PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category:	Regular
Country:	Lao PDR
Title of Project:	Enhancing adaptive capacity in Lao PDR provinces, and building resilient housing in vulnerable communities
Type of Implementing Entity:	Multilateral Implementing Entity
Implementing Entity:	United Nations Human Settlements Programme (UN-Habitat)
Executing Entities:	Ministry of Public Works and Transport; Ministry of Natural Resources and Environment; Ministry of Education and Sports; Provincial Departments of Public Works and Transport (+NPSEs) and Provincial Departments of Natural Resources and Environment in Bokeo, Vientiane, Bolikhamxay, Khammouane, Champasak and Attapeu Provinces
Amount of Financing Requested:	USD 7,561,131

Project / Programme Background and Context:

The Problem: Climate change is having increasing adverse impacts on vulnerable communities and is hindering the achievement of development objectives.

Lao PDR is experiencing climate change impacts both in the form of an increasing occurrence of extreme weather events, and also in changes in seasonal weather patterns. The most severe impacts are resulting from floods, landslides, tropical storms, cyclones and droughts. Impacts are borne in social, economic and environmental fields and include loss of life, population displacement, shelter destruction and severe economic loss. It is estimated that 2.8% to 3.6% of Lao PDR's annual GDP is lost due to floods alone.[1] Although extreme weather events are occurring with increasing frequency, particular years stand out in terms of the amount of damage sustained. A comparison of selected impacts of disasters from 2008 - 2020 is shown in Table 1. It shows that especially severe losses were experienced from devastating floods in 2018 and 2019.

Table 1: Losses from disasters 2008-2020

Disaster Type	Year	People Affected	Deaths	Cost of Damages (USD)
Flood	2008	243,342[2]	3[2]	17,157,2242
Typhoon Ketsana	2009	271,943[2]	28[2]	58,000,0002
Tropical Storms Haima and Nokten	2011	429,954[2]	42[2]	220,568,382[2]
Flood	2013	353,966[2]	25[2]	280,375,000[2]
Flood	2014	15,308[2]	1[2]	
Flood	2015	37,815[2]	0[2]	7,434,604[2]
Drought	2016	NA	0[2]	126,200[2]
Floods after Tropical Storms Son-Tinh and Bebinca	2018	616,145[3]	56 (as of Oct 2018)[3]	147,000,000 + losses of 224,500,000[3]
Floods	2019	1,000,000+[4]	19[4]	
Drought	2019 - 2020	67,800[4]		
Floods	2020	69,764[4]	2[5]	

The low level of adaptive capacity in Lao PDR makes its population particularly vulnerable to the climate related events to which it is exposed. The 2021 INFORM Risk country profile for Lao PDR gave it a rating of 6/10 for lack of coping capacity. This shows that it has significantly less coping capacity than that of other countries in the region.[6] The mandate for climate change adaptation is held by the Ministry of Natural Resources and Environment (MONRE) which was only established in 2011, and which is still establishing itself at the subnational level in terms of infrastructure, systems and human capacity. In some provinces there is little understanding of climate change and minimal cross-sectoral coordination. The lack of a strong focal point and technical support at the provincial and district levels hinders relevant sectors in progressing the integration of climate change adaptation into their plans and activities. This is evident in the case of the housing and urban planning sector. At the same time, the country is experiencing rapid development, with high rates of urbanisation and a critical lack of basic services provision, which increases exposure, vulnerabilities and inequalities while contributing to environmental degradation. In terms of urban development and human settlements, the country is largely focused on the development of infrastructure projects aimed at economic growth, while other sectors such as public spaces, basic service provision and housing remain underfunded and overlooked.

Adaptation is a pressing priority in Lao PDR, and the provision of socially inclusive and resilient housing can play a critical role in enhancing local resilience, advancing capacities to cope with climate change effects, and safeguarding rights to housing in times of climate change. There has, to date, been no adaptation intervention in Lao PDR with a focus on housing, and the Government is of the view that the housing sector is in need of urgent attention. UN-Habitat's knowledge of the sector is informed by experience in shelter cluster recovery and reconstruction which dates back to 2008 in Lao PDR. Most recently, UN-Habitat successfully implemented a shelter recovery project in southern Lao PDR following extreme flooding. As the co-lead of the Inter-Agency Standing Committee (IASC) shelter cluster, and the lead of the UN Sustainable Development Cooperation Framework (UNSDCF) shelter output, UN-Habitat is keenly aware of the vulnerability in housing and urban

[1] World Bank, 'Recovery and Resilience in Lao PDR', The World Bank, 2019

[2] Laos Statistics Bureau, 'Laos Country Report

[3] Government of Lao PDR, 'Post-Disaster Needs Assessment, 2018 Floods, Lao PDR', 2018

[4] CFE-DM, 'Lao PDR Disaster Management Reference Handbook', 2021

[5] AHA Centre, 'Tropical Storms "Linfa" & "Nangka" Cambodia, Lao PDR, Viet Nam: Flash Update #4', 2020

[6] INFORM, 'Lao PDR: INFORM Risk Country Risk Profile', 2021

planning.

Economic Context

At a macroeconomic level, the trajectory of Lao PDR's economy has been significantly affected by the Covid-19 pandemic. Following a growth of 7% in 2016, the rate of growth in real GDP gradually dropped over the following years to 4.7% in 2019. With the advent of the pandemic, real GDP decreased to -0.5% in 2020 but was predicted to increase to 4% in 2021 and 4.5% in 2022[7], providing that the global and local economies recover from the pandemic. Table 2 shows selected macroeconomic indicators as shown by the International Monetary Fund (IMF) Datamapper dated April 2021.[8]

Table 2: Macroeconomic indicators 2021

GDP (billion USD)	20.44
GDP per capita (USD)	2,770
GDP growth	4.6%
Current account balance (billion USD)	-1.525
Current account balance, percent of GDP	-7.5
Inflation rate, average consumer prices (Annual percent change)	4.9
General government gross debt (Percent of GDP)	68.3

The budget for domestic development is constrained by several macroeconomic factors. Lao PDR has an increasing external debt which stood at 9.935 billion USD in 2019.[9] A 2019 study found that Lao PDR's debt carrying capacity had deteriorated and its debt distress was assessed as high.[10] The maturing of major sovereign debts together with limited external financing options were the major factors causing the country to be downgraded in 2020 by both Moody's Investors Service and Fitch Ratings. Although the 2019 current account deficit of 12.1% of GDP decreased to 7.3% of GDP in 2020 due to a slowdown on imports during the Covid-19 pandemic, this is not expected to signal a new trend, and it is projected to increase to 7.8% of GDP in 2021 and 8.0% in 2022.[11]

Lao PDR's tenuous external position places restrictions on its fiscal operations and has resulted in a number of strategies and action plans being put on hold due to a scarcity of funding. Fiscal stress was exacerbated in 2020 by a 14.6% contraction in revenue collection.[12] This contributed to a 2020 budget deficit equivalent to 5.3% of GDP.

Macroeconomic indicators do not convey the situation of local populations in Lao PDR especially since comparably high levels of economic growth have not translated into corresponding poverty reduction, and inequality is rising. Much of GDP is driven by foreign investment in sectors which employ a small percentage of the workforce. Figure 1 shows that, although the percentage is gradually declining, the majority of the workforce is employed in the agricultural sector. However, this sector is only responsible for a small percentage of GDP. The agriculture sector is particularly vulnerable to extreme weather events and climate change, potentially increasing pre-existing vulnerabilities. The industry sector is dominated by major projects in the electricity, mining, and infrastructure sectors. The services sector has grown in recent years however, this was the sector which was most severely impacted by Covid-19 and the ensuing lockdowns in both 2020 and 2021 as shown in Figure 2. In urban areas in particular, service sectors such as travel, tourism and hospitality constitute a significant proportion of the workforce, and the major contraction in these areas, as a result of the pandemic, caused high unemployment, with an estimated 96,000 to 214,000 additional people projected to fall into poverty.[13] A lack of organised social protection leaves a large proportion of poor workers and unemployed people vulnerable to socioeconomic shocks.

Figure 1: Employment and Value Added by Sector: 2010–2018 Figure 2: Sector contributions to growth.

[7] Asian Development Bank, 'Asian Development Outlook 2021: Financing a Green and Inclusive Recovery', 2021

[8] International Monetary Fund@, 'World Economic Outlook Database', 2021

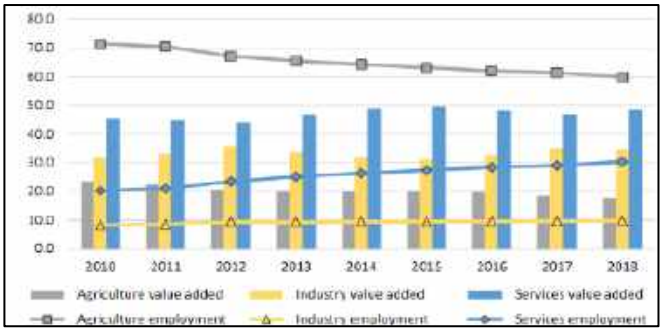
[9] 'World Bank Open Data' (World Bank), accessed 14 June 2021

[10] International Development Association and International Monetary Fund, 'Lao PDR Joint World Bank-IMF Debt Sustainability Analysis', 2019

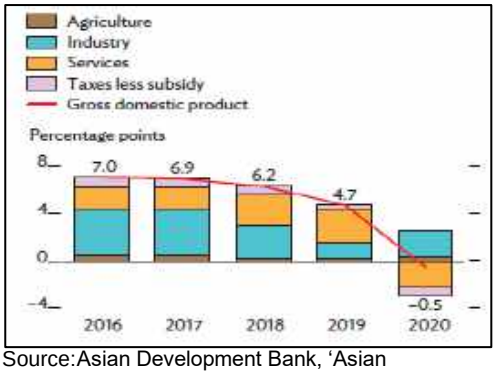
[11] Asian Development Bank, 'Asian Development Outlook 2021: Financing a Green and Inclusive Recovery'.

[12] Asian Development Bank.

[13] World Bank, 'COVID-19 to Impact Lao PDR Growth, Debt in 2020: New World Bank Report', 2020



Source:ADB, 'Analysis of Human Capital and Labour Force Participation', 2019



Source:Asian Development Bank, 'Asian Development Outlook 2021: Financing a Green and Inclusive Recovery'

Lockdowns have disproportionately affected the livelihoods of those engaged in the informal work sector. According to a 2017 labour force survey, this sector comprises approximately 35 per cent of total employment in Lao PDR and includes a higher percentage of women than men.[14] There is no social security provision for workers in the informal economy, and vulnerable groups often face food and income insecurity as a result. Human resource capabilities to design and implement social protection are limited.

Social Context

The most recent census in Lao PDR was carried out in 2015. According to the census, there were 3,237,458 females in Lao PDR and 3,254,770 males, making a total population of 6,492,228.[15] The World Bank gives a more recent figure of 7,169,455 for the total population in 2019.[15] The population is relatively young, with the 2015 census showing 32 percent of the population aged 0-14 years, 64 percent of working age (15-64 years) and 4 percent aged 65 years or over. The 2015 dependency ratio was 57 dependent persons for every 100 persons of working age. This percentage of dependent people has been decreasing as the age structure has changed, with population growth slowing down. The population increased by 1.45% per annum from the 2005 census to the 2015 census.

Having a culturally and linguistically diverse population, there has been a focus to create a unified population of the state of Lao PDR, which was formed in 1975 and has been governed by the Lao People's Revolutionary Party (LPRP) since its formation. There are 49 officially recognized ethnic groups in Lao PDR. The largest group is Lao Loum, making up 53 percent of the population in 2015. Khamu make up 11 percent of the population, Hmong make up 9 percent and the remaining groups are smaller in number. The most widely spoken language is Lao and the dominant religion is Buddhism, although many smaller ethnic groups have animist beliefs. Having waves of migrants moving into Laos over thousands of years, with an intermingling of early groups, the term, "indigenous people" is not used in Lao PDR. Rather, the diversity of all ethnic groups is acknowledged and respected. As such, the term, "indigenous peoples" is not used in this concept note. Rather, "ethnic groups" is used, in keeping with the language used in Lao PDR. Ethnic groups are often concentrated in particular regions and in particular villages within regions. Minority ethnic groups are unique and diverse. In some areas of the country there are ethnic groups, particularly women in these groups, which are not well represented in decision making processes.[16]

Lao PDR is not a signatory to the 1951 Convention Relating to the Status of Refugees and there are few claims for international protection in the country. In cases where people are recognised by the UN Refugee Agency (UNHCR) as refugees, arrangements are made for third-country solutions via resettlement or complementary pathways.[17] Natural disasters, which are often climate-related, have led to varying numbers of internally displaced persons (IDPs), peaking at 103,00 in 2019, and dropping as low as 5 in 2021.[18] There are not effective systems in place to accommodate IDPs and many people were still living in unsanitary temporary accommodation in 2022, four years after being displaced by floods in 2018.[19]

[14] UNFPA & UN-Habitat, 'Impacts of COVID-19 in Vulnerable Settlements and Communities in Lao PDR', Position paper, 2020.

[15] Laos Statistics Bureau, 'Results of Population and Housing Census 2015' (Vientiane, 2015)

[16] Ministry of Agriculture and Forestry, 'Lao PDR: Northern Rural Infrastructure Development Sector Project: Ethnic Groups Development Framework', 2016

[17] UNHCR, 'Lao People's Democratic Republic', UNHCR, 2022.

[18] World Bank Group, 'Internally Displaced Persons, New Displacement Associated with Disasters (Number of Cases) - Lao PDR', World Bank Open Data, 2022.

[19] OHCHR, 'Lao Dam Disaster: UN Experts Decry Lack of Progress for Survivors Four Years On', UN Office of the High Commission for Human Rights, 2022.

