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**Annotated Project Document template for nationally implemented projects  
financed by the Green Climate Fund (GCF)**

<b>Project title: Improving the resilience of vulnerable coastal communities to climate change related impacts in Viet Nam</b>	
<b>Country: Vietnam</b>	
<b>Implementing Partner: Ministry of Agriculture and Rural Development</b>	<b>Management Arrangements : National Implementation Modality (NIM)</b>
<b>UNDAF/Country Programme Outcome:</b>  Outcome 2.1: By 2021, Viet Nam has accelerated its transition to low-carbon and green development, and enhanced its adaptation and resilience to climate change and natural disasters, with a focus on empowering the poor and vulnerable groups.	
<b>UNDP Strategic Plan Output:</b>  Output 2.2: Adaptation and resilience of vulnerable communities to climate change and disasters increased through UNDP-assisted scale up of community actions	
<b>UNDP Social and Environmental Screening Category: Moderate</b>	<b>UNDP Gender Marker for each project output: GEN 2</b>
<b>Atlas Project ID/Award ID number: 00088033</b>	<b>Atlas Output ID number: 00094851</b>
<b>UNDP-GEF PIMS ID number: 5708</b>	<b>GCF ID number: FP013</b>
<b>Planned start date: 1 June 2017</b>	<b>Planned end date: 31 May 2022</b>
<b>LPAC date:</b>  <i>Pre-PACs on 23 July 2015 and LPAC on 11 November 2016</i>	
<b>Brief project description:</b>	

Poor communities living in coastal regions of Viet Nam are adversely impacted by frequent flooding. Each year approximately 60,000 houses are destroyed or damaged by floods and storms in coastal provinces. This is likely to worsen given climate change scenarios for Viet Nam. Resultant economic impacts make it increasingly difficult for vulnerable families to escape the cycle of poverty.

The proposed GCF project seeks to scale up interventions that are already tested to increase the resilience of vulnerable coastal communities. Building on ongoing social protection programmes related to housing for the poor and marginalized, the project will incorporate storm and flood resilient design features in new houses benefiting 20,000 poor and highly disaster-exposed people. As part of an integrated response to managing flood risks, 4,000 hectares of mangroves will be rehabilitated and/or planted to function not only as storm surge buffers, but also to provide ecosystem resources that can support coastal livelihoods. Moreover, to support and sustain both the impact of this project as well as future requisite government policy adjustments that strengthen the resilience of coastal and other communities, resources will be used to systematize climate and economic risk assessments for private and public sector application in all 28 coastal provinces of Viet Nam.

The project relies on grant finance as (a) the proposed interventions will benefit vulnerable families identified as poor by the government, (b) strengthens natural defenses proving public value, and (c) does not generate revenue that lends itself to providing reflows to the GCF. The project is fully aligned with the Government of Viet Nam (GoV)'s strategies and was designed following extensive stakeholder consultations. The National Designated Authority (NDA) has issued a no-objection letter for the project.

#### FINANCING PLAN

GCF grant	USD 29,523,000
UNDP TRAC resources	USD 200,000
Cash co-financing to be administered by UNDP	USD 1,400,000
<b>(1) Total Budget administered by UNDP</b>	<b>USD 31,123,000</b>
<b>PARALLEL CO-FINANCING</b> (all other co-financing (cash and in-kind) administered by other entities, non-cash co-financing administered by UNDP)	
UNDP	1,600,000 USD
Government	USD 9,407,000
<b>(2) Total co-financing</b>	<b>USD 9,407,000</b>
<b>(3) Grand-Total Project Financing (1)+(2)</b>	<b>USD 40,530,000</b>

#### SIGNATURES

<b>Signature:</b> print name below	<b>Agreed by NDA</b>	<b>Date/Month/Year:</b>
<b>Signature:</b> print name below	<b>Agreed by Implementing Partner</b>	<b>Date/Month/Year:</b>
<b>Signature:</b> print name below	<b>Agreed by UNDP</b>	<b>Date/Month/Year:</b>

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## II. DEVELOPMENT CHALLENGE

### Strategic Context

Viet Nam has seen significant economic growth in recent years. Political and economic reforms have transformed Viet Nam from one of the poorest nations in the world to a middle-income country within a quarter of a century. With 88.5million people from 54 different ethnic groups, the country has seen growth per capita rise from below US\$100 in the 1990s to an estimated at US\$1,596 in 2012. This has coincided with a dramatic reduction in poverty from 58% to 14% between 1993 and 2008 and an estimated 11.8% in 2011.

While Viet Nam has been an incredible success story in terms of economic development over the past quarter century, its coastal communities lag behind in resilience. These communities have double the poverty rate of the nation and are increasingly vulnerable to climate change impacts due to development pressures on natural buffers, such as mangroves.

Per the Climate Change Vulnerability Index<sup>1</sup>, Viet Nam is considered one of 30 “extreme risk countries” in the world. The rural poor are at especially high risk given their reliance on the natural resources for their livelihoods, particularly in agriculture and fisheries. The Mekong River Delta and Red River Delta have already suffered from saltwater intrusion, threatening agricultural productivity and the millions of people relying on these watersheds for their income. Urban populations living in informal settlements are also at risk; particularly suffering from extreme heat, and humidity, as well as floods and storms.

The fifth assessment report (AR5) from the Intergovernmental Panel on Climate Change (IPCC) indicates that temperature in the sub-region has been increasing at a rate of 0.14°C to 0.20°C per decade since the 1960s, and predicts increases from 0.8°C to 3.2°C by the end of this century. The report further highlights the positive trend in the occurrence of heavy (top 10% by rain amount) and light (bottom 5%) rain events, and the influence of climate change on several large-scale phenomena affecting the region. Future increases in precipitation extremes related to the monsoon are very likely in Southeast Asia, and increases are projected related to tropical cyclones, with medium probability and high impact, resulting in extreme precipitation near the centers of tropical cyclones making landfall along coasts of South China Sea, Gulf of Thailand, and Andaman Sea. Even under the most conservative scenario, sea level is expected to be about 40cm higher than today by the end of 21st century and this is projected to increase the annual number of people affected by coastal flooding.

Consistent with these findings, the Ministry of Natural Resources and Environment’s (MONRE) records suggest that climate change has contributed to temperature increases in excess of 0.5°C and sea level rise of about 20cm over the past 50 years in Viet Nam. Extreme events have already been increasing. Between 1990 and 2012, the country suffered annual average disaster losses of 457 lives and 1.3% per GDP. During the same period, more than 96,703 houses were destroyed or swept away and 996,721 were significantly damaged due to natural disaster impacts. Viet Nam’s Second National Communication forecasts a 57-73cm rise in mean sea levels along the Viet Nam coast by 2100. Without major action, this would inundate approximately 30,000km<sup>2</sup> equivalent to 9.3% of the total national land surface. Climate projections also point to an increase in the probability of intense typhoons, or super storms, accompanied by storm surges, like that which devastated the Tacloban area (Typhoon Haiyan/Yolande) in the Philippines in 2013.

These trends place coastal and low lying delta areas in Viet Nam at particular risk. At 23%, the poverty rate in coastal areas is more than twice the national average, in part due to the increasing losses incurred annually from climate related disaster impacts. More than 500,000 people live within 200 meters of the coast. Their homes are most often directly impacted by typhoons as they make landfall and storm surges. Increasing numbers of predominantly poor

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<sup>1</sup> <https://maplecroft.com/about/news/ccvi.html>

and vulnerable people in coastal areas live in unsafe housing, in part due to the rapid urbanisation, the lack of suitable employment and therefore persistent poverty.

Coastal ecosystem assets, such as coastal mangrove forests, provide a vital buffer against storms, sea surges and salt water intrusion. However, the coverage area of mangrove forests has reduced significantly, primarily due to ongoing population pressure and, more recently, from the expansion of poorly planned shrimp aquaculture. In 1943 there were approximately 408,500 hectares of mangroves in Viet Nam. The National Forest Inventory now shows that the area of mangroves in Viet Nam had been reduced to 290,000ha in 1962, 252,000ha in 1982 and 155,290ha in 2000. According to government reports, the total area of natural mangrove forests in Viet Nam at the end of 2008 stood at only 59,760ha<sup>2</sup>.

The Government of Viet Nam (GoV)'s Sustainable Development Strategy 2011-2020 states as its general objective, that: sustainable and effective growth must come along with social progress and equality, national resources and environment protection, socio-political stability, firm protection of independence-sovereignty-unification and territorial integrity of the country. Specifically, the strategy seeks:

- To ensure macro-economic stability, especially macro indexes; to firmly maintain food security, energy security and financial security. To transform the growth model into harmoniously deep and wide development; to gradually carry out green growth, low-carbon economic development; to economically and effectively use all resources.
- To develop a democratic, disciplined, harmonious, equal and civilized society; a progressive culture deeply imbued with national identity; prosperous, progressive and happy families; to ensure people's comprehensive development in all physical, spiritual, intellectual aspects, having creativeness capacity, a sense of citizenship, and a sense of law observance. To make education and training, science and technology the major driving force for development. To firmly maintain socio-political stability, firmly protect independence, sovereignty, unity and territorial integrity.
- To mitigate negative impacts of economic activities on the environment. Reasonably exploit and effectively use natural resources, especially non-renewable ones. Prevent, control and repair environmental pollution and degradation, improve the quality of the environment, protect and develop forests and conserve biodiversity. To reduce harmful effects of natural disasters, actively and effectively respond to climate change, especially sea level rise.

A suitable solution to addressing climate change in vulnerable coastal areas must find a balance between economic growth, environmental protection, and social progress. Further, the Constitution of Viet Nam, under Article 59 section 3, affirms that the State shall exercise a policy of housing development and create conditions so that everyone shall have housing. As coastal provinces in Viet Nam are home to a third of the population (30million people), a suitable solution must also include climate-resilient housing to ensuring safety of households in vulnerable areas.

## **Country Ownership (E.5)**

### **Existence of a national climate strategy and coherence with existing plans and policies, including NAMAs, NAPAs and NAPs (E.5.1 para 182-189)**

The project was designed to address specific challenges highlighted as priorities in the country's key strategic plans.

Through the National Green Growth Strategy 2011-2020, Viet Nam seeks to achieve a low carbon economy and to enrich natural capital. Green Growth is the guiding principal direction towards sustainable economic development, and the reduction of greenhouse gas emissions and increased capability to absorb greenhouse gas are gradually becoming compulsory and important indicators in socio-economic development. In areas highly vulnerable to

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<sup>2</sup> Government of Viet Nam Decision No. 1267/ QĐ-BNN-KL, 2009

climate change, sustainable urbanization –infrastructure should be adapted to climate change to minimize economic losses.

The Sustainable Development Strategy 2012-2020 states as its general objective that sustainable and effective growth must come along with social progress and equality, national resources and environment protection, socio-political stability, firm protection of independence-sovereignty-unification and territorial integrity of the country. The strategy seeks to reduce the harmful effects of natural disasters, and to actively and effectively respond to climate change. This includes the prioritization of resources for poverty reduction and improvement of living conditions of people in most disadvantaged areas, as well as support to poor people and households to build houses.

The National Strategy on Climate Change 2011-2020 seeks to proactively cope with natural disasters and monitor climate. The strategy further details within its mission, mitigating damages caused by natural disasters by:

- reviewing and designing development planning schemes and standards of construction in the regions regularly suffering natural disasters in response to the increase of natural disasters due to climate change
- improving the quality of forests and afforestation, including to turn bare lands and hills green, to effectively exploit different kinds of forest to secure and improve resistance against natural disasters, preventing desertification, land erosion and degradation, to enhance protection, management and development of mangrove forests and flooded ecosystems, and to raise the forest coverage to 45% by 2020.

The National Strategy on Environment Protection to 2020 with Vision to 2030 details solutions to recover and regenerate natural ecosystems, especially mangroves, as well as solutions to increase forest coverage and improve forest quality. These include:

- to survey and evaluate deterioration and degradation of specific or representative natural ecosystems, especially mangroves, then design the planning schemes for their recovery
- to conduct programmes on investing and mobilizing official development assistance (ODA) sources and other resources from economic sectors and organizations at home and abroad for recovering natural ecosystems, increasing their resistance against climate change, founding mechanisms for payments of ecosystem services towards boosting recovery, regeneration and protection of natural ecosystems
- to localize and protect natural forests, especially mangroves, forests for special use, protective forests, and watershed forests, and at the same time preventing deforestation and illegal exploitation
- to continue afforestation and forest protection while securing a sustainable forestry; to closely manage the renting of forest land, especially protective and watershed forests

The National Strategy on biodiversity conservation toward 2020 and vision to 2030: focuses on conserving and sustainably managing important forest ecosystems, endangered species and gene sources. The objective of this policy is to increase the area of natural ecosystems in the mainland to 9% of the country's land area; 45% of forest cover; 15% of degraded ecosystems area is restored. The objective by 2030 is to achieve 25% of natural ecosystem with international and national importance.

Solution 7 of the Socio-economic Development Plan for the 2011-2015 Period focuses on improving and enhancing the effectiveness and efficiency of policies and laws on natural resources and environment protection to ensure sustainable development. Importantly, the plan encourages larger social involvement in protecting the environment, which is reflected strongly in the community-based approaches of the GCF project.

While policies are in place and national institutions are strong, missing is the critical inter-ministerial collaboration which would ensure risk-informed and climate-resilient development planning. The GCF proposal not only addresses multiple challenges, but its integrated approach fosters this needed collaboration.

#### **Capacity of accredited entities and executing entities to deliver (E.5.2 para 190-198)**

Since it began operations in Viet Nam in 1977, UNDP has contributed significantly to environmental protection and climate change responses, especially in facilitating formulation of policies, strategies, laws, coordination and

information sharing. UNDP possesses a qualified team of experts including international and national experts, helping UNDP to deliver a comprehensive approach in the climate change area.

UNDP is a long-term partner of Viet Nam's government. UNDP has supported the various related policy formulation processes in Viet Nam, including:

- National Target Programme to Respond to Climate Change (NTP-RCC 2008)
- Climate Change Scenarios (2009 and 2011)
- Climate Change Strategy (2012),
- Green Growth Strategy (2012) and Green Growth Action Plans (2014)
- National Strategy for DRM (2007) and its Action Plan 2009
- National Biodiversity Strategy and Action Plan (2012)

UNDP has built strong relationships with decision-makers, and proven its strengths as an impartial provider of technical advice and support. Priority development areas for Viet Nam serve as the foundation for UNDP action on policy support. UNDP also plays an advisory role in the process of preparation and approval of regulations and relevant codes and laws in Viet Nam. UNDP is recognized as an experienced agency in institutional development and capacity building, bringing a long-term and institutional and people-centred focus to capacity development.

With its central role in the UN system, UNDP facilitates a multi-sectoral approach to help the government respond to complex issues such as climate change and green growth. UNDP has been instrumental in providing technical UNDP has provide technical inputs to the preparation and consultations for a number of key legal frameworks, including Biodiversity Law 2008, Energy Efficiency and Energy Conservation Law 2010, Law on Natural Disaster Prevention and Control 2012, Law on Environmental Protection 2014 which includes a chapter on climate change and green growth, and implementation of Law on Environmental Protection Tax, the Royalties Law concerning natural resources management.

With the characteristics of multilateral organization, UNDP can promote the dissemination of international norms and standards, bring technical assistance, experience and good practices to bear in Viet Nam. UNDP has demonstrated its long-term commitment to the provision of technical assistance to affect and sustain the institutional changes required in realizing tangible improvements in institutional capacity. UNDP has a portfolio of six technical assistance projects on climate change with key ministries such as MPI, MARD, MOC and MOIT. UNDP also works closely on energy efficiency with MOST and MOT, linking policy makers to a global community of practice in key policy issues and providing a platform for sharing lessons and experiences internationally.

By supporting the four Ministries playing the main role on disaster risk management, climate change and green growth issues, UNDP is already in position to help improve capacity in organizational and interdisciplinary coordination and to encourage harmonious approaches toward climate change issues of the government, private sector, donors and other organizations.

UNDP exercises results-based activities and ensures Implementing Partners/Executing Entities are adequately equipped with knowledge and skills to achieve expected project activities and outputs. Strengthening and expanding analytical work in key sectors and advancing the knowledge-base on disaster risk management and climate change within the broader context of sustainable development, UNDP supports networks and research institutions that are crucial for prompt advice and technical expert support to the Government of Viet Nam.

The project will also benefit from the expertise and resources of the on-going UNDP projects with MPI, MARD, MONRE and MOC including:

- The MPI Project on "Strengthening Capacity and Institutional Reform for Green Growth and Sustainable Development in Viet Nam" (CIGG)
- The MONRE-MARD project "Capacity Building for Implementation of the National Climate Change Strategy" (CBICS Project);

- The MARD Project on “Promoting Climate Resilient Infrastructure in Northern Mountain Provinces of Viet Nam”
- The MOC Project on “Promoting Energy Efficiency in Commercial and High Rise Residential Building”
- The MOST-MOC Project “Promoting the production and utilisation of non-firebricks in Viet Nam”

MARD is the executing entity for the project. Given its cross-cutting mandate related to natural disaster prevention and control, it is the appropriate ministry to lead this project. MARD plays a strategic coordination role on the inter-ministerial Central Committee for Disaster Prevention and Control.

MARD has undergone the capacity assessment required under UNDP’s national implementation modality (NIM). The assessment considers managerial, technical, administrative and financial management capacity. In each category MARD met UNDP requirements. It should be noted that the capacity assessment indicated regular high delivery performance (80%) with a history of unqualified audits. UNDP and MARD also have a history of successful collaboration, including on the CBDRM programme and UN-REDD.

### **Engagement with NDAs, civil society organizations and other relevant stakeholders (E.5.3 para 199-207)**

The proposed project is designed in close with government (both national and provincial), civil society organizations, development partners and beneficiaries and a list of consultation meetings is provided in Stakeholder Consultation Section below).

The NDA, based at MPI, was also routinely briefed on the progress of the proposal development.

The proposed GCF project will build on existing initiatives which already engage multiple partners including NGOs and INGOs, such as Viet Nam Red Cross, Viet Nam Women’s Union, and Oxfam. During the inception phase of the project, UNDP, MARD and MOC will continue to consult with INGOs, NGOs and the private sector to formulate a concrete partnerships roadmap and action plan, benefiting from the current good practices and working relationships with and the established technical between MARD, MOC and INGOs and NGOs.

To ensure the views of women were captured, specific efforts were made to consult with women groups, and to collect information regarding the impacts of climate change on women, in the design of this project proposal. The Viet Nam Women’s Union was specifically consulted at both the national and local level, and field missions took care to consult with both women and men regarding lessons learned to date. The project also benefits from important lessons learned in previous pilot projects that have specifically aimed to increase the participation of women, senior citizens, youth and other vulnerable groups. Feedback and lessons learned from previous project reviews and policy reviews have been applied in the design of activities. The application of community based approaches during implementation will also ensure that regular communication is maintained throughout implementation with commune level representatives, at least 30% of which will be women.

The project will also draw on the skills and expertise of the academic community. Technical bodies and academic institutions including IMHEN (official technical focal point for climate projections), Viet Nam Academy of Water Resources (official technical focal point for flood risk and mapping), the Institute for Building Science and Technology (IBST) (official technical focal point for building code and housing standards and the Viet Nam Academy of Forest Sciences (as technical focal point for forestry, including site assessment for tree species selection, technical measures for restoration of mangroves).will be involved project implementation. Private sector actors, particularly from the insurance sector will also be consulted with regards to the strengthening of loss and damage databases.

At the inception of the project, MARD and MOC will consult with NGOs, academia, and the private sector to formulate a concrete partnership roadmap and action plan, including its current good practices of MARD/MOC and NGO technical working groups. The project will aim to work in partnership in supporting targeted provinces in implementation of the project initiatives, monitoring and promotion of the good practices across national programmes.



A stakeholder consultation plan will be developed for the project during the initiation phase. This will consider:

- a) consultations (type and frequency) already undertaken during the design phase, details of the issues discussed, including the views of the relevant stakeholders and beneficiaries;
- b) proposed consultations during project implementation regarding to ensure project remains relevant and up-to-date to impacts of the project at the national, provincial, commune and community level;
- c) details regarding how the consultations will specifically target vulnerable groups such as women, people with disabilities, elderly and squatter settlements and what impact the project will have on them in the short, medium and long term with details how they were included in the decision making process;
- d) complementarity with related or relevant programmes to maximize the impact of combined resources;
- e) details on how affected parties comments received during consultations have been addressed; and
- f) regular review of plan to ensure new stakeholders are captured in the plan as relevant

The plan will demonstrate how stakeholder engagement has been an inclusive and continuous process throughout the life of a project and what level of corporate responsibility and transparency will occur as part of the ongoing process during construction and operation. The plan will outline how it will encourage local stakeholders including women to participate in the project, and to empower them to do something practical to address any issues that affect their lives.

The project board further provides a formal structure for MPI, MARD, MOC, MOF, provincial focal points and beneficiaries to guide implementation towards a collaborative achievement of the project objective.

## **Needs of the Recipient (E.4)**

### **Vulnerability of country and beneficiary groups (E.4.1 para 173-177)**

According to Climate Change Vulnerability Index (CCVI), Viet Nam is ranked 23rd of 193 countries and is one of 30 “extreme risk” countries. The CCVI evaluates 42 social, economic and environmental factors to assess national vulnerabilities across three core areas, including (a) exposure to climate-related natural disasters and sea-level rise; (b) human sensitivity, in terms of population patterns, development, natural resources, agricultural dependency and conflicts; and (c) future vulnerability considering the adaptive capacity of a country’s government and infrastructure to address climate change effects. The countries most at risk are characterized by high levels of poverty, dense populations, exposure to climate-related events; and their reliance on flood and drought prone agricultural land.

With more than 3,260 km of coastal line, approximately 30% of Viet Nam’s population of 90 million people lives in Viet Nam’s 28 coastal provinces. These areas are particularly vulnerable to sea level rise and the associated risks of salt water intrusion and super storm surge and flooding. Viet Nam’s Second National Communication forecasts a 57-73cm rise in mean sea levels along the Viet Nam coast by 2100. Without major action, this would inundate approximately 30,000km<sup>2</sup> equivalent to 9.3% of the total national land surface. Climate projections also point to a likely increase in the probability of intense typhoons, or super storms, accompanied by storm surge similar to that which devastated the Tacloban area of the Philippines in 2013.

These trends place coastal and low lying delta areas in Viet Nam at particular risk. At 23%, the poverty rate in coastal areas more than twice the national average, in part due to the increasing losses incurred annually from climate related disaster impacts. More than 500,000 people live within 200 meters of the coast. Their homes are most often directly impacted by typhoon landfall and storm surge. Increasing numbers of predominantly poor and vulnerable people in coastal areas live in unsafe housing, in part due to the rapid urbanisation and persistent poverty.

Viet Nam experiences an average of 6-8 typhoons annually. During ENSO years typhoons appear to be more intense, stronger and with landfall over a wider area. Past observations do not bear out a change in the typhoon pattern or in intensity in the Western Pacific/Southeast Asia because of climate change but intensification of hurricanes (typhoons) has been observed in the Southern Atlantic/Caribbean region. Nevertheless, the possibility of gradual intensification of tropical storms and typhoons exists, according to an update of the IPCC’s fourth assessment of

2007, also in Southeast Asia. Furthermore, damage potential from tropical storms and typhoons appears to increase because of increasing population density in exposed areas and higher value economic infrastructure in these areas. The Government has placed strong emphasis on structural measures, such as dykes and seawalls. The country has over 10,600km of 6-9m high river dykes and 2,600km of 3.5-5m high sea dykes that need further expansion and reinforcement. The Government has invested considerably in the dyke system and has ambitious plans for the next decade to expand upon this.

Shelter accounts for the highest amount of monetary losses in climate related disasters. Housing is often the single largest asset owned by individuals and families. It is also the location where other family-owned assets (tools, furniture, stored food, etc.) are concentrated and where many activities fundamental to livelihoods and education occur. Resilient shelters are central to the adaptive capacity of most households. Adaptive capacity is the ability to retain and deploy assets to meet emerging needs as conditions change.

#### **Financial, economic, social and institutional needs (E.4.2 para 178-181)**

Adaptation needs are expected to increase significantly as climate change impacts and sea level rise increase. There is an urgent need to find cost effective, community driven adaptation mechanisms. According 2015 INDC estimates, Viet Nam currently can cover only 30% of the requested funding for existing approved adaptation projects annually from existing government revenues and loan portfolios. Currently the gap must be met through ODA or extra provincial funding sources, and even when these are considered significant funding gaps remain at all levels. A 2015 climate change investment review for Viet Nam outlined required unmet investments in the water sector alone of US\$120m annually (CPEIR 2015).

Not only do local capital markets lack depth, but risk transfer and risk sharing markets are almost non-existent, particularly in rural areas. In effect the Government of Viet Nam directly bears virtually the entire liability for covering the costs of climate change related extreme events. Considering Viet Nam's climate change projections, and current national development trends that see heavy investments in infrastructure and services in coastal areas, protecting development gains through risk transfer and sharing is an increasing priority. However, development of risk transfer markets has been significantly impeded by low data accessibility and quality.

