial New Rural Development Program Office	
7	Nguyen Dinh Nam	Provincial Department of Planning and Investment	

Meeting at Ninh Hai district of Ninh Thuan province

Ord. No.	Full name	Position/Address	Contact
1	Le Van Ngoc	Vice chairman of Ninh Hai DARD	khuyennongnh@gmail.com
2	Bui Ngoc Hai	Agricultural Extension Station	
3	Le Van Ngoc	Labour Invalids and Social Affairs Unit	
4	Dao Ba Truyen	Nhon Hai commune	
5	Tran Van Nam	Chairman of Vinh Hai CPC	

Meeting at Bac Ai district of Ninh Thuan province

Ord. No.	Full name	Position/Address	Contact
	Ngo Thi Cuc	District DARD	ngocucnongnghiep@gmail.com
	Po nang Thi No	Women's Union	Pnangthino33@gmail.com
	Ho Xuan Tin	Agricultural Extension Station	Xuantin78@gmail.com
	Dao Ba Truyen	Phuoc Thanh Commune	
	Tran Quy Duong	Phuc Trung Commune	
	Nguyen Thi Kim Tuyen	Phuc Trung Commune	
	Hua Thi Can Kina	Phuc Trung Commune	

c. Consultations for development of CSA packages

Consultative workshops with key stakeholders

Date and location	Meeting and objective	Participants
3 -10 May 2018	To validate and finalise the CSA package	DARDs of 5 provinces, DOLISAs, Agriculture Extension Services at different levels.
		Individual conversations with government stakeholders, farmer groups of poor/near poor/ethnic/women headed households, private sector (value chain stakeholders)

d. Gender assessment consultations

Interviews with key stakeholders

Person/s Consulted	Designation	Date	Time	Location
Dak Lak province				
Mr. Nguyen Viet Dung	Vice-head of International economic Unit, Department of Planning and Investment	16.1.2018	9:00am-11:30 am	DARD meeting room
Mr. Nguyen Quang Hung	Vice-president Provincial Farmer Union	16.1.2018	9:00am-11:30 am	DARD meeting room
Mrs. Tran Thi Phong	Vice-president Provincial Women's Union	16.1.2018	9:00am-11:30 am	DARD meeting room
Mr. Vo Minh Tien	Officer, Department of Natural Provincial Resource and Environment	16.1.2018	9:00am-11:30 am	DARD meeting room
Mr. Vu Duc Con	Vice-director Provincial Department of Agriculture and Rural Development	16.1.2018	9:00am-11:30 am	DARD meeting room
Mr. Le Ngoc Vinh	Head of Ethnic minority's Policy Unit Provincial Committee for Ethnic Minority	16.1.2018	9:00am-11:30 am	DARD meeting room

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Mr. Nguyen Huy Hoang	Head of Department of Agriculture and Rural Development – Krong Pak district	17.1.2018	8:30am-9:30 am	Krong Pak district Meeting room
Mr. Doan Dai Ly	Chief of Administrative unit, Krong Pak District People's Committee	17.1.2018	8:30am-9:30 am	Krong Pak district Meeting room
Ms. Le Thi Dao	Vice-president of Krong Pak District's Women's Union	17.1.2018	8:30am-9:30 am	Krong Pak district Meeting room
Mrs. Ta Xuan Quynh	Krong Buk commune – Krong Pak district	17.1.2018	9:00am-11:30 am	Krong Pak district Meeting room
Mr. Nguyen Tien Van	Vice-chairman of the Krong Buk commune's People's Committee – Krong Pak district	17.1.2018	8:30am-9:30 am	Krong Pak district Meeting room
Mrs. Tran Thi Hoa	Vice-head of the Krong Buk Commune's Veterans Association – Krong Pak district	17.1.2018	8:30am-9:30 am	Krong Pak district Meeting room
Mr. Hmut Bya	Officer, Krong Buk Commune's People Mobilization Unit; Krong Pak district	17.1.2018	8:30am-9:30 am	Krong Pak district Meeting room
Mr. Luong Van Thang	Krong Buk Commune, Krong Pak district	17.1.2018	8:30am-9:30 am	Krong Pak district Meeting room
Mr. Yso La Nie	Krong Buk Commune, Krong Pak district	17.1.2018	8:30am-9:30 am	Krong Pak district Meeting room
Mr. Le Van Tuong	Xuan Phu Commune, Krong Pak district	17.1.2018	8:30am-9:30 am	Krong Pak district Meeting room
Nguyen Dinh Trung	Vice-head of Ea H'leo District Unit of Agriculture and Rural Development	17.1.2018	8:30am-9:30 am	Krong Pak district Meeting room
Luu Thi Quynh Trang	Vice-head of the Ea H'leo District of Unit of Labour Invalid and Social Welfare Dak Lak Province	17.1.2018	8:30am-9:30 am	Krong Pak district Meeting room
Nie Tsao	Vice-head of the Ea H'leo District People Police	17.1.2018	8:30am-9:30 am	Krong Pak district Meeting room
Nguyen Van Tinh	Officer, The Ea H'leo District Unit of Agriculture and Rural Development	17.1.2018	8:30am-9:30 am	Krong Pak district Meeting room
Ho Tan Lu	Head of the Ea H'leo District Unit of Agriculture and Rural Development	17.1.2018	8:30am-9:30 am	Krong Pak district Meeting room
Ngo Van Tuong	Head of Irrigation Company – Ea H'leo district	17.1.2018	8:30am-9:30 am	Krong Pak district Meeting room
Mai Thi My	Chairwomen of the Ea H'leo District Women's Union	17.1.2018	8:30am-9:30 am	Krong Pak district Meeting room
Dak Nong Province				
Dang Quoc Khanh	Vice-chairman of the Dak Krong People's Committee – Cu Jut district	17.1.2018	14:30 - 15:30pm	Cu Jut District meeting room
Phan Van Hoa	Vice-chairman of the Eatling town's People's Committee, Cu Jut district	17.1.2018	14:30 - 15:30pm	Cu Jut District meeting room
Dinh Cong Xoon	Vice-chairman of Nam Dong commune people's Committee	17.1.2018	14:30 - 15:30pm	Cu Jut District meeting room
Vu Sinh Quyet	Vice-chairman of Tam Thang commune People's Committee, Cu Jut district	17.1.2018	14:30 - 15:30pm	Cu Jut District meeting room