With regard to **gender**, progress has been made on the advancement of women's status. However, this has not been evenly spread over geographic areas, ethnic groups and wealth levels. An example is that, based on a 2017 report, less than 60 percent of women in poor households are able to read and write, whereas the figure is over 80 percent for men.[20] Areas of concern include early marriage and adolescent pregnancies, of which Lao PDR has had the highest rates in Asia.[21] This contributes to a disparity between the numbers of males and females in secondary and tertiary education, with 48.6% of boys but only 42.9% of girls enrolled in upper secondary school in 2014/2015.[22] In terms of employment, the percentage of women in wage employment in the non-agricultural sector is low while a relatively higher percentage of women are self-employed or employed in informal non-wage jobs.[23] Businesses with female ownership are, on average, smaller than those owned by males. In political representation, as of 2017 Lao PDR had one of the highest proportions of women (27.5 percent) in national parliaments.[24] However, women are much less represented in decision-making at local levels, even though evidence worldwide has shown that women can become leaders of adaptation at the local scale. There is limited awareness and research for policy dialogue on urbanisation issues in Laos, including how they relate to gender, ethnicity, and inclusion in the local context, and this is a key challenge to be addressed to support sustainable development.[25]

Development Context

Since Lao PDR's formation in 1975, it has made steady developmental progress, as measured by the Human Development Index (HDI). In 2019, Lao PDR scored 0.613 on the HDI, which gave it a rank of 137 out of 189 countries and placed it in the range of medium human development.[26] Table 3 shows selected human development indicators as shown in the 2020 Human Development Report.

Table 3: Key Human Development Indicators for Lao PDR

Life expectancy at birth, female (years)	67.9
Life expectancy at birth, male (years)	66.1
Mortality rate, infant (per 1,000 live births)	37.6
Maternal mortality ratio (deaths per 100,000 live births)	185
Literacy rate, adult (% ages 15 and older)	84.7
Mean years of schooling, female (years)	4.9
Mean years of schooling, male (years)	5.7
Population in multidimensional poverty, headcount (%)	23.1
Vulnerable employment (% of total employment)	80.1
Internet users, total (% of population)	25.5

Source: http://hdr.undp.org/en/countries/profiles/LAO

Major progress has been made from the year 2000, when the HDI score was 0.471.[27]

A key focus of the Government is graduation from Least Developed Country (LDC) status with a vision of achieving upper-middle income status by 2030. In February 2021, the UN Committee for Development Policy (CDP) recommended that Lao PDR graduate with an extended 5-year preparatory period, in effect setting a date of 2026 as the graduation date assuming continued positive progress until then.

In March 2021 the Government of Lao PDR approved the country's 9th National Socioeconomic Development Plan (NSEDP) 2021-2025. This is the main development plan to which sectoral and subnational plans are aligned. In the past, there was a development focus on the exploitation of natural resources in the form of mining, hydropower, and land concessions to foreign companies. Although major projects in these areas generated rapid economic growth, the benefits were not distributed equitably throughout the population, and there were adverse environmental consequences. A paradigm shift in recent years has seen an emphasis on

[20] World Bank Group, 'Country Gender Action Plan for Lao People's Democratic Republic for the Period FY2017 - FY2021 (English)' (Washington, D.C., 2017)

[21] Idem

[22] Idem

[23] Idem

[24] Idem

[25] UN-Habitat (2020). Urbanisation: a rapid emerging development issue for Lao PDR

[26] UNDP, 'Human Development Report 2020: The Next Frontier—Human Development and the Anthropocene', 2020

[27] UNDP, 'Lao PDR: Human Development Indicators', 2020

inclusive, sustainable, and green economic growth. Key concerns in the 9th NSEDP development have been, "the challenges associated with COVID-19 response and recovery, sustainability and climate change, quality and inclusive growth, human capital, infrastructure development and the graduation from Least Developed Country status."[28] Outcome 4 of the 9th NSEDP targets Environmental Protection and Natural Disaster Risk Reduction.[29] Activities under Outcome 4 include striving to register and issue 1.6 million land titles nation-wide; mainstreaming climate change adaptation and mitigation into sectoral and local development plans; accelerating the development of nature-based solutions for environmental preservation and sustainable development; and ensuring that all people in Lao PDR, especially the most vulnerable and marginalised, have equitable access to natural resources in a responsible and transformative manner.[30] While the vision for inclusivity and sustainability is evident in national planning, there is limited financial and human capacity to implement the strategy at subnational levels. There is, therefore, a need for capacity building at local levels in order to decrease marked socioeconomic disparities between geographical areas.

Lao PDR is committed to the 2030 Agenda for Sustainable Development, aided by the UN Country Team which has a renewed impetus under Our Common Agenda.[31] This agenda includes re-embracing global solidarity and finding new ways to work together for the common good, with an exhortation to take bold steps to address the triple planetary crisis of climate disruption, biodiversity loss and pollution. Approximately 60 percent of the 160 indicators in the 8th NSEDP were linked to the Sustainable Development Goals (SDGs). An 18th SDG is to have "lives safe from UXO [unexploded ordnance]" since there are large areas of land which are still contaminated by UXOs, rendering the land unsafe to be used. The 2nd voluntary national review (VNR) of the SDGs is underway in 2021. As conveyed in its main message, lessons learned include a need for:

i. greater involvement of line ministries and provincial authorities.
ii. strengthening of administrative data systems along with enhancing institutional and statistical capacity building
iii. a multi-stakeholder approach which promotes collaboration and coordination across line ministries and between central-local levels.
iv. continued partnership to identify practical development financing strategy.
v. greater public awareness leading to increased support and partnerships.[32]

These lessons learned are relevant to much of the development interventions that are carried out in Lao PDR. There is an imbalance between national and subnational levels in terms of capacity, a lack of good, accessible data and a constant need to source finance in order to implement action plans.

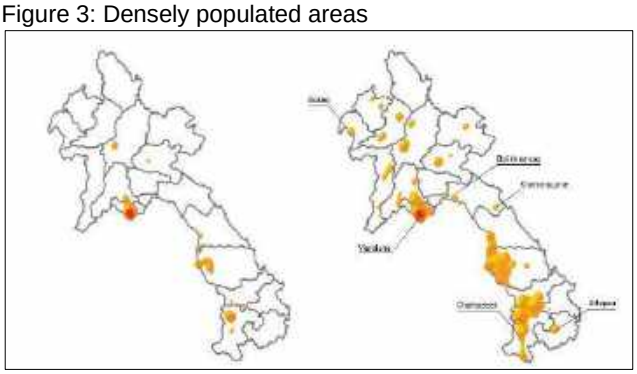
Housing

Housing is a key developmental sector and an important driver for sustainable development and poverty reduction in both social and economic terms. Linking people's needs, demands and social processes with land, infrastructure, building materials, technology, labour, and housing finance, a functioning housing sector offers appropriate, affordable housing and sustainable patterns of settlement.[33] In Lao PDR there are evident disparities in housing between rural and urban areas, and between small towns and large cities. A 2018 Post - Disaster Needs Assessment (PDNA) found the sector to be highly vulnerable to the effects of climate change. Most of the more robust houses are in Vientiane Capital and four secondary towns where the primary material used for construction is concrete or brick.[34] However, construction methods are sometimes inadequate and non-climate-resilient, using rigid systems dependant on air cooling which international research has shown to contribute significantly to GHG emissions.[35] In the rest of the country, wood is mostly used for walls and flooring.[36] In small towns, families often construct their own house to designs which differ across the provinces,

[28] Government of Lao PDR, 'Lao PDR 2nd Voluntary National Review: Main Message', 2021
[29] The 9th Five-Year National Socioeconomic Development Plan (2021-2025), Draft 5, 8 Dec 2020.
[30] Government of Lao PDR, 'Lao PDR 2nd Voluntary National Review: Main Message', 2021
[31] United Nations, 'Our Common Agenda: Report of the Secretary-General', 2021
[32] Government of Lao PDR, 'Lao PDR 2nd Voluntary National Review: Main Message'.
[33] UN-Habitat, 'A Practical Guide for Conducting: Housing Profiles', 2011
[34] Government of Lao PDR, 'Post-Disaster Needs Assessment: 2018 Floods, Lao PDR', 2018
[35] The Climate Institute (2018). Cooling your home but warming the planet
[36] Government of Lao PDR, 'Post-Disaster Needs Assessment: 2018 Floods, Lao PDR', 2018

depending on cultural factors and the construction materials available.

Figure 3: Densely populated areas



Source: UN-Habitat Lao PDR, based on Population and Household Census 2015

Photos are provided in Annex 1 of typical houses in the target districts. Poor households live in semi-permanent houses constructed of grass, bamboo, and plywood, with 15.7% of the houses in Attapeu Province being of this nature. Many houses show little resilience to flooding and storms, and some villages are in areas which are susceptible to these events. Houses in these locations, along with the householders' possessions and means of livelihood, are therefore damaged or destroyed when these weather events occur. This necessitates the construction of new houses, which are often constructed in the same manner as the previous ones.

Urbanisation

There is a growing trend of urbanisation across Lao PDR, with the 2016 UN-Habitat World Cities Report[37] identifying the Lao PDR as the most rapidly urbanising country in Southeast Asia. According to the 2015 census, approximately 33% of the Lao population lived in urban areas, mainly in Vientiane Capital.[38] However, there are many smaller settlements which are becoming more urban in nature due to a range of factors including rural-urban migration and government policy such as the practice of grouping a number of villages together to form a town.

Urban planning is not strong, particularly at local levels, with no comprehensive urban strategy, and many towns do not show evidence of having followed their urban plans, which often date from the 1990's or 2000's.[39] Along with poor coordination between the multiple ministries responsible for various aspects of urban planning and management, the populations of many small towns do not have access to basic services, and infrastructure such as waste management is often lacking. Consultation with the Department of Housing and Urban Planning (DHUP) of the Ministry of Public Works and Transport (MPWT), and MONRE has highlighted the necessity to update and revise master plans, in the process mainstreaming climate change issues and concerns. Figure 3 shows areas of high-density population.

Land-use planning and management is also poor, and urbanisation has resulted in agricultural lands and wetlands being converted to residential and economic developments in fast-growing urban and peri-urban areas. Land use plays a critical role in ensuring that all people, including the most vulnerable, have access to land tenure. In 2019 the Land Law was amended, and a Land-use Master Plan was developed. The Land Law includes an aim to register and issue 1.6 million land titles nation-wide by 2025. Some towns have a book which records family land plots, but the land plots have often not been measured, mapped, or recorded in a database. Despite legislative and policy documents, much development at the local level is still unplanned and arbitrary.

Urban poverty is expected to rise as the urban population increases because of the trends listed above. The increase in poverty is also being exacerbated by the Covid-19 pandemic and returning migrants. Moreover, many urban migrants are likely to be landless in their new place of residence, and therefore more dependent on cash income than if they were living in their place of birth. Research to date has shown that inequality within Laos has grown, with Vientiane Capital recording the highest rate of inequality.[40] Finally, urban policies are often targeting large-scale infrastructure development, and yet little attention has been paid to affordable and resilient housing development, or informal and vulnerable settlements upgrading.

[37] UN-Habitat, 'World Cities Report 2016: Urbanization and Development - Emerging Futures' (Nairobi, 2016)

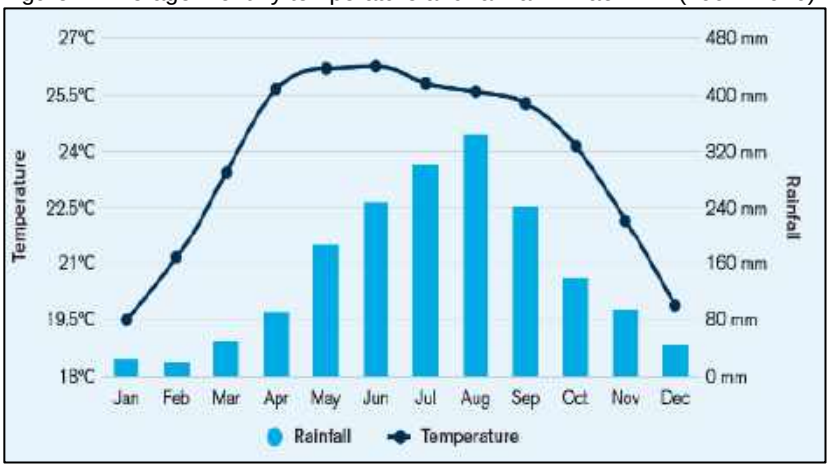
[38] Laos Statistics Bureau, 'Results of Population and Housing Census 2015'.

[39] Bosoni, N., Epprecht, M., & Hayward, D., 'Urbanization Processes in the Lao PDR: Processes,Challenges and Opportunities.', 2018

[40] Epprecht et al. (2018. Urbanization processes in the Lao PDR.

Environmental Context

Figure 4: Average monthly temperature and rainfall in Lao PDR (1991–2020)



Source: The World Bank Group and the Asian and Development Bank., 'Climate Risk Country Profile: Lao PDR', 2021

Having a wealth of natural resources on which much of the country depends, Lao PDR's development trajectory is reliant on the sustainable exploitation of its natural resources and the inclusive distribution of the benefits of their exploitation.[41]

Lao PDR is a landlocked country of 236,000 km^2 located in the Mekong region. The altitude ranges from 104 to 2,820 metres above sea level, with approximately 80% of the land area being mountainous. The remaining 20% of land area is a low-lying plain through which the Mekong River flows and on which more than 50% of the population live. In addition to the Mekong, numerous contributary rivers are an essential resource for socioeconomic development, particularly agriculture and hydropower, however the rivers also present a threat of seasonal flooding which is exacerbated by damage to ecosystems due to rapid development. The tropical climate is split into a monsoon season from May to mid-October, and a dry season from mid-October to April. Figure 4 shows average monthly rainfall and temperatures.

There are three climatic zones:

i. The northern mountainous areas above 1,000m in altitude which are relatively dry and the coolest region of the country.
ii. The central mountainous areas of 500 – 1,000m in altitude which have a tropical monsoon climate with an average annual rainfall of 2,500 to 3,500 mm.
iii. The tropical lowland plain and floodplains which have an average annual rainfall of 1,500 – 2,000 mm.