Institutionally, Viet Nam has built up a strong institutional capacity and legal framework for disaster risk reduction and climate change adaptation. However, implementation capacities limit momentum for upscaling implementation, particularly in term of financial and technology and cross-sectorial planning

GCF funding will support technical capacity building for national and key provincial officials on climate change adaptation and on risk mapping and planning. Part of this work will also focus on raising the capacity of Government staff with regards to risk and probability assumptions in the context of climate change. This will include identifying the impacts and enhanced approaches for risks where recovery/rehabilitation is possible and highlighting impacts for which recovery and rehabilitation is not possible and alternative strategies are required.

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### **III. STRATEGY**

#### **Project/Programme Objective against Baseline (C.2 para 15-66)**

Supporting the government's long term solution, the objective of the proposed GCF project is to increase the resilience of vulnerable coastal communities to climate change related impacts in Viet Nam, through:

- **Safe housing to protect vulnerable coastal communities from increased flooding and storms**
- **Robust mangrove coverage to provide a natural buffer between coastal communities and the sea**
- **And enhanced climate risk information to guide climate-resilient and risk-informed planning**

Below is a description of the baseline.

## **Baseline Scenario**

### **Safe housing to protect vulnerable coastal communities from increased flooding and storms**

While government programmes are in place to provide safer houses to vulnerable coastal communities, government engineering and construction standards for housing along flood prone regions are not currently compliant with requisite standards to safeguard the public from flood and storm impacts. Government (especially local authorities) have not yet examined the appropriate standards to apply and introduce the necessary regulatory reform that would establish standards that the public and business sector would need to adhere to. However that enforcement capacities are also weak. Local engineers and construction companies are not trained to instruct the local workers and households, and building codes have not been revised to create conditions for incorporating flood resistant features in structure designs.

Although best practice designs are available and tested through small pilot projects, a full-scale diffusion of flood and storm resistant housing technologies has not taken place as such policies and incentive mechanisms are currently absent. Each year, approximately 60,000 houses are destroyed or severely damaged by floods and storms in coastal areas of Viet Nam. Poor families have a higher vulnerability to disaster risk, as they are more likely to live in sub-standard housing. Damage, loss and related recovery costs from extreme weather events (e.g. typhoons) and natural hazards (e.g. floods), place a long-term burden on the limited financial resources of already vulnerable people.

Recent studies have shown that in disaster prone areas, improving housing is often a priority for investment. However, as knowledge of safe housing technologies is generally low, without technical guidance and training, families may inadvertently make investments which further destabilize the structure in the face of storms<sup>3</sup>. With the rapid urbanization of coastal Viet Nam, and increasing climate change risk, action to promote safer housing and community based risk sensitive planning within communes for safe siting of the houses is urgently required.

#### *Government Support to Safe Housing for Vulnerable Communities*

Recognizing the need to support vulnerable families, the GoV is implementing the **National Programme to provide support policies and solutions for poor households to build storm and flood resilient houses in Central Region**<sup>4</sup>. Led by the Ministry of Construction (MOC), the programme has developed low cost design specifications in terms of house lay-out, materials and building technologies that can increase structural stability in the face of recurring storms, typhoons and floods. The houses are constructed next to the existing home, so there is no disruption to living arrangements.

This government programme helps families, categorized as 'extreme poor' and 'poor' by government criteria, to access finance to build safe houses that conform to government design and materials standards. The programme makes available a combination of a grants, loans and training on the approved flood and storm-resilient house design. Details are as follows:

- Grant of VND12m or US\$550/household, for poor households, up to VND14m (US\$690) for households in particularly difficult areas or VND16m (US\$735) for households in especially difficulties communities<sup>5</sup>. Support is provided in 2 instalments (70% upon completion of the foundation and the second upon completion of the house frame meeting the design specifications)
- Training for villages/communes and provision of technical assistance to the beneficiaries

While a grant is available for extreme poor households, the amount is not sufficient to cover the total cost of the house. Therefore, a concessional loan is also made available with a 3% interest rate/year from the Bank for Social Policy, payable over 10 years, with 5-year concession period. Any balance has to be met through other means (i.e. the household's own resources or community contributions).

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<sup>3</sup> Sheltering from a Gathering Storm: Typhoon Resilience in Viet Nam (P. Tran, et. al., 2014)

<sup>4</sup> Government of Viet Nam Decision 48/2014/QĐ-TT

<sup>5</sup> As per Decree 1049/QĐ-TTg

Selection of grant recipients is decided through consultations with villages, assessment at the commune level, then ultimate approval at the provincial and national level for programme support. Criteria for assessment include, the household's categorization as poor (as per Decision [No. 09/2011/QĐ-TTg](#) of the Prime Minister dated 30 Jan 2011) and the flood/storm resilience of their existing dwelling compared to government minimum standards. Selection is further prioritized to ensure that especially vulnerable groups in Viet Nam benefit. The prioritization is stated as follows:

- Households are of an ethnic minority group
- Households with difficult living circumstances (i.e. senior citizen-headed households, single member households particularly senior citizens, households with members with disabilities, etc.)
- Households which are living in difficult administrative (remote) locations of highly disadvantaged zones and villages of the provinces
- Households located in the poorest districts under the government poverty targeted programme, following national resolution No. 30a/2008/NQ-CP dated 27 July 2008 of the government
- Other socially vulnerable groups

The project selection process has been designed to be transparent, and includes review by the commune committee. The data to assess criteria for grant assistance is independently collected by the government as part of wider social services programmes. Once identified, the beneficiaries are reviewed by a committee of stakeholders, and the results are publicly posted. Should concerns arise, community members can direct concerns to the commune for response. As residential land in Viet Nam is leased from the government, recipients are also assessed based on legality of land tenure. Recipients are not permitted to sell the property during the 10-year loan period. The loan repayment by recipients is further used as a revolving fund overseen by the government to enable replication of the approach to additional families.

The government programme has been successful in engaging civil society organizations such as, Fatherland Front, Veteran's Association and Viet Nam Youth Union to support the above prioritized groups, as well as female-headed households, in the actual construction of the houses.

#### *Opportunities for Improvement of the Government Housing Programme*

The **Pilot programme to support poor households improve safety conditions for accommodation, coping with floods in North and South Central coastal provinces** targeted 700 households in 7 provinces. The original design included a raised floor of 1.5m and a flat roof. The total cost of the pilot design house meeting minimum requirements was approximately US\$1,300/house<sup>6</sup> (this is considered a very conservative estimate as it does not reflect the higher costs of materials and labour in remote areas). The house design however did not adequately consider projected flooding and increased storms due to climate change. As a result, damages to the pilot programme houses were reported. Specifically, there were cases of flooding that exceeded the height of the raised floor, and damage to the flat roofs during storms. This resulted in enhancements to the MOC house design.

Based on lessons learned of the pilot, MOC produced an enhanced design (see Figure 1) which is applied in the ongoing phase of the housing programme. The enhanced design builds on the climate-resilient features of the original design (i.e. 10m<sup>2</sup> base and reinforced concrete frame), to a 2-story structure with a mezzanine at 3m, with a pitched corrugated metal roof. The estimate cost of the enhanced house design is estimated at approximately US\$1,500 - US\$2,000, depending on costs of materials and labour in the location.

#### **Figure 1: Flood and Storm-Resilient House Design**

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<sup>6</sup> Final Report - Results of pilot measures supporting poor households to improve safety home, responding to floods in Northern Central and Central Coast according to Decision No. 716/QĐ-TTg dated 14/6/2012 of the Prime Minister (see Annex VIIIa)



While the current design is an improvement from the pilot, the need for additional enhancements has been highlighted by MOC to better protect vulnerable households from the increasing frequency and intensity of flooding and super storms/typhoons resulting from climate change. Specifically, these include (a) a concrete roof with strengthened bracings and fittings (US\$900), (b) reinforced windows, doors and sealing (US\$400) and (c) improvements to drainage, siting and raising plinths (US\$400). Improved monitoring is also required to ensure that the finished product is one that reflects all the resilience features of the house design (US\$300). The combined costs of these enhancements are estimated at US\$2,000/house including some design and monitoring support.

As the grant support provided through the government housing programme does not cover the total cost of the house, the increased financial burden of these additional enhancements place vulnerable households, particularly 'extreme poor' households, in a difficult position. Additional grant support to households is needed to construct the house design with additional climate-resilience features.

There is also a need for more informed site selection for the new houses under the government programme. Though flood history is considered, the current risk assessment process is limited and does not systematically include recently developed data on key risks including sea level rise and extreme typhoon related storm surge. Per GoV policy, households on sites with a history of flooding over 3.6m are not eligible through the government programme, but should instead be relocated. In such cases, households are linked to other national support programmes to support relocation.

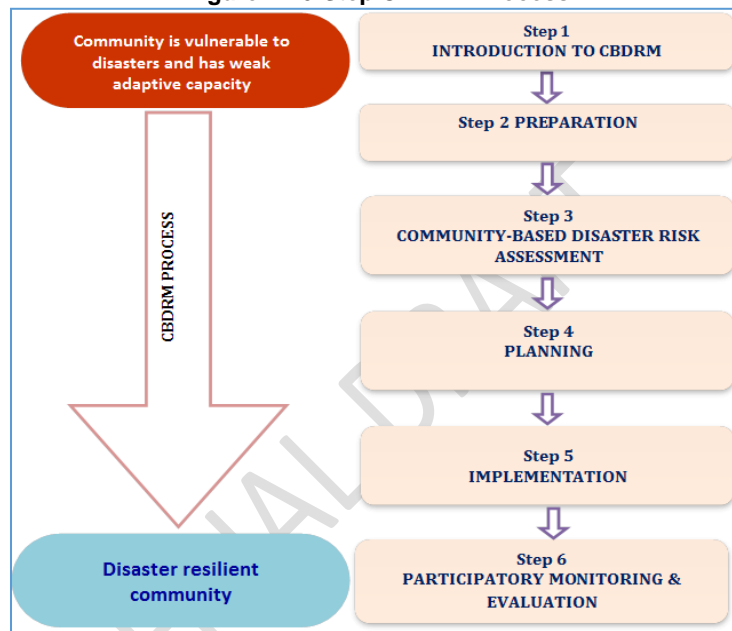
Further, the government housing programme has not applied available flood and storm risk data at the local level, nor has it harnessed community knowledge in siting and design decisions. In part this is because MOC lacks outreach capacity at the commune level. This means that the current investments in safe housing are detached from land use planning and annual budgeting at the community and sub-national level, thus opportunities for enhancing overall risk reduction or contributing to protective measures are missed. These may include development planning investments such as storm resistant infrastructure (e.g. safer water and sanitation supply, or dyke reinforcement, etc.) to ensure that basic public services are not destroyed and disrupted by storms or typhoons.

An overall vulnerability assessment/risk index was conducted for combined hazards at the national level. Additional maps indicating flood and storm risk have been included in Annex IX of the GCF Proposal, these maps do not yet include climate projections, nor related river flooding.

- historical storm probability
- probability of rainfall-related flooding

There are, however, good practices in Viet Nam of community-based disaster risk mapping and planning, applying well-tested methods. The Community Based Disaster Risk Management (CBDRM) programme 2009-2020 promotes a six step process (see Figure 2) to actively engage communities in all activities of disaster and climate change adaptation risk management, from risk identification and analysis, to action planning, implementation and monitoring and evaluation (M&E), aiming to reduce vulnerabilities and enhancing communities’ coping and adaptive capacities. The programme provides training on disaster risk reduction and climate change adaptation, as well as guidance on conducting community-based disaster risk assessments (CBDRA), resulting in community-based CBDRM plans for how communes will work to manage disaster and climate change risk more effectively. Community groups comprised of local leaders, technical experts and a cross-section of local residents and representatives from civil society organizations, including the Viet Nam Red Cross, Women’s Association and Association for People with Disabilities.

**Figure 2: 6-Step CBDRM Process**



The CBDRM programme aims to reach 6,000 high risk communes by 2020 (more than 60% of all communes in Viet Nam). The programme has already been successfully initiated in more than 1,700 communes. In line with the integrated disaster risk reduction and climate change adaptation (DRR-CCA) approach mandated by Viet Nam’s Change Committee, the program has been designed to address both traditional disaster and added climate change adaptation requirements. The planning methods, guidance materials, trainers and monitoring and evaluation systems have been highlighted as a highly effective means of resilience building in Viet Nam’s Special Report on Extreme Events submitted to the IPCC and have been identified as a good practice example by the UN, the Red Cross, the EU and ASEAN among others. CBDRM and CBDRA guidelines are attached for information under Annex XV of the GCF Proposal.

Evaluations of the government housing programme and the CBDRM programme can be found in the Annex VIII of the GCF Proposal.

**Robust mangrove coverage to provide a natural buffer between coastal communities and the sea**

Coastal mangrove forests play a critical role in coastal protection, acting as a natural buffer between the sea and communities – absorbing some of the impact of typhoons and storm surges. Mangroves also have an important role in preventing coastal erosion (as well as great potential for carbon sequestration). In Viet Nam, mangrove forests have been dangerously degraded, from 408,500ha 1943 to only 59,760ha in 2008, leaving coastal communities

exposed to coastal flooding. Key factors contributing to this decline include urbanization, infrastructure development and the growth of aquaculture plantations operated by local farming cooperatives and households.

Successful mangrove rehabilitation is complex and, if not implemented correctly, extremely costly. For instance, examples from other countries indicate the costs to successfully restore both the vegetative cover and ecological functions of a mangrove forest to range from US\$225/ha to US\$216,000/ha. Unpublished data would indicate that even higher costs, as much as US\$500,000/ha, have been spent on individual projects<sup>7</sup>. This is due to the extent of degradation at the site and the level of effort needed to rehabilitate the area, and continued interventions resulting from failures. Mangrove rehabilitation in general has a high rate of failure globally, citing the same lessons learned from pilot projects in Viet Nam.

In 2008, the government launched the **Mangrove Restoration and Development Programme 2008-2015**, which has been successful in reversing the decline in coastal mangrove coverage. However, as the current programme was designed to apply a monoculture planting regime, survival rates for mangrove forests supported under the programme are only 50%. This is due to a number of factors including (a) low seedling quality, (b) a lack of protection for seedlings from the physical damage in the early stages of growth, (c) a lack of diversity in species selection, (d) planting methods not well-suited to the specific site and (e) poor community engagement for maintenance and monitoring. Government statistics indicate that 62% of the existing mangrove forests in Viet Nam are newly planted and monoculture. Inadequate community consultations, and a lack of awareness raising among local residents regarding the benefits of mangrove reforestation, has also resulted in low levels of community engagement in some areas hindering long term forest management. The current government programme applies a cost norm for regeneration of mangroves of between US\$800-1000 per hectare, with higher rates of US\$1,000-7,000 being applied for full replanting depending on the difficulty of the site selected.

Several international organizations have been contributing enhanced approaches in support of the government's targets:

**Table 1: Pilot Projects on Mangrove Rehabilitation**

Project Name	Source of Funds	Budget	Duration	Hectares	Locations
Mangrove reforestation program to prevent natural disasters	Japan Red Cross	1,743,938	2009 - 2015	2,296	06 districts: Nga Sơn, Hậu Lộc, Hoằng Hóa, Sầm Sơn, Quảng Xương, Tĩnh Gia
Projects for investment in development of mangrove forests in the coastal communes of Hau Loc district, Thanh Hoa province	Fund for Central Natural Hazards	925,250	2010 - 2015	200	Hậu Lộc district
Integration of coastal protection and restoration of the mangrove forests in Ca Mau province	Germany (KfW)	1,200,000	2013 - 2019	21 <sup>8</sup>	Western part of Ca Mau (U Minh district)

These pilots have been implemented with official development assistance (ODA) mainly in southern Viet Nam and have aimed to rectify current challenges by applying enhanced technologies and planting methods. These improved approaches include (a) diversifying and tailoring the application of mangrove varieties to local conditions, (b)

<sup>7</sup> Mangrove Restoration - Costs and Benefits of Successful Ecological Restoration (Roy R. Lewis III, 2001)

<sup>8</sup> The KfW project's hectare target is relatively low because the project's main focus is more on infrastructure for coastal protection.

modifying planting techniques, (c) using tools, such as bamboo break waters, to encourage young plant growth, and (d) enhancing soil quality and improving maintenance of young forests. Some pilots have also sought to more actively engage communities in planning and maintenance, as well as in the site selection so that local livelihoods, such as aquaculture, and mangroves can coexist.<sup>9</sup> Although the cost norms for these pilots are higher than the current government rate, recent studies have shown that application of improved technological approaches can increase average survival rate to more than 80% – significantly higher than the current 50% average. The above projects, which are still ongoing, will contribute in part to the targets of the next phase of the government’s mangrove programme. The Restoration of Coastal Mangrove Forest in Viet Nam Study Report, 2012, attached as part of Annex VIII (Evaluation Reports) of the GCF Proposal, provides assessments of previous mangrove regeneration efforts.

**The Project for the protection and development of coastal protection forests in response to climate change 2015-2020** was recently approved through Decision 120/QĐ-TTg for the 28 coastal provinces of Viet Nam. The project requires a total of US\$245million (5,415billion VND) and has a planned annual investment rate of US\$41.4million (902billion VND). The central government aims to provide 70% of total programme cost with 25% coming from ODA and 5% from local contributions, though only a portion of the funding has been secured to date. This government project is of high priority, and is specifically cited as a cornerstone for adaptation action in Viet Nam’s draft adaptation INDC. This project aims to:

- protect 310,695ha of existing coastal protection forests
- reforest 46,058ha of coastal forests (of which 29,500ha are mangroves)
- reforest 7,508ha of forests for sand and wind break and 9,050ha of production forests
- and rehabilitate 9,602ha of the poor quality forests

Recognizing the need to scale-up and replicate improved approaches, which promote more effective mangrove restoration, the government is considering raising the cost norm from US\$800-1000 per hectare to US\$1,500 for regeneration through natural recruitment processes, and applying an increased average cost of US\$4,000 for replanting.

#### **Enhanced climate risk information to guide climate-resilient and risk-informed planning**

A critical element, of enhancing the effectiveness of efforts to tackle coastal climate change impacts, is ensuring that decisions are underpinned by quality climate risk data. When developing maps on where to safely locate housing and other assets, and assessing which parts of the coastline require the protection of mangroves, clear information on climate change projections and risks is essential. This information needs to combine available risk assessments, storm surge maps, historical knowledge on disaster and loss, with climate change projections to guide climate-resilient and risk-informed development planning.

In order for this information to be convincing to policy makers, hazard impacts also need to be able to be expressed in economic and financial terms that convey the value of current and future assets at risk. This requires analysing historical loss and damage data to better understand its current impacts on an economy, and then building the capacity to model this for likely future climate change related impacts. The GoV has recognized the need for this information, but efforts to support improved economic and financial modelling of climate change risk, within key institutions which need this information (in both the public and private sector), are fragmented and largely under-developed. The long-term impact of these gaps on development potential, business development and risk management is significant.

Strengthened risk mapping for provinces on potential climate change and hazard risk was identified as a key need under the National Action Plan for DRM in Viet Nam and followed by a series of Decisions by the Government Office to develop detail hazard maps for different regions in Viet Nam, particularly the Decision 172/2007/QĐ-TTg in 2007 for landslide and flash flood mapping; and the Prime Minister Communication 171/TB-VPCP on 23/4/2014, and

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<sup>9</sup> GIZ, 2012. Coastal Rehabilitation and Mangrove Restoration Using Malaleuca Fence: Practical Experience from Kien Giang Province. Conservation and Development of the Kien Giang Biosphere Reserve Project. Kien Giang.



410/TB-VPCP on 13/10/2014 for development of inundation mapping for strong storm and sea surge. This gap was also highlighted by more than 400 scientists from Viet Nam and the region as a core conclusion of the Viet Nam Special Report on Extreme Events (SREX 2014). Similarly, a 2010 World Bank study on Options for Disaster Risk Financing in Viet Nam highlighted the need for catastrophe risk modelling, risk assessment and disaster related damage assessments as key recommendations for action. At the commune level, the lessons learned workshop for CBDRM implementation at commune level conducted jointly by the Government of Viet Nam, UNDP, Viet Nam Red Cross, Women's Union and Oxfam in 2014 specifically highlighted the need for improved accessible data on risk as a key component of effective commune level planning.

Currently in Viet Nam climate-change projections and associated disaster risk trends are not well understood or widely disseminated, hindering their application particularly at sub-national level. The government has been working with key research institutes and government departments at the national level, to develop improved climate change projections and to conduct specific research in key areas such as storm surge risk associated with a likely increase in typhoon intensity. This data, however, has yet to be systematically applied. The government has recently developed Viet Nam's first coastal storm surge maps to improve coastal inundation mapping. Data quality will also be improved to include super-storm and storm surge data based on 2014-2015 models and more accurate sea level rise projections included in the fifth IPCC assessment report. Additional analysis of salt water intrusion zones using new satellite based technology is also beginning. While much of this data has been developed, or is near finalization, it is not currently being systematically applied in planning or effectively disseminated.

Although capacity has been developed for disaster and climate change loss and damage reporting within MARD, further capacity building is required at the national and sub-national levels. Communes require technical advice on how to collect improved data on climate change loss and damage in their locality to support systematic monitoring of resilience building in coastal areas. To effectively measure changes in resilience from local to national level in the context of climate change, further upgrading of current systems is required.

With support from UNDP, the government already has begun to draft an improved official circular that will outline how climate and disaster loss and damage data should be collected, processed and made available for analysis and planning. The current draft circular builds on the existing DesInventar disaster damage system that was developed in 2012 with support from UNISDR and UNDP. DesInventar is a conceptual and methodological tool for the generation of national disaster inventories and the construction of databases of damage, losses and in general the effects of disasters. The system aims to develop a sustainable disaster information management system within an institution for the systematic collection, documentation and analysis of data about losses caused by disasters associated with natural hazards. MARD is now fully operating the database using existing government funds and resources, and annual disaster statistics are posted on the Central Committee for Disaster Prevention and Control Website and form the basis for Viet Nam's official disaster data reported to ISDR and IPCC.

Provinces and cities regularly use the DesInventar disaster report forms to report data on damage and relief needs to populate the software. However, with only 1,900 data cards for the period 1989-2010, the available disaster/loss data for Viet Nam is quite low, with little disaggregation beyond the provincial level<sup>10</sup>. Increasing the skills of communes to report quality data will, over time, enable national disaster data sets to become significantly more accurate and therefore useful in monitoring changes in resilience and in planning well-targeted adaptation investments. The new circular, if well implemented, can be a key means of improving disaster data collection and recording, as well as the institutional mechanism for hosting and updating the database. The scaling up of the national CBDRM programme can also be a key vehicle for increasing understanding regarding how and when disaster data should be sent for inclusion in national records. To make sure that commune level data collected is effectively processed and used, there is a need to provide support at provincial and national level to upgrade existing loss and damage databases on existing national disaster tracking data sets. This will improve the quality of national resilience building monitoring and evaluation.

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<sup>10</sup> <http://222.252.27.1:8081/DesInventar>

NDP has two recent or ongoing programmes **Strengthening Institutional Capacity for Disaster Risk Management in Viet Nam Phase 2 (SCDM-II)** and **Capacity Building for Implementation of National Climate Change Strategy (2014-2017)** which contribute to national capacity to collect, analyse, apply and disseminate climate and disaster risk information. These programmes are supporting studies, providing training, and strengthening coordination within the National Climate Change Strategy.

Access to data is a key issue, and there is a need for an improved government risk data repository that can manage incoming data and make it accessible across government ministries, as well as to academic institutes and other relevant stakeholders. Improved climate related loss and damage data has far reaching uses in government planning, but also in the private sector where it can help for example in the pricing of insurance products or financial risk sharing and transfer tools.

Finally, although the government has been proactive in developing climate scenarios to estimate future impacts, government institutions are finding it challenging to apply this information in planning and decision-making. Disaster and climate change risk data is not sufficiently linked to investment/capital expenditure planning processes at the national and provincial level ministries. Current practices involve production of meteorological (weather) data, not probabilistic forecasts of climate and climate related risks. Quantification of risks would enable costing of alternate risk reduction options. Adaptation planning has also not yet begun to factor in risks of long term loss and damage, particularly land loss due to sea level rise, which is increasingly being experienced in low-lying exposed coastal areas and deltas.

Through recent ADB-UNDP supported initiatives, the MARD has also been piloting integrated risk indexes for resilience that can help provincial decision making regarding adaptation priorities. These tools aggregate climate hazard risk and with local level socio-economic vulnerability data to give a more accurate understanding of not only climate impacts but local level exposure to them. Accessible indexes and maps can be used as a tool to help guide investment planning and decision-making. Replicating this type of mapping to the entire coastline, applying comparable and consistent data, would be a transformative change in Viet Nam's ability to analyse and compare climate change risks in coastal areas.

Another aspect of this challenge is creating enabling conditions in which the public and private sector can invest in risk reduction efforts more systematically. To unlock, as well as direct and redirect, public and private sector investment into risk reduction, accurate data on historical loss and damage, specific hazard risk, and downscaled climate impact data are required. This, however, has not been possible due to capacity constraints, as these are currently inaccessible outside of government, or of insufficient quality in coastal Viet Nam.

Although the government has been proactive in developing climate scenarios to estimate future impacts, government institutions are finding it challenging to apply this information in planning and decision-making. Disaster and climate change risk data is not sufficiently linked to investment/capital expenditure planning processes at the national and provincial level ministries. Current practices involve production of meteorological (weather) data, not probabilistic forecasts of climate and climate related risks, nor economic analysis. Quantification of risks would enable costing of alternate risk reduction options.