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HRaih BYa	Chairwomen of Tam Thang Commune Women's Union, Cu Jut district	17.1.2018	14:30 - 15:30pm	Cu Jut District meeting room
Nguyen Thi Nam	Chairwomen of the Dak Drong commune Women's Union, Cu Jut district	17.1.2018	14:30 - 15:30pm	Cu Jut District meeting room
Do Duy Nam	Vice-head of Cu Jut District' Unit of Agriculture and Rural Development	17.1.2018	14:30 - 15:30pm	Cu Jut District meeting room
Dinh Van Dung	Vice-head of Labour Invalid and Social welfare Division – Cu Jut district	17.1.2018	14:30 - 15:30pm	Cu Jut District meeting room
Huynh Thi Thu Vang	Dak Nong Provincial Women's Union	18.1.2018	8:30 – 9:30am	Dak Mil District People's Committee meeting room
Huynh Tuong Vy	Dak Nong Provincial Department of Natural Resource and Environment	18.1.2018	8:30 – 9:30am	Dak Mil District People's Committee meeting room
Nguyen Xuan Anh	Vice-head of Dak Mil district' Unit of Natutal resource and environment	18.1.2018	8:30 – 9:30am	Dak Mil District People's Committee meeting room
Doan Gia Loc	Head of the Krong No district's Unit of Agriculture and Rural Development	18.1.2018	8:30 – 9:30am	Dak Mil District People's Committee meeting room
Le Minh Tai	Vice-head of the Dak Mil District's Unit of Agriculture and rural Development.	18.1.2018	8:30 – 9:30am	Dak Mil District People's Committee meeting room
Le Thi Thu Hoai	Vice-president of the Dak Mil district's Women's Union	18.1.2018	8:30 – 9:30am	Dak Mil District People's Committee meeting room
Bui Duc Tho	Vice-chairman of the Dak Mil town, Dak Mil District, Dak Nong Province	18.1.2018	8:30 – 9:30am	Dak Mil People's Committee meeting room
Do Xuan Cai	Vice-chairman of the Duc Sak commune, Dak Mil distrcet	18.1.2018	8:30 – 9:30am	Dak Mil People's Committee meeting room
Nguyen Trong Dinh	Vice-chairman of the Duc Minh commune, Dak Mil district	18.1.2018	8:30 – 9:30am	Dak Mil People's Committee meeting room
Tran Duc Van	Vice-chairman of Lang Son commune, Dak Mil district	18.1.2018	8:30 – 9:30am	Dak Mil People's Committee meeting room
Tran Nguyen Long	Vice-chairman of Dak Lao commune, Dak Mil district	18.1.2018	8:30 – 9:30am	Dak Mil People's Committee meeting room
Hua Van Sinh	Vice-chairman of Nam Xuan commune People's Committee, Dak Mil district	18.1.2018	8:30 – 9:30am	Dak Mil People's Committee meeting room
Nguyen Thanh Vien	Vice-chairman of Communist Party - Nam Xuan commune, Dak Mil district	18.1.2018	8:30 – 9:30am	Dak Mil People's Committee meeting room

Ninh Thuan province				
Nguyen Thi Kim Yen	Vice-head of Science Technology unit, provincial Department of Agriculture and Rural Development	19.1.2018	8:30 – 11:30am	DARD meeting room
Trinh Thi Thanh Thuy	Vice-chairwomen of Ninh Thuan Provincial Women's Union	19.1.2018	8:30 – 11:30am	DARD meeting room
Nguyen Thi Hong Lam	Economic Development Unit, Ninh Thuan Provincial People's Committee	19.1.2018	8:30 – 11:30am	DARD meeting room
Nguyen Van Binh	Vice-director, Provincial Department of Labour Invalid and Social Welfare – Ninh Thuan province	19.1.2018	8:30 – 11:30am	DARD meeting room
Le Thanh Hung	Ninh Thuan Provincial Committee for Ethic Minority	19.1.2018	8:30 – 11:30am	DARD meeting room
Nguyen Van Tinh	Ninh Thuan Provincial Farmer Union	19.1.2018	8:30 – 11:30am	DARD meeting room
Nguyen Bao Trieu	Ninh Thuan Provincial Department of Natural Resource and Environment	19.1.2018	8:30 – 11:30am	DARD meeting room
Nguyen Dai Nghia	Ninh Thuan Irrigation Construction Company	19.1.2018	8:30 – 11:30am	DARD meeting room
Ha Van Trao	Bac Ai Districts Division of Labour Invalid and Social Welfare	19.1.2018	8:30 – 11:30am	DARD meeting room
Chamalea Thi Anh	Chair-woman of Phuoc Trung Commune Women's Union, Bac Ai district	19.1.2018	14:00 – 15:00pm	Ninh Hai district People's Committee meeting room
Tran Quy Duong	Chairman of Phuoc Trung Commune People's Committee	19.1.2018	14:00 – 15:00pm	Ninh Hai district People's Committee meeting room
Nguyen Thi Thanh Hau	Ninh Hai district Division of Labour invalid and social welfare	19.1.2018	14:00 – 15:00pm	Ninh Hai district People's Committee meeting room
Nguyen Nhu Phuong	Vice-chairman of Tri Hai Commune People's Committee	19.1.2018	14:00 – 15:00pm	Ninh Hai district People's Committee meeting room
Nguyen Van Tam	Vice-chairman of Nhon Hai commune People's Committee	19.1.2018	14:00 – 15:00pm	Ninh Hai district People's Committee meeting room
Focus Group Discussion with Farmers at Blech village, Ea-Drang town, Krong Pak district				
Mr. Y Liem Mco	Coffee cultivation farmer	16.1.2018	15:00 – 16:00pm	Blech village
Mr. Y Khoa Adrang	Coffee cultivation farmer	16.1.2018	15:00 – 16:00pm	Blech village
Mr. Y Linh Nie	Coffee cultivation farmer	16.1.2018	15:00 – 16:00pm	Blech village
Mr. Y Xuan Nie	Coffee cultivation farmer	16.1.2018	15:00 – 16:00pm	Blech village

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Mr. Thuyen Ksor	Coffee cultivation farmer	16.1.2018	15:00 - 16:00pm	Blech village
Mr. Y Pring Ksor	Coffee cultivation farmer	16.1.2018	15:00 - 16:00pm	Blech village
Mr. H Nhi Ksor	Coffee cultivation farmer	16.1.2018	15:00 - 16:00pm	Blech village
Focus Group Discussion with Farmers at Bour village, Tam Thang commune, Cu Jut district, Dak Nong				
Mr. Y Ba Eban	Coffee cultivation farmer	17.1.2018	15:30 – 17:00pm	Bour village
Mrs. HDring Blrong	Coffee cultivation farmer	17.1.2018	15:30 – 17:00pm	Bour village
Mrs. Hlong Bkrong	Coffee cultivation farmer	17.1.2018	15:30 – 17:00pm	Bour village
Mrs Hriap Bkrong	Coffee cultivation farmer	17.1.2018	15:30 – 17:00pm	Bour village
Mr. Y Chia Nie	Coffee cultivation farmer	17.1.2018	15:30 – 17:00pm	Bour village
Focus Group Discussion with Farmers at Dak Lao commune, Dak Mil district, Dak Nong				
Mr. Nguyen Ngoc Thanh	Coffee cultivation farmer	18.1.2018	14:00 – 16:00am	Dak Lao commune People's Committee meeting room
Mrs. Tran Thi Mai	Coffee cultivation farmer	18.1.2018	14:00 – 16:00am	Dak Lao commune People's Committee meeting room
Mr. Truong Tan Phuoc	Coffee cultivation farmer	18.1.2018	14:00 – 16:00am	Dak Lao commune People's Committee meeting room
Mrs Tran Thi Thu Hien	Coffee cultivation farmer	18.1.2018	14:00 – 16:00am	Dak Lao commune People's Committee meeting room
Mrs Truong Thi Loan	Coffee cultivation farmer	18.1.2018	14:00 – 16:00am	Dak Lao commune People's Committee meeting room
Mrs. Bui Thi Kim Huong	Coffee cultivation farmer	18.1.2018	14:00 – 16:00am	Dak Lao commune People's Committee meeting room
Mrs. Le Thi Ty	Coffee cultivation farmer	18.1.2018	14:00 – 16:00am	Dak Lao commune People's Committee meeting room
Focus Group Discussion with Farmers at Nhon Hai commune, Ninh Hai district, Ninh Thuan				
Mr. Dang Thong	Coffee cultivation farmer	19.1.2018	15:30 – 17:00pm	Nhon Hai commune People's Committee meeting room
Mr. Doan Van Chuong	Coffee cultivation farmer	19.1.2018	15:30 – 17:00pm	Nhon Hai commune People's Committee meeting room
Mr. Nguyen Quou	Coffee cultivation farmer	19.1.2018	15:30 – 17:00pm	Nhon Hai commune People's Committee meeting room