A key natural resource has been forests, which are now valued for their contribution to socio-economic development, environmental protection and biodiversity conservation, Work is underway to improve forest management and to integrate climate change concerns in order to protect forest ecosystems, improve productivity and increase carbon sinks. The previously high forest cover has significantly decreased over the years, mainly due to commercial logging, household use, shifting cultivation, agriculture extension, mining, hydropower, infrastructure development and expansion of settlement areas.[42] Forest cover reduced from 70% of land area in 1940 to 41.5% in 2002, before increasing to 58% in 2015.[43] Forest management is, therefore, a key focus and funding has come into the country through projects under the umbrella of Reducing Emissions from Deforestation and Forest Degradation (REDD+). A 2021 REDD+ strategy has a vision of forests that by 2030 are, "sustainably managed, protected, developed and utilised through the participation of all stakeholders in the whole society; forest management systems are enhanced; and forest can provide efficient economic, social and environment services."[44] Forestry has close links to nearby towns through the provision of livelihoods, provision of resources and their impact on ecosystems with resulting effects on vulnerability to climate change impacts.

Lao PDR is also rich in mineral resources which have been increasingly exploited for socioeconomic gains. However, the mining sector has recently lost appeal as an investment opportunity as a result of a global decline in prices, the depletion of mineral ores, a lack of clear legislation and, since 2020, lockdowns which have disrupted operations.[45] For local communities, economic potential in mining has often come at the expense of environmental and social well-being. Weak law enforcement has enabled a continued disruption to local

[41] Matthew McCartney and Jake Brunner, 'Improved Water Management Is Central to Solving the Water-Energy-Food Trilemma in Lao PDR', International Journal of Water Resources Development 37, no. 4 (4 July 2021): 619–39.

[42] Government of Lao PDR, 'Lao PDR First Biennial Update Report (Draft)', 24 July 2020

[43] Idem

[44] Ministry of Agriculture and Forestry, 'National REDD+ Strategy', 2021

[45] Oliver Tappe, 'Artisanal, Small-Scale and Large-Scale Mining in Lao PDR', ISEAS Perspective 44, no. 2021 (15 April 2021)

communities.

With its network of rivers, Lao PDR has abundant water resources which are of generally good quality. Despite this, deteriorating water quality is a concern in light of population growth and urbanisation. The hydrological profiles of rivers are being affected by irrigation and economic development strategies involving hydropower, agricultural commercialisation, and mining, as well as climate change. This is affecting the livelihoods of local communities and options for economic development. Water management is therefore a key focus.

As with other sectors, there are strategies and action plans to achieve environmental goals but with limited resources and little cross-sector collaboration. many of the plans have not achieved their targets.

Climate Change

Lao PDR is vulnerable to the impacts of climate change as shown by its 2018 ranking of 142 out of 181 countries in the 2020 ND-GAIN Index.[46] Country or subnational climate analysis has been carried out relatively recently and the Second National Communication noted a dearth of long-term historical climate data at the country level.[47] For this reason, international data has been relied on to give climate projections.

Climate change projections

In terms of temperature, World Bank data shows a long-time trend of warming. It has been estimated that the temperature near Vientiane rose 1.03°C from 1900-1917 to 2000-2017, with a marked acceleration in warming throughout the country in the 21st century.[48] The temperature is expected to continue to rise largely in keeping with the global average. Out of four scenarios, the maximum temperature rise by the 2090's from a 1986 – 2005 baseline is predicted to be 4.1° C, while the minimum is 1.2°C.[49] Minimum and maximum temperatures are expected to rise more rapidly than average temperatures, with the highest increases being in the hottest months.

Dry seasons are expected to lengthen, with droughts becoming more severe and more frequent.[50] There is also projected to be an increase in precipitation, with data from 1951–2012 showing a 1.6mm increase in rainfall per decade.[51] Mean annual rainfall is expected to increase further in the future, with the increases more pronounced during the wet season.[52] World Bank data projects potential increases of 10-30% particularly in the eastern and southern part of Lao PDR, and an increase in the number of annual wet days in the southern area of the Mekong River.[53] Intense and heavy rainfall has been associated with severe flooding and landslides.

[46] University of Notre Dame, 'Notre Dame Global Adaptation Initiative.', 2021. The ND-GAIN Country Index summarizes a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience.

[47] Government of Lao PDR, 'Second National Communication: Lao PDR', 2013

[48] World Bank Group and the Asian Development Bank, 'Climate Risk Country Profile: Lao PDR', 2021

[49] World Bank Group and the Asian Development Bank.

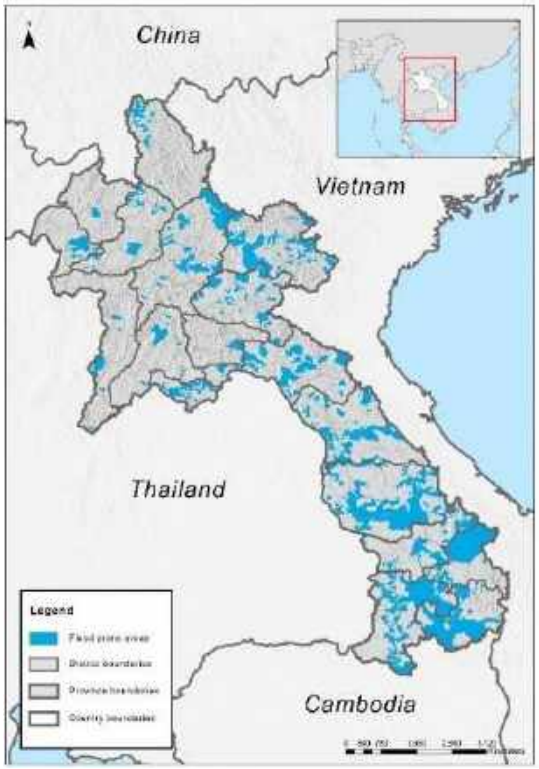
[50] Lao Statistics Bureau, 'Laos Country Report: 2019 KOICA-ESCAP Fellowship Programme, Capacity Building on Drought Monitoring and Early Warning'

[51] Government of Lao PDR, 'Post-Disaster Needs Assessment, 2018 Floods, Lao PDR'.

[52] World Bank Group, 'Lao PDR', Knowledge portal, Climate Change Knowledge Portal, 2021

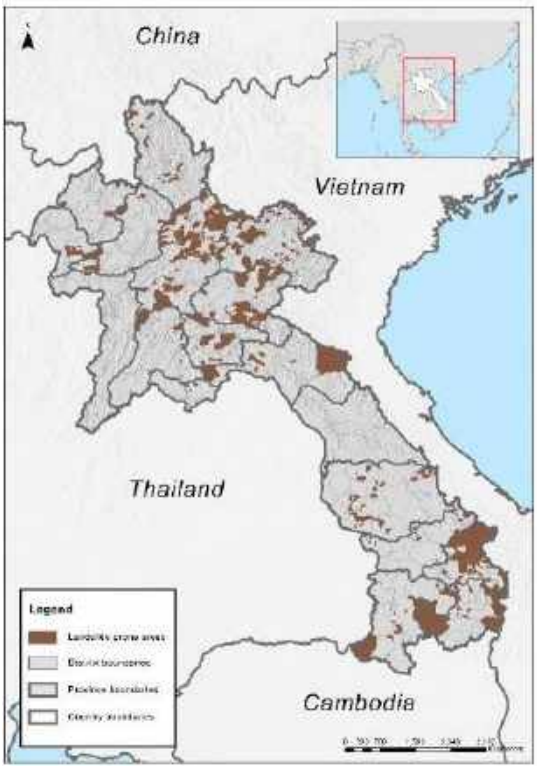
[53] Idem

Figure 5: Flood-prone areas



Source: UN-Habitat Lao

Figure 6: Landslide-prone areas



Source: UN-Habitat Lao

Lao PDR is extremely vulnerable to floods with the INFORM Country Profile showing a score of 9.1 on a scale of 0 – 10 for risk to floods.[54] Despite these projections, climate change impacts in Lao PDR are highly localised and may not play out the same in all districts. In 2019, UN-Habitat and MONRE carried out a national vulnerability assessment. All 8,500 villages, urban and rural, were covered in the assessment. Resulting data is shown in the maps in this section. Figure 5 and Figure 6 show areas that are prone to floods and landslides respectively.

Nationally, there are projected increases in droughts and tropical storms or cyclones, although more research is needed for detailed projections.[55] In recent years, drought has been experienced in Lao PDR in 2015, 2016 and 2019.[56] Research shows a strong correlation also between drought and El Niño–Southern Oscillation (ENSO) events, with 71 percent of flood or drought disasters in Lao PDR coinciding with ENSO events.[57] Added to heavy rainfall and droughts, Lao PDR experiences tropical storms and cyclones which are projected to increase in intensity. Figures 7 and 8 show drought and storm-prone areas.

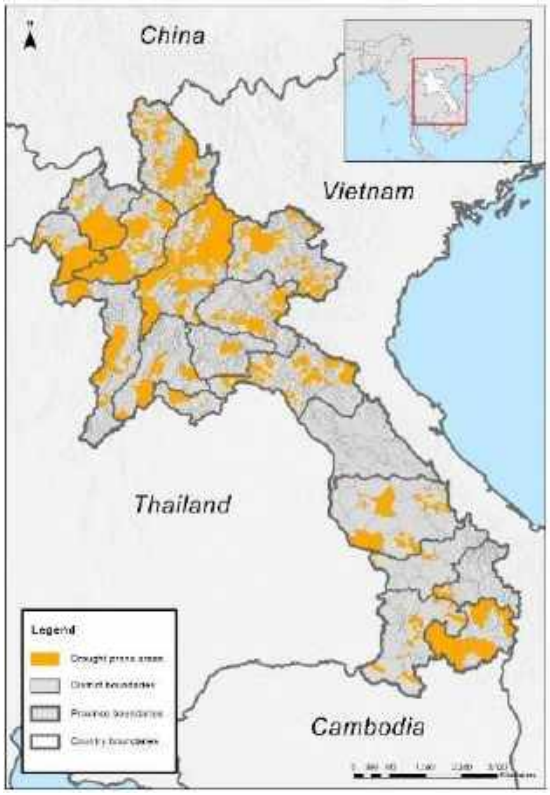
[54] INFORM, 'Lao PDR: INFORM Risk Country Risk Profile'.

[55] World Bank Group and the Asian Development Bank, 'Climate Risk Country Profile: Lao PDR', 2021

[56] Sutton, William R., Jitendra P. Srivastava, Mark Rosegrant, and Jawoo Koo, and Ricky Robertson, 'Striking a Balance: Managing El Niño and La Niña in Lao PDR's Agriculture', 2019

[57] Sutton, William R., Jitendra P. Srivastava, Mark Rosegrant, and Jawoo Koo, and Ricky Robertson.

Figure 7: Drought-prone areas



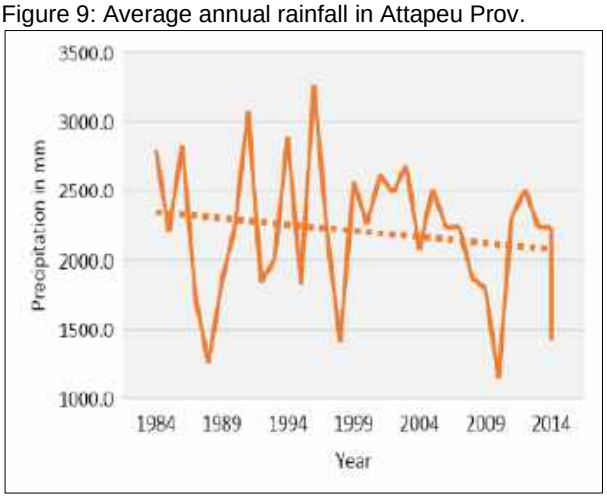
Source: UN-Habitat Lao

Figure 8: Storm-prone areas

Source: UN-Habitat Lao

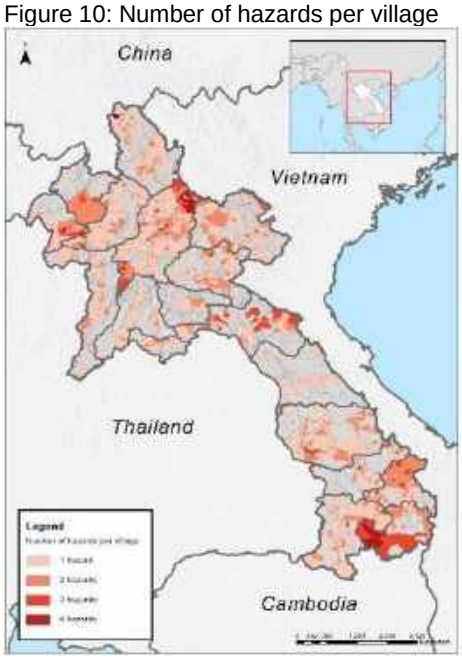
It can be seen that some areas are prone to multiple hazards. An example of this is shown in a UN-Habitat vulnerability assessment in Attapeu.[58] The last 30 years has seen a significant decrease in rainfall in Attapeu, with annual rainfall ranging from 1,196 millimetres in 2010, to 3,265 in 1996. Figure 9 shows the high variability in rainfall in Attapeu, with an overall downward trajectory. The variation has resulted in both extreme flooding and also droughts.

Figure 9: Average annual rainfall in Attapeu Prov.



Source: UN-Habitat CCVA

Figure 10: Number of hazards per village



Source: UN-Habitat CCVA

Figure 10 shows the number of hazards that a village is exposed to. The four identified hazards are floods,

[58] UN-Habitat, 'Climate Change Vulnerability Assessment: Attapeu Province', 2019.

droughts, landslides, and storms. Towns targeted by this proposal are highly vulnerable to the effects of climate change, stressing the need to improve urban planning and provide adequate and resilient shelter to the most vulnerable.