The UNDP/USAID-Adapt Capacity Building Programme on the Economics of Climate Change Adaptation (ECCA<sup>11</sup>) is supporting Viet Nam to strengthen institutional capacity to apply economic principles and techniques to inform cost-efficient and sustainable adaptation planning. The programme has provided training on economic analysis (i.e. cost-benefit analysis (CBA)) to technical staff from MPI, MONRE and MARD. As part of the programme a survey was conducted of over 600 households to gauge the impact of climate change on economic activity. Data collection was recently completed with support on analysis to be provided over the next few months. ECCA is also in the process of compiling its training materials into a course available to government staff, either online or through a local university. There is an opportunity integrate this training into the relevant institutions, as well as to link this

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<sup>11</sup> <http://www.undp-alm.org/projects/ecca-asia>

economic survey data with the DesInventar data to estimate the economic impact of disasters at various sub-national levels.

Climate change projections suggest an increasing likelihood of major climate change related disasters in Viet Nam, such as the 2013 super typhoon which devastated neighbouring Philippines, resulting in losses in excess of 3% of GDP. The ability to manage financial risk of low probability/high impact events has been identified as perhaps the largest difference between low and middle income countries' adaptation capabilities. Currently, the government directly bears the burden of virtually all major financial risks associated with extreme climate events, compensating victims through disaster relief or reconstruction projects. The proposed GCF project will therefore also apply improved data collated above to support development a government plan for risk transfer in case of large scale coastal climate related disaster (loss of more than 3% GDP). It will support the government to identify appropriate risk transfer mechanisms, particularly looking at insurance or catastrophe bond options for financing reconstruction after a large-scale typhoon. This will be based on a review of successful global and regional models, and on understanding of the local context, for such instruments to be successful.

Although much of the potential loss and damage associated with climate impacts can be managed through effective adaptation action, including private sector risk transfer and sharing, some residual loss will remain. GCF resources will also support the design of a system to better account for the risk of long-term loss and damage due to climate change impacts in planning and policy formulation on existing systems. Technical support will also be provided to help the government to begin to define and track its long-term losses associated with climate change in line with the requirements of the recent Warsaw Declaration.

In light of its high and varied levels of risk, public-private risk sharing will likely be a key element to long term effective adaptation in Viet Nam. Financial risk transfer and sharing mechanisms are currently underdeveloped in Viet Nam. Household insurance levels per capita are low, and the government lacks climate related risk management strategies. Solid climate and disaster data is the engine for private sector risk transfer product development. In contrast to agricultural insurance where determining the exact extent of affected areas is highly complex and costly, determining the extent of flooding and storm damage after an extreme hazard event such as a flood or storm is less complex. The challenge for insurance companies however is in being able to competitively price products based on mathematical probabilistic analysis, which requires commune level historical loss and damage data as its base. Comprehensive data is not currently available in Viet Nam. Therefore, the disaggregation of historical loss and damage data (and verification of the results through the CBDRM consultation process) down to commune level to be undertaken by the proposed GCF project, will not only support government risk mapping but also private sector product development.

While there are clear areas for intervention to improve coastal resilience, there are several barriers which must be addressed.

#### **Key barriers addressed by the proposed GCF project**

In order to increase the resilience of coastal communities to the threats of storms, sea surges and sea level rise, it is necessary to address the following barriers to sustainable coastal protection and safer settlements.

#### *Ineffective Collaboration Between Ministries and Programmes Preventing Regulations Critical for Long-term Climate Resilience*

A key barrier to coastal resilience in Viet Nam is uninformed planning, due to lack of collaboration. As a result, available assessments of climate and disaster risks, data on permanent as well as temporary loss and damage, and monitoring and confirming land loss due to climate-induced hazards, have not begun to be factored into government planning. While data is currently limited, collaboration is critical to integrate the existing data effectively. For example, risk assessments from the CBDRM Programme and the storm surge maps generated by the Disaster Management Center, have not been considered in land use planning related to government housing programmes. Further, best practices of small scale pilot projects have not been integrated into existing housing designs in coastal

areas to ensure the construction adequately reflects risks. Failure to make these links can result in (a) houses being built on unsafe sites and (b) higher costs related to loss and damage given projected climate and flood risk. Failure to make these links, as well as the financial limitations in domestic public sources, impacts the GoV's ability to enhance planning and update related policy and regulations towards climate smart development.

*Coastal protection measures are not informed by best practices*

Coastal protection has been limited to hard protective structures such as sea dykes that incur high capital investment and maintenance cost, as well as significant ecological consequences that are counter-productive to their purpose. Although necessary in certain strategic locations, evidence has shown that hard structures interfere with natural sedimentation process and often aggravate coastal erosion, leading to land loss and greater exposure. In the past, strong, reliable man-made ("hard") infrastructure was used to operate effectively and efficiently, although more recently, evidence suggests mixed results<sup>12</sup>.

In recent years, businesses and governments are seeing the enormous potential for natural infrastructure in the form of wetlands and forests, watersheds and coastal habitats to perform many of the same tasks as grey infrastructure, sometimes better and more cheaply.<sup>13</sup> For example, investing in protection of coral reefs and mangroves can provide a stronger barrier to protect coastal operations against flooding and storm surge during extreme weather, while inland flooding can be reduced by strategic investments in catchment forests, vegetation and marshes.<sup>14</sup> Evidence from coastal adaptation practices in Viet Nam and in the region further suggests that integrated solutions based on ecosystem services such as mangrove stands can serve as more effective means to protect communities from the increased incidence of storms. Although the government and partners have recently invested in mangrove rehabilitation efforts (and as such these are tried and tested pilot solutions), these still remain nascent in scope and require larger geographic coverage to reinforce and protect poor and marginalized communities living along the coastline.

*Inadequate climate risk information preventing effective adaptation planning and resources mobilization*

The absence of rigorous climate risk information places considerable limitations on climate-resilient planning and adaptation investments. Availability and uptake of climate risk information is lagging related to what is required for effective decision-making in the [National Adaptation Planning process](#). Improving (a) access to high-quality meteorological data to characterize present weather, (b) climate change scenarios (including for variability) at the spatial and temporal scales to support decision-making, (c) historical and projected loss and damage data (d) technical capacity to undertake impact assessments based on loss and damage data and (e) economic appraisals of adaptation options are necessary to design sustainable, risk-informed and economically-efficient adaptation measures.

Currently, the government directly bears the burden of virtually all major financial risks associated with extreme climate events, compensating victims to the extent possible through disaster relief or reconstruction projects. Public expenditure, however, is not readily available for local risk finance<sup>15</sup>. The increasing frequency and intensity of the impacts of climate change are already straining limited public resources, as ministries are challenged to secure the necessary financing from public funds. The above limitations of skills and data therefore also prevent effective engagement of the private sector in climate hazard risk sharing and transfer. The lack of commune level data related to historical loss and damage, and ease of monitoring and confirmation of impacts, make premium setting difficult. The absence of a comprehensive weather monitoring system makes triggering payments for any market orientated

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<sup>12</sup> UNEP-WCMC (2006) *In the front line: shoreline protection and other ecosystem services from mangroves and coral reefs*. UNEP-WCMC, Cambridge, UK 33 pp

<sup>13</sup> UNEP-WCMC (2006) *In the front line: shoreline protection and other ecosystem services from mangroves and coral reefs*. UNEP-WCMC, Cambridge, UK 33 pp

<sup>14</sup> UNEP-WCMC (2006) *In the front line: shoreline protection and other ecosystem services from mangroves and coral reefs*. UNEP-WCMC, Cambridge, UK 33 pp

<sup>15</sup> GoV's recent Public Climate Expenditure and Investment Review in Viet Nam, supported by UNDP, showed that domestic climate change response related spending is mainly directed towards large-scale infrastructure projects in the sectors of irrigation and transport (UNDP, 2015).

solutions (e.g. insurance) prohibitively expensive. The design of the output is further detailed in section, C.3. Project / Programme Description of the GCF Proposal.

## Impact Potential (E.1)

### Mitigation / adaptation impact potential (E.1.1 para 144-145)

The GCF funds will benefit several different constituents in Viet Nam. This includes:

- 20,000 highly vulnerable people directly benefit from safer, more climate resilient housing (direct beneficiaries, 60% female)<sup>16</sup>
- The total population of 3,865,100 people in the target coastal provinces will benefit from the protection offered by healthy and robust mangrove areas (indirect beneficiaries, 50% female)<sup>17</sup>
- More than 30million people living in 28 coastal provinces benefit from improved climate risk mapping and participatory disaster risk management planning and risk reduction practices (indirect beneficiaries, 50% female)

In addition, 500,000 people will have access to safe low cost flood and storm resistant housing technologies through further dissemination of CBDRA and safe housing designing and training through the CBDRM programme.

Registered members of the Association of Viet Nam Insurers gain free access to improved disaster and climate change risk data.

At least 4 government institutions ministries will benefit from targeted institutional capacity development in climate risk management: Ministry of Planning and Investment (MPI); Ministry of Agriculture and Rural Development (MARD); Ministry of Construction (MOC) and Ministry of Natural Resources and Environment (MONRE).

At least 4 of national academic institutions will benefit from improving their human resource and knowledge base in the area of climate change adaptation: Institute of Meteorology, Hydrology, Environment and Climate Change (official technical focal point for climate projections) and Viet Nam Academy of Water Resources (official technical focal point for flood risk and mapping), the Institute for Building Science and Technology (IBST) (official technical focal point for building code and housing standards and the Viet Nam Academy of Forest Sciences (as technical focal point for forestry, including site assessment for tree species selection, technical measures for restoration of mangroves).

### Key impact potential indicator (E.1.2 para 146-151)

GCF core indicators	Expected tonnes of carbon dioxide equivalent (t CO <sub>2</sub> eq) to be reduced or avoided (Mitigation only)	Annual	93,036
		Lifetime	1,860,720
	<ul style="list-style-type: none"> <li>• Expected total number of direct and indirect beneficiaries, disaggregated by gender (reduced vulnerability or increased resilience);</li> <li>• Number of beneficiaries relative to total population, disaggregated by gender (adaptation only)</li> </ul>	Total	30 million people who live in coastal provinces of Viet Nam (15 million female), indirect beneficiaries
		Percentage (%)	30%

<sup>16</sup> Average household size in target areas is 5/household, targeting 4,000 houses

<sup>17</sup> There are an estimated 4,000 – 10,000 people/commune. The conservative 4,000 was used for the target 25 communes.

<i>Other relevant indicators</i>	N/A
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The estimation of carbon sequestration in the project is based on a review of studies on carbon stock in mangroves (Y. Okimoto et al 2013 for Nam Dinh and Thanh Hoa; Vu Tan Phuong et al 2012 for Kien Giang and Ca Mau provinces; GIZ 2012 for Kien Giang and Soc Trang province). The studies estimated the annual biomass increment varies from 15 – 20 ton/ha/year depending on the sites (in the South, the biomass increment is higher). Information is not available for degraded mangroves. To be conservative, an increment rate of 15 ton/ha/year for estimation carbon sequestration. The carbon fraction used is 0.5; emission associated with mangroves regeneration comes mainly from seedlings production (e.g. emissions caused by fertilizers) and transportation of seedlings to the site (i.e. gasoline) and is estimated at 80tCO<sub>2</sub> eq/ha/year. The estimation of emission reductions in mangroves activities is as follows:

Total area of mangrove regenerated (ha)	4,000
Mean biomass increment (ton/ha/year)	15.4
Carbon fraction	0.5
Lifetime/rotation (year)	20 <sup>18</sup>
Carbon sequestration per hectare in lifetime (tCO <sub>2</sub> eq/ha)	565
Net carbon sequestration (emissions deducted) (tCO <sub>2</sub> eq/ha)	485
Total emission reduction for regenerated areas (tCO <sub>2</sub> /20 years)	1,860,720
Costs for reduction (US\$/t CO <sub>2</sub> eq)	6.20

Carbon sequestration of mangroves in Viet Nam varies from site to site and depends on species composition. In the South, mangroves have the highest growing stock, thus carbon sequestration capacity is higher compared to the North. Several studies indicated that annual biomass increment of mangrove is 20 tons/ha/year for the North (Nam Dinh and Thanh Hoa province; Okimoto 2013) and 25-40 tons/ha/year in the South (Ca Mau, Kien Giang, Can Gio; Tan 2002; Nam 2010; Wilson 2010). This value is about 36 tons/ha/year in Malaysia (Ong 1993), and is 28-70 tons/ha/year in Thailand (Christensen 1978). This indicates that biomass increment rate of mangrove in the South of Viet Nam is quite similar to that of Malaysia and Thailand.

Estimation of carbon dioxide equivalent to be reduced or avoided is based on biomass increment generated by restoration of mangroves. The formula for the estimation is:  $CO_2eq = biomass * CF * 44/12$ .

Where biomass is dry mass generated by forest growing; CF is carbon fraction (considered as 0.5) and 44/12 is conversion from carbon to carbon dioxide. As the biomass increment varies from sites to site, a “conservative estimation” was used (i.e. an estimated minimum biomass increment value).

The biomass increment is estimated for 20 years as the minimum lifetime of the mangroves and the increment rate is estimated based on ages of mangrove. For age < 5 year, biomass increment is 5 tons/ha/year; age of 5-10, increment is 17 tons/ha/year; age of 11-15 is 21 tons/ha/year; age of 16-20 is 14 tons/ha/year.

The reduction of 1,860,720 tCO<sub>2</sub>e over 20 years through the rehabilitation of 4,000 hectares of coastal mangroves is captured in section E.3.1. Environmental, social and economic co-benefits, including gender-sensitive development impact.

<sup>18</sup> The project is 5 years in duration, but mangroves will be at least maintained for 20 years - it is estimated that mangroves become stable at 20. Emissions are therefore counted for whole lifetime of mangroves. As an estimate, within 5 years, the project will generate:  $15.4 \text{ ton biomass} * 4000\text{ha} * 0.5 * 3.67 = 565,180 \text{ ton CO}_2$

## **Paradigm Shift Potential (E.2)**

### **Potential for scaling up and replication (E.2.1 para 152-161)**

The project will catalyse a paradigm shift in government climate change resilient investment, moving from top-down sector investment towards participatory, integrated risk-informed approaches. Two complementary transformative effects are expected: First, increased community participation and strengthened synergies between on-going Government programs will increase their effectiveness and sustainability. Second, increases in quality and access to data will support more accurate risk planning and contribute to a more conducive environment for risk transfer product development in Viet Nam.

#### ***Increasing effectiveness of on-going Government resilience programs***

The project interventions will scale-up an integrated model of change, working in all 28 coastal provinces in Viet Nam. The activities will directly complement on-going government investment programs, aiming to creating a multiplier effect where government investments are made more sustainable and effective through project co-finance. Project actions will directly enhance implementation of national programs on safe housing and national disaster preparedness, coastal mangroves and CBDRM.

The Constitution of Viet Nam, under Article 59 section 3, affirms that the State shall exercise a policy of housing development and create conditions so that everyone shall have housing. As third of the population (30million people) reside in coastal provinces, there is significant potential for further upscaling, both to equally vulnerable groups or to further enhance homes of middle income families. The design can also be tailored as needed to reflect the key concerns of other vulnerable areas (e.g. the Mekong delta).

The GCF project targets 4,000ha of mangroves. The potential for further upscaling is significant given the large scale loss of mangroves in Viet Nam - from 408,500ha 1943 to only 59,760ha in 2008. Evidence-base best practices will be made available to other countries. Timor-Leste for example is also facing challenges in maintaining its mangrove areas due to rapid coastal development and can benefit from the knowledge generated by this project.

Target provinces have been selected as being at particularly high risk to sea level, storm surge and/or mangrove loss. Using existing maps of CBDRM coverage as a base, GCF resources will be used to ensure that more than 95% of all coastal communes in 28 provinces have CBDRM plans. These plans include priorities for investments to adapt to climate change and build resilience [as part of the National Adaptation Plan](#). As the ensuring integration of priority actions outlined in the plans into the annual socio-economic development plan and budget is one of the key steps of CBDRM plan development, this coverage density will also significantly influence annual provincial planning processes along the entire coast of Viet Nam. The risk assessments as part of the CBDRM process can be applied for various purposes, the methodology will be disseminated through the CBDRM programme to reach the target 6000 communes, and more beyond the GCF project duration.

#### ***Promoting access to quality data to strengthen planning and private sector product development***

Improving the quality and accessibility of data can have a transformative effect on risk management planning and practice in Viet Nam. Decision making regarding investment planning and adaptation project prioritization currently does not benefit from probabilistic risk analysis either in terms of likelihood or in terms of financial exposure. In addition to enhancing implementation of projects already under implementation up to 2020, early provision of improved risk data to all coastal and delta provinces can catalyse the Government to replicate this integrated approach in the design of its 2020-2025 planning cycle.

Solid historical extreme event data and other climate related risk information is also the engine for private sector risk transfer product development. GCF resources will generate and make accessible data and tools such as risk maps and financial models to support more accurate decision making in climate change adaptation at all levels.

Strengthened systems for collecting commune level data on disaster loss and damage will also greatly enhance long term datasets that are also used in generating IPCC and other national analysis.

In numerical terms this transformation can be summarized as:

- All 28 coastal provinces of Viet Nam will have up-to date, comparable risk maps that are able to account for risks such as storm surge as well as potential long term climate change impacts (currently no provinces have such maps, and where data is available at provincial level it is not comparable).
- Average success rates for coastal mangrove regeneration in coastal areas will be increased from an average of 50% to more than 80% and capacity to technically execute this standard will be transferred from a the current handful of successful pilot project provinces to provincial staff from all coastal provinces;
- Government flood resistant housing projects will for the first time be integrated in wider resilience building efforts, and will differentiate between extensive and super-typhoon/ storm surge risk, directly applying lessons learned from the Philippines post-Tacloban experience. Future generations of housing projects will include analysis of improved risk maps, as well as CBDRM practices in planning and executions.

Finally, in all coastal provinces, lessons learned, as well as potential project gaps will be directly analysed during annual budget planning processes (during Step 5 of the CBDRM process) resulting in likely increases in regular investments for resilience building, and key Governments standards, plans and policies will be upgraded.

#### **Potential for knowledge and learning (E.2.2 para 162-163)**

At the commune level, local residents and officials will for the first time have an opportunity to share and learn about the climate change risks in their communes, combining participatory local knowledge based CBDRA processes with data from scientifically robust information packs containing up-to-date climate change and risk data. Communes will also be able to learn about safe housing options, and the benefits of mangrove regeneration in reducing storm surge risk and strengthening ecosystems. Community capacity to translate learning in action will be enhanced through support to influence provincial annual budget processes, and through documentation of good practice regularly throughout the project.

At the provincial level, provincial technical capacity will be directly enhanced in relation to all three project outputs. Cumulatively this will help replicate lessons learned from successful coastal pilot projects more widely, as well as directly increasing application in land use and other planning processes.

#### **Contribution to the creation of an enabling environment (E.2.3 para 164-167)**

Output 3 will increase access to enhanced climate, loss and damage data for private and public sector application.

In order for this information to be convincing to policy makers, hazard impacts also need to be able to be expressed in financial terms that can estimate the value of current and future assets at risk. To do this requires analysing historical loss and damage data to better understand its current impacts on an economy, and then building the capacity to model this for likely future climate change related impacts. Viet Nam has recognised the need for this information, but efforts to support improved financial modelling of climate change risk are fragmented and largely under-developed. The long term impact of this gap on development potential is significant. The ability to manage financial risk of low probability, high impact events has been identified as perhaps the largest difference between low and middle income countries' adaptation capabilities.

In order to help make sure data is provided in a format and means that is useful for the private sector, and to increase Government understanding of how it can create incentives for risk manage product in the future, the project will also support dialogue between the private sector and relevant national and provincial government actors. This will



include technical dialogue with the private sector on improving the application and accessibility of hazard and loss and damage data. Industry wide consultations on current barriers and solutions for increasing private sector risk sharing and transfer engagement in managing climate in Viet Nam will also be supported.

In order to unlock the public and private sector investment into the risk reduction solid data on historical loss, and downscaled climate impact data are required. These are currently inaccessible outside of government, or of insufficient quality in coastal Viet Nam. Investments in this output therefore directly contribute to creating enabling conditions in which the public and private sector can invest in risk reduction efforts more systematically.

### **Contribution to regulatory framework and policies (E.2.4 para 168-171)**

The project specifically aims to enhance the implementation of existing government plans and programs, and each output has a specific technical capacity building built in. In addition, each output also includes a specific policy strengthening element, which will support the government with technical inputs to enhance or upgrade official policy documents and directions on climate changes, including the upcoming development of the National Adaptation Plan (NAP), the review and update of the Nationally Determined Contributions (NDC) as part of the national Action Plan to implement Paris Agreement.

Improved risk mapping for provinces is critical for upgrading climate-responsive planning in Viet Nam. Improved quality data generated will also directly enhance the quality of future climate projections and IPCC inputs.

Scaling up mangrove regeneration is a key priority of the government in the draft INDC for Viet Nam in part due to the considerable mitigation and adaptation co-benefits achieved. Improved standards and cost norms for applying approved technologies will enhance the ability of the government to meet key targets to increase forest coverage in storm impacted areas.

Strengthening community participation at commune level, and piloting the integration of national CBDRM efforts with other national programs also presents considerable potential for using these commune level groups as vehicles for awareness raising green growth, energy efficiency and other areas. Within the Government, potential to include specific additional activities in safer housing programs that could address the energy efficiency, potential solar power or other green growth related needs of poor households will also be considered during policy support in the drafting of the next round of national programs.

### **Sustainable Development Potential (E.3)**

#### **Environmental, social and economic co-benefits, including gender-sensitive development impact (E.3.1 para 172)**

Project objectives have been designed to build directly build on and strengthen the implementation of existing government projects and plans and to raise the skills of existing government staff and community leaders. These factors will significantly increase the long-term contribution of interventions. The project will also contribute to sustainable development through other co-benefits summarized below:

#### **Economic benefits**

- Improved planning integrating climate risk information, benefiting 30,000,000 coastal residents
- Reduced disaster losses in key sectors including agriculture and housing in coastal and delta communes
- Increased accuracy of climate data reduces economic uncertainty and increases the economic feasibility of risk management products and services
- Financial plan in place for the government to manage financial risks from major coastal disaster (in excess of 3% of GDP)
- Increase in access to affordable climate risk insurance products for coastal and delta populations

#### **Social Benefits**

- Safe housing for 20,000 people, in high risk, low income households
- Improved access to safe housing for 500,000 people, particularly in high risk, low income households
- The total population of 3,865,100 people in the target coastal provinces will benefit from the protection offered by healthy and robust mangrove areas.
- Reduced injury and loss of life due to extreme climate disasters
- Strengthened inclusive planning in target communes that ensure representation from vulnerable groups including those with disabilities, minority groups, youth and the elderly.
- Improved two-way communication mechanisms and inclusion of resilience building projects in the socio-economic planning process.
- Enhanced community engagement to protect natural heritage

#### **Environmental Benefits**

- Greenhouse gas reductions of 1,860,720 tCO<sub>2</sub> over 20 years through rehabilitation of 4,000 hectares of coastal mangroves
- Protection of biodiversity in state managed rehabilitated mangroves
- Skills development among local populations for bio-engineering protection
- Use of environment friendly materials for 4,000 homes, taking account the full risk understanding of the eco-system of the coastal population
- Improve application of environmental safeguards and environmental assessments, and environmental resources in target communes.
- Protection of sea dyke systems by reducing sea wave energy and thus reduction of costs associated with maintenance of sea dykes.

#### **Gender Considerations and Benefits**

- Commune level CBDRM advisory groups include at least 30% women including in decision making positions
- Loss and damage databases track gender disaggregated data for key disaster related statistics
- Increased role of Viet Nam Women Union in community planning and consultation processes.