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Mr. Truong Ngoc	Coffee cultivation farmer	19.1.2018	15:30 – 17:00pm	Nhon Hai commune People's Committee meeting room
Mrs. Tran Thi Thuy Trang	Coffee cultivation farmer	19.1.2018	15:30 – 17:00pm	Nhon Hai commune People's Committee meeting room
Mrs. Nguyen Tran Linh Cam	Coffee cultivation farmer	19.1.2018	15:30 – 17:00pm	Nhon Hai commune People's Committee meeting room
Mrs. Le Thuc Nhi	Coffee cultivation farmer	19.1.2018	15:30 – 17:00pm	Nhon Hai commune People's Committee meeting room
Focus Group Discussion with Farmers at Phuoc Trung commune, Ninh Hai district, Ninh Thuan				
Mrs Ta in Binh	Coffee cultivation farmer	20.1.2018	10:00 – 11:30am	Phuoc Trung commune People's Committee meeting room
Mrs Kator Thi Tam	Coffee cultivation farmer	20.1.2018	10:00 – 11:30am	Phuoc Trung commune People's Committee meeting room
Mrs. Chamalea TKhan	Coffee cultivation farmer	20.1.2018	10:00 – 11:30am	Phuoc Trung commune People's Committee meeting room
Mrs Chamalea Nep	Coffee cultivation farmer	20.1.2018	10:00 – 11:30am	Phuoc Trung commune People's Committee meeting room
Mrs. Chamalea Thi Phem	Coffee cultivation farmer	20.1.2018	10:00 – 11:30am	Phuoc Trung commune People's Committee meeting room
Mrs. Taim On	Coffee cultivation farmer	20.1.2018	10:00 – 11:30am	Phuoc Trung commune People's Committee meeting room
Mrs. Chamalea Bram	Coffee cultivation farmer	20.1.2018	10:00 – 11:30am	Phuoc Trung commune People's Committee meeting room
Mrs Tam Thi Nhut	Coffee cultivation farmer	20.1.2018	10:00 – 11:30am	Phuoc Trung commune People's Committee meeting room
Focus Group Discussion with Farmers at Phuoc Thanh Commune, Bac Ai district, Ninh Thuan				
Mrs Chamale Thi Thuy	Coffee cultivation farmer	4.4.2018	2:00 – 4:00pm	Phuoc Thanh Commune People's Committee

Mrs. Chamale Thi Oanh	Coffee cultivation farmer	4.4.2018	2:00 - 4:00pm	Phuoc Thanh Commune People's Committee
Mrs. Chamalea Thi Diem	Coffee cultivation farmer	4.4.2018	2:00 - 4:00pm	Phuoc Thanh Commune People's Committee
Mrs. Pupu Thi Lanh	Coffee cultivation farmer	4.4.2018	2:00 - 4:00pm	Phuoc Thanh Commune People's Committee
Mrs. Kadha Thi Tinh	Coffee cultivation farmer	4.4.2018	2:00 - 4:00pm	Phuoc Thanh Commune People's Committee
Mrs. Kator Thi Khoi	Coffee cultivation farmer	4.4.2018	2:00 - 4:00pm	Phuoc Thanh Commune People's Committee
Mrs. Chamalea Thi Liem	Coffee cultivation farmer	4.4.2018	2:00 - 4:00pm	Phuoc Thanh Commune People's Committee
Mrs. Tam Thi Nhut	Coffee cultivation farmer	4.4.2018	2:00 - 4:00pm	Phuoc Thanh Commune People's Committee

e. Consultations made during the Irrigation Sub assessment

Interviews with key stakeholders in January 2018:

Person/s Consulted	Designation	Date	Location
Khanh Hoa			
Mr. Lê Xuân Thái	Director of Irrigation Department, DARD	1/21/2018	DARD meeting room
Mr. Mai Văn Thắng	DARD officer	1/21/2018	DARD meeting room
Mr. Hoàng Anh Hào	DARD officer	1/21/2018	DARD meeting room
Mr. Ngô Xuân Quân	PPC officer	1/21/2018	DARD meeting room
Mr. Phạm Bình Hoàn	PPC officer	1/21/2018	DARD meeting room
Mr. Lê Tấn Bản	DARD director	1/21/2018	DARD meeting room
Mr. Nguyễn Duy Quang	DARD officer	1/21/2018	DARD meeting room
Mr. Nguyễn Thanh Hưng	Cam Duc commune, Cam Lam District	1/22/2018	Commune meeting room
Mr. Lê Viết Châu	Cam Duc commune, Cam Lam District	1/22/2018	Commune meeting room
Mr. Nguyễn Đức Thiên	Cam Hai Tay commune, Cam Lam District	1/22/2018	Commune meeting room
Mr. Nguyễn Bá Anh	Suoi Cat commune, Cam Lam District	1/22/2018	Commune meeting room
Ninh Thuan			
Mr. Lê Tiến Dũng	PPC officer	1/19/2018	DARD meeting room
Mr. Trần Văn Mỹ	DARD Deputy Director	1/19/2018	DARD meeting room
Mr. Phạm Quang Thụ	DARD Deputy Director	1/19/2018	DARD meeting room

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Mr. Nguyễn Văn Bính	DARD officer	1/19/2018	DARD meeting room
Mr. Phạm Văn Hường	Director of IMC Đắk Nông	1/19/2018	DARD meeting room
Mr. Võ Chi	Deputy director of Thuan Bac district	1/20/2018	District meeting room
Mr. Đoàn Văn Hùng	Deputy director of Ninh Son district	1/20/2018	District meeting room
Mr. Lưu Xuân Hải	Deputy director of Ninh Hai district	1/20/2018	District meeting room
Binh Thuan province			
Mr. Nguyễn Hữu Phước	DARD Deputy Director	1/23/2018	DARD meeting room
Mr. Võ Đức Anh	Director of Irrigation Department	1/23/2018	DARD meeting room
Mr. Phạm Văn Tuyền	Director of Irrigation Department, DARD	1/23/2018	DARD meeting room
Mr. Phạm Thanh Hoàng	Director of Agricultural Department, DARD	1/23/2018	DARD meeting room
Mr. Lê Đức Nhung	Deputy director of IMC	1/23/2018	DARD meeting room
Mr. Nguyễn Hữu Tuấn	IMC Binh Thuan	1/23/2018	DARD meeting room
Mr. Trần Ánh Dương	IMC Binh Thuan	1/23/2018	DARD meeting room
Mr. Lê Văn Lâm	IMC Binh Thuan	1/23/2018	DARD meeting room
Mr. Lê Đình Liêm	Hàm Cần commune, Ham Thuan Nam district	1/24/2018	Commune meeting room
Mr. Nguyễn Văn Phi	Hàm Cần commune, Ham Thuan Nam district	1/24/2018	Commune meeting room
Mr. Trần Văn Tương	Hàm Cần commune, Ham Thuan Nam district	1/24/2018	Commune meeting room
Mrs. Nguyễn Thị Hằng	Hàm Cần commune, Ham Thuan Nam district	1/24/2018	Commune meeting room
Mr. Đồng Văn Ánh	Hiep Phuoc humlet, Tan Thuan commune, Ham Thuan Nam district	1/25/2018	Commune meeting room
Mr. Hồ Đại Lĩnh	Hiep Nghĩa humlet, Tan Thuan commune, Ham Thuan Nam district	1/25/2018	Commune meeting room
Mrs. Nam Thị Hồng Anh	Hiep Phuoc humlet, Tan Thuan commune, Ham Thuan Nam district	1/25/2018	Commune meeting room
Mrs. Nguyễn Ngọc Loan	Hiep Phuoc humlet, Tan Thuan commune, Ham Thuan Nam district	1/25/2018	Commune meeting room
Mr. Loan	Hiep Phuoc humlet, Tan Thuan commune, Ham Thuan Nam district	1/25/2018	Commune meeting room
Mrs. Lê Ngọc Tuyết	Hiep Nhơn humlet, Tan Thuan commune, Ham Thuan Nam district	1/25/2018	Commune meeting room
Đắk Nông			
Mr. Lê Viết Thuận	Director of Irrigation Department	1/26/2018	DARD meeting room
Mr. Nguyễn Hữu Hào	DARD Deputy Director	1/26/2018	DARD meeting room
Mr. Hoàng Trung Thơ	Director of IMC Đắk Nông	1/26/2018	DARD meeting room
Mrs. Phan Thị Hiếu	PPC officer	1/26/2018	DARD meeting room
Mr. Võ Văn Minh	Deputy director of Dak Mil district	1/27/2018	District meeting room
Mr. Trần Văn Điều	Deputy director of Cư Jut district	1/27/2018	District meeting room
Mr. Đoàn Gia Lộc	Head of Agriculture Department, Krong No district	1/27/2018	District meeting room
Mr. Võ Ngọc Tuấn	Nâm Nung commune, Krong No district	1/27/2018	Commune meeting room