Climate change impacts

The impacts of climate-related severe weather events have already been experienced in Lao PDR, and they are projected to increase, affecting multiple sectors. Preliminary results from the national climate change Vulnerability Assessment, conducted by UN-Habitat and MONRE, show that 46% of villages have been exposed to at least one climate change-related hazard, affecting about 3 million people[59]. Extreme weather events have impacted agriculture, food security, access to water and public health among other areas. However, the full impacts may not be recognized as there is likely an under-reporting of climate-related hazards such as landslides and flash flooding in remote areas,[60] and impacts are often very localised. Drought and flood events are likely to push many already poor households into extreme poverty. In terms of human impacts, it is widely recognized that the poor will suffer more severe impacts, with women and children being particularly at risk. Poor households live day to day and do not have the resources to mitigate the impacts of climate – related shocks, with monoculture, a lack of diversity in livelihoods and limited infrastructure.[61] Women and children are particularly at risk as are households that depend on agriculture and fishing. Extreme weather events hinder efforts to build resilience for the future, as exemplified by the 2018 floods which impeded work to create a national rice reserve.[62] In a similar way, efforts to build resilience into the country's housing stock are constrained by a cycle of floods and emergency recovery interventions. Figure 11 shows houses which were damaged in floods caused by Tropical Storm Koguma in June 2021.

Figure 11:Flood Damage

Source: UN Habitat

Climate change impacts are expected in the agriculture sector although details remain uncertain. Changing weather and seasonal patterns may directly impact crops but there may be indirect impacts from soil erosion, the appearance of invasive species, decline in arable areas due to flooding or desertification, and changes in water resources, soil organic matter, and pest and disease profiles.[63] While the effects on rice-growing are uncertain, it has been suggested that changing temperature and rainfall patterns could see rice yields fall by 5–20% by the 2040s, with potentially more losses on higher emissions pathways.[64] Since rice is the staple food on which many households depend, changes such as this will have a significant impact on food security.

[59] UN-Habitat, 'Lao PDR National Climate Change Vulnerability Assessment: Preliminary Results', 2020.

[60] World Bank Group and the Asian Development Bank, 'Climate Risk Country Profile: Lao PDR'.

[61] Government of Lao PDR, 'Post-Disaster Needs Assessment, 2018 Floods, Lao PDR'.

[62] The World Bank Group and the Asian and Development Bank., 'Climate Risk Country Profile: Lao PDR', 2021

[63] The World Bank Group and the Asian and Development Bank.

[64] Li, S., Wang, Q., & Chun, J. A., 'Impact Assessment of Climate Change on Rice Productivity Inthe Indochinese Peninsula Using a Regional-Scale Crop Model', *International Journal of Climatology* 37, no. S1 (August 2017): 1147–60.

Climate Change Institutional Setup

In 2020, Lao PDR submitted its first Biennial Update Report (BUR) and its Nationally Determined Contribution (NDC) as part of its commitment to the Paris Agreement. Regarding adaptation, Lao PDR has completed a National Adaptation Program of Action (NAPA), National Climate Change Strategy, and Climate Change Action Plan for 2013-2020. These focus on building resilience in the key sectors of agriculture, forestry and land use, water resources, transport and urban development and health.

Climate change was initially dealt with under the umbrella of the environment but there has been an increasing focus on it as a standalone issue (albeit within the Environment arena). Over the past two decades there have been many institutional changes relating to climate change, but the current key ministry is the Ministry of Natural Resources and Environment (MONRE), which was established in 2011. In depth understanding of climate change and technical capacity is concentrated in MONRE, with staff at the Ministry of Agriculture and Forestry (MAF) also having capacity.

Key MONRE departments for climate change are the Department of Climate Change (DCC) and the Department of Meteorology and Hydrology (DMH). Perhaps due to the climate-related disasters which have impacted Lao PDR in recent times, there is often a conflation of climate change and natural disasters. This has resulted in institutional changes. DCC was formerly the Department of Disaster Management and Climate Change. The Disaster Management mandate moved to the Ministry of Labour and Social Welfare (MLSW) in 2017. It is only since this time in 2017 that an independent Department of Climate Change has existed, separate from disaster management, although Disaster Risk Reduction remains within DCC. DCC has the mandate to develop policy frameworks related to climate change but the responsibility for implementation rests with the relevant sectors. The focal points for the UNFCCC and related organisations are also found in DCC. While there is a high level of expertise at the national level, climate change capacity at the subnational level is more limited.

With the moving of the Disaster Management mandate to Labour and Social Welfare in 2017, it took some time for climate change responsibilities to be organised at the subnational level but mandates have now been clarified, with the Provincial Office of Natural Resources and Environment (PONRE) being the climate change focal point with other sectors, with the provincial government, and with the national and district levels.

As a recently established ministry, MONRE is still building capacity and infrastructure. While capacity is being built in some PONREs through a project-based approach, capacity in many District Offices of Natural Resources and Environment (DONRE)s is extremely low, and some districts do not yet have an office at all. Instead, district level staff are currently sitting in offices belonging to other sectors such as Agriculture and Forestry, among others. The lack of basic infrastructure at the district level is impeding operations and climate change adaptation coordination at the local level.

The DMH is also still developing its capacity and infrastructure throughout the country. Severe impacts from recent weather and climate events have led to an increased demand from many sectors for improved hydro meteorological products and services. To collect sufficient data to provide accurate climate modelling and weather forecasting there is a need for numerous meteorological and hydrological stations (meteorological stations to forecast weather and support climate prediction and risks and hydrological stations to observe river flow and water level, to also understand flood risks). This is due to the mountainous topography of Lao PDR, its interrelated river systems, and the localised nature of climatic conditions. To meet the need for data, a 2017 Meteorology and Hydrology Law gives MONRE the responsibility of developing and improving a meteorological and hydrological station network extension plan and managing the network. However, the limited resources provided for this task mean that the network master plan is only now being developed. Data is collected at the district level and transmitted to the central level for analysis, modelling, and forecasting.

Urbanisation and Climate Change Nexus

Considering the critical adaptation needs in the housing and urban planning sector, and their inherent links to the Natural Resources and Environment sector, considering also the needs for improved climate change coordination, this project brings together these sectors with the aim of strengthening the climate change adaptation coordination system, which will contribute to enhancing the resilience building components in housing and urban planning. Mainstreaming climate change considerations into town master plans and into housing construction practices is not only a central element of adaptation in the housing and urban planning sector but it is also a key requirement for meeting sector goals.

In preparation for the project, UN-Habitat, in partnership with District authorities in each of the target towns, conducted an analysis as part of a rapid vulnerability assessment with resulting data shown in Figures 12 to 17 below. These maps show the administrative boundaries of the towns and the areas within the town which are

at risk of climate-induced hazards. At-risk areas have been classified as follows:

- Hazard Level 4 experiences extreme flooding on an annual basis, to a depth of around 3 metres
- Hazard Level 3 experiences less severe flooding than Hazard Level 4, to a depth of 1 – 3 metres
- Hazard Level 2 experiences flooding to some extent but not on an annual basis, to a depth of less than 1 metre.

The hazard levels have been colour-coded in Figures 12 to 17, clearly showing the areas of the target towns which are subject to flooding. Further illustrations of flooding in the different zones can be seen In Annex 1.

Figure 12: Pha Oudom (Bokeo): Proposed Town Master Plan showing hazard levels.

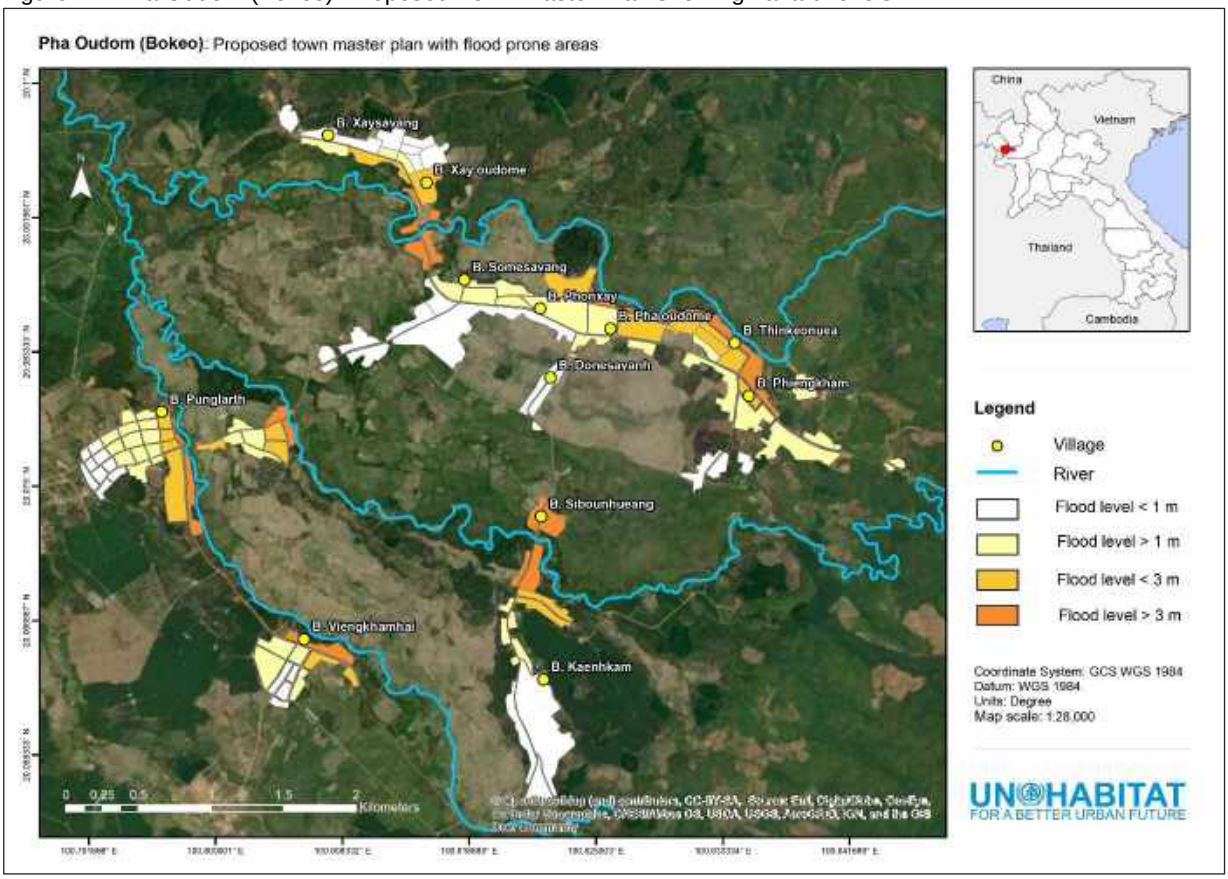


Figure 13: Nongbok (Khammouane) Proposed Town Master Plan showing hazard levels.

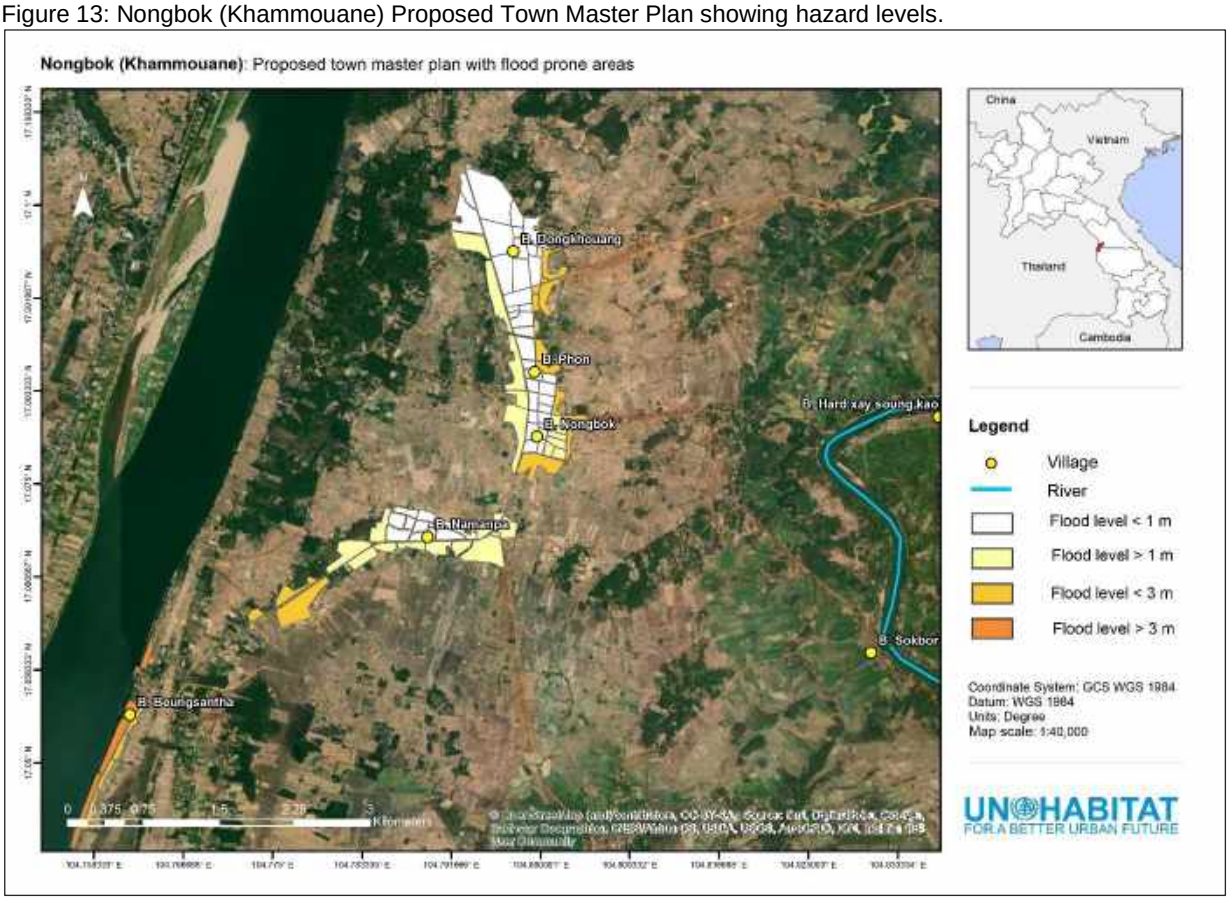


Figure 14 Xaychampone (Bolikhamxay) Proposed Town Master Plan showing hazard levels.