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## **IV. RESULTS AND PARTNERSHIPS**

### **i. Expected Results: (C.3 para 67-97)**

Recognizing the impacts of sea level rise, increased flooding and increased incidence of extreme events, the objective of the project is to Increase resilience of vulnerable coastal communities to climate change related impacts in Viet Nam. The project seeks to meet this objective by achieving the following complementary results:

1. Storm and flood resilient design features added to 4,000 new houses on safe sites, benefiting 20,000<sup>19</sup> poor and highly disaster-exposed people in 100 communes
2. Regeneration of 4,000 hectares of coastal mangrove storm surge buffer zones using successful evidence-based approaches
3. Enhanced climate, loss and damage data for private and public sector application in all 28 coastal provinces of Viet Nam

Each output is critical to meeting the project objective. Implemented separately, the outputs would have limited impact on building resilience of coastal communities. For instance, mangrove rehabilitation will absorb some of the impact of sea surges and typhoons (see Figure 3), but the poor in sub-standard houses

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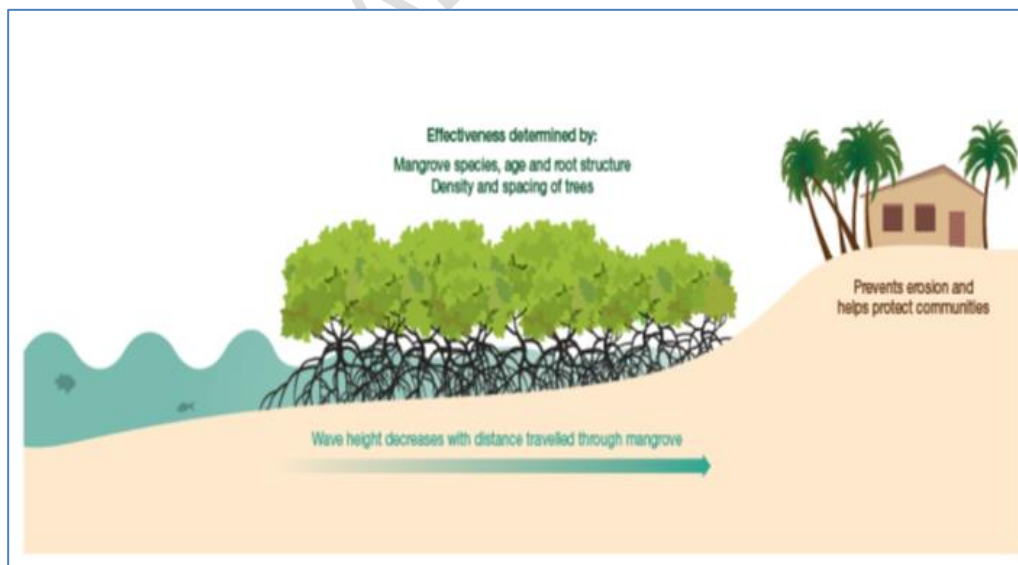
<sup>19</sup> Household size in target areas is estimated at 5 people/household, though reports exist that state an average of 4/household, these estimates are considered low for rural areas, as cities which tend to have smaller household sizes, were included in the calculations.

would remain vulnerable. Construction of flood and storm-resilient houses built on high risk sites (without the integration of risk assessments) would inadvertently put already vulnerable people at continued risk. And, improving data and information management systems, and identifying suitable financial mechanisms to better respond to extreme events (e.g. significantly impacting GDP), will enable climate risk informed decisions about the adaptive investments in the risk exposed coastal regions, reducing loss and damage over time. The project will promote a transformational impact by enabling the GoV to comprehensively tackle the issues at hand, resulting in an adaptation solution that will have significant long-term benefits for poor and marginalized communities.

The outputs work together to strengthen inter-ministerial collaboration and community engagement. For example, currently two main challenges for the mangroves and housing programmes are ensuring effective community participation and oversight. Linking these elements to scale up proven effective community based disaster risk management programme helps to address this. CBDRM planning, housing and mangrove site selection often lacks up-to-date data on hazard risk, which can be provided through local level information packs. And enhanced preparedness and planning for extreme events can ensure sustainability of these programmes, as well as overall development planning in the country.

The benefits of this integration are at the core of project sustainability and transformational impact. Underpinned by sustained improved in risk data quality and management, the project directly facilitates ministries to benefit from data and programmes outside their traditional siloes. As the joint development process for the proposed project has shown, there is often willingness to apply better data and approaches, but technical level staff seldom has the time or the specific technical knowledge on how to access it. These cross-ministerial links and relationships will be core to more effective long term adaptation in Viet Nam. In addition, strengthening the central and provincial government’s ability to quantify and estimate its financial exposure to climate change risk will be key to enabling key future adaptation decisions.

**Figure 3: Potential Role of Mangroves in Protecting Coastal Communities<sup>20</sup>**



The project takes an integrated participatory approach working with communities to reduce the impacts of flooding, storms/typhoons and storm surge risk, by providing safe housing and increasing mangrove protection in coastal communities. At the national level, it will increase integration and effectiveness of on-

<sup>20</sup> The Importance of Mangroves to People: A Call to Action. van Bochove, J., Sullivan, E., Nakamura, T. (Eds). United Nations Environment Programme World Conservation Monitoring Centre, Cambridge. 128 pp. 52-53 (UNEP, 2014).

going government investments in resilience, and use quality climate data to direct public sector expenditure where it is most needed and unlock private sector investment towards risk reduction. To meet its objective the project looks at the challenges faced by coastal communities from the perspectives of climate and risk informed planning, application of best practices for climate-resilient infrastructure (particularly as it relates to the most vulnerable in coastal areas), and reduction of the impacts of climate change induced events. Importantly, the overall design of the project underscores the engagement of coastal communities, as their commitment is critical to ensuring long term resilience. The outputs have been designed to promote collaboration and generate knowledge to enhance planning and improve resilience, creating a flow of data and analysis across the outputs.

As agreed by MOC and MAR, ensuring complementarity with previous/ongoing/planned efforts and highlighting government priorities, 7 provinces have been selected for GCF intervention. In year one and two, activities will focus on Thanh Hoa, Thua Thien Hue, and Quang Ngai where particularly pressing needs for both housing support and mangrove regeneration exist. In year three and four, activities will be expanded to Quang Binh, Quang Nam and Ca Mau and Nam Dinh. Nam Dinh will receive only mangrove support. While not currently under the housing programme, Nam Dinh is under consideration for the next phase. The seven provinces selected for housing and mangrove regeneration support have all been identified as areas at high risk to inundation related to extreme sea-levels/ storm surges as well as losses from tropical storms/typhoons.

**Output 1: Storm and flood resilient design features added to 4,000 new houses on safe sites, benefiting 20,000 poor and highly disaster-exposed people in 100 communes**

In the flood and typhoon prone areas of coastal of Viet Nam. GCF finance will provide for the additional cost of safety features and improved monitoring (approximately US\$2,000/house), to 4,000 houses constructed under the broader government housing programming benefitting the poor. Specifically these include (a) a concrete roof with strengthened bracings and fittings (US\$900), (b) reinforced windows, doors and sealing (US\$400) (c) improvements to drainage, siting and raising plinths (US\$400) and (d) improved monitoring to ensure that the finished product is one that reflects all of the resilience features of the house design (US\$300). As the GCF project will build on the existing government housing programme, the general design of the house is consistent with Figure 1: Flood and Storm-Resilient House Design.

Output 1 will be fully coordinated with the government housing programme, and grant support to beneficiaries will follow the government's monitoring and disbursement schedule. Government financial support is provided to beneficiaries in 2 financial instalments (70% upon completion of the foundation and the second upon completion of the house frame meeting the design specifications). At these critical milestones, there will be a thorough inspection of the construction by MOC, expertise from the GCF project team and UNDP. As part of regular project management, the same team will conduct site visits to assess project progress and provide tailored support as needed to ensure the targets and the objective of the GCF project, as well as the government housing programme, are on track and ultimately met. GCF supplementary funds for housing will be managed through the project bank account and will be provided directly to households once relevant monitoring and oversight has been completed.

GCF finance will also support risk assessments through the established CBDRM mechanism, to ensure that house siting is on a safe location. Links will be made to existing information such as the storm surge maps generated by the Disaster Management Centre.

The 100 target communes selected for this work will serve as learning hubs for broader dissemination in adjacent communes and provinces. Selection of communes and households to receive support will follow existing government criteria. Criteria and prioritization criteria are further detailed in Annex II: Feasibility Study.

GCF resources will also be used to provide training on engineering innovations for flood and storm resistant housing technologies, and to deliver hands-on advice and guidance to local authorities and affected households on safe and affordable house designs and construction.

A component on safe housing design will also be added to the current CBDRM risk mapping and planning process which will be rolled out extensively in all coastal provinces. A greater scale of housing schemes that embed the evidence-based good practice of siting and design of climate resilient houses will trigger greater change in family house construction.

Climate risk informed selection of safe locations for house construction is critical for stability and resilience. The information necessary to inform site selection is already available and will be collated quickly into information packs at the start of the project, i to help improve the quality of site verification. While this information is already available, it is not currently well presented and shared, therefore not applied. For example, storm surge hazard maps for large scale typhoons are being finalized by the government for all coastal provinces, but data has not yet been applied at the commune level. Similarly, climate change and sea level rise data is available centrally, but not regularly shared at local level, and even historical disaster data availability is uneven.

Based on the information packs, communities will also develop climate sensitive Community Based Disaster Risk Management (CBDRM) action plans, and ranking priorities for community-based risk reduction investments that will be budgeted into the local commune and provincial budgets. Completed commune plans will be approved by the People's Committee and actions that require additional funding can be recommended for inclusion in the government's regular annual socio-economic planning and budgeting (SEDP) process. Climate risk informed commune plans will enable future housing schemes to be climate risk informed in terms of siting decisions and other protective and risk reduction measures. Such risk reduction measures may include reinforcing local dykes, improving local drainage canal networks and other risk reduction measures for excess flood water diversion away from the houses and other units of public infrastructure critical for local service provision and commune development.

Existing government-approved planning methods, trainers and monitoring and evaluation systems already developed through the national CBDRM program will be used, applying methodologies which have reached more than 1,700 communes since 2009 and have been identified as a good practice example by the UN, Red Cross, EU, ASEAN among others. This will ensure that implementation costs will be minimized as GCF resources will be used to complement an already ongoing government led programme.

Activities for this output thus include:

- Activity 1.1. Grant support for cost of additional flood/storm resilient features to 4,000 houses
- Activity 1.2. Community-based climate and disaster risk mapping and planning
- Activity 1.3. Knowledge products, developed based on lessons learned, for policy makers and communities

Further breakdown of the activities is provided in Section H.1.2. Outcomes, Outputs, Activities and Inputs at the Programme/Project level of the GCF Proposal.

## **Output 2: Regeneration of 4,000 hectares of coastal mangrove storm surge buffer zones using successful evidence-based approaches**

GCF funds will support regeneration of approximately 4,000 hectares of mangroves, in coastal areas vulnerable to climate change impacts. GCF resources will enable scale up of good practices from various pilots and integrate field proven best practices. Supplementary funds will allow for the application of improved planting and maintenance technologies outlined above, and implement the measures to ensure that livelihoods are maintained (such as relocating communal shrimp ponds to where the pressures on the mangrove stands will be minimized and the shrimp production can be well maintained).

Specific sites within the province for project intervention will be identified/assessed through various criteria, namely (a) exposure to climate change induced events (i.e. typhoons, storm surges, sea level rise, coastal flooding), (b) potential for mangrove restoration, and (c) complementarity with ongoing government or partner support to maximize the impact of combined resources. Regeneration and rehabilitation efforts will be implemented in phases. While the techniques to be used are based on best practices of previous mangrove rehabilitation efforts, a phased approach will allow time for further monitoring and assessment of techniques, as well as review of risk mitigation measures. Adjustments will be made as needed to maximize the survival rate.

As the project will focus on scaling up existing good practices to a transformational scale, regeneration will focus on low to moderate difficulty sites, directly applying evidence-based best practices from efforts in sites with similar challenges. Once the sites are selected, target communes will set up a community committee incorporating both local government and a cross-section of residents to complete a CBDRM risk assessment and planning process using the same six-step methodology outlined under the Output 1. Additional sessions on coastal mapping, mangrove regeneration and livelihoods maintenance will be added. The community CBDRM plans will therefore include location specific actions to support implementation and maintenance of the mangroves.

The project will then roll out mangrove regeneration actions to enable application of improved techniques to increase survival rates. This will be community driven process as part of the commune planning and implementation using the CBDRM process for community mobilization and engagement.

Interventions will particularly replicate efforts in Southern and Northern provinces of Viet Nam which are currently the main priority area for implementation under the government mangrove regeneration project and where mangrove forests are most naturally suited. They will aim to replicate best practices in replanting and restoring mangroves considering local conditions of target areas for restoration of mangroves; promote sustainable management of mangroves through community based management; support livelihood development for local people in the mangrove forested areas; and consolidate capacity building, awareness raising and participatory monitoring. GCF funds will also be used to provide additional training to enable government technical experts to learn about enhanced approaches for potentially wider application in other areas. Community groups mobilized through the CBDRM program will also receive training in sustainable mangrove forest management that will support their coastal livelihoods and enhance their protection from coastal storms and flooding.

Activities supporting this output are as follows:

- Activity 2.1. Regeneration or replanting of 4000 hectares of mangroves in coastal areas vulnerable to climate change
- Activity 2.2. Community-based programme on mangrove rehabilitation, maintenance and monitoring for target communities
- Activity 2.3. Knowledge products, developed based on lessons learned, for policy makers and communities

Further breakdown of these activities can be found in H.1.2. Outcomes, Outputs and Inputs at Project/Programme level of the GCF Proposal.

### **Output 3: Increased access to enhanced climate, loss and damage data for private and public sector application in all 28 coastal provinces of Viet Nam**

MARD with assistance of UNDP has worked to establish the first natural disaster loss and damage database, strengthening early warning system design and meteorological service capacity. MONRE with assistance of UNDP has strengthened climate change data and analysis and has completed the Special Report on Extreme

Events (SREX) submitted to the IPCC in 2014. The government has recently developed Viet Nam's first coastal storm surge maps to improve coastal inundation mapping.

Building on this body of work, GCF funds will be used by MARD and MONRE to make this improved information more accessible to government decision makers especially at the sub-national level, on-going national programs and the private sector. This intervention is expected to directly contribute to the upcoming development and implementation of the National Adaptation Plan in Viet Nam. This will be done by developing integrated risk maps at the sub-national level using the established methodology that Viet Nam has already been applied to produce maps in 20 out of 63 provinces. With GCF funding, Viet Nam will be able to produce risk mapping of the entire coastal area, combining local level knowledge with the best scientific data. Data quality will also be improved by including super-storm and storm surge data based on 2014-2015 models and more accurate sea level rise projections included in the fifth IPCC assessment report. Additional analysis of salt water intrusion zones using new satellite based technology will also be included. Although this data has been developed, or is near finalization, it is not currently being systematically applied by the government at any level. This would be a transformative change in Viet Nam's ability to analyze and compare climate change risks in coastal areas.

To help support financial analysis of potential climate related loss and damage, existing loss and damage databases will be upgraded, by collecting and digitizing existing information at the provincial level, as well as systematizing the process of data collection and dissemination following extreme events. GIS-based socio-economic risk model for loss and damage assessments will be developed for use at all tiers of government institutions. This will aggregate climate risk and socio-economic data into accessible indexes and maps to guide investment planning and decisions. These tools will help make a link between climate data and investment/capital expenditure at provincial or national level.

The enhanced quantity and quality of data will enable climate risk projections to be designed to directly support the development of Viet Nam's next five-year planning cycle (2020-2025), as well as longer term climate change trends and impacts up to 2050. In relation to this, skills and methods for cost and benefit analysis of a range of risk reduction and adaptation options will be introduced at key government institutions at all levels. A web-based version of climate change risk information will enable public access to risk information. The net result will be significantly more accurate datasets on, and improved management of, all major climate change related risks and hazards for the entire coastal region of Viet Nam.

As both slow onset climate change, and increased frequency and intensity of extreme events, are impacting Viet Nam, this also impacts the private and finance/insurance sectors. Support will be provided to design tailored products to the private and finance/insurance sectors, as well as to identify innovative financial mechanisms, to strengthen risk-sharing and better protect public resources from the related financial burden of response and recovery to climate change.

Activities supporting this output include:

- Activity 3.1 – Update disaster database and establish risk data repository, with mechanisms established for sharing/disseminating information
- Activity 3.2 – Policy support for planning/line ministry staff at the national and sub-national levels to apply disaster/loss information to inform climate resilient planning [under NAP Process](#)
- Activity 3.3 – Analysis of risk transfer mechanisms for insurance, including for cases of large scale coastal climate related disaster (loss of more than 3% GDP).

Further breakdown of these activities can be found in H.1.2. Outcomes, Outputs and Inputs at Project/Programme level of the GCF Proposal.

ii. Partnerships:

The project builds on existing government programmes, and has been designed to scale up successful approaches and partnerships across the 28 coastal provinces of Viet Nam. Increasing the resilience of vulnerable coastal communities to climate change related impacts in Viet Nam will require targeted partnerships with relevant government institutes and specialised agencies working on climate and risk information, safe housing and forestry.

It will also require partnerships to ensure the engagement of communities and packaging of information in a way that is appropriate for different audiences. Community based risk mapping work will also partner with Non-Governmental Organisations (NGOs), Government Mass Organisations and specialised agencies and institutes under the Government. These organisations will play a vital role in the implementation of stakeholder consultation processes and in ensuring effective implementation and monitoring of provincial work.

The project will also require collaboration with the private sector, NGOs, community based organisations, and with academia in contributing to a better understanding of climate risk and in fostering improved communications as part of sustainability. This will include coordinating with the Viet Nam Insurance Association, national and provincial chambers of commerce and other business associations.

At the national level, the project interventions have been designed to reinforce wider government and ODA investments in key sectors, and the GCF project will be active in coordinating with the initiatives such as the as the multi-lateral Support Programme to Respond to Climate Change (SPRCC) to ensure that interventions reinforce and can provide transformative impetus to existing plans and actions funded through other sources.

At the global level, the project will complement regional and global initiatives to achieve global climate change targets under the Paris Agreement, while climate information enhancement will enhance Inter-Government Panel for Climate Change (IPCC) processes. They will also contribute towards Viet Nam's implementation of the Sendai Framework for Disaster Risk Reduction, and to Viet Nam's actions to enhance climate risk management through the ASEAN's Humanitarian Assistance for Disaster Management (AHA) and APEC's Emergency Preparedness Working Group (EPWG) and the global.

Building on existing partnerships, capacity and experience, the following organisations may be included as partners during implementation:

- Viet Nam Women's Union particularly related to CBDRM and community feedback mechanisms
- United Nations University on risk transfer/ insurance technical expertise
- IMHEN for climate change projection and risk mapping support
- United Nations Volunteers (UNV) for provision of local level community mobilisation and monitoring support and related
- Water Resources University on database development and information management.

With regards to livelihoods relocation measures the mechanisms for the GEF small grants fund can be drawn upon on delivering local level support, while the Government already has an ongoing partnership with the Viet Nam Red Cross that can be drawn upon in scaling up CBDRM training in communes.

iii. Stakeholder engagement: (E.5.3 para 199-207)

The proposed project is designed in close with government (both national and provincial), civil society organizations, development partners and beneficiaries. Key consultation meetings include:



- UNDP and MPI, MARD and GCF meeting on concept and proposal design and workplan, 12-16 Jan 2015
- UNDP and MPI concept note screening, 2 Apr 2015
- UNDP and MARD experts concept refinement and proposal development, 7 May 2015
- UNDP ROAP and MARD experts and leader consultation in Bonn early June 2015
- UNDP, MARD and MOC Project Preparation Write-shop 25 Jun 2015
- UNDP, MARD, MOC and MPI Project Document Design Review 10 July 2015 UNDP, MARD and Provinces consultation and feasibility appraisal workshop 13-14 July 2015
- UNDP, MARD and Provincial Field Mission to Da Nang and Quang Nam
- UNDP Local Project Appraisal Committee meeting (LPAC), 13-16 July 2015
- Multi-stakeholder consultation meeting with key ministries, provinces and mass organisation representatives, 11 November 2016
- UNDP Consultation with the NGO led Climate Change Working Group; 25 January 2017

The NDA, based at MPI, was also routinely briefed on the progress of the proposal development.

The proposed GCF project will build on existing initiatives which already engage multiple partners including NGOs and INGOs, such as Viet Nam Red Cross, Viet Nam Women's Union, and Oxfam. During the inception phase of the project, UNDP, MARD and MOC will continue to consult with INGOs, NGOs and the private sector to formulate a concrete partnerships roadmap and action plan, benefiting from the current good practices and working relationships with and the established technical between MARD, MOC and INGOs and NGOs.

To ensure the views of women were captured, specific efforts were made to consult with women groups, and to collect information regarding the impacts of climate change on women, in the design of this project proposal. The Viet Nam Women's Union was specifically consulted at both the national and local level, and field missions took care to consult with both women and men regarding lessons learned to date. The project also benefits from important lessons learned in previous pilot projects that have specifically aimed to increase the participation of women, senior citizens, youth and other vulnerable groups. Feedback and lessons learned from previous project reviews and policy reviews have been applied in the design of activities. The application of community based approaches during implementation will also ensure that regular communication is maintained throughout implementation with commune level representatives, at least 30% of which will be women.

The project will also draw on the skills and expertise of the academic community. Technical bodies and academic institutions including IMHEN (official technical focal point for climate projections), Viet Nam Academy of Water Resources (official technical focal point for flood risk and mapping), the Institute for Building Science and Technology (IBST) (official technical focal point for building code and housing standards and the Viet Nam Academy of Forest Sciences (as technical focal point for forestry, including site assessment for tree species selection, technical measures for restoration of mangroves).will be involved project implementation. Private sector actors, particularly from the insurance sector will also be consulted with regards to the strengthening of loss and damage databases.

At the inception of the project, MARD and MOC will have a number of consultations with NGOs, academia, and the private sector to formulate a concrete partnership roadmap and action plan, including its current good practices of MARD/MOC and NGO technical working groups. The project will aim to work in partnership in supporting targeted provinces in implementation of the project initiatives, monitoring and promotion of the good practices across national programmes.

A stakeholder consultation plan will be developed for the project during the initiation phase. This will consider:

- a) consultations (type and frequency) already undertaken during the design phase, details of the issues discussed, including the views of the relevant stakeholders and beneficiaries;
- b) proposed consultations during project implementation regarding to ensure project remains relevant and up-to-date to impacts of the project at the national, provincial, commune and community level;
- c) details regarding how the consultations will specifically target vulnerable groups such as women, people with disabilities, elderly and squatter settlements and what impact the project will have on them in the short, medium and long term with details how they were included in the decision making process;
- d) complementarity with related or relevant programmes to maximize the impact of combined resources;
- e) details on how affected parties comments received during consultations have been addressed; and
- f) regular review of plan to ensure new stakeholders are captured in the plan as relevant

The plan will demonstrate how stakeholder engagement has been an inclusive and continuous process throughout the life of a project and what level of corporate responsibility and transparency will occur as part of the ongoing process during construction and operation. The plan will outline how it will encourage local stakeholders including women to participate in the project, and to empower them to do something practical to address any issues that affect their lives.

The project board further provides a formal structure for MPI, MARD, MOC, MOF, provincial focal points and beneficiaries to guide implementation towards a collaborative achievement of the project objective.

iv. **Mainstreaming gender: (E.3.1 para 172 and F.3 para 240-241)**

**Gender Considerations and Benefits**

- Commune level CBDRM advisory groups include at least 30% women including in decision making positions
- Loss and damage databases track gender disaggregated data for key disaster related statistics
- Increased role of Viet Nam Women Union in community planning and consultation processes.

In 2012, UNDP, UNWomen, Oxfam and UNISDR developed a policy brief to look at gender equity issues in climate change adaptation and disasters. (See [http://www.un.org.vn/en/publications/doc\\_details/268-policy-brief-gender-equality-in-climate-change-adaptation-and-disaster.html](http://www.un.org.vn/en/publications/doc_details/268-policy-brief-gender-equality-in-climate-change-adaptation-and-disaster.html)). Key recommendations from this analysis have been included in the design of project activities at all levels, especially:

- UN agencies should be engaged actively to continue to provide technical assistance to the government and other stakeholders to promote gender mainstreaming in CCA/DRR related policies and programmes
- CCA/DRR actions at all levels should be developed in a participatory way, involving both men and women of all age groups and different backgrounds using the CBDRM approach.
- Ensure that the collection and collation of sex-disaggregated data and related gender information from the local level, specifically damage and needs assessments post climate or weather related disasters, reaches the national level, is disseminated widely and is publically accessible, and is used to inform, monitor, and evaluate new policies and programmes.

Under the 3 project outputs, specific gender equality policies and practices as recommended in the gender analysis/policy brief paper will be applied. To realize this, the project will apply 2 approaches in promoting gender equality:

- Ensuring gender considerations are captured in enhancements to policies
- Engaging women through the community-based programme activities (i.e. risk assessments, mangroves regeneration/monitoring, housing)

- v. South-South and Triangular Cooperation (SSC/TrC): *this section should describe how the project intends to use SSC/TrC to achieve and sustain results, if applicable.*

The project will be closely coordinated with UNDP's regional and global programmes to ensure effective utilisation of opportunities to utilise south-south and triangular cooperation. Dialogue has already been initiated with UN offices in Sri Lanka, Cambodia, Thailand and Lao about how government partners will benefit from increased information exchange and joint learning on issues including community based mangrove maintenance implementation (coordinated with the UN-REDD) and climate risk information and transfer. Dialogue is also in the early stages with key global institutes including United Nations University, Columbia and Yale University on triangular cooperation on risk information and monitoring and evaluation.

Opportunities to leverage such learning will be reviewed and where necessary budgeted for as part of the AWP development process. In addition, under Activity 3.2.1, the project will also aim to organize three day a knowledge sharing workshop for at least 100 participants from around Asia Pacific on how countries in the region are incorporating disaster and climate change risk into planning.

- vi. Knowledge: (E.2.2 para 162-163)

At the commune level, local residents and officials will for the first time have an opportunity to share and learn about the climate change risks in their communes, combining participatory local knowledge based CBDRA processes with data from scientifically robust information packs containing up-to-date climate change and risk data. Communes will also be able to learn about safe housing options, and the benefits of mangrove regeneration in reducing storm surge risk and strengthening ecosystems. Community capacity to translate learning in action will be enhanced through support to influence provincial annual budget processes, and through documentation of good practice regularly throughout the project.