Mrs. Nông Thị điệp	Nâm Nung commune, Krong No district	1/27/2018	Commune meeting room
Mrs. H Bi	Nâm Nung commune, Krong No district	1/28/2018	Commune meeting room
Lê văn Thanh	Dak Drô commune, Krong No district	1/28/2018	Commune meeting room
Lê Minh Dương	Dak Drô commune, Krong No district	1/28/2018	Commune meeting room
Dak Lak			
Mr. Vu Duc Con	DARD Deputy Director	1/29/2018	DARD meeting room
Mr. Pham Minh Duc	Director of Irrigation Department	1/30/2018	DARD meeting room
Mr. Le Van Hung	Thon 8 - Krong Buk commune, Krong Pac District	1/31/2018	Commune meeting room
Mrs. Nguyen Thanh Tuyen	Thon 8 - Krong Buk commune, Krong Pac District	1/31/2018	Commune meeting room
Mr. Nguyen Van Dung	Thon 8 - Krong Buk commune, Krong Pac District	1/31/2018	Commune meeting room
Mr. Huỳnh Minh Đức	Khối 3A-TT EaKar commune, EaKar District	1/31/2018	Commune meeting room
Mrs. Y Nót	Buôn B- Krông Búk commune, Krong Pac District	1/31/2018	Commune meeting room

Annex B – Summary of Focus Group Discussions with women from ethnic minority groups

Farmers' group, Thuan Bac district, 15th September 10am

15 women farmers, Raglai ethnic minority

- Most landless, with some owning little land (0.2 to 0.33ha), in upland areas, very unproductive. House in lowlands, but farms in the upland (1-2/2-3 hours walking distance)
- Farm depending on rain. In addition, dig their own wells, and have very small ponds (takes 3 to 4 days to dig)
- Mang cau, maize most affected by drought (dried up); cashew most affected by rainfall variability (1 season recovery period). Laborers also affected as lost jobs
 - o Maize only grown in rainy season, land left fallow in dry season
 - o Maize: 4,000 VND / kg; 50kg per season harvest
 - o Cashew: 20-30,000 VND / kg; max 50 kg per season ('if lucky'); 2 kg per tree – 3 to 4 times harvested per season, 5 to 6 kg per harvest – 2/13/20 trees per household
 - Cashew village collectors
 - o Grass for livestock can only be grown in wet season, but not drought-resilient
- Weather information: need for their planting, but currently limited information, only received through television. Have no mobile phone
 - o Weather forecast is not accurate
 - o High need
- Training received: only a few farmers, others but only once per year
- Laborers work on cashew farms: one cashew company provided support to do on-farm peeling of cashew, work available the entire year: 5,000 VND per kilo peeled; 3 kilo peeled per day
- Husbands work as farm labor: coffee picking in Da Lat; 3.5million VND per month
- Crop shifting options: don't know what options are available, don't know the suitable options. Traditionally focused on cashew
 - o Idea: banana, but need for money to buy fertilizer and access water
 - o If water is available, then they could shift to other crops
- Loans: no loans

- Farmer groups:
 - o Women's Union and Farmers Union: provide loans, but farmers are afraid to borrow, because of repayment challenges
 - o 1 farmer has a 30million VND loan, for cow raising. But prices went down, so afraid to lose money compared to the investment.
 - o Attend training classes, from extension dept., farmers union – on livestock raising: can apply, practical
 - o Interest groups: not aware of other groups, or aware of potential benefits
- Good practice in the commune, by other farmers: main income is labor work (farm and nonfarm). Middle income farmers have more land, more cows etc. (or inherited). Better-off farmers live mostly near the stream or reservoir, if they don't, they also struggle. They also dig ponds, but more lowland. Dam very far!
- Lack drinking water too, but less challenging, as most of them are connected to the lowland pipe system.
- Near the house: pigs. Livestock doesn't require land.
- Chickens and pigs grown for sale
- No land for home gardens, but only little and not enough for household demand
- Aspirations: invest in black pigs. Sells for 300,000VND per pig. Investment is 500,000 for a male pig. Easy to manage diseases. Also know how to deal with agricultural waste
 - o Farmers have tried pigs, but in some households they died because of weather change (rain-dry; drought 2016), not because of a pig disease
 - o Local traders buy pigs
 - o Price information through contacting neighboring communes
- Not aware of Oxfam support
- Needs: land in lowland, trainings, seeds – develop livestock. Want to keep maize, but change to drought-resilient maize. For cashew, they want to do more intensive (currently not use fertilizer or pesticide), to increase yield
 - o Have no idea if resilient variety exists

Farmers' group, Bac Ai district, 16th September 10am 10

Ethnic Minority women farmers, Raglai ethnic minority

- Land size: 0.5, 0.8, 0.5, 0.5, 0.7
- Household mostly have small land plot of rice lowland, and the rest upland crops: maize, beans etc.
- In addition, also livestock, 2 to 3 goats and/or 2 to 3 cows
- Water sources lowland are a stream, upland rain-fed
- In dry season, 7 to 8 months, there is no water lowland, so most of the land used for rice is left fallow. Farmers still try to rotate the rice field with maize and beans, but often fails
- Laboring is also an income source, particularly during dry season: wood and cow dung collection, or coffee collecting in Lam Dong
- The commune authorities have supported the digging of 'ponds in the stream': when the water levels in the stream reduce, the water is 'stored' in these temporary ponds for a few months – these are shared by households
- Other shared ponds exist too, but often for one household, and lasts only one month
- Farmers haven't tried much other crops as they are not aware of different options (besides maize, beans and the 'bo bo tree')
- Rice is cultivated half for own consumption, and half sold for paying back the agricultural input costs (farmers have through informal in-kind loans with traders)
- Farmers also have household tanks, but only 30 liters size. Larger tanks are too expensive (such as 300, 500, 1,000 liter)
- During the drought, households were supported with 15kg of rice per person. 2 households also received technical training. However, majority of households didn't receive anything in addition to the rice.