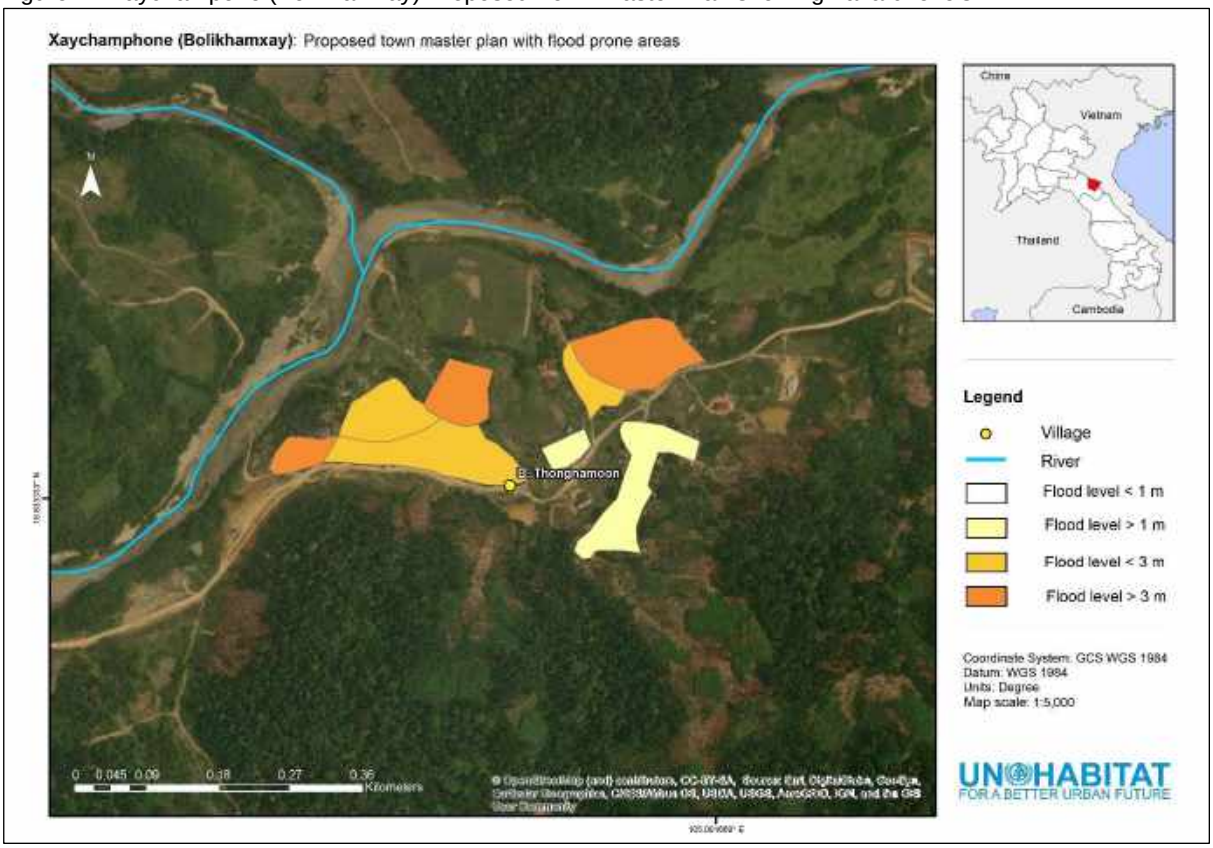


Figure 15 Moonlapamok Champasak) Proposed Town Master Plan showing hazard levels.

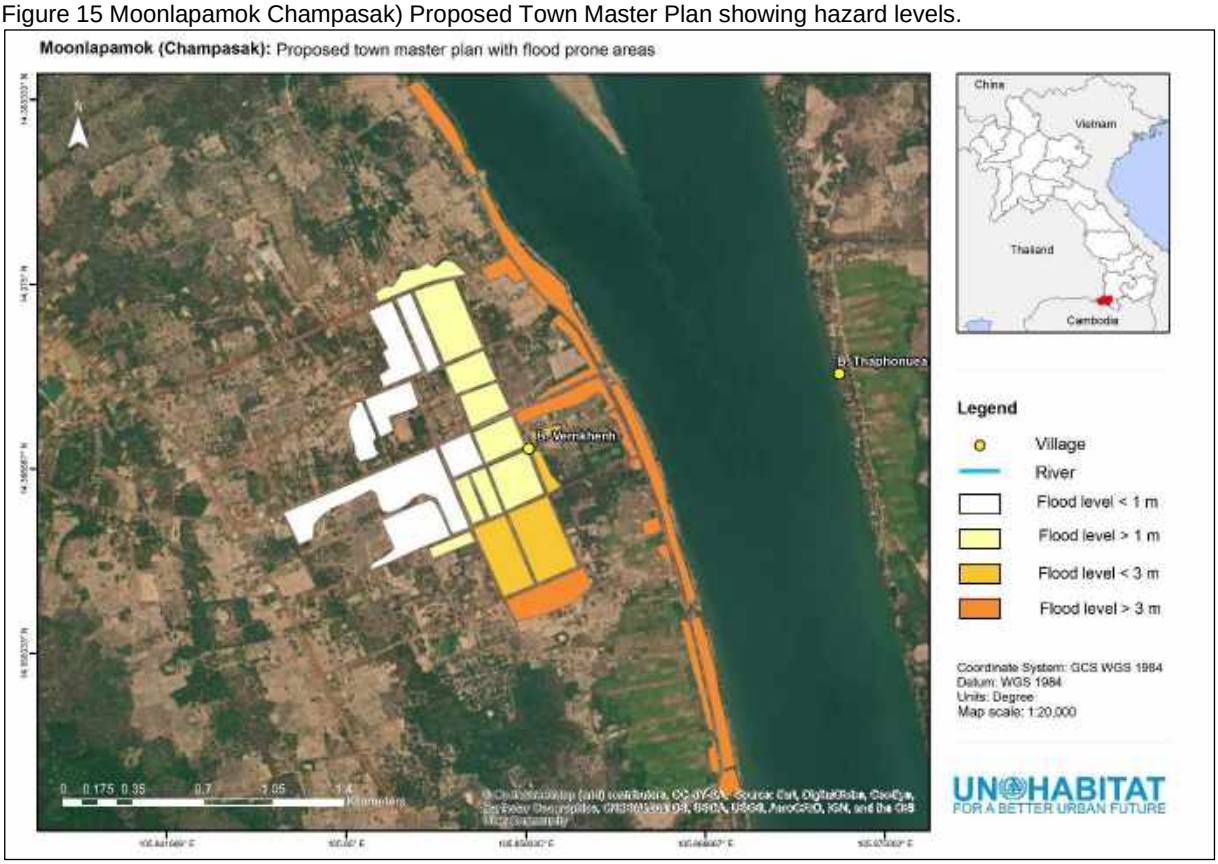


Figure 16 Phouvong (Attapeu) Proposed Town Plan showing hazard levels.

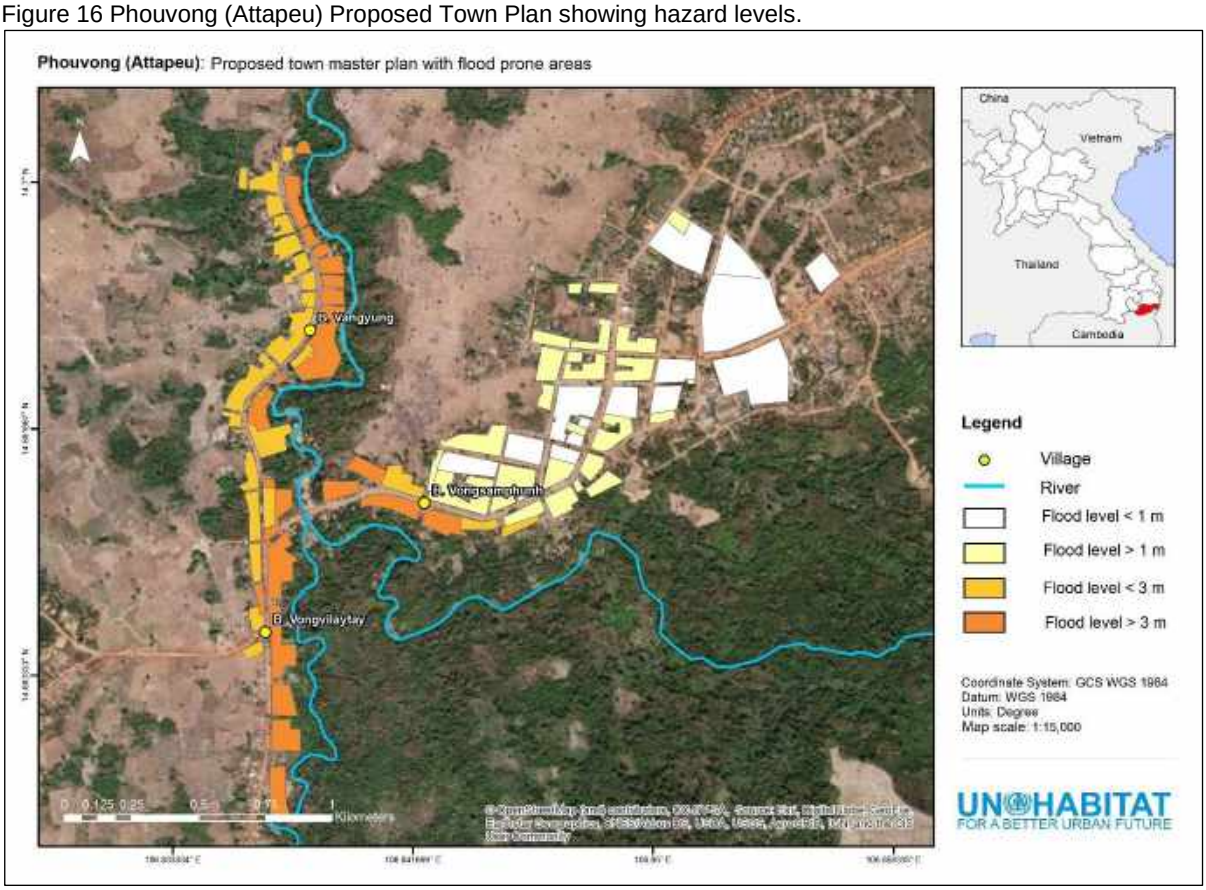
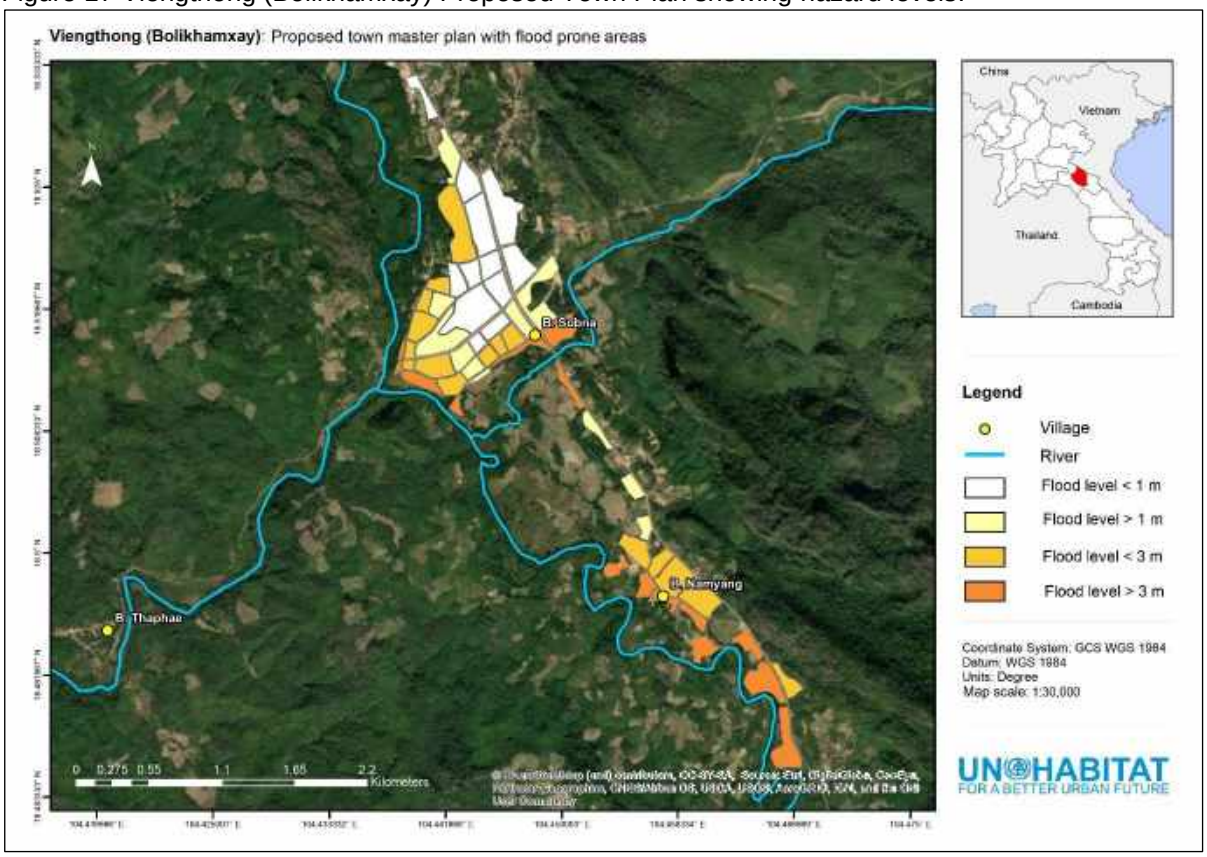
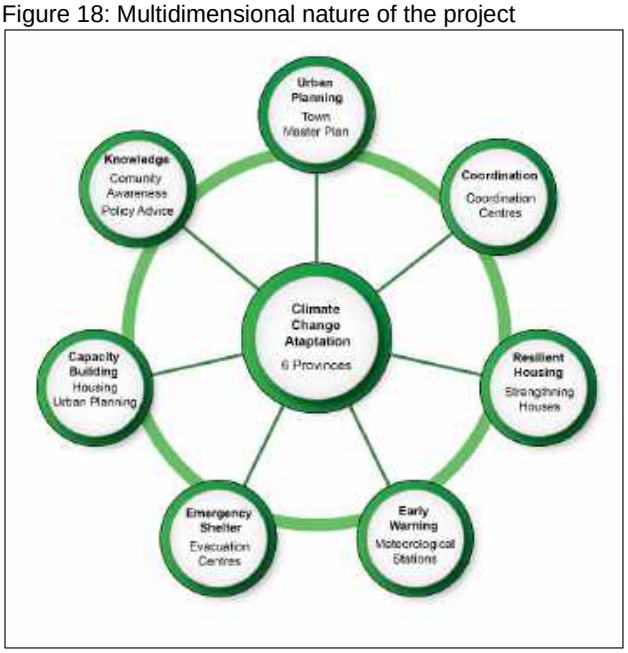


Figure 17 Viengthong (Bolikhamxay) Proposed Town Plan showing hazard levels.