At the provincial level, provincial technical capacity will be directly enhanced in relation to all three project outputs. Cumulatively this will help replicate lessons learned from successful coastal pilot projects more widely, as well as directly increasing application in land use and other planning processes.

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## V. FEASIBILITY

- i. Cost efficiency and effectiveness: (E.6.1-6.2 para 208-213)

The project will directly support scale up of the proven methods and technologies which have received official endorsement from the Government of Viet Nam and which are being actively prioritized for scale up and replication. A summary of effectiveness and efficiency data on these approaches is provided below:

**Climate resilient housing:** Base case scenarios for investments in the resilient housing options prioritized through the project assume that the frequency and intensity of typhoons will remain similar to the past 25 years. The benefit from the climate resilient housing is the avoided damage when there is a typhoon. The housing design competition and study Sheltering From a Gathering Storm (see Annex XV of the GCF Proposal) indicates a desirable IRR for new housing constructions with typhoon resilient features.

**Mangrove regeneration:** The costs of restoring mangrove forests includes propagules/saplings and long-term management necessary for high rates of mangrove survival. Regeneration of mangroves will apply a cost norm of US\$1,500 USD per hectare. Replanting will be considered in a smaller areas if required,

applying a cost norm of US\$6,000 per hectare. The best practices to be applied to mangrove regeneration under this project have had a success rate of 80%, a significant improvement from the 50% using other approaches.

**Community based disaster risk management, vulnerability assessment and planning processes** approved by MARD in 2014. Globally investments in disaster preparedness have been estimated to be more than four times more cost effective than disaster response, while also reducing injury and loss of lives in target areas.

In terms CO sequestration benefits, a 2011 study of above- and below-ground, including soils capture rates for mangroves across a broad zone (spanning 30° of latitude and 73° of longitude) of the Indo-Pacific region found that the total carbon storage is very high relative to most forest types, with a mean value of 1,043 and range of 437 to 2,186 Mg C ha<sup>-1</sup> (metric tons of carbon per hectare per year). The SNV study is attached as part of Annex XV (Additional Supporting Documents) of the GCF Proposal. Studies in Viet Nam have shown that mature mangroves in similar locations are able to absorb in the range of 20-25100 t CO<sub>2</sub> per hectare per year, suggesting that annual benefits from the project to be in the range of 84,000-105,000 t per year, minus any emissions caused by activities associated with replanting/regeneration. (Phuong, 2015)

Co-financing related to the three GCF project outputs are as follows:

- Under Output 1, the GCF project will support the additional costs of climate resilience features (US\$2,000) to 4000 houses under the **National programme to provide support policies and solutions for poor households to build storm and flood resilient houses**. The target 4000 houses will receive support from MOC based on the existing house design, estimated at US\$2000/house. Co-financing related to the specific 4,000 homes targeted by the project is therefore estimated at \$8M.
- For Output 2 (mangrove regeneration), US\$1,406,625 is counted as co-financing from MARD. This includes US\$1,226,625 for maintenance costs that will be incurred over the next 20-years for maintenance of regenerated areas. Approximately US\$180,000 is considered in-kind contribution for government staff time and premises.
- UNDP's co-financing to Output 3 contributes to improving disaster and climate information and integration in to planning. As such, US\$1,600,000 can be considered direct co-financing.

- ii. **Risk Management:** *Complete the UNDP risk log template included in Annex based on the risk information provided in section G.2 Risk Factors and Mitigation Measures in the GCF funding proposal. This risk table will then be entered into the online UNDP project risk log in Atlas by the UNDP Country Office. The following standard text must be completed and included in the UNDP GCF project document:*

Please see Risk Log in Annex for full details on risk management. The overall risk rating for this project is low. As per standard UNDP requirements, the Project Manager will monitor risks quarterly and report on the status of risks to the UNDP Country Office. The UNDP Country Office will record progress in the UNDP ATLAS risk log. Risks will be reported as critical when the impact and probability are high (i.e. when impact is rated as 5 and probability is 1,2,3,4, 5 or when impact is rated as 4 and probability is rated at 3 or higher). Management responses to critical risks will also be reported in the Annual Project Report.

- iii. **Social and environmental safeguards:**

Social and environmental complaints by communities and people affected by the project can be submitted to UNDP's Social and Environmental Compliance Unit (SECU). SECU will respond to claims that UNDP is not in compliance with applicable environmental and social policies. Complaints can be submitted by e-mail to [project.concerns@undp.org](mailto:project.concerns@undp.org) or the [UNDP website](#). Project-affected stakeholders can also request the UNDP Country Office for access to appropriate grievance resolution procedures for hearing and addressing project-related social and environmental complaints and disputes. Environmental and social grievances will be monitored and reported in the Annual Project Report.

iv. Sustainability and Scaling Up: (D.2 para 132-140)

The activities undertaken through this project are embedded in ongoing government programs, government staff will therefore be centrally involved in implementing activities, thus ensuring sustainability of interventions and retention of knowledge beyond the duration of GCF involvement. The project aims to build upon and enhance existing government programmes in key areas including safe housing, mangrove restoration and community based disaster risk management and assessment. Evidence-based best practices established by the GCF project will continue to inform subsequent phases of the programmes as well as enhance policy and planning, extending beyond the duration of the project. This is ensured through a collaborative partnership with UNDP, MARD, MOC and other stakeholders throughout implementation. Related costs are therefore already captured in the programme budget.

The housing output builds on the well-established government resilient housing programme. Best practices and lessons learned from the proposed activities will inform the planned subsequent phases of programme, as well as broader infrastructure planning, ensuring continued project impacts in the longer term. GCF funds will cover only the incremental costs of additional safety features. The main investment is a grant/loan combination provided under the government programme. As programme recipients commit to a 10-year loan under the government programme, there is already vested interest on their part to maintain the structure. This is already evident in the current phase of the programme as families further invest in personal touches (e.g. paint color on exterior walls and other embellishments) to the flood and storm-resilient structures. In addition, as housing is often the sole major asset of poor families, the ability of families to protect their productive assets (e.g. seeds, livestock, etc.) during a flood or strong storm will reduce the damages and losses they would otherwise incur. This avoided loss and damage will relieve some of the financial pressure of recovering from climate change events.

The housing design being applied has been developed to incur low on-going maintenance costs. Design features also aim to ensure that the more vulnerable structural elements, such as the roof and corner bracings are reinforced during construction, reducing potential repair costs. Due to their concrete construction, annual maintenance costs are often lower than in thatch and bamboo construction which requires significant annual care and investment. In addition, the project will also disseminate information on how to prepare for storms to reduce potential damage based on existing MOC materials (i.e. securing items, use of sandbags, etc.). In the event that a house should be damaged during a storm despite these efforts, households will be eligible for limited compensation for repairs through existing disaster response assistance schemes operating at the provincial level.

Community-based planning processes undertaken through the project will ensure that mangrove regeneration is only supported in areas where long term maintenance is feasible. As most areas to be selected will already have been designated as protected forests in some form, regular maintenance budgets will be provided to communities through existing government budget lines for maintenance after the project. A community-based approach to regeneration and monitoring will ensure a sense of ownership by the community, as well as a financial incentive to maintain the mangrove areas and, in some cases, change behaviour which would otherwise interfere with mangrove growth (e.g. aquaculture). Similar to the above, the best practices and lessons through GCF involvement will feed into MARD planning processes to inform future investments/programs on protected areas and mangrove regeneration.

For Output 3 on climate risk information, data will be collected and documented in government disaster and loss database. To ensure that the database is being actively populated and maintained after GCF involvement, a successful model will be employed which has been used by UNDP in previous efforts to establishing disaster databases in the region. Indonesia<sup>21</sup>, Cambodia<sup>22</sup> and Sri Lanka<sup>23</sup> are considered best

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<sup>21</sup> <http://dibi.bnpp.go.id>

<sup>22</sup> <http://camdi.ncdm.gov.kh>

<sup>23</sup> <http://www.desinventar.lk>

practices, as extensive work has been done to populate and verify their disaster databases. In each of these cases, the government has now assumed full responsibility for maintaining the database going forward.

In preparation of the mentioned country databases, UNDP provided financial support for a database manager and assistant to support with establishing the database and populating it with historical data. Training was provided to the designated disaster agency in the country on how to collect, verify and document data. Training was also provided to planning and line ministries on how to apply the data in planning. This project will use this same approach. Given the prioritization of this activity by government, there is little to no risk that the database would not be maintained going forward, provided that adequate support and training is provided through implementation of the proposed GCF project.

Skills training provided by the project (e.g. CBA training and application of climate risk information into planning) and will be made available on web-based platforms, to ensure that learning opportunities are available as refreshers, as well as to offer the training to a greater number than those targeted by the project. In this way, the project supports the development of a cadre of experts on economic analysis and the integration of climate risk information into planning. The tailored climate risk information products and de-risking mechanisms of Output 3 will seek to incentivize greater engagement and investment with the private and finance sectors, thus relieving some of the financial pressure the GoV faces, and will continue to face, related to responding to current and projected climate change.

As Outcome 3 seeks to incentivize engagement by the private and finance/insurance sector, where necessary, legal arrangements will formalize interventions and partnerships. This will be decided, as necessary, during project implementation upon discussion and negotiation with relevant parties.

Overall, the common thread across the project outputs is the integration of enhanced climate risk information and application of best practices in broader planning, thereby ensuring sustainability and introducing a paradigm shift.

v. *Economic and/or Financial Analysis:* ( See following sections from the GCF proposal: *F.1 Economic and Financial Analysis; F.2 Technical Evaluation and F.2 para 227-231*)

The project relies on grant finance as (a) the proposed interventions will benefit vulnerable families identified as poor by the government, (b) strengthens natural defences proving public value and (c) does not generate revenue that lends itself to providing reflows to the GCF. As the proposed project is non-revenue generating, a traditional financial analysis is not appropriate

Economic analysis of the proposal, conducted during the design phase, indicates that the expected economic internal rate of return is 14.3% for this project which exceeds 10%, the economic opportunity cost of capital. The proposed investments are still economically feasible using the minimum value of the mangroves with no VSL and “worst case” scenarios of costs increasing by 20% or benefits reducing by 20%. The EIRR under those scenarios are 11.0% and 11.6% respectively, which are higher than 10% assumed discount rate. It should be noted that the estimates used in the economic analysis are conservative estimates with minimum benefit values used in all the benefit calculations. Keeping every other assumption, the same but including the Value of Statistical life in the cost benefit analysis results in a discounted present value of about 66,944,868 USD. The economic rate of return under this assumption is 36.6%. The details of the economic analysis are presented in Annex XII of the GCF Proposal.

The use of 10% discount rate is based on the nature of the benefits from the project. Normally for environmental goods we will like to argue for discount rate lower than the conventional 10% but because of the cost of capital in the country we cannot justify using a lower rate. In line with the MOC in Viet Nam and expert opinion, 20 – 25 useful life of the houses and mangroves is suggested. To be conservative we use 20 years as the lifespan of the houses and mangroves.

The economic benefits that are valued in the economic analysis of the project are based on the project reducing hazards from flooding and storms and typhoons. Economic analysis was prepared for this base case of avoided damages as a result of the project.

Other benefits such as value of improved data on climate, security of lives and property and other social benefits due to better housing are not easily quantifiable and in some cases confidence in the values may be lower. The implication of ignoring these additional benefits is that the estimates of the economic IRR and NPV will be the lower bound and provide conservative estimates of the value of the project.

This section focuses on the two main technical solutions chosen related to the housing and mangrove outputs.

The house design to be supported by GCF finance stems from lessons learned from the pilot housing programme, the project design was also informed by a study from a successful pilot in Da Nang. The report **Sheltering from a Gathering Storm: Typhoon Resilience in Vietnam, 2014** (see Annex XV of the GCF Proposal) details the results of analysis and housing design competition in Da Nang. Building off the winning design, the design supported by the project, will incorporate essential features, while at the same time keeping it affordable for the beneficiaries which are the poorest of Viet Nam, as affordability is an important element for scalability, potential for replication.

The report also supports building new houses, as opposed to retrofitting an existing house. Per the report the lifetime of a new house is 15-20 years, as opposed to 7-10 years for a retrofitted house. Winning house designs included those where houses design include a mezzanine above the projected flood level to provide protection from flood waters, and reinforced walls and roof to withstand greater strength storms and typhoons. Economic analysis in the report indicating results of the quantitative CBA where the returns on investment in typhoon resilient housing are high in some scenarios, meaning that investment in typhoon housing can be economically viable. The quantitative CBA results also show that typhoon resilient housing exhibits high BCRs in some scenarios, and encourages the government to pursue means to support households that agree to undertake appropriate climate resilient housing measures.

The **Restoration of Coastal Mangrove Forest in Viet Nam Study Report, 2012**, includes a thorough study of the current mangrove coverage in Viet Nam and related pressures. Importantly, it also includes an assessment of previous mangrove regeneration efforts and provides recommendations to improve the mangrove regeneration success rate of efforts going forward. The report stresses that robust mangrove forests have a diverse structure in both vertical and horizontal sides, as well as in species composition. To ensure successful regeneration, the report suggests improvement through tree breeding (nurseries to ensure a certain level of growth before planning), site selection and planting methods. These enhancements are captured in the mangrove regeneration approach of the GCF project, and are expected to improve the mangrove regeneration success rate from 50% to 80%. The full report is included in Annex VIII of the GCF Proposal.

The technical feasibility study was also conducted during proposal development. The study can be found in Annex II: Feasibility Study of the GCF Proposal.

## VI. PROJECT RESULTS FRAMEWORK

<b>This project will contribute to the following Sustainable Development Goal (s):</b> <i>Goal 13. Take urgent action to combat climate change and its impacts</i>					
<b>This project will contribute to the following country outcome included in the UNDAF/Country Programme Document:</b> <i>Outcome 2: Low-carbon, resilience and environmentally sustainable development</i>					
<b>This project will be linked to the following output of the UNDP Strategic Plan:</b> Output 1.3: Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste. Output 1.4: Scaled up action on climate change adaptation and mitigation cross sectors which is funded and implemented. Output 1.5: Inclusive and sustainable solutions adopted to achieve increased energy efficiency and universal modern energy access (especially off-grid sources of renewable energy) Output 2.5: Legal and regulatory frameworks, policies and institutions enabled to ensure the conservation, sustainable use, and access and benefit sharing of natural resources, biodiversity and ecosystems, in line with international conventions and national legislation.					
<b>GCF Paradigm shift objectives:</b> Increased climate-resilient sustainable development					
	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target	Assumptions
<b>SDG indicators</b>	<p><i>13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries</i></p> <p><i>13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning</i></p>	<p><i>3.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population</i></p> <p><i>13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology</i></p>		<i>Expected status a project closure</i>	<i>Data available from DDPC or office of statistics.</i>



	15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	transfer, and development actions  15.2.1 Progress towards sustainable forest management			
<b>UNDP Strategic Plan Indicators</b>	Output 1.4: Scaled up action on climate change adaptation and mitigation cross sectors which is funded and implemented.	Indicator 1.4.2: Extent to which implementation of comprehensive measures – plans, strategies, policies, programmes and budgets – to achieve low-emission and climate-resilient development objectives has improved.			
<b>FUND LEVEL IMPACT:</b>					
<b>A3.0 Increased resilience of infrastructure and the built environment to climate change</b>	3.1 Number and value of physical asset made more resilient to climate variability and change, considering human benefits	4,000 houses not meeting safety/resilience criteria established by government	2,000 houses valued at 4,000,000 USD (\$)	4,000 houses valued at 8,000,000 USD(\$)	Government housing programme, targeting a total of 26,500 houses continues as planned.
<b>M4.0 Reduced emissions from land use, reforestation, reduced deforestation, and through sustainable forest management and conservation and enhancement of forest carbon stocks</b>	4.1 Tonnes of carbon dioxide equivalent (tCO <sub>2</sub> eq) reduced or avoided (including increased removals) as a result of Fund-funded projects/programmes	0	Estimate 282,590 tCO <sub>2</sub> eq	Estimate 565,180 tCO <sub>2</sub> eq	Extreme weather event does not destroy fragile seedlings. (Measures will be taken to protect mangroves in early growth stages, e.g. bamboo fencing to protect from storm surges).
<b>PROJECT OUTCOMES:</b>					
<b>9.0 Improved management of land or forest areas contributing to emissions reductions</b>	9.1 Hectares of land or forests under improved and effective management that contributes to CO <sub>2</sub> emission reductions	0	2,000ha	4,000ha	Extreme weather event does not destroy fragile seedlings. (Measures will be taken to protect mangroves in early growth stages,

					<i>e.g. bamboo fencing to protect from storm surges)</i>
<b>A6.0 Increased generation and use of climate information in decision-making</b>	<i>6.2. Use of climate information products/services in decision-making in climate-sensitive sectors</i>	<i>Climate products integrating risk information not regularly available</i>	<i>2 (enhanced risk maps)</i>	<i>5 (enhancement to policies, tailored climate risk information for various stakeholders)</i>	<i>Data collection efforts in first years of project are successful</i>
<b>PROJECT OUTPUTS:</b>					
<b>1. Storm and flood resilient design features added to 4,000 new houses on safe sites, benefiting 20,000 poor and highly disaster-exposed people in 100 communes</b>	<i>Number of households provided with resilient homes (disaggregated by gender)</i>	<i>4,000 houses not meeting safety/resilience criteria established by government</i>	<i>2,000 households</i>	<i>4,000 households</i>	<i>Government housing program, targeting a total of 26,500 houses, continues as planned.</i>
<b>2. Regeneration of 4,000 hectares of coastal mangrove storm surge buffer zones using successful evidence-based approaches</b>	<i>Hectares of land or forests under improved and effective management that contributes disaster risk reduction, as well as to CO2 emission reductions</i>	<i>0</i>	<i>2,000ha</i>	<i>4,000ha</i>	<i>Extreme weather event does not destroy fragile seedlings. (Measures will be taken to protect mangroves in early growth stages, e.g. bamboo fencing to protect from storm surges)</i>
<b>3. Increase access to enhanced climate, loss and damage data for private and public sector application</b>	<i>Number of disaster database established/supported and number of climate policy/regulatory frameworks supported</i>	<i>Climate products integrating risk information not regularly available</i>	<i>2 (enhanced risk maps)</i>	<i>5 (enhancement to policies, tailored climate risk information for various stakeholders)</i>	<i>Data collection efforts in first years of project are successful</i>
<b>DO NOT INCLUDE ACTIVITIES OR INPUTS IN THIS PROJECT RESULTS FRAMEWORK</b>					

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## VII. MANAGEMENT ARRANGEMENTS

i. Roles and responsibilities of the project's governance mechanism:

The project will be implemented following UNDP's national implementation modality, according to the Standard Basic Assistance Agreement between UNDP and the Government of Viet Nam, and the Country Programme noting that the Government may request direct support from UNDP if required.

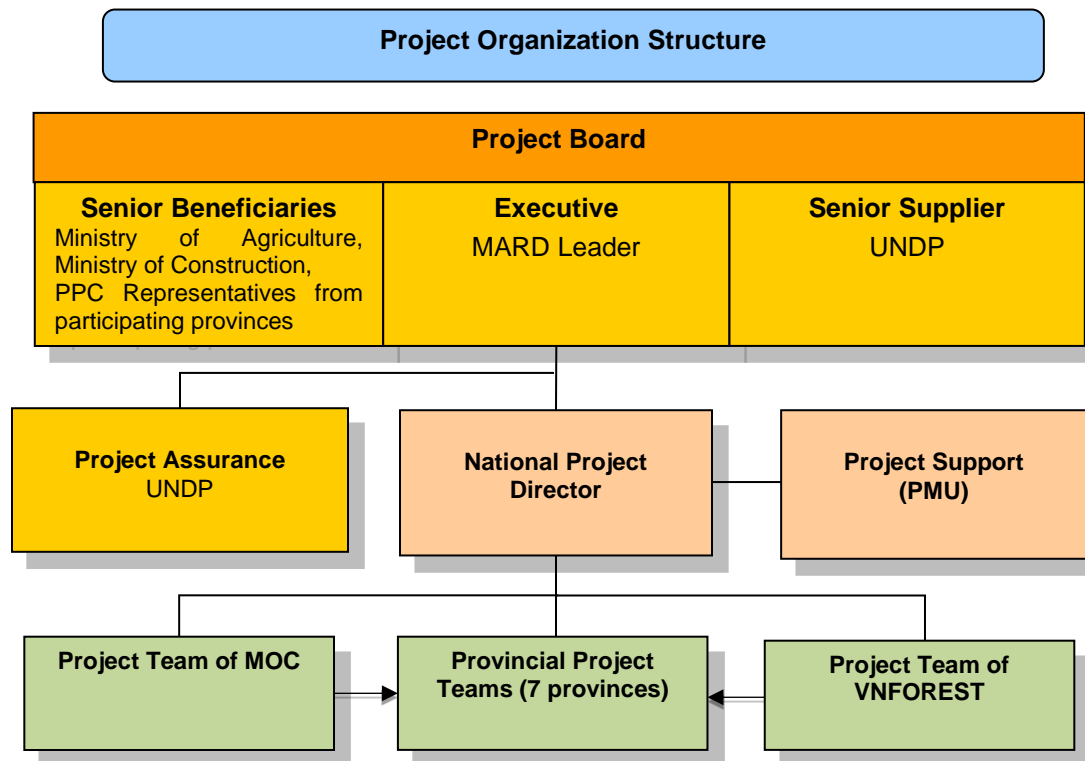
The **Implementing Partner** for this project is *the Water Resource Directorate of the Ministry of Agriculture and Rural Development (MARD) of Viet Nam*. The Implementing Partner is responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources. The Implementing Partner is responsible for:

- Approving and signing the multiyear workplan;
- Approving and signing the combined delivery report at the end of the year; and,
- Signing the financial report or the funding authorization and certificate of expenditures.

The Water Resources Directorate has been designated by the Ministry of Agriculture and Rural Development as focal point for the project and is in charge of coordinating with related units to prepare for the project's implementation and deployment after the project document is approved. It is also; responsible for associating with UNDP and related units to manage the project, including organizing the supervision and approval for the overall plan and annual plan to deploy the project;

The Water Resources Directorate is proposed to be the chair of project. The Centre of Water Resources takes responsibility for implementing and coordinating the project's work according to the mandate and responsibility of the Minister of Agriculture and Rural Development and in line with the donor regulations. The Centre of Water Resources takes responsibility for submitting to the Ministry of Agriculture and Rural Development to establish the project management unit at the centre to support the Ministry to manage directly and organize the project's implementation

The project organisation structure is as follows:



**Project Board:** The Project Board (also called Project Steering Committee) is responsible for making by consensus, management decisions when guidance is required by the National Project Director and/or Project Manager, including recommendations for UNDP/Implementing Partner approval of project plans and revisions. To ensure UNDP’s ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. In case a consensus cannot be reached within the Board, final decision shall rest with the UNDP Programme Country Director.

As agreed in the Prime Minister Approval of the Project dated ADD DATE, the members of the project steering committee are the representatives of the Ministry of Agriculture and Rural Development, Ministry of Construction, Ministry of Planning and Investment, Ministry of Finance, Provincial People’s Committee Chairs in 07 provinces who are participating directly in the project and the United Nations Development Program (UNDP). Responsibilities of the project steering committee include: (1) Promulgating policies, directive implementation and coordinating all agencies and parties related to the project; (2) Supporting the line agency to guide the policy implementation, consult about overall project’s strategic orientation; (3) Examining and passing the progress’s report and annual result, implementing plan for general activities of the Project, annual plan and budget plan before sending to the line agency and sponsors; (4) Suggesting necessary activities to improve the deployment and implementation to maintain the progress and task achievement of the Project; and (5) Examining, evaluating at the project’s midterm and final term;

Specific responsibilities of the Project Board include:

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address project issues as raised by the project manager;
- Provide guidance on new project risks, and agree on possible countermeasures and management actions to address specific risks;
- Agree on adjustments to the project managers’ roles as required;

- Review the project progress, and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily and to plan;
- Appraise the annual project implementation report, including the quality assessment rating report; make recommendations for the workplan;
- Provide ad hoc direction and advice for exceptional situations when the project manager's tolerances are exceeded; and
- Assess and decide to proceed on project changes through appropriate revisions.

The composition of the Project Board must include the following roles:

- 1) **Executive:** The Executive is an individual who represents ownership of the project who will chair the Project Board. This role can be held by a representative from the Government Cooperating Agency or UNDP. The Executive is: Ministry of Agriculture and Rural Development (MARD Leader).

Specific Responsibilities: (as part of the above responsibilities for the Project Board)

- Ensure that there is a coherent project organisation structure and logical set of plans;
- Set tolerances in the AWP and other plans as required for the Project Manager;
- Monitor and control the progress of the project at a strategic level;
- Ensure that risks are being tracked and mitigated as effectively as possible;
- Brief relevant stakeholders about project progress;
- Organise and chair Project Board meetings.

Ministry of Agriculture and Rural Development is the general line agency of the project implementing the coordinating function of the whole project. Ministry of Construction and people's committee of 7 provinces participating in the project as the governing bodies of each project's component, as well as managing, implementing and inheriting from the project's component of this project.