- There is a training organized by the Farmer's Union and the extension services once per year, but not everyone participates
- Important drought coping mechanisms is labor
- For weather and climate information, some farmers rely on their own experience, others get it through television, and some get advice from the local authorities
- Many households have VBSP loans, average 15-20 million VND – with most of them able to repay
- For them to shift crops, they first want to see another farm trying it successfully
- Market prices are set by informal traders: small traders, collectors, input suppliers
- Some households have received support through the IFAD project, through the formation of a 'goat group', but with limited reach (ten households) and mixed success (overall project experience: some benefit, some don't)
- There are no other groups in the community, including no Women's Union groups

For actual records of consultations please refer to Annex XIII (d-1) – Stakeholder consultations record

Appendix Two: Stakeholder Engagement Plan

Stakeholder engagement plan

The five provinces of Khanh Hoa, Ninh Thuan, Binh Thuan, Dak Lak and Dak Nong were selected based on their high levels of climate change risk, smallholder vulnerability and potential for effective investment. These were among the most drought affected provinces induced by El Nino over the 2014-2016, and are at significant risk from flash-floods, drought and other hazard events. The provinces were also selected as their transformative scale-up potential is high, due to complementary ADB loan investments in irrigation mainline infrastructure scheduled to start in 2019.

Within the five provinces, a total of 14 districts and 60 communes (within and beyond ADB command areas) were identified due to their high climate change vulnerability (CCV), climate change exposure (CCE), poverty and ethnic minority presence.

Extensive stakeholder engagement has been required to ensure effective targeting and maintenance of investments in the five provinces. Proposal development has already benefitted from substantial inputs from households, and provincial and national level stakeholders, including ethnic minority and women's groups as well as international and national experts (please see Annex XIII (a) for details regarding consultations with stakeholders). From the start of the project, stakeholder consultations will review and finalize or confirm the criteria for household selection developed during formulation. Consultation meetings at commune level will ensure that final selection of direct beneficiaries is transparent and that stakeholders, including local Government authorities, participate in final local level site selection and verification processes. Activities 1.2, 1.3 and 1.4 include resources for specific participatory consultations to carry out final community-based pond siting, landscaping, and O&M.

This participatory approach to planning site-level interventions will help ensure that activities are context-sensitive, have community buy-in, and are sustainable over the long term.

At the national level, the project will actively engage stakeholders through the Climate Change Working Group (which includes a wide range of NGOs and donor organizations working in the field of climate change) and will also actively work to coordinate with other investment projects from donors such as the World Bank, GiZ and others.

At provincial level, active stakeholder engagement will be realized through mass organizations (e.g. Farmers Union; Women's Union), ethnic minority structures, producers and commodity trade organizations, and commune governance structures. Stakeholder engagement will be promoted and enabled by provincial DARDs and PPCs.

The stakeholder engagement plan below outlines responsibilities for implementing Activities within each Output and which stakeholders will be involved during and prior to the implementation of each Activity.

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Activity	Title	Timing	Objective	Location	Stakeholders
	<i>National inception workshop</i>	Year 1 (within the first 6 months)	Establishment of shared understanding of project objectives, roles and responsibilities, guidelines for project implementation and road map for implementation among stakeholders	Hanoi	National stakeholders: MARD departments, PPCs, development partners, farmers associations, private sector, NGO's and research institutions
	<i>Provincial inception workshops</i>	Year 1 (within the first 6 months)	Establishment of shared understanding of project objectives, roles and responsibilities, guidelines for project implementation and road map for implementation among stakeholders	Khanh Hoa, Ninh Thuan, Binh Thuan, Dak Lak and Dak Nong	Provincial stakeholders: DARDs, PPCs, development partners, farmers associations, private sector, NGO's and research institutions
1.1	<i>1.1.1 Develop modernized irrigation infrastructures serving at least 19,200 ha in the eight command areas by installing 185 km of piped irrigation systems including (i) pressurized pipe systems taking water from canals or reservoirs, and supplying hydrants located at a reasonable distance from a farmer's field; (ii) main system modernization including canal lining, control structure, balancing storage and installation of flow control and measurement devices with remote monitoring; and (iii) new</i>	Years 1-2	WEIDAP infrastructure is built and operational	Eight sub-project areas – command areas	MARD

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Activity	Title	Timing	Objective	Location	Stakeholders
	<i>and improved weirs which will replace farmer constructed temporary weirs and provide storage from which farmers can pump to irrigate HVCs.</i>				
1.2	<i>1.2.1 Design and construct 4,765 connection and distribution systems including installation and maintenance of irrigation equipment to cope with climate variability</i>	Years 1-2	Construction of connections from WEIDAP infrastructure to farmers fields	Eight sub-project areas – command areas	Construction firms DARDs Smallholder farmers (ensuring women, ethnic minorities and other vulnerable groups are represented)
1.2	<i>1.2.2 Train 4,765 poor and near poor farmers households on climate-risk informed utilization of irrigation equipment and system maintenance</i>	Year 1-5	Smallholders acquire the capacities to utilize and maintain irrigation systems and equipment efficiently.	60 communes	Smallholder organizations (ensuring women, ethnic minorities and other vulnerable groups are represented) DARDs Private sector firm Farmer's Union Women's Union
1.2	<i>1.2.3 Establish Water Users Groups for O&M of communal or shared systems, including structures and agreements on potential funding mechanisms</i>	Year 1-6 and sustain beyond	Effective management of ponds and irrigation equipment and infrastructure and shared understanding of O&M responsibilities	Eight sub-project areas – command areas	Smallholder organizations (ensuring women, ethnic minorities and other vulnerable groups are represented) DARDs Irrigation Management company (IMC) Experienced NGO to facilitate
1.3	<i>1.3.1 Construct or upgrade 1,159 climate-resilient ponds (based on site-specific designs construct 675 new ponds and</i>	Year 2-5	Ponds are constructed or upgraded.	60 communes	DARDs Construction firms Smallholder organizations (ensuring women, ethnic minorities and other vulnerable groups are represented)

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Activity	Title	Timing	Objective	Location	Stakeholders
	<i>upgrade 484 existing ponds)</i>				
1.3	<i>1.3.2 Train over 16,000 poor and near-poor farmer beneficiaries in climate-resilient water resource management to enhance supply</i>	Year 2-5	Smallholders will have the capacities to manage water resources sustainably to enhance climate-resilient crop production.	60 communes	Smallholders, champion farmers (ensuring women, ethnic minorities and other vulnerable groups are represented) DARDs Specialist NGO Farmer's Union Women's Union
1.3	<i>1.3.3 Establish 185 pond-management groups for O&M, including structures and agreements on potential funding mechanisms</i>	Year 1-6 and beyond	Pond management groups are formally constituted and roles and responsibilities for O&M are defined, including how O&M funding will be instituted.	60 communes	Smallholder organizations (ensuring women, ethnic minorities and other vulnerable groups are represented) DARDs Experienced NGO to facilitate
1.4	<i>1.4.1 Train over 21,200 farmers through 900 Farmer Field Schools on soil and biomass management to enhance moisture-holding capacity, recharge of groundwater, and water productivity to cope with evolving climate risks on water security (in conjunction with Activity 2.1)</i>	Year 2-5	Farmer Field Schools are established, trainees selected and courses held (to be implemented in conjunction with 2.1.3, below).	60 communes	Smallholders, champion farmers (ensuring women, ethnic minorities and other vulnerable groups are represented) DARDs Specialist NGO Individual expert
1.4	<i>1.4.2 Train 30 DARD staff and champion farmers in 14 districts (one course in years 2, 4 and 6) to support farmers' groups in co-design, costing and O&M of</i>	Year 2-3	Trainers of trainees have the pedagogical and substantive capacities required to lead FFS courses on co-design, costing and O&M of climate-resilient, water efficient technologies.	Five target provinces/14 districts (TBC)	DARDs Specialist NGO Selected smallholders (ensuring women, ethnic minorities and other vulnerable groups are represented) Farmer's Union Women's Union