Project / Programme Objectives

Figure 18: Multidimensional nature of the project



The main objective of the project is to build climate resilience in vulnerable, poor communities in six provinces in Lao PDR through improving climate adaptation capacity of provincial institutions, and through building resilience in housing. The project will take a comprehensive approach to increasing resilience in shelter and housing by working to improve and localise government adaptation systems as well as strengthening houses and community evacuation centres in selected vulnerable towns. This recognises that there are many dimensions to building resilience in the housing sector, including policy, planning and regulation; capacity building; strengthening construction practices; and improving early warning and evacuation systems. Houses will be rehabilitated, and a small number of demonstration houses constructed, in a manner which is designed to withstand climate induced hazards such as storms and floods as well as to meet the needs of all subsectors of the communities in which they are situated, including women, children, older persons, disabled people, internally displaced persons (IDPs), returning migrants and all represented ethnic groups. In addition to improving the resilience of housing for the poorest and most vulnerable members of the communities, the house rehabilitation and demonstration houses will spread awareness of climate resilient construction designs and techniques in order to promote changing local norms relating to housing construction. Many of the towns do not have effective town planning, and the project will build capacity at provincial and district levels in climate-resilient urban planning, resulting in adaptation being mainstreamed into the town plans, particularly regarding land use as the towns cope with rapid growth.

In addition to strengthening urban planning and house construction, the project will strengthen early warning systems by the provision of equipment for meteorological and hydrological stations in vulnerable districts of the target provinces which do not currently have a means of collecting the necessary data. As part of emergency preparations, community evacuation centres will be constructed or improved to provide a safe place for displaced people to shelter in times of crisis.

The final infrastructure component of the project comprises the construction of six Coordination Centres for Adaptation and DRR, which will double as DONRE offices, to coordinate adaptive and disaster risk management activities of the provinces.

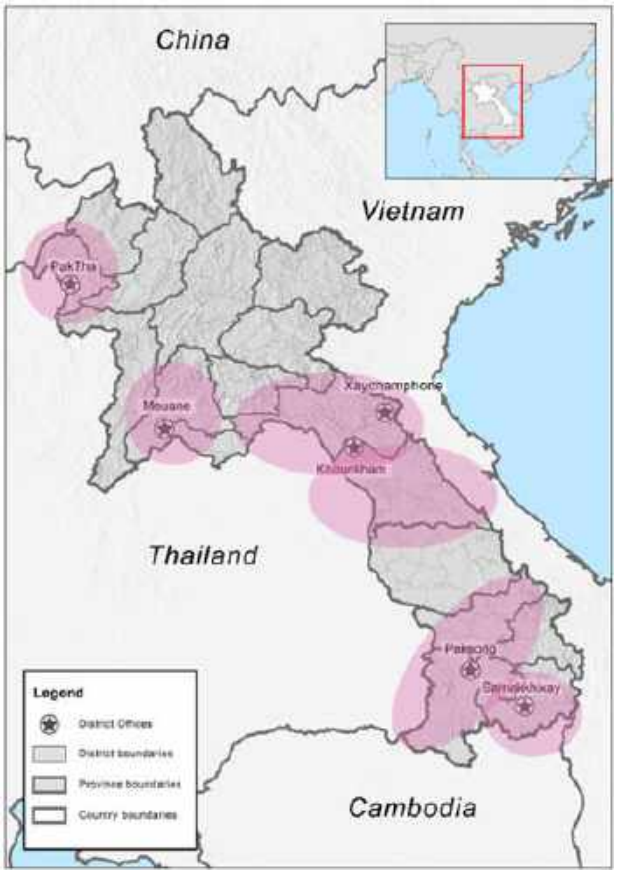
To inform the project, stakeholder consultations have been carried out at national and provincial levels, and in the target districts in all six provinces, with all identified subsectors of the target communities included. The project will be implemented in a participatory manner, with inclusive decision making at all stages. For newly constructed demonstration houses, a design has been developed, based on the data provided by the consultations.

The project takes a multidimensional approach to enhancing the adaptive capacity of the target provinces, as shown in Figure 18. Recognising that strong coordination is a key component, the project bolsters coordination including the building of Coordination Centres as the focal point for adaptation. Strong coordination will facilitate the urban planning component of the project, in which climate change adaptation will be integrated into town master plans. The housing sector will benefit through the reconstruction and rehabilitation of houses. In preparation for extreme climate-induced events, the early warning system will be strengthened through equipment to enable accurate data collection in the target areas, and community evacuation centres will be constructed or improved to provide shelter to affected households. Capacity building will be incorporated into the activities to ensure that the provinces are able to operate in an increasingly adaptive and resilient manner independently of the project.

Selection of Target locations.

The project targets six provinces in Lao PDR, as shown in Figure 19. The target locations have been selected taking into account a range of factors including the lack of urban planning, poverty levels in the towns, and data from the 2019 national vulnerability assessment that was jointly carried out by UN-Habitat and MONRE. The data collection had been carried out in partnership with provincial and district Natural Resources and Environment offices. From analysis of the vulnerability assessment, UN-Habitat identified the provinces with high vulnerabilities, and then identified the most vulnerable districts within those provinces. Next, population data was collected, including the percentage of population in poverty, women, youth, ethnic groups, female-headed households, etc. Also, the housing conditions / weaknesses were examined. The conclusions from this process, and suggested target districts, were then discussed with MONRE and MPWT who were in agreement with the suggestions, which were backed by scientific evidence. A further focus of the consultations with MONRE concerned weaknesses in the target provinces' adaptive capacity due to the lack of key infrastructure and services in certain districts, exacerbating those districts' vulnerability. The needed infrastructure was built into the project to enhance the overall adaptive capacity of the target provinces.

Figure 19: Target towns for town planning component



Detailed information on the outcomes of the climate change vulnerability assessments is available on request And information from the Rapid Vulnerability Assessments is provided in Annex 1. A profile of the target towns is provided in Table 4.

Per district, the following information was collected:
Climate change and disaster risks
Environmental issues
Demographics / population data (disaggregated)
Main sources of income
Housing conditions / weaknesses and health and WASH status
Prioritized needs, which include: 1) resilient shelter, 2) evacuation centres, 3) WASH facilities, 4) flood protection and, 5) water resource management.

As shown in Table 5 the activities are designed in response to specific needs identified in each province and its towns (identified through the climate change vulnerability assessments and consultations conducted in these areas). Female-headed households will be priority beneficiaries, while the needs and concerns of women and ethnic groups are taken into account with the designs of the houses and activities. For more info on this, see sections II.A, B and K.

Table 4: Outcome climate change vulnerability assessment and socioeconomic data from target towns

Location						
District Capital	Pha oudom	Viengthong	Xaychamphone	Nongbok	Moonlapamok	Phouvong
Province	Bokeo	Bolikhamxai	Bolikhamxai	Khammouan	Champasak	Attapeu
Climate Change						
Climate Hazard	Floods	Floods Storms	Floods Landslides	Floods	Floods	Floods Storms
Demographics						
Population District	45,905	35,913	10,750	53,618	37,469	13,806
Population Town	12824	8,535	1,913	12,416	8,784	8,279
Percentage of Women	49%	56%	55%	51%	49%	51%
Percentage of Youth	30%	31%	32%	27%	31%	30%
Percentage female-headed households	9%	5%	4%	13%	12%	8%
Average household members	5.5	6.3	6.8	5.4	5.4	5.1
Ethnicity						
Ethnicity 1	Lao Loum	Lao Loum	Toun	Lao Loum	Lao Loum	Lao Loum
% Ethnicity 1	19%	60%	32%	82%	85%	12%
Ethnicity 2	Khamou	Khamou	Tay	Photai	khmer	Brao
% Ethnicity 2	47%	15%	12%	18%	15%	80%
Ethnicity 3	Mong	Mong	Phong			Jeng and Alak
% Ethnicity 3	15%	25%	21%			8%
Most vulnerable Ethnic group	Khamou	Khamou	Toun, Phong	Photai	khmer	Brao
Poverty						
Number of households	2346	1357	283	2301	1632	1639
% of Poor households	9%	12%	35%	7.5%	23%	51%
Number of poor Households	199	163	100	173	328	837
Poverty Index	18.75	38.10	69.40	15.27	29.00	19.93
Economy						
Average income (USD/person/year)	629,38	1,833	795	1,771		554
Agriculture	85%	75%	80.6%	80%		80%
Farming					75%	
Industries	10%				16%	
Service	5%	5%	6%	6%	9%	5%
Commerce		5%	12.4%	6%		5%
Labour		15%	1.4%	8%		10%
Housing						
Roof type	85% (Tile/ CPAC/ Concrete) 15% (Bamboo)	50% (Tile/ CPAC/ Concrete) 50% (Concrete)	100% (Grass)	66% (Zinc) 34% (Tile/ CPAC/ Concrete)	100% (Zinc)	100% (Zinc)
Floor type	50%(Wood) 30%(Bamboo) 20%(Concrete)	100% (Wood)	100% (Wood)	100% (Ceramic/tile)	100% (Wood)	75% (Wood) 25% (Concrete)

Wall type	80%(Bamboo) 20%(Concrete)	100% (Bamboo)	100% (Wood)	100% (Brick/ Concrete)	100% (Wood)	50% (Wood) 25% (Brick/ Concrete) 25% (Bamboo)
Water source	15%(Mountain) 15%(Well borehole unprotected) 35%(Well borehole protected) 35%(Bottle/can)	50% (Mountain) 50% (Bottle/can)	100% (Mountain)	100% (Bottle/can)	100% (Bottle/can)	50% (Well borehole protected) 25% (Well borehole unprotected) 25% (Bottle/can)
Toilet type	100% (Flush/Pour flush)	100% (Flush/Pour flush)	-	100% (Flush/Pour flush)	100% (Flush/Pour flush)	-
energy cooking type	100% (Wood)	100% (Wood)	100% (Wood)	66% (Wood) 34% (Charcoal)	100% (Charcoal)	100% (Wood)
Percentage of villages having electricity (District)	35%	82%	54%	98%	64%	53%

Table 5: Target provinces proposed for project activities

Province	Housing reconstruction, rehabilitation and demonstration	Town master plan	DONRE office	New evacuation centre	Improved evacuation centre	New meteorology / hydrology station	Upgrading of existing meteorology/ hydrology station
Bokeo	1	1	1	1		1 (Paktha District)	2 (Pha Oudom & Paktha)
Vientiane		1	1			1 (Keooudom District)	2 (Meuen & Vang Vieng)
Bolikhamxay	2	2	1	1	1	1 (Xaychamphone District)	1 (Viengthong)
Khammouane	1	1	1		1	1 (Khounkham District)	1 (Nongbok)
Champasak	1	1	1		1	1 (Champasak District)	1 (Paksong)
Attapeu	1	1	1		1	1 (Xansai District)	2 (Samakhixay & Phouvong)

Components

Component 1: Increasing adaptive capacity of communities and provincial institutions to develop and sustain community infrastructure and housing.
Adaptive capacity at provincial and district levels of Natural Resources and Environment, and Housing and Urban Planning sectors will be increased through activities including improved urban planning that promotes and enforces resilience measures in shelter, land-use and spatial planning in seven target district capitals from six provinces, and through capacity building in adaptation practices including hydro-meteorological data gathering, climate-resilient construction, and management of evacuation centres. This capacity building is necessary to enable the hardware activities in Component 2.

This component aligns with the following AF outcomes:

Outcome 1:	*Reduced exposure to climate-related hazards and threats*
Output 1.1:	*Risk and vulnerability assessments conducted and updated.* *(Risk and vulnerability assessments will be conducted or updated in the target districts.)*
Outcome 2:	*Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses*
Output 2.1:	*Strengthened capacity of national and sub-national centres and networks to respond rapidly to extreme weather events (Early warning systems will be improved, and community evacuation centres will be constructed or improved. Local housing sector will be enabled to mitigate exposure to risks through strengthened houses)*
Outcome 7:	*Improved policies and regulations that promote and enforce resilience measures*
Output 7:	*Improved integration of climate-resilience strategies into country development plans* *(At a local level, climate-resilience strategies will be integrated into town master plans)*

Component 2: Empowering with adaptive measures through construction of community infrastructure and reconstruction and rehabilitation of houses
The resilience of the housing, focussing on poor households, of the target districts will be increased through reconstruction and rehabilitation to enable households to withstand climate change impacts such as extreme weather events. The reconstruction and rehabilitation will employ Building Back Better (BBB) and other principles which will be innovations in the target districts. Furthermore, the provision of district and community level infrastructure including equipment for meteorological and hydrological stations, Coordination Centres and community evacuation centres will also enhance adaptation.