Based on mandate given by the Government, the Ministry of Agriculture and Rural Development will establish the project steering committee, which will include representatives of the Ministry of Agriculture and Rural Development, Ministry of Construction, Ministry of Planning and Investment, Ministry of Finance, directors of the seven Provinces directly implementing the project and UNDP (representing the sponsor) to command, coordinate and supervise the project's implementation.

The Ministry of Agriculture and Rural Development is the general coordinator ( project coordinator), including: project's line agency, implements the general coordinating function and associating with the Ministry of Construction and People's Committee of 7 provinces to manage, implement and benefit by the respective element project of the project; establishes, approves the overall plan to implement the project; prepares the content for examining process to approve the project; organized supervision and evaluation about the implementing situation to guarantee the project's progress, quality and goal.

The Executive is ultimately responsible for the project, supported by the Senior Beneficiary and Senior Supplier. The Executive's role is to ensure that the project is focused throughout its life cycle on achieving its objectives and delivering outputs that will contribute to higher level outcomes. The executive has to ensure that the project gives value for money, ensuring cost-conscious approach to the project, balancing the demands of beneficiary and supplier.

- 2) **Senior Supplier:** The Senior Supplier is an individual or group representing the interests of the parties concerned which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project. The Senior Supplier role must have the authority to commit or acquire supplier resources required. If necessary, more than one person may be required for this role. Typically, the implementing partner, UNDP and/or donor(s) would be represented under this role. The Senior Supplier is: *UNDP*.

Specific Responsibilities (as part of the above responsibilities for the Project Board)

- Make sure that progress towards the outputs remains consistent from the supplier perspective;
- Promote and maintain focus on the expected project output(s) from the point of view of supplier management;
- Ensure that the supplier resources required for the project are made available;
- Contribute supplier opinions on Project Board decisions on whether to implement recommendations on proposed changes;
- Arbitrate on, and ensure resolution of, any supplier priority or resource conflicts.

As indicated in the Government's appraisal of the project in Viet Nam (Decision...dated ....2017), the role of UNDP in the project is summarized as following:

- UNDP is the implementing body of GCF. Under the Framework Trust Agreement between the Green Climate Fund (GCF) and UNDP, under the Vietnam Private Partnership Agreement, UNDP is GCF's trust, represents GCF, and is accountable to GCF for the use of GCF funds. UNDP should provide overall management and supervision of the entire project process, which includes planning, quality assuring, monitoring and reporting to achieve the project objectives.
- UNDP is responsible for monitoring and quality assuring of the overall project, through its headquarters in New York and other UN agencies in the region and in Viet Nam, including: (i) monitoring project preparation; (ii) monitoring and managing project implementation, including financial management; and (iii) monitoring progress, conducting independent mid-term and project closure review in accordance with GCF regulations, performs a monitoring role related to reporting, synthesizing and managing knowledge accumulated during the project implementation to spread, ensuring the sustainability, replication of the results and impact of the project.
- UNDP (i) participates in the Project Steering Committee for discussions with MARD and members of the Steering Committee in operating the project and coordinating strategic issues directly related to the project assistance; (ii) support the Project Management Boards (Central and Component Project) to perform the functions of monitoring and tracking the project in an objective and independent manner, to ensure the progress, achieve the goals and output of the project, as well as ensure the compliance with the timelines for reporting, monitoring and evaluating. The role of ensuring this project is independent of the role of the project manager. Traditionally, UNDP has an authorized program officer, representing UNDP, to play the role of ensuring the management and supervision of the project, as well as some of the officers assisting the project in general.
- UNDP provides technical guidance and provides technical services and necessary financial resources for MARD and other related partners to implement the project activities in the approved master plan and annual plan. To ensure technical assistance, UNDP shall mobilize a long-term international advisor, and a local technical officer, on behalf of UNDP, playing the role of technical assistance and technical assurance for the Project Management Boards (central and provincial) during the implementation of the project. UNDP shall also mobilize international and national experts for specific tasks and outputs, based on the agreements with the project implementing partners.
- In terms of financing, UNDP shall apply the Harmonized Approach for Money Transfer and three available cash transfer methods: Advance payment, Direct Payment and Refund. Based on the micro-assessment results on financial management capacity of the project implementing partners, UNDP shall apply the appropriate transfer method to each partner. In the case of Advance Payment method, the implementing partners shall make a quarterly disbursement plan, which will be collected and sent to UNDP by the Central Management Board.
- UNDP shall ensure to meet the requirements about the development goals. UNDP is responsible for representing the common interests of donors and GCF in development issues, ensuring the direction of identifying possible technical solutions to the project, contributing to address development issues and SDGs (eg. poverty reduction, environmental protection, gender equality, etc.). In addition, UNDP is also

responsible for ensuring timely and effective provision of necessary technical and expertise in the project (such as designing, developing, coordinating, bidding and implementing).

- To implement the initiatives, to ensure the sustainability and widespread impact of the project, to share the results, UNDP shall directly manage and actualize a number of specific studies and particular activities, based on the agreement with the Central Project Management Board.

- 3) **Senior Beneficiary:** The Senior Beneficiary is an individual or group of individuals representing the interests of those who will ultimately benefit from the project. The Senior Beneficiary's primary function within the Board is to ensure the realization of project results from the perspective of project beneficiaries. The Senior Beneficiary role is held by a representative of the government or civil society. *The Senior Beneficiaries are: Ministry of Agriculture and Rural Development, Ministry of Construction and PPC Representatives from participating provinces.*

The Senior Beneficiaries are responsible for validating the needs and for monitoring that the solution will meet those needs within the constraints of the project. The Senior Beneficiary role monitors progress against targets and quality criteria. This role may require more than one person to cover all the beneficiary interests. For the sake of effectiveness, the role should not be split between too many people.

Specific Responsibilities (as part of the above responsibilities for the Project Board)

- Prioritize and contribute beneficiaries' opinions on Project Board decisions on whether to implement recommendations on proposed changes;
- Specification of the Beneficiary's needs is accurate, complete and unambiguous;
- Implementation of activities at all stages is monitored to ensure that they will meet the beneficiary's needs and are progressing towards that target;
- Impact of potential changes is evaluated from the beneficiary point of view;
- Risks to the beneficiaries are frequently monitored.

Specifically, as indicated in the Government's appraisal of the project in Viet Nam (Decision...dated ....2017), the Ministry of Agriculture and Rural Development, Ministry of Construction and People's Committee of 7 provinces participating in the project implementation are the procuring agencies of the project components, and project beneficial units. They are responsible for the plan's proposal and suitable activities' content with the general goal of the project. Ministry of Construction and People's Committee of 7 provinces (Thanh Hoa, Thua Thien Hue, Quang Ngai, Quang Binh, Quang Nam, Nam Dinh and Ca Mau) will sign an agreement with the Ministry of Agriculture and Rural Development to deploy supporting activities for transferring the project's result and take responsibility for explaining directly to the Ministry of Agriculture and Rural Development and UNDP according to agreement's article approved by all parties.

The Ministry of Construction and People's Committee of 7 provinces (Thanh Hoa, Thua Thien Hue, Quang Ngai, Quang Binh, Quang Nam, Nam Dinh and Ca Mau) will assign focal point agencies at ministries and provinces includes below units: Water Resource Directorate, VNFOREST (Ministry of Agriculture and Rural Development), Department for Management of Housing and Real Estate Market (Ministry of Construction), and the Provincial Departments of Agriculture and Rural Development and Provincial Departments of Construction at different provinces;

The focal points in each province takes responsibility for participating and cooperating with the Ministry of Agriculture and Rural Development in the preparing process for the project, manages the implementation and examines related technical proposal to functions and responsibilities of Ministries, branches and provinces as well as approaches to the project's result after it finishes.

**The National Project Director (NPD)/Project Manager** The National Project Director has the authority to run the project on a day-to-day basis on behalf of the Project Board within the constraints laid down by the Board. The NPD is responsible for day-to-day management and decision-making for the project. The 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.

The Implementing Partner appoints the NPD, who should be different from the Implementing Partner's representative in the Project Board.

Specific responsibilities include:

- Provide direction and guidance to project team(s)/ responsible party (ies);
- Liaise with the Project Board to assure the overall direction and integrity of the project;
- Identify and obtain any support and advice required for the management, planning and control of the project;
- Responsible for project administration;
- Plan the activities of the project and monitor progress against the project results framework and the approved annual workplan;
- Mobilize personnel, goods and services, training and micro-capital grants to initiative activities, including drafting terms of reference and work specifications, and overseeing all contractors' work;
- Monitor events as determined in the project monitoring schedule plan/timetable, and update the plan as required;
- Manage requests for the provision of financial resources by UNDP, through advance of funds, direct payments or reimbursement using the fund authorization and certificate of expenditures;
- Monitor financial resources and accounting to ensure the accuracy and reliability of financial reports;
- Be responsible for preparing and submitting financial reports to UNDP on a quarterly basis;
- Manage and monitor the project risks initially identified and submit new risks to the project board for consideration and decision on possible actions if required; update the status of these risks by maintaining the project risks log;
- Capture lessons learned during project implementation;
- Prepare the annual workplan for the following year; and update the Atlas Project Management module if external access is made available.
- Prepare the Annual Performance Report (APR), and submit the final report to the Project Board;
- Based on the APR and the Project Board review, prepare the AWP for the following year.
- Ensure the mid-term review process is undertaken as per the UNDP guidance, and submit the final MTR report to the Project Board.
- Identify follow-on actions and submit them for consideration to the Project Board;
- Ensure the terminal evaluation process is undertaken as per the UNDP guidance, and submit the final TE report to the Project Board;

**Project Assurance:** UNDP provides a three –tier oversight and quality assurance role involving UNDP Country Offices, regional and headquarters levels. The project assurance role supports 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.

*GCF-specific oversight and quality assurance services:* As an Accredited Entity to the GCF, UNDP is required to deliver GCF-specific oversight and quality assurance services. The GCF Board expects their accredited partners to manage recipient country projects according to the due diligence standards of the GCF, and to perform certain governance functions. The GCF is therefore not a donor to UNDP. As an accredited partner to the GCF, UNDP has agreed to serve as an 'operational arm' of the GCF and is accountable to the GCF Board. This relationship is enshrined in the Accreditation Master Agreement, the legal agreement between the GCF and UNDP.

GCF-specific services generally cover two main areas: first, **project cycle management services** that cover due diligence activities each funded activity (i.e. project) is expected to undertake; and second, **corporate services** that



cover portfolio management, reporting, and UNDP's role in the governance of the GCF. These services are decided by the GCF Board, are specific to each project and are covered by a GCF fee.

The GCF Board decides the level of fee it will provide to cover the costs associated with the delivery of the GCF-specific services for each project. The GCF allocates the entire fee once the project is approved, and the fee is expected to cover the full cost of delivering the GCF-specific services for the full lifetime/duration of the project. If the project is extended beyond the original planned duration, the services must still be delivered for each additional year of implementation. If the fees have already been fully allocated, non-GCF resources must be used to deliver the services. If a project is cancelled, the fees must be returned to the Fund. The Accreditation Master Agreement states that the GCF resources can only be used for the purpose for which it was provided and cannot be diverted for other purposes. For this project the approved fee is US\$ 2,657,070 at 9%.

The services UNDP is required to deliver to the GCF are undertaken by different Units in UNDP as follows:

#### UNDP – Global Environmental Finance Unit (Regional and HQ levels)

1. Trust Fund Management: As per the requirements in the UNDP POPP and the GCF AMA and Funded Activity Agreement (FAA), the UNDP-GEF Unit undertakes trust fund management activities including:
  - Manage UNDP's relationship with the GCF;
  - Represent UNDP in the governance arrangements of the GCF (including policy development; outreach and knowledge management);
  - Receipt of contributions and allocation of trust fund resources;
  - Financial management of trust fund resources;
  - Fulfil all GCF monitoring, reporting and evaluation requirements;
  - Monitor GCF milestones and due diligence requirements.
2. Project design and development: in close consultation with governments and country offices, the UNDP-GEF Unit is responsible for preparing GCF-eligible projects that meet the technical and due diligence criteria of the GCF. The activities include:
  - Prepare project concepts for review/approval by GCF;
  - Screen project concepts for social and environmental risks;
  - Prepare all necessary due diligence studies/assessments during project development;
  - Prepare full funding proposals;
  - Undertake internal technical and financial due diligence;
  - Address GCF secretariat and ITAP comments to the proposals;
  - Secure GCF approvals.
3. Project implementation and closure: in close consultation with the Country Office, the UNDP-GEF Unit is responsible for providing final quality assurance of all Fund-specific reports to ensure they are prepared in a timely fashion, and meet the quality standards of the Fund. This includes:
  - Quality assurance of annual work plans according to the GCF disbursement schedule;
  - Quality assurance of the GCF annual project report (APR);
  - Participate in and support in-country GCF visits/learning mission/site visits;
  - Quality assurance of the project mid-term review and management response;
  - Quality assurance of any other GCF-required project reports;
  - Prepare and submit fund specific financial reports;
  - Quality assurance of project budget and financial transactions according to GCF policies;
  - Troubleshooting project missions as and when necessary (i.e. high risk, slow performing projects);
  - Quality assurance of terminal evaluation report and management response;
  - Return of un-spent GCF resources to the GCF.

UNDP Regional and Central Bureau: will deliver the following services

- Overall fiduciary and financial policies, accountability and oversight on all UNDP projects including those financed by the GCF;
- Treasury Functions including banking information and arrangements and cash management;
- Preparation and certification of UNDP annual financial statements and donor reports;
- Travel services, asset management, and procurement policies and support;
- Management and oversight of the audit exercise for all GCF projects;
- Information Systems and Technology provision, maintenance and support;
- Legal advice and contracting/procurement support services;
- Strategic Human Resources Management and related entitlement administration;
- Office of Audit and Investigations oversight/investigations into allegations of misconduct, corruption, wrongdoing and fraud; and social and environmental compliance unit and grievance mechanism.
- Independent Evaluation Office assessment of terminal evaluation reports; evaluation guidance and standard setting.

UNDP Country Office: The UNDP Country Office will deliver GCF-specific services over the planned lifetime/duration of the project as follows:

1. Project development:

- Coordinate and participate in GCF country driven project design consultations;
- Support the identification and confirmation of GCF project co-financing;
- Provide input to the GCF concept note and UNDP GCF project document.

2. Project start:

- Ensure quick project start and first disbursement;
- Coordinate/prepare the project inception workshop;
- Oversee finalization of the project inception workshop report;

3. Project implementation and closure: first-tier of UNDPs three-tier quality control system

- Coordinate/prepare annual Project Board Meetings;
- Undertake UNDP-required project monitoring and quality assurance;
- Issue annual work plan, strict monitoring of the implementation of the work plan and the project timetable;
- Monitor the implementation of the project procurement plan;
- Prepare GCF annual project report (APR): review input provided by Project Manager/team; complete required sections;
- Support to GCF visits/learning mission/site visits;
- Initiate, coordinate, finalize the project mid-term review and management response;
- Preparation of any other GCF project reports;
- Conduct annual supervision/oversight site missions;
- Ensure that risks are properly managed, and that the risk log in Atlas is regularly;
- Initiate, coordinate, finalize the project terminal evaluation and management response.

- ii.* Direct Project Services as requested by Government: services provided to government directly under NIM. The UNDP Country Office will also deliver a pre-determined set of project-specific execution services at the request of the Government. To ensure the strict independence required by the GCF and in accordance with the UNDP Internal Control Framework, these execution services should be delivered independent from the GCF-specific oversight and quality assurance services (i.e. not done by same person to avoid conflict of interest).

These execution services will be charged to the project budget in accordance with the [UNDP's Harmonized Conceptual Funding Framework and Cost Recovery Methodology](#). The letter of agreement for these direct project costs is included in Annex to this project document.

Within this NIM Project, the government has recognized that there are activities that should be best executed using UNDP execution modality as its advantages of mobilizing best or unique technical inputs that are not competitively available in the market and/or if mobilized by the Government. In these cases, UNDP's operational, technical and procedural system is best placed to execute directly the following:

**Indicative Agreed UNDP Direct Project Execution Services under GCF Coastal Resilience Project (2017-2022):**

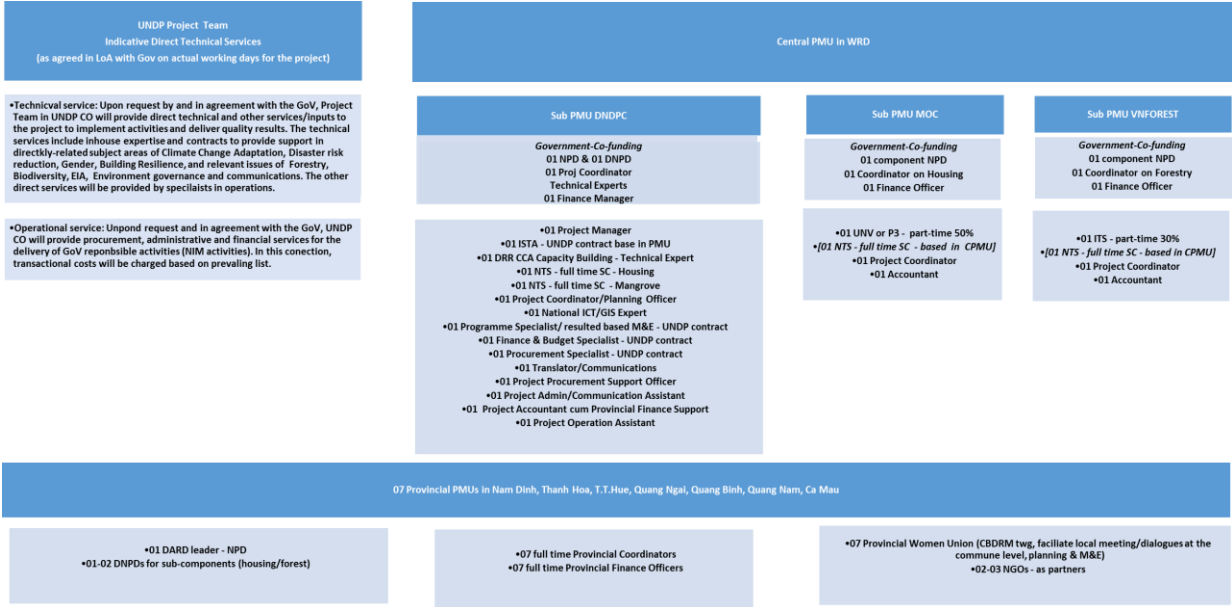
Component and result	Activity number as the project logframe	Estimated portion of activity budget over 5 years (USD)	UNDP role
1. Grant support for cost of additional flood/storm resilient features to 4,000 houses	1.1.3 Consultant firm for risk information	100,000	UNDP procurement/partnership with NPD oversight.  UNDP to provide international/national best practices and technical inputs who expertise are less available or less competitive in the market following GoV procedures.  There are areas there the international/national experts are mobilized by UNDP to ensure independent technical appraisal or peer-review of the GoV-executed activities
	1.1.4: Training and technical oversight and monitoring and verification of house design	580,000	
	1.1.5. Identify additional/potential means of support for construction, such as youth organizations, for especially vulnerable households	408,500	
	1.2.2 National consultant / partner for CBDRM system design	300,000	
	1.3.1: National/ international consultant support and workshops	60,000	
	1.3.2 National/ international consultant support and workshops	30,000	
	1.3.3 National consultant support/ firm for new housing programme/ policy design	50,000	
	1.3.5 National consultants/ workshops/ travel and supplies	120,000	

	1.3.6 National consultant firm/Workshops/ Design Competition/ Travel and Supplies	105,000	
<b>2. Robust mangrove coverage to provide a natural buffer between coastal communities and the sea</b>	2.1.1: National consultant support and workshops	20,000	UNDP procurement/ partnership with NPD oversight  The GoV does not have a set-up system to mobilize NGO and international consultant firm for NIM activities
	2.1.2: International consultant firm or NGO, workshops and training	150,000	
	2.1.3 National consultant and firm	300,000	
	2.1.5 National consultant support/ partnership with NGO or mass organisation to provide support in communes/ workshops	1,140,000	
	2.1.6: National consultant support/ partnership with NGO or mass organisation to provide support in communes/ workshops	93,250	
	2.1.10. National consultant and workshop for good practices	30,000	
	2.3.1 National/international consultation support and/or firm for film, report and media product development	40,000	
	2.3.3 National consultant/ firms to support integrated mangrove mapping	120,000	
<b>3. Increased access to enhanced climate, loss and damage data for private and public sector application in all 28 coastal provinces of Viet Nam</b>	3.1.1 National/international consultants/ peer reviewers to advise on key themes	20,000	UNDP procurement/ partnership with NPD oversight  UNDP to provide international/national best practices and technical inputs who expertise are less available or less competitive in the market following GoV procedures.  There are areas there the international/ national experts are mobilized by UNDP to ensure independent technical appraisal or
	3.1.2 National/ international consultants/ printing/ layout translation and related costs	125,000	
	3.1.3 National/ international consultant for risk information presentation	45,000	
	3.1.4 Partnership for supplementary technical training provision to enhance existing methodologies and enhancing data collection and monitoring and national consultant support	600,000	
	3.1.5 National consultant support	40,000	
	3.1.6 National consultant support	40,000	
	3.1.7 National/ international consultants/ printing/ layout translation and related costs	125,000	
	3.2.1 Expert support and inputs into the conference	15,000	

	3.2.2 Expert support and inputs into the conference	15,000	peer-review of the GoV-executed activities
	3.2.3 International/ National consultant support for climate risk products	160,000	
	3.2.4 International/ national consultants and firms	240,000	
	3.3.1 International/ national consultants and firms	160,000	
	3.3.2 International/ national consultants and firms	200,000	
	3.3.3 International/ national consultants and firms	80,000	
	3.3.4 National consultants	20,000	
	<b>Total</b>	<b>5,451,750 USD</b>	

In addition, UNDP and the Ministry of Construction will work with the Bank for Social Policy who is the current partner of the Government in the safe housing programme, or equivalent to enable direct bank transfer payments of approximately 1,500 USD per house to 4,000 housing component beneficiaries based on the agreed disbursement schedule with final payments only being made after final technical inspection to ensure quality implementation of activities.

iii. **Project Management Unit:** Provide information on the location (s) where the project will be operationalized, the number and local of physical project offices, number of staff and roles and responsibilities of each, arrangement for dedicated or shared operations support, how the project will work with other projects etc.



**The roles of Central Project Management**

The *Central Project Management Unit, based in Water Resources Directorate*, establishes the overall plan and annual general plan and allocates the budget for the whole project, and reports annually to submit to the project steering committee to examine and pass before submitting to the line agency and Sponsor for approval; coordinates with related units to supervise and enhance the progress of the project's implementation to guarantee the progress, quality and project's goal.

The *Central Project Management Unit* summarizes the quarter's disbursement schedule of all component projects, send the request for advance payment to UNDP. The Water Resources Directorate cooperates with UNDP to organize midterm and final evaluation of the project.

### ***Project management in 07 provinces***

The Provincial People's Committees (PPC) shall decide on the activities of provincial Component Projects according to the overall planning and annual planning mechanism. These activities should:

- Be verified by the Ministry of Construction on technical aspects of the activities in Component 1 and be verified by the Ministry of Agriculture and Rural Development on technical aspects of the activities in Component 2 and 3; and
- UNDP's no-objection prior to approval and implementation.

The PPC shall propose and /or authorize functional Departments to carry out project tasks based on the capacity and mandate of the unit.

The Provincial Department of Agriculture and Rural Development (DARD) shall be the province's focal point responsible for managing, operating and implementing the province's subprojects within the scope of its assigned tasks. The DARD shall set up a project management board to carry out shared activities in the province (including 2-3 components). The Provincial Project Management Boards shall co-ordinate regularly with the Central Project Management Board and the Component Project Management Board to implement decentralized activities.

The Women's Union, a member of the Steering Committee for Disaster Prevention and Control at all levels, is assigned the task of coordinating with the DARD (and Permanent Secretariat of the Provincial Steering Committee for Disaster Prevention and Control), shall be responsible for participating in the development of a mechanism to mobilize community participation in the project and contributing to support the Project Management Board at all levels to carry out some monitoring and supervising activities of all three components at the provincial level according to the assigned tasks.

### ***The management of Component Projects:***

*- The Project management of Component 1 (Strengthening the tolerance of houses to climate change and natural disasters) will be assigned as follows:*

+ The Ministry of Construction shall directly manage and decide project implementation categories at the central level, including the completion of relating mechanisms and policies to enhance the resilience to climate change and disasters of civil construction.

+ The Department of Housing and Real Estate Management shall be the focal point of the Ministry of Construction responsible for managing, operating and implementing Component Projects at the central level within the scope of its assigned tasks. The Estate Management Department shall set up a project

management unit. The Department of Housing and Real Estate Management shall establish a Project Management Board on the Housing Component. The Housing Component Management Board shall coordinate regularly with the Central Project Management Board and 07 Provincial Project Management Boards to implement decentralized activities.

+ For the project categories that have not been identified and evaluated in terms of technicality and feasibility, the Ministry of Construction will coordinate with the Ministry of Agriculture, the provinces and UNDP to make detailed assessment report, propose appropriate activities and comply with the overall objectives of the project.