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Activity	Title	Timing	Objective	Location	Stakeholders
	<i>climate-resilient, water efficient technologies</i>				
1.4	<i>1.4.3 Install on-farm water efficiency systems for 8,621 poor/near-poor smallholders linked to performance-based investment support (linked to Activity 2.1)</i>	Year 2-3	Relevant technology providers are mapped and vetted.	14 districts/60 communes (TBC)	Specialist NGO
1.4	<i>1.4.4 Train smallholder farmers in five provinces on climate-risk informed O&M of water efficiency technologies</i>	Year 2-3	On-farm efficient irrigation is installed in situ on participating farms.	60 communes	Private sector or NGO Smallholders (ensuring women, ethnic minorities and other vulnerable groups are represented)
2.1	<i>2.1.1 Sensitize smallholders to establish/re-activate 900 Farmer Field Schools</i>	Year 2	Smallholders are motivated to participate in FFS	60 communes	DARDs Smallholders (ensuring women, ethnic minorities and other vulnerable groups are represented)
2.1	<i>2.1.2 Train DARD personnel and lead farmers, as well as other interested parties (NGOs, Farmers and Women's Unions, etc.) to build a cadre of farmer champions to galvanize adoption and application of CRA packages (15 provincial level workshops for 30 DARD staff in years 2, 4 and 6; 28 district and 120 commune level trainings for</i>	Year 2-3	Trainers are able to engage with farmers and ensure that they adopt and apply CRA packages.	Five target provinces	Selected smallholders (ensuring women, ethnic minorities and other vulnerable groups are represented) DARDs NGOs FU and VWU

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Activity	Title	Timing	Objective	Location	Stakeholders
	30 lead farmers in years 2 and 6)				
2.1	2.1.3 Train farmers and value chain actors – particularly private sector input providers, buyers, processors, transporters - through 900 FFS on scaling up of climate resilient cropping systems and practices. (Each FFS will conduct 1-day trainings twice per year)	Year 2-4	Farmers and other value chain actors are trained in FFS	14 districts	Smallholders (ensuring women, ethnic minorities and other vulnerable groups are represented) Value chain actors DARD NGOs
2.1	2.1.4 Investment support 8,621 to targeted poor/near poor smallholders to acquire inputs and technologies for implementation of the CRA packages through vouchers	Year 2-4	Voucher system is established, including vetting and networking of input providers	60 communes	Poor and near-poor smallholders Smallholders (ensuring women, ethnic minorities and other vulnerable groups are represented) Representatives of ethnic minority civil society groups Specialist NGO Farmer's Union Women's Union District/communal authority
2.1	2.1.5 Participatory auditing of implementation of voucher systems for climate resilient cropping systems and practices (One 1-day meeting for 100 participants in each of the 60 communes in Years 2, 4 and 6)	Year 3 and 6	Smallholders monitor the application of vouchers	Selected communes	Specialist NGO Smallholder organizations Smallholders (ensuring women, ethnic minorities and other vulnerable groups are represented) District/communal authority

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Activity	Title	Timing	Objective	Location	Stakeholders
2.2	<i>2.2.1 Establish and operationalize multi-stakeholder Climate Innovation Platforms (CIP) in each province and at the level of agro-ecological zones (Annual stakeholder meetings organized once every two years in each of the 5 provinces)</i>	Year 3-6	Climate Innovation Platforms are formally established and roles and responsibilities defined, as well as crop specific value chain strategies formulated	Five target provinces and 14 districts	Smallholder organizations Smallholders (ensuring women, ethnic minorities and other vulnerable groups are represented) DARDs NGOs Private sector FU/VWU
2.2	<i>2.2.2 Provide technical assistance and training to enable market linkages with input, information and technology providers and buyers for climate-resilient agricultural production (two trainings, two networking workshops and three trade fairs in each of the 14 districts over four years)</i>	Year 2-4	Producers' organizations are able to identify and access market linkages	60 communes	Smallholder organizations Smallholders (ensuring women, ethnic minorities and other vulnerable groups are represented) DARDs Specialist NGOs Private sector
2.2	<i>2.2.3 Provide technical assistance and train farmers to enable access to credit through financial intermediaries (One workshop in each of the 60 communes in years 2 and 4)</i>	Year 4-6	Producers' organizations are able to identify and access credit through financial intermediaries	60 communes/ 14 districts	DARDs Private sector Smallholders Smallholders (ensuring women, ethnic minorities and other vulnerable groups are represented)
2.3	<i>2.3.1 Train 50 hydromet and DARD staff on generating and interpreting</i>	From year 4-6	Hydromet staff have the technical capacities to generate and interpret down-scale forecasts	Khanh Hoa, Ninh Thuan, Binh Thuan,	Hydromet staff Specialist NGO

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Activity	Title	Timing	Objective	Location	Stakeholders
	<i>down-scaled forecasts for use in agricultural planning (eight training over four years for 50 participants)</i>			Dak Lak and Dak Nong	
2.3	<i>2.3.2 Provide technical assistance for the formation ACIS technical groups and training of 420 participants at district level (1-day workshops for 30 participants in each of the 14 districts)</i>	From year 4-6	ACIS technical groups are formed and trained	Khanh Hoa, Ninh Thuan, Binh Thuan, Dak Lak and Dak Nong	DARDs
2.3	<i>2.3.3 Co-develop, through Participatory, Scenario Planning (PSP) of seasonal and 10-day/15-day agro-climate advisories with smallholder farmers (20 provincial level trainings for 30 staff and 56 district level trainings for 60 participants over four years)</i>	From year 4-6	Agro-climate advisories are developed by hydromet staff and selected smallholders	Khanh Hoa, Ninh Thuan, Binh Thuan, Dak Lak and Dak Nong	DARDs Specialist NGOs Smallholder organizations Smallholders (ensuring women, ethnic minorities and other vulnerable groups are represented)
2.3	<i>2.3.4 Disseminate advisories to 139,416 households in the 60 communes</i>	From year 4-6	Advisories are systematically disseminated	All population of 60 communes	Smallholder organizations Smallholders (ensuring women, ethnic minorities and other vulnerable groups are represented) DARDs NGOs

Appendix Three: Guidance for Submitting a Request to the Social and Environmental Compliance Unit and/or the Stakeholder Response Mechanism



*Empowered lives.
Resilient nations.*

Guidance for Submitting a Request to the Social and Environmental Compliance Unit (SECU) and/or the Stakeholder Response Mechanism (SRM)

Purpose of this form

- **If you use this form, please put your answers in bold writing to distinguish text**
- **The use of this form is recommended, but not required. It can also serve as a guide when drafting a request.**

This form is intended to assist in:

- (1) Submitting a request when you believe UNDP is not complying with its social or environmental policies or commitments and you believe you are being harmed as a result. This request could initiate a 'compliance review', which is an independent investigation conducted by the Social and Environmental Compliance Unit (SECU), within UNDP's Office of Audit and Investigations, to determine if UNDP policies or commitments have been violated and to identify measures to address these violations. SECU would interact with you during the compliance review to determine the facts of the situation. You would be kept informed about the results of the compliance review.

and/or

- (2) Submitting a request for UNDP "Stakeholder Response" when you believe a UNDP project is having or may have an adverse social or environmental impact on you and you would like to initiate a process that brings together affected communities and other stakeholders (e.g., government representatives, UNDP, etc.) to jointly address your concerns. This Stakeholder Response process would be led by the UNDP Country Office or facilitated through UNDP headquarters. UNDP staff would communicate and interact with you as part of the response, both for fact-finding and for developing solutions. Other project stakeholders may also be involved if needed.

Please note that if you have not already made an effort to resolve your concern by communicating directly with the government representatives and UNDP staff responsible for this project, you should do so before making a request to UNDP's Stakeholder Response Mechanism.