This component aligns with the following AF outcomes:

Outcome 2:	*Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses*
Output 2.1:	*Strengthened capacity of national and sub-national centers and networks to respond rapidly to extreme weather events (Early warning systems will be improved, and community evacuation centres will be constructed or improved. Local housing sector will be enabled to mitigate exposure to risks through improved houses)*
Outcome 4:	*Increased adaptive capacity within relevant development sector services and infrastructure assets*

Component 3: Strengthening community awareness and mainstreaming adaptation through advocacy and knowledge management
Community knowledge of climate change adaptation and its application in the housing sector will be strengthened in the target communities. Advocacy in the housing and urban planning sector in the target provinces will strengthen multilevel governance and sustainability and provide input into national policy and planning. These activities will enable sustainability and scaling up of the Component 2 hardware activities.

This component aligns with the following AF outcomes:

Outcome 3:	*Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level*
Outcome 7:	*Improved policies and regulations that promote and enforce resilience measures*

Table 6: Project Components and Financing

Project Components	Expected Concrete Outputs	Expected Outcomes	Amount (US$)
1. Increasing adaptive capacity of communities and provincial institutions to develop and sustain climate-resilient community infrastructure and housing	1.1.1. Capacity assessment conducted on integrating climate change into urban plans for seven district capitals	1.1. Accurate data is available to inform training for provincial and district staff.	987,060
	1.2.1. Risk and vulnerability assessments conducted or updated in seven district capitals	1.2. Institutions in seven district capitals have data to guide urban planning, and the capacity to conduct and update vulnerability assessments	
	1.3.1. Training provided to provincial and district staff, as well as national government staff on mainstreaming climate adaptation into urban planning, including adaptive measures in spatial planning and land-use; and on resilient housing construction.	1.3. Officials in government institutions have capacity to develop climate resilient town master plans.	
	1.4.1. Seven town level master plans developed to guide the integration of climate change adaptation into socially inclusive housing construction, spatial planning and land-use, ensuring sustainability of the houses constructed and rehabilitated under this project as well as further development interventions, and influencing policy changes from the national level.	1.4. Seven district capitals have working master plans to guide adaptive measures in urban planning, serving the towns' combined populations.	
	1.5.1. Training provided for DMH staff on operation of meteorological and hydrological stations, and on climate information communication and early warning system s, including development of an app for local weather information and early warnings, and technical assistance in establishing a Meteorology and Hydrology Sub Sector Working Group (SSWG) or similar body...	1.5. Increased capacity of District Meteorological and Hydrological services in six provinces.	
	1.6.1. Building guidelines developed which integrate climate change resilience	1.6. Resilience measures integrated into building guidelines	
	1.7.1. Training provided for district officials on managing community evacuation centres.	Output 1.7. District officials have capacity to manage community evacuation centres	
	1.8.1. Training of trainers to build capacity in local carpenters and masons in climate-resilient construction practices, and community-level trainings.	Output 1.8. 6,944 local carpenters and masons from 6 provinces have capacity to build climate-resilient houses.	
2. Empowering with adaptive measures through construction of community infrastructure and reconstruction and rehabilitation of houses.	2.1.1. 6 resilient demonstration houses constructed. 2.1.2. 600 existing houses (for 3,000 people) reconstructed to increase resilience to climate change impacts. 2.1.3. 4,942 existing houses rehabilitated to increase resilience to climate change impacts.	2.1. Target towns have socially inclusive housing, that builds resilience to current and anticipated climate change related impacts	4,919,690
	2.2.1. 2 community evacuation centres constructed as a safe place for people to shelter in the event of extreme flooding. 2.2.2. 4 existing community evacuation centres assessed, and necessary improvements made, including provision of WASH facilities	2.2. Displaced households have a safe place to shelter following their evacuation.	
	2.3.1. Six Coordination Centres for Adaptation and DRR (doubling as DONRE Offices) constructed over six provinces, serving as a base for climate change adaptation coordination.	2.3. MONRE has an operational base in the district, enabling improved climate change adaptation coordination and activities.	

	2.4.1. 6 new meteorological and hydrological stations constructed in 6 provinces 2.4.2. 9 existing meteorological and hydrological stations upgraded in 6 provinces	2.4. People in target districts are able to be provided with climatic information and early warning of impending hazards.	
3. Strengthening community awareness and mainstreaming adaptation through advocacy and knowledge management.	3.1.1. Project activities and results are captured and disseminated through dissemination workshop.	3.1. Knowledge and awareness enhanced in the housing and urban planning sector at national and subnational levels, ensuring sustainability and influencing policy changes from the national level.	400,000
	3.2.1. Strategy developed as guidance document for policy development on the integration of climate change adaptation measures in the housing sector 3.2.2. Technical guidance developed on Housing, Land and Property (HPL).	3.2. Documented knowledge available to inform climate policy and planning to enhance climate change adaptation in the shelter sector	
	3.3.1. IEC materials produced for target communities 3.3.2. Community awareness raising activities conducted.	3.3. Town populations aware of predicted adverse impacts of climate change, and of resilient shelter construction and adaptive measures in spatial planning and land-use	
	3.4.1. Shelter response profile to inform the IASC shelter cluster 3.4.2. Manual on managing community evacuation centres 3.4.3. Technical manual on construction practices for climate-resilient housing for carpenters 3.4.4. Training guidelines produced on resilient shelter construction and adaptive measures in spatial planning and land-use for Subnational DHUP staff.	3.4. Guidelines and manuals available for future reference and use	
	3.5.1. School teachers trained to sensitize and educate students on climate change issues including relevant KM materials published	3.5. School teachers and students are aware of climate change impacts and adaptation options	
4. Total Output Cost			6,306,750
5. Project/Programme Execution cost			662,034
6. Total Project/Programme Cost			6,968,784.
7. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)			592,347
Amount of Financing Requested			**7,561,131**

Table 7: Projected Calendar

Milestones	Expected Dates
Start of Project/Programme Implementation	March 2024
Mid-Term Evaluation	March 2026
Project/Programme Closing	March 2028
Terminal Evaluation	February - March 2028

PART II: PROJECT/PROGRAMME JUSTIFICATION

Project Components

The project focuses on the enhancement of adaptive capacity in the shelter and housing sector, recognising that these play a major role in enhancing local resilience, enhancing adaptive capacity to cope with climate change effects, and safeguarding rights to housing in times of climate change. The comprehensive nature of the project is a response to the intertwining factors that contribute to the high level of vulnerability in the target communities. The hardware component of the project (Component 2) is supported by capacity building and knowledge management activities to gain the greatest benefit and enable sustainability and scaling up.

ADB reports that there is poor connectivity between urban planning and environmental management. At the same time, there is a need to develop community-based processes to enhance resilience at the local level. The National Strategy for DRR reports that housing comes second to agriculture in terms of total damage from natural disasters, most of which are climate related. Housing is, therefore, a key sector in building human settlements' resilience. An initial step is ensuring DRR, CC and environmental concerns are taken into consideration in risk assessments and communities engaged in decision-making processes. The project will improve existing houses in areas prone to climate related risks using Building Back Better (BBB) principles such as improving footings to fix posts securely; replacing wooden columns with precast concrete; upgrading or replacing the main frame; adjusting or installing new walls; bracing the roof structure; upgrading or replacing the roof structure and covering and fixing securely to rafters and purlins to ensure that they are resilient to storms and floods. The community evacuation centres, coordination centres and meteorological and hydrological stations will all be built in areas assessed to be at a low risk of exposure to hazards and will be constructed or strengthened using BBB principles to ensure their resilience before responsibility for operations and maintenance is passed to MONRE. At a global level, UN-Habitat has considerable experience in BBB and the Lao PDR office has contextualized the principles to suit the Lao context.

The project has been designed to strengthen vertical integration in the context of Lao PDR's centrally directed government. It has been developed in partnership with government authorities from the national to the district level, involving in-depth consultations in the target districts and provinces, and at the national level. The project supports the aspirations of the Natural Resources and Environment sector, which has the mandate for climate change adaptation, in improving adaptation coordination in the target provinces, as well as supporting the planning of the Housing and Urban Development sector.

The project was conceived in the aftermath of devastating floods in 2018 and 2019, which destroyed the houses, possessions, and livelihoods of thousands of people, as described in Part I. A key reason for the destruction of many houses was the fragile nature of their construction. UN-Habitat has previously worked on shelter recovery projects in Lao PDR, including after the 2018 floods, and has constructed houses according to Building Back Better (BBB) principles, using plans specifically designed for local contexts. There are however, many more houses in Lao PDR which are at risk of damage or destruction, particularly from predicted floods or rainfall-induced landslides. Each time a flood destroys houses, available resources are diverted to recovery and rebuilding. This delays development plans and contributes to the non-achievement of development objectives. At a human level, in the case where there are no available resources, people are forced to stay with family, leading to overcrowding, or they build temporary houses which are susceptible to the next flood. This project will improve houses for the poorest and most vulnerable people in district towns identified as highly vulnerable to the effects of climate change, thereby providing them with secure housing which is able to withstand floods, protecting human life, possessions, food and livelihoods. The development of town master plans will guide urban planning so that future urban planning includes measures to build housing and shelter with maximum resilience to climate change- induced impacts.
There are three components to the project.

Component 1: Increasing adaptive capacity of communities and provincial institutions to develop and sustain community infrastructure and housing

As an LDC, Lao PDR is constrained by limited resources for building capacity and for developing, implementing, and updating its plans. Limited capacity and resources are key reasons for plans, including urban plans, not being followed, and for activities such as land titling being slow. Non-climatic threats such as these are an integral part of the project design, and the first component aims to strengthen capacity in the areas of urban planning, sustainable construction practices and the sustainable and inclusive management of community evacuation centres. Addressing the non-climatic threats provides not only co-benefits but is fundamentally important for the successful implementation of the adaptation measures

Adaptive capacity at provincial and district levels of Natural Resources and Environment, and Housing and

Urban Planning sectors will be increased, through activities including improved urban planning that promotes and enforces resilience measures in shelter, land-use and spatial planning in seven target district capitals from six provinces, and through capacity building in adaptation practices including hydro-meteorological data gathering, climate-resilient construction, and management of community evacuation centres. This capacity building is necessary to enable the hardware activities in Component 2.

A key component of the project is the development of town master plans which integrate climate change adaptation measures. These will be the foundation of future development in the towns and will ensure that district authorities are aware of climate change projections and understand the measures required to develop their town in a resilient manner. The master plans will be informed by vulnerability assessments that map areas in the town that are hazard risk areas. Practical training provided to local officials will ensure that they develop the skills and knowledge required to embed adaptation practices into their ongoing work. Component 1 will also include capacity building to support the infrastructure component of the project. Environmental and social considerations will be integrated into all trainings and the Adaptation Fund's Environmental and Social Policy, and Gender Policy will be used as an exemplar on which to raise awareness in local officials of these compliance issues.

The following activities will be included in Component 1.

1.1.1. Conducting capacity assessments on integrating climate change into urban plans for seven district capitals

1.2.1. Conducting or updating risk and vulnerability assessments in seven district capitals

1.3.1. Providing training to provincial and district staff, as well as national government staff, on mainstreaming climate adaptation into urban planning, including adaptive measures in spatial planning and land-use; and on resilient housing construction.

1.4.1. Developing seven town level master plans to guide the integration of climate change adaptation into socially inclusive housing construction, spatial planning and land-use, ensuring sustainability of the houses constructed and rehabilitated under this project as well as further development interventions, and influencing policy changes from the national level.

1.5.1. Providing training for DMH staff on operation of meteorological and hydrological stations, and on climate information communication and early warning systems, including development of an app for local weather information and early warnings, and technical assistance in establishing a Meteorology and Hydrology Sub Sector Working Group (SSWG) or similar body.

1.6.1. Developing building guidelines which integrate climate change resilience

1.7.1. Providing training for district officials on managing community evacuation centres.

1.8.1. Training of trainers to build capacity in local carpenters and masons in climate-resilient construction practices, and community-level trainings.

The detailed capacity assessment will clearly identify needs in each of the seven towns regarding integrating climate change adaptation into the housing and urban planning sector. This will build on knowledge which has been gathered prior to the submission of this proposal.

The focus of the trainings for both the Vulnerability Assessments and the master plans are the ongoing use and review of the Vulnerability Assessments and master plans, particularly as more detailed local climate change data becomes available. Floods, storms, and landslides are the most visible impacts of climate change in the target areas, and concepts such as heat islands are not well known. Since the target towns are experiencing rapid growth and urbanisation, it is crucial that adaptive measures are integrated into planning and implemented now, before haphazard development takes place that cannot be undone.

The data from the national climate change vulnerability assessment will be validated in local consultations, including with women, youth, and ethnic groups, and will form exemplars for training of government officials. Some provinces have carried out a similar vulnerability assessment exercise with an emphasis on infrastructure. Although the target districts are not the same as in previous or ongoing projects, some provincial staff will have some experience of vulnerability assessment. The training will provide an opportunity for them to share their experience with other participants, to raise queries about the process that they have from their experience, and to apply this methodology to housing and urban planning processes.

As UN-Habitat has previously developed tools and guidelines for the town master plan component of the project,

these will be refined and tailored to the housing sector. The standardisation of tools will aid the institutionalisation of practices. This is especially important in the Lao context where there is a high turnover of staff, often resulting in the loss of institutional knowledge.

The housing improvements and construction of demonstration houses will demonstrate resilience in house construction to the target communities, with attention paid to the specific needs of women and ethnic groups, children, youth, older persons, persons with disabilities, IDPs and returning migrants, as well as disseminating new construction skills. By training district and provincial housing and urban planning staff in resilient housing construction, the skills and techniques will be institutionalised and contribute to normative change in the expectations of local populations regarding housing.