*- The Project management of Component 2 (Restoration and protection of mangroves) will be assigned as follows:*

+ The Ministry of Agriculture shall directly manage and decide the project implementation activities at the central level, including the improvement of relevant policies and mechanisms to enhance the resilience to climate change and disasters of coastal mangroves and contribute to the development of sustainable ecosystems and people's livelihoods.

+ The Ministry of Agriculture and Rural Development shall assign the Directorate of Forestry to manage and implement Component Project 2 at the central level within the scope of its assigned tasks. The Directorate of Forestry shall set up a Component Project Management Board, responsible for regular coordination with the Central Project Management Board and 07 Provincial Project Management Boards to implement decentralized activities.

+ For the project categories that have not been identified and evaluated in terms of technicality and feasibility, the MARD will coordinate with the Ministry of Construction, provinces and UNDP to make detailed assessment report, propose appropriate activities and comply with the overall objectives of the project and the development context.

*- The management of Component 3 will be assigned as follows:*

The Ministry of Agriculture and Rural Development shall directly manage and decide the project implementation activities at the central level, including the improvement of relevant policies and mechanisms to enhance the management capacity of the information database about climate change and disasters for coastal provinces.

+ The Directorate of Water Resources is the focal point of the MARD responsible for managing, operating and implementing of the Component Project 3 on Disaster Mitigation and Climate Change at the central level. The Component Project 3 Management Board is a part of the Central Project Management Board, in regular coordination with the Provincial Project Management Board to implement decentralized activities.

+ For the project categories that have not been identified and evaluated in terms of technicality and feasibility, the MARD will coordinate with the Ministry of Construction, provinces and UNDP to make detailed assessment report, propose appropriate activities and comply with the overall objectives of the project and the development context.

- iv. Agreement on intellectual property rights and use of logo on the project's deliverables: In order to accord proper acknowledgement to the GCF for providing grant funding, the GCF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GCF will also accord proper acknowledgement to the GCF as per the GCF branding guidelines.

- v. Disclosure of information: Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy<sup>24</sup> and the GCF Disclosure Policy<sup>25</sup>.
- vi. Carbon offsets or units: As outlined in the AMA agreement between UNDP and the GCF, to the extent permitted by applicable laws and regulations, the Implementing Partner will ensure that any greenhouse gas emission reductions (e.g. in emissions by sources or an enhancement of removal by sinks) achieved by this project shall not be converted into any offset credits or units generated thereby, or if so converted, will be retired without allowing any other emissions of greenhouse gases to be offset.

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## VIII. MONITORING AND EVALUATION (M&E) PLAN

The project results as outlined in the project results framework will be monitored and reported annually and evaluated periodically during project implementation to ensure the project effectively achieves these results.

Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the [UNDP POPP](#) and [UNDP Evaluation Policy](#). While these UNDP requirements are not outlined in this project document, the UNDP Country Office will work with the relevant project stakeholders to ensure UNDP M&E requirements are met in a timely fashion and to high quality standards. Additional mandatory GCF-specific M&E requirements will be undertaken in accordance with relevant GCF policies.

In addition to these mandatory UNDP and GCF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Workshop Report. This will include the exact role of project target groups and other stakeholders in project M&E activities including national/regional institutes assigned to undertake project monitoring.

i. M&E oversight and monitoring responsibilities:

**Project Manager:** The Project Manager is responsible for day-to-day project management and regular monitoring of project results and risks, including social and environmental risks. The Project Manager will ensure that all project staff maintain a high level of transparency, responsibility and accountability in M&E and reporting of project results. The Project Manager will inform the Project Board, the UNDP Country Office and the UNDP-GEF Regional Technical Advisor of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted.

The Project Manager will develop annual work plans to support the efficient implementation of the project. The Project Manager will ensure that the standard UNDP and GCF M&E requirements are fulfilled to the highest quality. This includes, but is not limited to, ensuring the results framework indicators are monitored annually in time for evidence-based reporting in the Annual Project Report, and that the monitoring of risks and the various plans/strategies developed to support project implementation (e.g. Environmental and social management plan, gender action plan etc..) occur on a regular basis.

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<sup>24</sup> See [http://www.undp.org/content/undp/en/home/operations/transparency/information\\_disclosurepolicy/](http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/)

<sup>25</sup> See [https://www.greenclimate.fund/documents/20182/184476/GCF\\_B.12\\_24\\_-\\_Comprehensive\\_Information\\_Disclosure\\_Policy\\_of\\_the\\_Fund.pdf/f551e954-baa9-4e0d-bec7-352194b49bcb](https://www.greenclimate.fund/documents/20182/184476/GCF_B.12_24_-_Comprehensive_Information_Disclosure_Policy_of_the_Fund.pdf/f551e954-baa9-4e0d-bec7-352194b49bcb)



**Project Board:** The Project Board will take corrective action as needed to ensure the project achieves the desired results. The Project Board will hold project reviews to assess the performance of the project and appraise the Annual Work Plan for the following year. In the project’s final year, the Project Board will hold an end-of-project review to capture lessons learned and discuss opportunities for scaling up and to highlight project results and lessons learned with relevant audiences. This final review meeting will also discuss the findings outlined in the project terminal evaluation report and the management response.

**Project Implementing Partner:** The Implementing Partner is responsible for providing any and all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary and appropriate. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes, and is aligned with national systems so that the data used by and generated by the project supports national systems.

**UNDP Country Office:** The UNDP Country Office will support the Project Manager as needed, including through annual supervision missions. The annual supervision missions will take place according to the schedule outlined in the annual work plan. Supervision mission reports will be circulated to the project team and Project Board within one month of the mission. The UNDP Country Office will initiate and organize key M&E activities including the Annual Project Report, the independent mid-term review and the independent terminal evaluation. The UNDP Country Office will also ensure that the standard UNDP and GCF M&E requirements are fulfilled to the highest quality.

The UNDP Country Office is responsible for complying with all UNDP project-level M&E requirements as outlined in the [UNDP POPP](#). This includes ensuring the UNDP Quality Assurance Assessment during implementation is undertaken annually; the regular updating of the ATLAS risk log; and, the updating of the UNDP gender marker on an annual basis based on gender mainstreaming progress reported in the Annual Project Report and the UNDP ROAR. Any quality concerns flagged during these M&E activities (e.g. Annual Project Report quality assessment ratings) must be addressed by the UNDP Country Office and the Project Manager.

The UNDP Country Office will support GCF staff (or their designate) during any missions undertaken in the country, and support any ad-hoc checks or ex post evaluations that may be required by the GCF.

The UNDP Country Office will retain all project records for this project for up to seven years after project financial closure in order to support any ex-post reviews and evaluations undertaken by the UNDP Independent Evaluation Office (IEO) and/or the GCF.

**UNDP-Global Environmental Finance Unit (UNDP-GEF):** Additional M&E and implementation oversight, quality assurance and troubleshooting support will be provided by the UNDP-GEF Regional Technical Advisor and the UNDP-GEF Directorate as outlined in the management arrangement section above.

ii. Audit:

The project will be audited according to UNDP Financial Regulations and Rules and applicable audit policies on NIM implemented projects.<sup>26</sup> Additional audits may be undertaken at the request of the GCF.

iii. Additional monitoring and reporting requirements:

**Inception Workshop and Report:** A project inception workshop will be held within three months from first disbursement to:

a) Re-orient project stakeholders to the project strategy and discuss any changes in the overall context that influence project strategy and implementation;

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<sup>26</sup> See guidance here: <https://info.undp.org/global/popp/frm/pages/financial-management-and-execution-modalities.aspx>

- b) Discuss the roles and responsibilities of the project team, including reporting and communication lines and conflict resolution mechanisms;
- c) Review the results framework and finalize the indicators, means of verification and monitoring plan;
- d) Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E;
- e) Identify how project M&E can support national monitoring of SDG indicators as relevant;
- f) Update and review responsibilities for monitoring the various project plans and strategies, including the risk log; Environmental and Social Management Plan and other safeguard requirements; the gender action plan; and other relevant strategies;
- g) Review financial reporting procedures and mandatory requirements, and agree on the arrangements for the annual audit; and
- h) Plan and schedule Project Board meetings and finalize the first year annual work plan.

The Project Manager will prepare the inception workshop report no later than one month after the inception workshop. The inception workshop report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the Project Board.

**Annual Project Report:** The Project Manager, the UNDP Country Office, and the UNDP-GEF Regional Technical Adviser will provide objective input to the annual project report covering the calendar year for each year of project implementation. The Project Manager will ensure that the indicators included in the project results framework are monitored annually in advance so that progress can be reported in the report. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the report.

The Annual Project Report will be shared with the Project Board. The UNDP Country Office will coordinate the input of other stakeholders to the report as appropriate. The quality rating of the previous year's report will be used to inform the preparation of the subsequent report.

**Lessons learned and knowledge generation:** Results from the project will be disseminated within and beyond the project intervention area through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to the project. The project will identify, analyse and share lessons learned that might be beneficial to the design and implementation of similar projects and disseminate these lessons widely. There will be continuous information exchange between this project and other projects of similar focus in the same country, region and globally.

**Independent Mid-term Review (MTR):** An independent mid-term review process will begin after the second Annual Project Report has been submitted to the GCF. This is expected to be *April 2019 as per the agreed project term sheet*. The MTR findings and responses outlined in the management response will be incorporated as recommendations for enhanced implementation during the final half of the project's duration. The terms of reference, the review process and the MTR report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the [UNDP Evaluation Resource Center \(ERC\)](#). As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final MTR report will be available in English and will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and approved by the Project Board.

**Terminal Evaluation (TE):** An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terminal evaluation process will begin at least three months before operational closure of the project allowing the evaluation mission to proceed while the project team is still in place, yet ensuring

the project is close enough to completion for the evaluation team to reach conclusions on key aspects such as project sustainability. This is expected to be *July 2021 as listed in the project term sheet*.

The Project Manager will remain on contract until the TE report and management response have been finalized. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the [UNDP Evaluation Resource Center](#). As noted in this guidance, the evaluation will be ‘independent, impartial and rigorous’. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Additional quality assurance support is available from the UNDP-GEF Directorate. The final TE report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the Project Board. The TE report will be publicly available in English on the UNDP ERC.

The UNDP Country Office will include the planned project terminal evaluation in the UNDP Country Office evaluation plan, and will upload the final terminal evaluation report in English and the corresponding management response to the UNDP Evaluation Resource Centre (ERC).

**Final Report:** The project’s final Annual Project Report along with the terminal evaluation (TE) report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

**Mandatory GCF M&E Requirements and M&E Budget:**

GCF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget <sup>27</sup> (US\$)		Time frame
		GCF grant	Co-financing	
<b>Inception Workshop</b>	UNDP Country Office	USD 11,000	<i>add</i>	3 months from first disbursement to organize inception meeting including completing key recruitments needed (e.g. Project Manager), etc.
<b>Inception Workshop Report and baseline assessments</b>	Project Manager	<i>USD 5,000</i>	None	At least 5 months required to collect baselines after inception meeting is concluded.
<b>Standard UNDP monitoring and reporting requirements as outlined in the UNDP POPP</b>	UNDP Country Office	None	None	Quarterly, annually
<b>Monitoring of indicators in project results framework (including hiring of external experts, project surveys, data analysis etc...)</b>	Project Manager	Per year: USD 10,000	<i>add</i>	Annually

<sup>27</sup> Excluding project team staff time and UNDP staff time and travel expenses.

GCF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget <sup>27</sup> (US\$)		Time frame
		GCF grant	Co-financing	
Annual Project Report (APR)	Project Manager and UNDP Country Office and UNDP-GEF team	None	None	Annually
NIM Audit as per UNDP audit policies	UNDP Country Office	Per year: USD 3,000 – 5,000	Add	Annually or other frequency as per UNDP Audit policies
Lessons learned, case studies, and knowledge generation	Project Manager	Per year: USD 10,000	Add	Annually
Monitoring of environmental and social risks, and corresponding management plans as relevant	Project Manager UNDP CO	Per year: USD add	Add	On-going
Monitoring of gender action plan	Project Manager UNDP CO	Per year: USD 4,000	Add	On-going
Monitoring of stakeholder engagement plan	Project Manager UNDP CO	Per year: USD 4,000	Add	On-going
Addressing environmental and social grievances	Project Manager UNDP Country Office BPPS as needed	add	Add	Costs associated with missions, workshops, BPPS expertise etc. can be charged to the project budget.
Project Board meetings	Project Board UNDP Country Office Project Manager	Per year: USD add	Add	At minimum annually
Supervision missions	UNDP Country Office	None <sup>28</sup>	Add	Two per year
Oversight missions	UNDP-GEF team	None <sup>28</sup>	Add	Troubleshooting as needed
GCF learning missions/site visits	UNDP Country Office and Project Manager and UNDP-GEF team	add	Add	To be determined.
Independent Mid-term Review (MTR) and management response	UNDP Country Office and Project team and UNDP-GEF team	USD 20,000 - 30,000	Add	
Independent Terminal Evaluation (TE) included in UNDP evaluation plan, and management response	UNDP Country Office and Project team and UNDP-GEF team	USD 30,000 - 60,000	Add	At least three months before operational closure
Translation of MTR and TE reports into English	UNDP Country Office	USD 2,000 – 10,000	Add	As required. GCF will only accept reports in English.
<b>TOTAL indicative COST</b> Excluding project team staff time, and UNDP staff and travel expenses		1-2% of Total GCF grant	Add	

<sup>28</sup> The costs of UNDP Country Office and UNDP-GEF Unit's participation and time are charged to the GCF Agency Fee.

## IX. FINANCIAL PLANNING AND MANAGEMENT

The total cost of the project is *USD 40,530,000*. This is financed through a GCF grant of *USD 29,523,000*, *USD 1,600,000* in cash co-financing to be administered by UNDP and *USD 9,407,000* in parallel co-financing. UNDP, as the GCF Accredited Agency, is responsible for the oversight and quality assurance of the execution of GCF resources and the cash co-financing transferred to UNDP bank account only.

### i. Project Financing

Objective	Components	Financing institution			Total (US\$)
		GCF	Government	UNDP	
		Grant	Grant	Grant	
Increased resilience of vulnerable coastal communities to climate change related impacts in Viet Nam	Storm and flood resilient design features added to 4,000 new houses on safe sites, benefiting 20,000 poor and highly disaster-exposed people in 100 communes	10,479,000	9,407,000	1,500,000	37,019,000
	Regeneration of 4,000 hectares of costal mangrove storm surge buffer zones	10,332,400			
	Increased access to enhanced climate, loss and damage data for private and public sector application in all 28 coastal provinces of Viet Nam	5,300,600			
	Project Management	3,411,000	-	100,000	
<b>Total</b>		<b>29,523,000</b>	<b>9,407,000</b>	<b>1,600,000</b>	<b>40,530,000</b>

ii. GCF Disbursement schedule

GCF grant funds will be disbursed according to the GCF disbursement schedule. The Country Office will submit an annual work plan to the UNDP-GEF Unit and comply with the GCF milestones in order for the next tranche of project funds to be released. All efforts must be made to achieve 80% delivery annually.

<b>Disbursements</b>	<b>Amounts (in USD)</b>	<b>Indicative expected month and year of disbursement</b>
Disbursement 1	3,491,400	August 2017
Disbursement 2	8,422,400	August 2018
Disbursement 3	8,326,600	August 2019
Disbursement 4	5,882,600	August 2020
Disbursement 5	3,400,000	August 2021
<b>TOTAL</b>	<b>29,523,000</b>	

iii. Budget Revision and Tolerance:

GCF requirement: 10% of the total projected costs per year can be reallocated among the budget account categories within the same project output. Any budget reallocation involving a major change in the project’s scope, structure, design or objectives or any other change that substantially alters the purpose or benefit of the project requires the GCF’s prior written consent.

UNDP requirement: As outlined in the UNDP POPP, the project board will agree on a budget tolerance level for each plan under the overall annual work plan allowing the project manager to expend up to the tolerance level beyond the approved project budget amount for the year without requiring a revision from the Project Board (within the GCF requirements noted above). Should such deviation occur, the Project Manager and UNDP Country office will seek the approval of the UNDP-GEF team.

Any over expenditure incurred beyond the available GCF grant amount will be absorbed by non-GCF resources (e.g. UNDP TRAC or cash co-financing).

iv. Refund to GCF:

Unspent GCF resources must be returned to the GCF. Should a refund of unspent funds to the GCF be necessary, this will be managed directly by the UNDP-GEF Unit in New York.

v. Project Closure:

Project closure will be conducted as per UNDP requirements outlined in the UNDP POPP.<sup>29</sup> On an exceptional basis only, a no-cost extension beyond the initial duration of the project will be sought from in-country UNDP colleagues and then the UNDP-GEF Executive Coordinator.

<sup>29</sup> see <https://info.undp.org/global/popp/ppm/Pages/Closing-a-Project.aspx>

vi. Operational completion:

The project will be operationally completed when the last UNDP-financed inputs have been provided and the related activities have been completed. This includes the final clearance of the Terminal Evaluation Report (that will be available in English) and the corresponding management response, and the end-of-project review Project Board meeting. The Implementing Partner through a Project Board decision will notify the UNDP Country Office when operational closure has been completed.

UNDP and the Implementing Partner agree that any durable assets or equipment purchased during the implementation of the project (such as vehicles or office equipment) will upon operational completion of the project be transferred to the Implementing Partner. Any funds or proceeds received from the sale of such assets will be transferred to the GCF.

i. Financial completion:

The project will be financially closed when the following conditions have been met: a) The project is operationally completed or has been cancelled; b) The Implementing Partner has reported all financial transactions to UNDP; c) UNDP has closed the accounts for the project; d) UNDP and the Implementing Partner have certified a final Combined Delivery Report (which serves as final budget revision).

The project is required to be financially completed within 12 months of operational closure or after the date of cancellation. Between operational and financial closure, the implementing partner will identify and settle all financial obligations and prepare a final expenditure report. The UNDP Country Office will send the final signed closure documents including confirmation of final cumulative expenditure and unspent balance to the UNDP-GEF Unit for confirmation before the project will be financially closed in Atlas by the UNDP Country Office.

## X. TOTAL BUDGET AND WORK PLAN

Total Budget and Work Plan		
Atlas <sup>30</sup> Proposal or Award ID:	<b>00088033</b>	Atlas Primary Output Project ID: <b>00094851</b>
Atlas Proposal or Award Title:	Improving the resilience of vulnerable coastal communities to climate change related impacts in Viet Nam	
Atlas Business Unit	VNM10	
Atlas Primary Output Project Title	Improving the resilience of vulnerable coastal communities to climate change related impacts in Viet Nam	
UNDP-GEF PIMS No.	5708	
Implementing Partner	The Ministry of Agriculture and Rural Development (MARD)	

Component	GCF Output/Atlas Activity	Responsible Party (Atlas Implementing Agent)	Financing Source	Budgetary Account Code	Budget Account Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Amount Year 6-20 (USD)	Total (USD)	Budget Note*
Improving the resilience of vulnerable coastal communities to climate change related impacts in Viet Nam	Output 1: Storm and flood resilient design features added to 4,000 new houses on safe sites, benefiting 20,000 poor and highly disaster-exposed people in 100 communes	MOC-DHMRE/Provinces	GCF	71200	International Consultants	175,700	263,550	175,700	175,700	87,850	-	878,500	1A
				71300	National Consultants	39,000	58,500	39,000	39,000	19,500	-	195,000	1B
				71600	Travel	31,000	46,500	31,000	31,000	15,500	-	155,000	1C
				72100	Contractual Services-Companies	473,700	2,210,550	2,473,700	1,473,700	736,850	-	7,368,500	1D
				74200	Audio Visual and print	13,000	19,500	13,000	13,000	6,500	-	65,000	1E
				75700	Training, Workshops and Conferences	88,000	357,000	388,000	238,000	119,000	-	1,190,000	1F
				61100	Salary Costs - NP Staff	100,000	100,000	100,000	100,000	100,000	-	500,000	1G
		MOC	72100	Contractual Services-Companies	800,000	1,600,000	4,000,000	1,600,000	-	-	8,000,000	1H	
	<b>Total Output 1</b>					<b>1,720,400</b>	<b>4,655,600</b>	<b>7,220,400</b>	<b>3,670,400</b>	<b>1,085,200</b>	<b>-</b>	<b>18,352,000</b>	
	Output 2: Regeneration of 4,000 hectares of costal mangrove storm surge buffer zones	MARD-VNFOREST/Province	GCF	71200	International Consultants	86,350	129,525	86,350	86,350	43,175	-	431,750	2A
				71300	National Consultants	26,000	39,000	26,000	26,000	13,000	-	130,000	2B
				71600	Travel	20,000	30,000	20,000	20,000	10,000	-	100,000	2C

<sup>30</sup> See separate guidance on how to enter the TBWP into Atlas



			72100	Contractual Services-Companies	720,650	2,730,975	2,920,650	1,820,650	910,325	-	9,103,250	2D
			74200	Audio Visual and print	10,000	15,000	10,000	10,000	5,000	-	50,000	2E
			75700	Training, Workshops and Conferences	64,000	96,000	64,000	64,000	32,000	-	320,000	2F
			61100	Salary Costs - NP Staff	60,000	90,000	60,000	60,000	30,000	-	300,000	2G
		MARD	73400	Rental & Maintenance-other equipments	61,350	61,350	61,350	61,350	61,350	919,875	1,226,625	2H
			73100	Rental & Maintenance-Premises	18,000	18,000	18,000	18,000	18,000	-	90,000	2I
<b>Total Output 2</b>					<b>1,066,350</b>	<b>3,209,850</b>	<b>3,266,350</b>	<b>2,166,350</b>	<b>1,122,850</b>	<b>919,875</b>	<b>11,751,625</b>	
Output 3: Increased access to enhanced climate, loss and damage data for private and public sector application in all 28 coastal provinces of Viet Nam	MARD-DNDPC/Provinces	GCF	71200	International Consultants	160,350	240,525	160,350	160,350	80,175	-	801,750	3A
			71300	National Consultants	100,000	150,000	100,000	100,000	50,000	-	500,000	3B
			71600	Travel	12,000	18,000	12,000	12,000	6,000	-	60,000	3C
			72100	Contractual Services-Companies	211,000	316,500	211,000	211,000	105,500	-	1,055,000	3D
			74200	Audio Visual and print	2,000	3,000	2,000	2,000	1,000	-	10,000	3E
			75700	Training, Workshops and Conferences	326,850	715,275	626,850	476,850	238,425	-	2,384,250	3F
			61100	Salary Costs - NP Staff	60,000	90,000	60,000	60,000	30,000	-	300,000	3G
		MARD	73100	Rental & Maintenance-Premises	18,000	18,000	18,000	18,000	18,000	-	90,000	3H
		UNDP	72100	Contractual Services-Companies	630,000	192,500	192,500	192,500	192,500	-	1,400,000	3I
		<b>Total Output 3</b>				<b>1,520,200</b>	<b>1,743,800</b>	<b>1,382,700</b>	<b>1,232,700</b>	<b>721,600</b>	<b>-</b>	<b>6,601,000</b>
Project Management	MARD-DNDPC/Provinces	GCF	71200	International Consultants	-	-	26,400	-	39,600	-	66,000	4A
			71300	National Consultants	8,800	-	17,600	-	17,600	-	44,000	4B
			71400	Contractual Services - Individual	580,000	580,000	580,000	580,000	580,000	-	2,900,000	4C
			71600	Travel	30,000	30,000	30,000	30,000	30,000	-	150,000	4D
			73100	Rental & Maintenance-Premises	44,000	44,000	44,000	44,000	44,000	-	220,000	4E
			75700	Training, Workshops and Conferences	8,000	8,000	8,000	8,000	8,000	-	40,000	4F
			64397	Services to Projects-CO staff	41,000	41,000	41,000	41,000	41,000	-	205,000	4G

			UNDP	64397	Services to Projects-CO staff	40,000	40,000	40,000	40,000	40,000	-	200,000	4H
	<b>Total Proj. Mgt.</b>					<b>751,800</b>	<b>743,000</b>	<b>787,000</b>	<b>743,000</b>	<b>800,200</b>	<b>-</b>	<b>3,825,000</b>	
<b>Total GCF</b>						<b>3,491,400</b>	<b>8,422,400</b>	<b>8,326,600</b>	<b>5,882,600</b>	<b>3,400,000</b>	<b>-</b>	<b>29,523,000</b>	
<b>Total Gov. Co-financing</b>						<b>897,350</b>	<b>1,697,350</b>	<b>4,097,350</b>	<b>1,697,350</b>	<b>97,350</b>	<b>919,875</b>	<b>9,406,625</b>	
<b>Total UNDP</b>						<b>670,000</b>	<b>232,500</b>	<b>232,500</b>	<b>232,500</b>	<b>232,500</b>	<b>-</b>	<b>1,600,000</b>	
<b>Total Amount</b>						<b>5,058,750</b>	<b>10,352,250</b>	<b>12,656,450</b>	<b>7,812,450</b>	<b>3,729,850</b>	<b>919,875</b>	<b>40,529,625</b>	

**Budget notes:**

Note	Description of cost item
1A	International consultants support to document good practice on resilient housing and the application of risk-informed land use planning for residential development. (ICs: 575 days at USD 700/day = USD 402,500)  International Senior Technical Advisor (ISTA) and part-time & Housing Engineer to detail the application of international and national good practices. Technical house design and assessment of structural housing quality and monitoring during the construction process to ensure plans are followed by local builders. ISTA technical inputs to ensure coherence across teams and consultants, to provide learning on previous and on-going wider projects and to promote wider transformative learning and promote scale-up within the wider government systems. (ISTA USD 476,000 over 4.5 years)
1B	National consultants/ firms to provide training on improved housing methods and incorporate the training into CBDRM training process in 200 communes; support documentation of good practice and policy briefs and to support best practice write shops in 3 regions and provincial trainings. (NCs: 975 days at USD 200/day = USD 195,000)
1C	Field travel to provinces and household visits for project team and Government (40 visits x 3,875 USD = USD 155,000)
1D	Grant support to 4000 households of up to 2000 per house for incremental improvements to increase climate resilience including the costs of technical design, site assessment, monitoring and verification. Partnership with firm to provide technical housing den and monitoring support.