Confidentiality If you choose the Compliance Review process, you may keep your identity confidential (known only to the Compliance Review team). If you choose the Stakeholder Response Mechanism, you can choose to keep your identity confidential during the initial eligibility screening and assessment of your



- Submit a request for a Compliance Review;
 - Submit a request for a Stakeholder Response;
 - Submit a request for both a Compliance Review and a Stakeholder Response;
 - State that you are unsure whether you would like Compliance Review or Stakeholder Response and that you desire both entities to review your case.
13. Are you concerned that UNDP's failure to meet a UNDP social and/or environmental policy or commitment is harming, or could harm, you or your community? Mark "X" next to the answer that applies to you: Yes: No:
14. Would you like your name(s) to remain confidential throughout the Compliance Review process? Mark "X" next to the answer that applies to you: Yes: No:

If confidentiality is requested, please state why:

15. Would you like to work with other stakeholders, e.g., the government, UNDP, etc. to jointly resolve a concern about social or environmental impacts or risks you believe you are experiencing because of a UNDP project? Mark “X” next to the answer that applies to you: Yes: No:
16. Would you like your name(s) to remain confidential during the initial assessment of your request for a response? Mark “X” next to the answer that applies to you: Yes: No:

If confidentiality is requested, please state why:

17. Requests for Stakeholder Response will be handled through UNDP Country Offices unless you indicate that you would like your request to be handled through UNDP Headquarters. Would you like UNDP Headquarters to handle your request? Mark “X” next to the answer that applies to you: Yes: No:

If you have indicated yes, please indicate why your request should be handled through UNDP Headquarters:

18. Are you seeking both Compliance Review and Stakeholder Response? Mark “X” next to the answer that applies to you: Yes: No:
19. Are you unsure whether you would like to request a Compliance Review or a Stakeholder Response? Mark “X” next to the answer that applies to you: Yes: No:

Information about the UNDP Project you are concerned about, and the nature of your concern:

20. Which UNDP-supported project are you concerned about? (if known):
21. Project name (if known):
22. Please provide a short description of your concerns about the project. If you have concerns about UNDP’s failure to comply with its social or environmental policies and commitments, and can identify these policies and commitments, please do (not required). Please describe, as well, the types of environmental and social impacts that may occur, or have occurred, as a result. If more space is required, please attach any documents. You may write in any language you choose
-
-
-
23. Have you discussed your concerns with the government representatives and UNDP staff responsible for this project? Non-governmental organisations? Mark “X” next to the answer that applies to you: Yes: No:

If you answered yes, please provide the name(s) of those you have discussed your concerns with

Name of Officials You have Already Contacted Regarding this Issue:

First Name	Last Name	Title/Affiliation	Estimated Date of Contact	Response of Individual	from the

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24. Are there other individuals or groups that are adversely affected by the project? Mark “X” next to the answer that applies to you: Yes: No:
25. Please provide the names and/or description of other individuals or groups that support the request:

First Name	Last Name	Title/Affiliation	Contact Information
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Please attach to your email any documents you wish to send to SECU and/or the SRM. If all of your attachments do not fit in one email, please feel free to send multiple emails.

Submission and Support

To submit your request, or if you need assistance please email: project.concerns@undp.org

Appendix Four: Ethnic Minority Action Plan

The ESMF contains mitigation measures that apply to all stakeholders, as well as making specific recommendations related to gender and ethnic minorities. However, in recognition of the importance of ensuring that the needs of ethnic minorities continues to be considered and met throughout the project the following Ethnic Minority Action Plan has been prepared. This implementation of this plan will help to maintain focus on the needs, barriers, challenges and priorities faced by ethnic minorities within the project area.

No	Barriers, needs, priorities, challenges, gaps Faced by stallholder farmers of ethnic minorities in target provinces of the GCF project	Proposed actions/ activities by the GCF project
Access to Physical and Economic Connectivity and Infrastructures		
1	<p>Most of the targeted groups are EM who are living in relatively remote location. They often face challenges in commuting from the remote villages to the commune center for water collection, and participation to social and economic activities.</p> <p>They also experience poor economic connectivity to the district main towns and related market activities</p> <p>Their gender status and cultural perceptions of the EM groups also discourage them in 'connecting' to these infrastructures.</p>	<p>Ensure Women and EM groups as project targeted beneficiaries and highly prioritized in the beneficiaries' selection process</p> <p>Design better connectivity to water system for EM groups and women, who may otherwise struggle to find opportunities in the wage employment market, so that they can save time to carry out other economic activities,</p>
Basic Household Livelihood Assets		
2	With small pieces of land, planting different crops, and lack of skills and techniques, EM households produce small number of products, low quality, so often cannot sell products at good prices, leading to low incomes	Support to establish shared interest groups to promote plantation of the same crops and share experiences and learning to improve quality and yields, and collectively negotiate prices.
3	<p>EM lack of and do not have or get access suitable tools, equipment, facilities, etc. for cultivation and production, disease prevention and protection</p> <p>EM lack of skills and techniques for agriculture production. They do not have skills and knowledge from protection of seeding, cultivation, prevention and treatment of crop disease, harvesting, etc.</p>	<p>In partnership with the Government's Poverty Production Programmed (Programmed 135, which provide tools and facilities to poor farmers) to ensure providing appropriate tools/equipment to the right households for right cultivation activities; organize households into groups, so they can support each other and exchange equipment.</p> <p>Provide training to extension workers, giving priorities to the workers from the EM groups, then these workers will transfer knowledge and techniques and experiences to larger communities</p>

		The trainings will be done with participation and support of the respected eldest and nominated head of the EMGs.
4	<p>EM households often lack access to finance. Very often they must negotiate with the local suppliers to by on credits for production means such as seedling, pesticides, fertilizers and equipment and payback with their farming products</p> <p>Majority of the ethnic groups a have limit access for micro credits, and if any, often at some high interest rates</p> <p>Selling at farm-gate prices is the practice adapted by all ethnic groups, but traders (and input suppliers) in the areas charge relatively low margins due to market competition</p>	<p>As part of the livelihood support package and performance-based incentive programme, providing guidelines and support calculation of input requirements; seedlings, fertilizers, pesticides, labor costs, etc. so households can decide on what crop to plant and how much, are aware of the cost of inputs so they avoid buying at higher prices</p> <p>Introduce collective buying or selling practices for the EM group to increase purchasing power</p> <p>The livelihood support will need to coordinate with on-going micro-credit schemes established by the National Poverty Reduction Programme, Women Union and Farmer Union (#135) in building partnerships with private agents (who provide fertilizer, pesticides, etc.) and design and enforce implementation of a programme to ensure that these agents to commit keeping reasonable prices for smallholder farmers.</p>
Market Linkages and Labor Market Mobility		
5	<p>EM have good traditional knowledge, seedings, high value – but low yield crops which can resist/adapt to climate change conditions, however the market development do not support to maintain these traditional crops</p> <p>Incomes for EM group is increasingly coming from the non-farm labor market. However, many EM laborer's are usually poor; unequal treatment does exist toward ethnic minority workers</p> <p>Women to migrate to other provinces for wage employment is limited compared to their male counterparts.</p> <p>As youth and parents commute or migrate to find wage employment opportunities,</p> <p>the communities are left with the middle aged or elderly to both take care of pre-school and school-age children and engage in agriculture activities</p>	<p>Promote traditional knowledge – learning, sharing and incentives for EM groups in improving post-harvest processing, packaging and branding of some indigenous commodities that should meet special high-value market/retailers.</p> <p>Introduce incentive for private sector partnership to improve market access for EM products.</p> <p>Livelihood programme should be designed with focus on high-value and indigenous agriculture commodities that often resilient, high quality and high valued crops</p> <p>Design and integrate potential linking with the Government Program #135 (poverty reduction program) to promote authentic and traditional products,</p> <p>Encourage mainstreaming of green natural based solutions for new livelihood</p>