	Partnership with civil society organisation to provide additional support to households unable to contribute physical labour; In 200 communes training and workshops for CBDRM Planning by NGOs; Best practices workshops/writeshops in 3 regions. Training-of-trainers in 3 regions and provincial trainings.
1E	Communication and printing and publication
1F	Workshops to consult with stakeholders at central and local levels on various policy and mechanisms for resilient housing, good practices, etc. (19 workshops x USD 10,000); Trainings organised by Provinces in all 200 communes (200 training x 5,000= 1,000,000 USD)
1G	Technical inputs of UNDP experts on technical analysis and conceptualization on Housing and CC approach, scoping TORs; assess and develop guide on cost norms and financial transfer and risk management in co-financing housing construction for households; Policy analysis and advisory services on strategic policy options on Relevant Building Codes & standards.  Review and customized relevant technical tools and guidance on Risk Assessment, Building code, enhanced community participation and transparency; Support Government in formulation of new house resilient program in MOC for further resource mobilization/linkages with GCF and international financing windows for CC.
1H	Co-finance - Grant & Credits: Parallel co-financing from state budget to provinces on Housing programme 48 to 4,000 targeted households in the project
2A	International consultants support to document good practice on mangrove management and development, O&M, application of risk-informed land use planning for site selection and forest development. (ICs: 200 days at USD 700/day = USD 140,000)  ISTA and part-time & Forestry Specialist for detail application of international and national good practices, upgrade training materials on mangrove regeneration to take into account improved methods and practices. ISTA technical inputs to ensure coherence across teams and consultants, to provide learning on previous and on-going wider projects and to promote wider transformative learning and promote scale-up within the wider government systems. (ISTA: USD 291,750 over 4.5 years)
2B	National consultants support for mangrove site assessment and design livelihood need assessment and livelihood models to support mangrove management. (NCs: 650 days at USD 200/day = USD 130,000)
2C	Field travel to provinces and household visits for project team and Government. (Approx. 25 visits x USD 4,000/visit)
2D	Support to provinces to undertake mangrove regeneration/ replanting direct action in selected communes: 7,350,000 = 6000\$ x 300ha + 1500\$ x 3700ha

	Support for NGO partner to work with communities to design and implement locally appropriate support initiatives to enable relocation of livelihoods impacted by mangrove regeneration: contractors to develop livelihood initiatives with communes (USD 1,110,000); contractors for mangrove site detail design, database and awareness raising/communication (USD 643,250)
2E	Communication and printing, publication
2F	Workshops for consultation with academies and scientists on improved mangrove forestry approaches; workshops for target communes on the benefits and means of mangrove regeneration; support for mass organisations/civil society partner to develop gender-sensitive locally appropriate long term mangrove maintenance and monitoring plans for mangrove areas in consultation with the government. (19 workshops x USD 10,000)  Tailored training to provincial experts on Mangrove Development and other TOT on Forestry and Livelihoods; Integrated forest management into standard CBDRM and CC training process. (13 training x USD 10,000 = USD 130,000)
2G	Technical inputs of UNDP experts on technical analysis and conceptualization on Mangrove, Diversity Protection and REDD+ approach, scoping TORs; Policy analysis and advisory services on strategic policy options on Development of Mangrove and Biodiversity co-benefits.  Review and customized relevant technical tools and guidance on Site Assessment, Building code and standard on forestry; enhanced community participation and transparency; Support Government in formulation of future forest development programme of MARD or further resource mobilization/linkages with GCF and international financing windows for CC.
2H	Co finance from MARD (M&E and O&M): Parallel co-financing from state budget to provinces on Mangrove for O&M over 20 years and CBDRM programme in all 28 provinces. (including approx. 447,000 allocations from Provinces initially)
2I	In-kind contribution form MARD: Trainings, workshops, staff cost, office supplies and rental cost share from Government to MARD to implement the project
3A	International consultants support to advise on how risk information is interpreted and presented; international consultant support to develop gender analysis and technical inputs to fill gaps in current risk map methodology; innovative methods to improve access to risk transfer products and financial risk modelling. (ICs: approx. 867 days at USD 700/day = USD 606,900)

	ISTA and part-time GIS Risk Mapping Specialist for detail application of international and national good practices, upgrade training materials on mangrove regeneration to take into account improved methods and practices. The ISTA will provide overall strategic approach, quality check for the component and ensure strong linkage/coordination and effectiveness of technical inputs from experts and consultants who are mobilised for the Component. (ISTA: USD 194,850 over 4.5 years)
3B	National consultants support to collate and interpret risk information into formats accessible to communities; national consultants to replicate methodology of collecting damage and loss data; and on gender and risk information and risk transfer including insurance and modelling of costs of potential climate change related events. (NCs: 2,500 days at USD 200/day = USD 500,000)
3C	Field travel to provinces and household visits for project team and Government. (20 visits x USD 3,000 = USD 60,000)
3D	Support to provinces to undertake mangrove regeneration/ replanting direct action in selected communes. Support for NGO partner to work with communities to design and implement locally appropriate support initiatives to enable relocation of livelihoods impacted by mangrove regeneration. (USD 150,000 with academic institution, USD 600,000 with CSO, USD 305,000 with other institutions/companies)
3E	Communication and printing, publication
3F	Workshops for consultation with NGO training partner to enhance training materials, arrange facilitation, collate data and monitoring reports and manages feedback and learning from trainings courses. (27 workshops x USD 10,000 + 26 workshops x USD 15,000)  Support to communes to set up community advisory groups and organise community based risk assessment and planning workshops (520 communes minimum ten days each); national level workshops on improving damage and loss data analysis and use of risk information (520 training x USD 3,300 + USD 8,250)
3G	Technical inputs of UNDP experts on technical analysis and conceptualization on DRR CC Legislation, Policy and strategies, DRR CCA Capacity Development Programme, Warsaw Mechanism on L&D, and Risk Financing options in Viet Nam.  Review and customize relevant technical tools and guidance on upscaling risk assessment approach, risk database management, enhanced community participation and transparency; Support Government in formulation of international and regional knowledge building, S-S cooperation; dialogues with development partners on project contributions to NDCs, implement Paris Agreement.
3H	In-kind contribution form MARD: Trainings, workshops, staff cost, office supplies and rental cost share from Government to MARD to implement the project

3I	Co-finance support from UNDP projects throughout the project implementation, primary from SCDM2 and CBICS projects
4A	International experts to support MTE, TE and related M&E work
4B	National experts to support MTE, TE and related M&E work, HACT assurance activities (incl. audit and spot checks, etc)
4C	Central and Provincial PMU staff costs (19 posts in central 3 PMUs, 14 posts in 7 PPMUs)
4D	Field travel to provinces by project teams from PMUs
4E	Relevant facilities and operation for PMUs during the project implementation, etc.
4F	Project Annual meetings and workshops
4G	Admin services/support related to procurement and finance including: processing terms of reference, consultant recruitments, advertising, short-listing & selection, and contract issuance, payments, creation of vendor forms, issuing cheques.
4H	UNDP co-finance in project management

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## XI. LEGAL CONTEXT

*Annotated project document: The following section is required for all project documents, and contains the general provisions and alternative texts for the different types of implementation modalities for individual projects. Select one option from each the legal context and risk management standard clauses and include these in the project document under the Legal Context and Risk Management Standard Clauses headings*

### i. Additional legal conditions

Any designations on maps or other references employed in this project document do not imply the expression of any opinion whatsoever on the part of UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

By signing this UNDP GCF project document, the Implementing Partner also agrees to the terms and conditions of the GCF Funded Activity Agreement (FAA) included in Annex and to use the GCF funds for the purposes for which they were provided. UNDP has the right to terminate this project should the Implementing Partner breach the terms of the GCF FFA.

### ii. Legal Context Standard Clauses

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of (country) and UNDP, signed on 15 May 1978. All references in the SBAA to “Executing Agency” shall be deemed to refer to “Implementing Partner.”

### iii. Risk Management Standard Clauses

1. Consistent with the Article III of the SBAA [*or the Supplemental Provisions*], the responsibility for the safety and security of the Implementing Partner and its personnel and property, and of UNDP’s property in the Implementing Partner’s custody, rests with the Implementing Partner. To this end, the Implementing Partner shall:
  - a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
  - b) assume all risks and liabilities related to the Implementing Partner’s security, and the full implementation of the security plan.
2. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of the Implementing Partner’s obligations under this Project Document [and the Project Cooperation Agreement between UNDP and the Implementing Partner]<sup>31</sup>.
3. The Implementing Partner agrees to undertake all reasonable efforts to ensure that no UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via [http://www.un.org/sc/committees/1267/aq\\_sanctions\\_list.shtml](http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml). This provision must be included in all sub-contracts or sub-agreements entered into under/further to this Project Document.

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<sup>31</sup> Use bracketed text only when IP is an NGO/IGO

4. Consistent with UNDP's Programme and Operations Policies and Procedures, social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (<http://www.undp.org/ses>) and related Accountability Mechanism (<http://www.undp.org/secu-srm>).
5. The Implementing Partner shall: (a) conduct project and programme-related activities in a manner consistent with the UNDP Social and Environmental Standards, (b) implement any management or mitigation plan prepared for the project or programme to comply with such standards, and (c) engage in a constructive and timely manner to address any concerns and complaints raised through the Accountability Mechanism. UNDP will seek to ensure that communities and other project stakeholders are informed of and have access to the Accountability Mechanism.
6. All signatories to the Project Document shall cooperate in good faith with any exercise to evaluate any programme or project-related commitments or compliance with the UNDP Social and Environmental Standards. This includes providing access to project sites, relevant personnel, information, and documentation.



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## **XII. MANDATORY ANNEXES**

The following documents are mandatory annexes and must be included as part of the final project document package. These documents must be posted to [open.undp.org](http://open.undp.org), and can also be posted to the UNDP Country Office website as appropriate.

1. GCF Term sheet and Funding Activity Agreement
2. Direct project cost letter of agreement (template)
3. Letter of agreement between the Implementing Partner and Responsible Parties
4. Letters of co-financing
5. Social and environmental screening procedure (signed) and management plan for moderate risk projects (in English and local language as required by GCF disclosure policy. Note that these documents should have been disclosed on the UNDP CO website for 30 days in advance of the GCF Board Decision to approve this project.)
6. Gender analysis and action plan (in English and local language)
7. Map of project location (s) with GPS coordinates
8. Monitoring Plan (see template below)
9. Evaluation Plan (see template below)
10. Timetable of project implementation (included as Annex to the GCF project document)
11. Procurement plan (included as Annex to the GCF project document)
12. Terms of reference for Project staff (including Senior Technical Advisor; M&E specialist; Gender specialist; Safeguards advisor etc... as appropriate)
13. UNDP Project Quality Assurance Report (to be completed by UNDP Country Office)
14. UNDP Risk Log (complete offline template below)
15. Results of the capacity assessment of the project implementing partner and HACT micro assessment (to be completed by UNDP Country Office)
16. Any additional agreements, such as cost sharing agreements, project cooperation agreements signed with NGOs (where the NGO is designated as the “executing entity”)

**Monitoring Plan:** The Project Manager will collect results data according to the following monitoring plan.

**Guidance to project developer:** The data for most indicators should be readily available from existing and credible national or international sources. It should be feasible and affordable to gather the data for the indicators on an annual basis.

Monitoring	Indicators	Description	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
SDG indicator	<b>Indicator 13.1.1</b>	Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population	National disaster database annual statistics	Annually  Reported in DO tab of the Annual Project Report	Directorate for Disaster Prevention and Control	National statistics report	Risk that a major event could negatively impact aggregate figures distorting annual figures
	<b>Indicator 13.1.3</b>	Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies	Annual reports from provinces submitted to the Directorate of Disaster Prevention and Control	Annually	As above	Annual disaster prevention and control report	Delays in submission of provincial reports
	<b>Indicator 3</b>	13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer,	Viet Nam annual SDG communication	Annually	MPI	Annual disaster prevention and control and SDG progress reports	Data is collected and collated by MPI in an effective manner

Monitoring	Indicators	Description	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
		<i>and development actions</i>					
<b>UNDP Strategic Plan IRRF Indicators</b>	<b>1.3.</b>	<i>Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste</i>	<i>Annual project reports</i>	<i>Annually</i>	<i>PMU</i>	<i>Reports posted online</i>	<i>Slow progress due to political factors to implement nationally agreed climate commitments</i>
	<b>1.4</b>	<i>Scaled up action on climate change adaptation and mitigation across sectors which is funded and implemented</i>	<i>Annual project reports</i>	<i>Annually</i>	<i>PMU</i>	<i>Reports posted online</i>	<i>Slow progress due to political factors to implement nationally agreed climate commitments</i>
<b>Fund level Impact A3.0 Increased resilience of infrastructure and the built environment to climate change</b>	<b>3.1</b>	<i>Number and value of physical asset made more resilient to climate variability and change, considering human benefits</i>	<i>Annual project projects</i>	<i>Annually</i>	<i>PMU</i>	<i>Site visits, progress reports by executing entity, coastal mapping by communities</i>	<i>Government housing programme, targeting a total of 26,500 houses continues as planned.</i>
<b>Fund level Impact M4.0 Reduced emissions from land use, reforestation, reduced deforestation, and</b>	<b>4.1</b>	<i>Tonnes of carbon dioxide equivalent (tCO2eq) reduced or avoided (including increased removals) as a result of Fund-</i>	<i>Annual project reports</i>	<i>Annually</i>	<i>PMU</i>	<i>Site visits, reports</i>	<i>Extreme weather event does not destroy fragile seedlings. (Measures will be taken to protect mangroves in early growth stages, e.g. bamboo fencing to protect from storm surges)</i>

Monitoring	Indicators	Description	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
through sustainable forest management and conservation and enhancement of forest carbon stocks		<i>funded projects/programmes</i>					
Project Outcome 9.0 Improved management of land or forest areas contributing to emissions reductions	9.1	<i>Hectares of land or forests under improved and effective management that contributes to CO2 emission reductions</i>	<i>Annual project reports</i>	<i>Annually</i>	<i>PMU</i>	<i>Site visits, progress reports by executing entity</i>	<i>Extreme weather event does not destroy fragile seedlings. (Measures will be taken to protect mangroves in early growth stages, e.g. bamboo fencing to protect from storm surges)</i>
Project Outcome A6.0 Increased generation and use of climate information in decision-making	6.2	<i>Use of climate information products/services in decision-making in climate-sensitive sectors</i>	<i>Annual project reports</i>	<i>Annually</i>	<i>PMU</i>	<i>Reports</i>	<i>Data collection efforts in first years of project are successful</i>
Project Output 1 Storm and flood resilient design features added to 4,000 new houses on safe sites, benefiting 20,000 poor and highly disaster-exposed people in 100 communes	1	<i>Number of households provided with resilient homes (disaggregated by gender)</i>	<i>Annual project reports</i>	<i>Annually</i>	<i>PMU</i>	<i>Results of commune selection process, site visits, progress reports by executing entity, community monitoring</i>	<i>Government housing program, targeting a total of 26,500 houses, continues as planned.</i>
Project Output 2 Regeneration of 4,000 hectares of coastal mangrove	1	<i>Hectares of land or forests under improved and effective</i>	<i>Annual project reports</i>	<i>Annually</i>	<i>AsPMU</i>	<i>Site visits, progress reports by executing entity</i>	<i>Extreme weather event does not destroy fragile seedlings. (Measures will be taken to protect mangroves in early</i>

Monitoring	Indicators	Description	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
storm surge buffer zones using successful evidence-based approaches		<i>management that contributes disaster risk reduction, as well as to CO2 emission reductions</i>					<i>growth stages, e.g. bamboo fencing to protect from storm surges)</i>
<b>Project Output 3</b> Increase access to enhanced climate, loss and damage data for private and public sector application	1	<i>Number of disaster database established/supported and number of climate policy/regulatory frameworks supported</i>	<i>Annual project reports</i>	<i>Annually</i>	<i>PMU</i>	<i>Reports</i>	<i>Data collection efforts in first years of project are successful</i>
<b>Mid-term Review</b>	N/A	N/A	To be outlined in MTR inception report		<i>Independent evaluator</i>	Completed MTR	
<b>Environmental and Social risks and management plans, as relevant.</b>	N/A	N/A	Updated SESP and management plans	Annually	Project Manager UNDP CO	Updated SESP	
<b>Gender action plan as relevant</b>	1	Number of gender action plans developed and approved	To be developed during inception phase	2017	Gender expert	Approval of plan by NPD for application in project activities	NPD agrees with gender findings of expert
<b>Stakeholder engagement plan as relevant</b>	1	Number of stakeholder engagement plans developed and approved	To be developed during the inception phase	2017	NDP and PMU team	Approval of plan by NPD for application in project activities	NPD and provinces agreed with suggested actions in the plan.

**Evaluation Plan:**

<b>Evaluation Title</b>	<b>Planned start date Month/year</b>	<b>Planned end date Month/year</b>	<b>Included in the Country Office Evaluation Plan</b>	<b>Budget for consultants<sup>32</sup></b>	<b>Other budget (i.e. travel, site visits etc...)</b>	<b>Budget for translation</b>
<b>Terminal Evaluation</b>	<i>July 2021 3 months before operation closure</i>	<i>January 2022 To be submitted to GCF within three months of operational closure</i>	<i>Yes Mandatory</i>	<i>USD 30,000 – 60,000</i>		<i>USD 5,000</i>
<b>Total evaluation budget</b>				USD 35.000		

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<sup>32</sup> The budget will vary depending on the number of consultants required (for full size projects should be two consultants); the number of project sites to be visited; and other travel related costs. Average # total working days per consultant not including travel is between 22-25 working days.

## OFFLINE UNDP RISK LOG

To be entered into Atlas by UNDP Country Office

#	Description	Date Identified	Type (equivalent to GCF risk category)	Impact & Probability (equivalent to GCF level of impact + probability of risk occurring)	Countermeasures / Mngt response (equivalent to GCF mitigation measures)	Owner	Submitted, updated by	Last Update	Status
1	Capacity of MARD to absorb and to deliver as planned, given other pressures, including management and delivery of other programmes and projects, inexperienced staff and insufficient equipment.  <i>(In Atlas, use the Description field. Note: This field cannot be modified after first data entry)</i>	06/2016	Technical and operational	Could lead to project delays and ineffective implementation.  P = 2 (proposal said "Low")  I = 3	Probability of risk is low due to mitigation measures: <ul style="list-style-type: none"> <li>• Close integration of project with on-going priorities.</li> <li>• Delegation of project activities to co-Implementing Partner/Executing Entities, who will work directly with provincial partners.</li> </ul> Capacity support to partner by UNDP (see NIM description in section F.4. of the GCF Proposal)  <i>(in Atlas, use the Management Response box. This field can be modified at any time. Create separate boxes as necessary using "+", for instance to record updates at different times)</i>	UN Country office oversight staff  <i>(in Atlas, use the Management Response box)</i>	ACD Energy Environment  <i>(In Atlas, automatically recorded)</i>	05/2017)	Project inception
2	Complexity in coordination and communication:	06/2016	Technical and operational	Low level of integration of components reducing	Probability of risk is low due to mitigation measures:	National project	ACD Energy Environment	05/2017	Inception

	<p>many of the activities will involve more than one partner, which require regular coordination and frequent communication.</p>			<p>probability of transformative impact.</p> <p>P = 2 (proposal said "Low")</p> <p>I = 2 (proposal said "Low (&lt;5% of project value)")</p>	<ul style="list-style-type: none"> <li>• Roles and responsibilities between partners clearly specified in matrix, with lead partner responsible for budget and coordination/communication with other partners. Regular progress meetings held with Senior Level officials to ensure any challenges are addressed in a timely manner.</li> <li>• Project Officer in PMU specifically responsible for Project implementation, coordination and M&amp;ENPD and UNDP will monitor the Project implementation and if necessary will provide technical assistance at cost to improve coordination/communication.</li> </ul> <p>Monthly coordination meeting with all national project coordinators organized by PMU.</p>	<p>director (NPD)</p>			
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3	Ineffective implementation of M&E, including reporting.	06/2016	Technical and operational	<p>Poor understanding of project progress, effectiveness and areas in need of adjustment</p> <p>P = 1 (proposal said "Low")</p> <p>I = 2 (proposal said "Low (&lt;5% of project value)")</p>	<p>Probability of risk is low due to mitigation measures:</p> <ul style="list-style-type: none"> <li>At the start of the project, tailored orientation sessions and training for all national and sub-national staff involved in M&amp;E will be organized</li> <li>Project Officer in PMU specifically responsible for project M&amp;E providing day-to-day guidance and technical support</li> </ul> <p>Sufficient budget and budget source for M&amp;E will be agreed at the start of the project</p>	NPD	ACD Energy Environment	05/2017	Inception
4	Low survival rates of mangroves due to factors including community deforestation, pollution or other factors	06/2016	Social and environmental	<p>Lower levels of project effectiveness, lower carbon storage and project co-benefits, less transformative impact in the project.</p> <p>P = 2 (proposal said "Low")</p> <p>I = 3 (proposal said "Medium (5.1-20% of project value)")</p>	<p>Probability of risk is low due to mitigation measures:</p> <p>Approaches will replicate successfully diversified approaches and will be implemented using a community based methodology that will ensure clear consultation. This includes establishment of CBDRM committees involved at all stages of the project. Technical</p>	NPD	ACD Energy Environment	05/2-17	Inception

					site verification will assess potential pollution risk in advance, and community groups may in some cases wish to undertake advocacy or action to reduce risk, or suggest alternative sites to reduce pollution exposure.				
5	Lack of participation of women and other vulnerable groups in project design and implementation	06/2016	Social and environmental	Lower effectiveness of project impacts, reduced community level ownership  P = 1  I = 2	Probability of risk is low due to mitigation measures:  Replication of CBDRM methodologies that require at least 30% participation of women at all levels, and actively require participation from vulnerable groups and people of all ages. Formal monitoring and promotion of sex and age disaggregated data.	NPD	ACD Energy and Environment	05/2017	Inception
6	Grant for housing does not result in a completed storm-resilient construction or houses fall into disrepair	06/2016	Technical and operational	Lower quality houses increasing exposure of people and assets to climate change related disasters  P = 1 (proposal said "Low")  I = 2 (proposal said "Medium (5.1-20% of project value)")	Probability of risk is low due to mitigation measures:  While the incidence is very low, there are a small number of cases where house construction was started but never completed. The GCF project approach will follow the risk mitigation measures of	NPD	ACD Energy and Environment	05/2017	Inception

					<p>the government's housing programme - 70% of the grant is provided at the completion of the foundation, and the remaining 30% upon completion of the house frame meeting design requirements.</p> <p>The housing designs to be applied through the project have been developed to incur low on-going maintenance costs. Designs features also aim to ensure that the more vulnerable structural elements, such as roofs and corner bracings are reinforced during construction, reducing potential repair costs. (Due to their concrete construction, annual maintenance costs are often lower than in thatch and bamboo construction which requires significant annual care and investment). In addition, the project will also disseminate information on how to prepare for storms to reduce potential damage based on existing MOC materials</p>				
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					(i.e. securing items, use of sandbags, etc.). In the event that a house should be damaged during a storm despite these efforts, households will be eligible for limited compensation for repairs through existing disaster response assistance schemes operating at the provincial level.				
7	Earthworks related to mangrove restoration has any adverse impacts on the biodiversity (flora and fauna) of the area.		Technical and operational	Lower regeneration rates P = 1 (proposal said "Low")  I = 2 (proposal said "Medium (5.1-20% of project value)")	There is the potential for sediment movement during planting of the mangroves. To ensure that the sediment is not mobilized through either wind or more specifically water movement, it will be necessary to prepare an erosion control sediment plan and install silt curtains to restrict sediment movement. The plan shall contain aspects including but not limited to the installation of sediment curtains to reduce sediment movement and the covering of sediment where practicable.	Technical specialist mangroves	ACD Energy and Environment	05/2017	Inception

Determine overall risk rating as follows:

Score	Rating
5	Critical
4	Severe
3	Moderate
2	Minor
1	Negligible

**Rating the 'Probability' of a Risk**

Score	Rating
5	Expected
4	Highly Likely
3	Moderately likely
2	Not Likely
1	Slight

The combination of impact and probability is then used to determine the overall significance of the risk (Low, Moderate or High) using Table 4 as a guideline.

**Determining 'Significance' of Risk**

<b>Impact</b>	5					
	4					
	3					
	2					
	1					
		1	2	3	4	5
<b>Probability</b>						
<b>Green = Low, Yellow = Moderate, Red = High</b>						