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		opportunities for youth and women EM generation in combination with the vocational training for EM groups, using their own languages
Access to Education and Health		
6	<p>Ethnic minority youths see migration as an avenue to improve their status, learn new skills, and feel a sense of pride. Staying at home typically limits their access to land which is legally and traditionally under the possession of their parents, coupled with their role as unpaid farm work rather than functioning as farmers.</p> <p>The main barriers to entering the wage labor market lie at their limited mobility and lower secondary education attainments</p>	<p>As part of the livelihood assessment and planning in the project, explore options to promoting for new economic and income generation opportunities from the areas</p> <p>Encourage mainstreaming of green natural based solutions for new livelihood opportunities for younger EM generation in combination with the vocational training for EM groups</p> <p>If successful, mainstreaming the good practices into the agriculture extension development programme for the regions/provinces.</p>
7	<p>EM people would like and favor their own ways of learning, information sharing, and application of knowledge. They prefer to follow their own people (the same ethnic group, languages, tradition)</p>	<p>Provide support and TOT training, particularly for agriculture extension and climate servicing, to the respected people in the ethnic groups – the eldest and the nominated heads of the group - to understand and apply technology. Then these people will tell and transfer skills and experiences to others to follow</p>
Perceptions of Ethnicity and the Dynamics of Trust		
8	<p>EM face languages barriers, and they shy away from participating in general public events and public consultation as well as interaction with other EM groups</p>	<p>Training materials, information, communications facilities use their EM's languages.</p> <p>Establish and facilitate the discussions of the shared interest groups/peer-learning groups, to create confidence and leaning experience</p> <p>Exchange and learning visits among ethnic groups, villages and communes - create shared interest groups, to engage learning, exposure</p>
Traditional Institutions and Local Governance		
9	<p>Village heads, village elderly, clan chiefs, and religious leaders are key community leaders who exert influences on local institutions and governance.</p>	<p>Ensure the representation of the large and indigenous groups in the project activities, including empowering them as the key resources for project implementation, from designing water system to assessing climate</p>

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	Ethnic minority cadres usually pursue non-key positions in the community official administration	service needs for the EM groups, or facilitating livelihood schemes for targeted beneficiaries.
Others: Gender Roles and Intra-Household Power Dynamics; Access to External Support Initiatives		
10	EM women face a number of social and economic inequalities and barriers of access to resources and livelihood opportunities	Generate opportunities for women to participate in the labor market and new livelihood alternatives will be an increasing important source of income also creates new labor dynamics for women.
11	Stigma of inter-ethnic discrimination held by the majority Kinh toward minority populations. Therefore, groups are reluctant, more conservative, and do not trust outsiders	Ensure the representation of the large and indigenous groups in the project activities, including empowering them as the key resources for project implementation, from designing water system to assessing climate service needs for the EM groups, or facilitating livelihood schemes for targeted beneficiaries.

Appendix 5: Indigenous Peoples Planning Framework

An Indigenous People's Plan (IPP) is required by the GCF for all projects with substantial impacts on Indigenous Peoples. Its level of detail and comprehensiveness is commensurate with the significance of potential impacts on Indigenous Peoples. As shown in Section 1.3.5 of the ESMF, where necessary, an IPP will be prepared for sub-projects. The IPPs will be focussed on the ethnic minorities impacted by the sub-project and will be based on the outline below.

Executive Summary of the Indigenous Peoples Plan

This section concisely describes the critical facts, significant findings, and recommended actions.

Project Description

This section provides a general description of the project; discusses project components and activities that may bring impacts on Indigenous Peoples/Ethnic Minorities; and identify the sub-project area.

Social Impact Assessment

This section:

- a. reviews the legal and institutional framework applicable to Indigenous Peoples/Ethnic Minorities in project context;
- b. provides baseline information on the demographic, social, cultural, and political characteristics of the affected Indigenous Peoples/Ethnic Minorities; the land and territories that they have traditionally owned or customarily used or occupied; and the natural resources on which they depend;
- c. identifies key project stakeholders and elaborate a culturally appropriate and gender-sensitive process for meaningful consultation with Indigenous Peoples/Ethnic Minorities at each stage of project preparation and implementation, taking the review and baseline information into account;
- d. assesses, based on meaningful consultation with the affected Indigenous Peoples/Ethnic Minority communities, and the potential adverse and positive effects of the project. Critical to the determination of potential adverse impacts is a gender-sensitive analysis of the relative vulnerability of, and risks to, the affected Indigenous Peoples/Ethnic Minority communities given their particular circumstances and close ties to land and natural resources, as well as their lack of access to opportunities relative to those available to other social groups in the communities, regions, or national societies in which they live;
- e. includes a gender-sensitive assessment of the affected Indigenous Peoples/Ethnic Minorities' perceptions about the project and its impact on their social, economic, and cultural status; and
- f. identifies and recommends, based on meaningful consultation with the affected Indigenous Peoples/Ethnic Minorities communities, the measures necessary to avoid adverse effects or, if such measures are not possible, identifies measures to minimize, mitigate, and/or compensate for such effects and to ensure that Indigenous Peoples/Ethnic Minorities receive culturally appropriate benefits under the project.

Information Disclosure, Consultation and Participation

This section:

- a. describes the information disclosure, consultation and participation process with the affected Indigenous Peoples/Ethnic Minority communities that can be carried out during project preparation;
- b. summarizes their comments on the results of the social impact assessment and identifies concerns raised during consultation and how these have been addressed in project design;
- c. in the case of project activities requiring broad community support, documents the process and outcome of consultations with affected Indigenous Peoples/Ethnic Minority communities and any agreement resulting from such consultations for the project activities and safeguard measures addressing the impacts of such activities;

- d. describes consultation and participation mechanisms to be used during implementation to ensure Indigenous Peoples/Ethnic Minorities participation during implementation; and
- e. confirms disclosure of the draft and final to the affected Indigenous Peoples/Ethnic Minority communities.

Beneficial Measures

This section specifies the measures to ensure that Indigenous Peoples/Ethnic Minorities receive social and economic benefits that are culturally appropriate, and gender responsive.

Mitigative Measures

This section specifies the measures to avoid adverse impacts on Indigenous Peoples/Ethnic Minorities; and where the avoidance is impossible, specifies the measures to minimize, mitigate and compensate for identified unavoidable adverse impacts for each affected Indigenous Peoples/Ethnic Minorities.

Capacity Building

This section provides measures to strengthen the social, legal, and technical capabilities of (a) government institutions to address Indigenous Peoples/Ethnic Minorities issues in the project area; and (b) Indigenous Peoples/Ethnic Minority organizations in the project area to enable them to represent the affected Indigenous Peoples/Ethnic Minorities more effectively.

Grievance Redress Mechanism

This section describes the procedures to redress grievances by affected Indigenous Peoples/Ethnic Minority communities. It also explains how the procedures are accessible to Indigenous Peoples/Ethnic Minorities and culturally appropriate and gender sensitive. It is anticipated this would utilize the already developed Grievance Redress Mechanism established under the Indigenous Peoples Planning Framework.

Monitoring, Reporting and Evaluation

This section describes the mechanisms and benchmarks appropriate to the project for monitoring, and evaluating the implementation of the Indigenous Peoples Plan. It also specifies arrangements for participation of affected Indigenous Peoples/Ethnic Minorities in the preparation and validation of monitoring, and evaluation reports.

Institutional Arrangement

This section describes institutional arrangement responsibilities and mechanisms for carrying out the various measures of the Indigenous Peoples Plan. It also describes the process of including relevant local organizations and/or NGOs in carrying out the measures of the Indigenous Peoples Plan.

Budget and Financing

This section provides an itemized budget for all activities described in the Indigenous Peoples Plan.