The capacity building activities are an important part of the project. There is a significant gap between the level of knowledge at the national level and that at the local level. In addition, climate change considerations are still being mainstreamed into sectors other than the natural resources and environment sector, in which the Department of Climate Change is located. As well as the specific focus of the capacity building then, it will be an opportunity to raise awareness about climate change and its anticipated impacts.

District level workshops are a key part of this participatory project as they will bring together all local stakeholders. This is a new way of working for many stakeholders as there is a silo culture in Lao PDR where government offices in different sectors work independently of one another. Stakeholders for this proposed project include provincial, district and village authorities, Departments of Public Works and Transport, Provincial and District Offices of Natural Resources and Environment (PONRE and DONRE), Departments of Planning and Investment, and community members, including representatives of women (i.e., Lao Women's Union) and ethnic groups. Community members will be included at all stages of the project.

Component 2: Empowering with adaptive measures through construction of community infrastructure and improvement of houses

The provision of district and community level infrastructure including equipment for meteorological and hydrological stations, Coordination Centres and community evacuation centres will enhance adaptation. Furthermore, the resilience of the housing stock of the target districts will be increased through reconstruction and rehabilitation of houses to enable households to withstand climate change impacts such as extreme weather events. The reconstruction and rehabilitation will employ principles which will be innovations in the target districts, including the Building Back Better (BBB) principles of:

A Anchoring: The structure must be fastened to a secure point which is capable of resisting all applied force.

B Bracing: Every part of the structure must be held rigid so that it cannot tilt, slide or rotate.

C Continuity: Every part of the structure must be properly connected to every other member.

This component will focus on ensuring that the poorest and most vulnerable people in the target towns have secure shelter and housing which is resilient to the impacts of climate change, while also considering the concerns and needs of women and ethnic groups, children, youth, older persons, persons with disabilities, IDPs and returning migrants. Community-wide consultations will be held so that all community members have an understanding of the project aims and activities. The component also provides infrastructure so that PONREs are able to coordinate adaptation activities in the target provinces and provide accurate data to operationalise early warning systems.

The following activities will be included in Component 2:

2.1.1. Constructing 6 demonstration resilient houses.

2.1.2. Reconstructing 600 existing houses (for 3,000 people) to increase resilience to climate change impacts.

2.1.3. 4,942 existing houses rehabilitated to increase resilience to climate change impacts.

2.2.1. Constructing 2 community evacuation centres as a safe place for people to shelter in the event of extreme flooding.

2.2.2. Assessing 4 existing community evacuation centres, and making necessary improvements, including provision of WASH facilities

2.3.1. Constructing six Coordination Centres for Adaptation and DRR (doubling as DONRE Offices) over

six provinces, serving as a base for climate change adaptation coordination.

2.4.1. Constructing 6 new meteorological and hydrological stations in 6 provinces

2.4.2. Upgrading 9 existing meteorological and hydrological stations in 6 provinces

Recognising that housing construction can represent both impacts and risks, UN-Habitat adheres to the following principles:

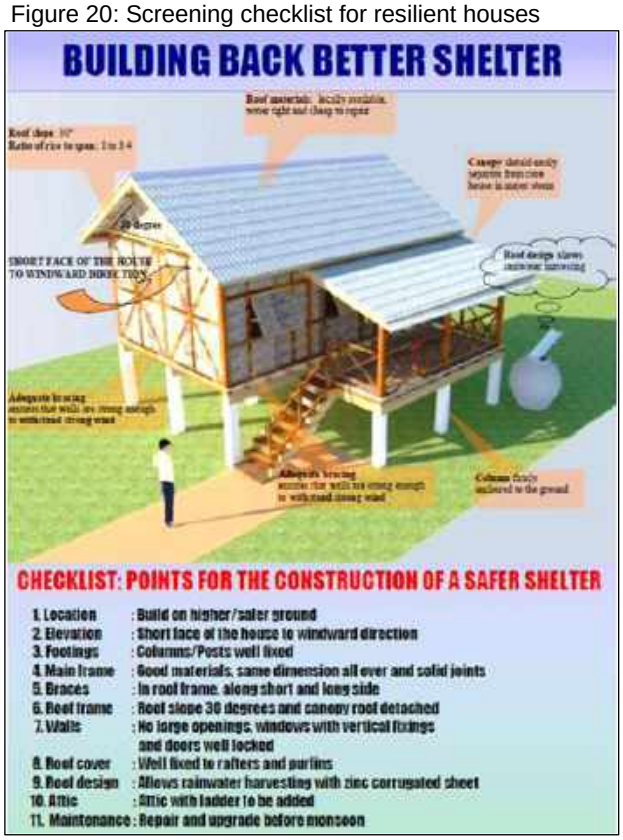
- Advice on hazard-resistant reconstruction is critical.
- Traditional building materials and culturally acceptable forms and techniques are the foundation for rehabilitation and reconstruction and must be improved, not replaced.
- Housing solutions must be complemented by initiatives to address land use, tenure, livelihoods, and critical infrastructure and services.
- Possible concerns and needs of women, youth, ethnic groups, older persons and other vulnerable groups are identified and integrated into planning processes and design and construction of houses.

These principles find different form in different contexts. After Typhoon Nock-Ten caused damage in Khammouane Province in 2011, houses were rehabilitated or rebuilt to similar designs as the damaged houses, but with improvements to strengthen them for added resilience. On the other hand, after the 2018 floods in Attapeu, the Government developed four standard designs for houses for people of different wealth levels. The houses for poor people were of a superior standard than their former houses which had been destroyed. This had a normative effect of raising expectations about housing in Attapeu and consequently, contributing to raising the standard of housing throughout the district in which they were built. This shows that there are complex social, technical, and political considerations to take into account when designing housing. Accordingly, UN-Habitat has consulted with the Department of Housing and Urban Planning, as well as provincial and district authorities and people living in the target communities, to develop a house design which is suitable for demonstration houses in the target towns. The design takes into account gender and cultural preferences and traditions, available materials, and also the Government's development objectives. Demonstration houses will be tailored to local conditions, with homeowners, including women, and government officials involved in decision making.

Regarding improvements to houses, reconstruction will focus on 600 houses in extremely poor condition which are built in areas which are susceptible to floods, often because of their proximity to rivers. People who live in these areas are generally very poor. Reconstruction refers to significant changes to structural systems to ensure existing houses are more disaster resilient, for example, replacing precarious stilts with prefabricated concrete, adding a raised concrete slab, elevating the house, changing floor systems, and replacing the main frame with improved materials.

On the contrary, rehabilitating 4,942 houses is not aimed at reinforcing structural systems (supporting structures). This output will target houses in relatively better condition, however many of them are susceptible to storms, and it is common for houses to lose their rooves in such storms. Rehabilitation will therefore undertake upgrade works such as cross bracing, roof upgrading, or upgrading facades to protect from heat, improve natural ventilation, and increase resilience to extreme weather.

Figure 20: Screening checklist for resilient houses



UN-Habitat engaged ARCADIS to develop a screening checklist to ascertain the resilience needs of the selected houses – see Figure 20. Houses which have been selected for the interventions will be assessed at the implementation stage to determine the precise improvements they require. This is the first time that this process has been carried out and it is planned to refine the process for scaling in the future.

For activities targeting individual households the selection of households will be made before the project starts.

Selection criteria are poverty, gender, vulnerability, and house condition.

The process for beneficiary selection at the household level is as follows:

Step 1: Assessment of the physical condition of houses

These are detailed assessments of houses located in hazard zones 2-4, designed to determine the exact type and extent of construction works needed. More details can be found in section 9 "Interventions for Reconstruction & Rehabilitation" of the ARCADIS Housing Report (see Annex 7).

Step 2: Household vulnerability assessment

These are detailed surveys that assess the overall vulnerability of households, taking into account all relevant dimensions, such as the physical condition of the house (see step 1 above), geographic location/elevation and risk exposure to extreme weather events, socio-economic profile and socio-economic resilience to external shocks, etc. A detailed checklist and scoring system can be found in section 8 "Housing Metrics - Scoring Rubric" of the ARCADIS Housing Report (see Annex 7). Setting criteria and agreeing on them before beneficiaries are selected, will ensure that the selection process is carried out in a fair and non-discriminatory manner.

Step 3: Household selection & prioritization

Firstly, the results of the household vulnerability assessments are processed, and a household vulnerability index (HVI) is computed for each household. All households that meet a pre-defined HVI threshold qualify as beneficiaries.

Secondly, within the group of vulnerable (qualifying) households, additional scores are given to social vulnerability criteria like poverty, gender (female-headed households), ethnicity or pertaining to other vulnerable groups. This will increase their priority within that group.

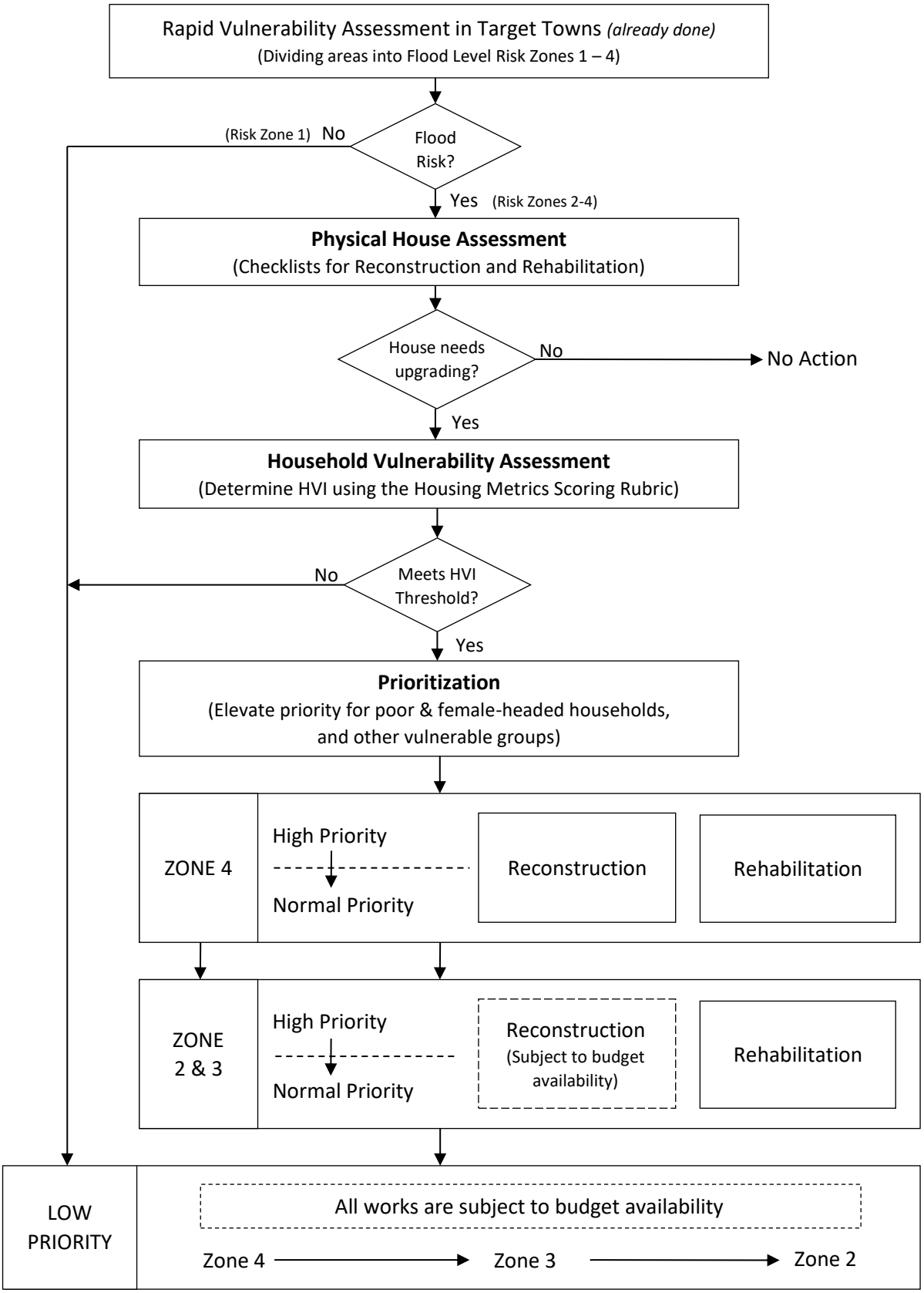
Step 4: The process to identify project beneficiaries will be based on steps 1 to 3. The results from this process, incl. beneficiary priorities and statistics like gender ratios or breakdowns by ethnicity, will be presented to and discussed with stakeholder groups, which include representatives of women, youth, ethnic and vulnerable groups. This is to ensure that checks and balances are in place and that all local stakeholders agree on the allocation of project benefits. UN-Habitat will double-check if women, youth, ethnic groups and other vulnerable groups are appropriately represented as beneficiaries, in line with data collected, before starting any construction activities.

Step 5: The selection decisions will be channelled from village level to town level, to district level and finally to the provincial level, to ensure absolute transparency in the process and methodology.

With regards to the household assessments the following is to be noted:

- The beneficiary numbers mentioned above (600 households for reconstruction and 4,942 households for rehabilitation) refer to the number of houses that, from a flood risk perspective, qualify for construction interventions. They serve as general guides for panning purpose.
- Only households of houses that need physical upgrading (as per step 1) will undergo a complete House-hold Vulnerability Assessment (step 2).
- Houses that get reconstructed will also receive rehabilitation works.
- Households that need physical upgrading of their house but are economically and socially resilient enough to deal with the impacts of extreme weather events, may or may not benefit from construction works (depending on overall vulnerability index, priority level, and availability of funding).
- Houses located in hazard zones 2 and 3 (qualifying for rehabilitation works) that are assessed as being in very bad physical condition may also receive reconstructive works, depending on budget availability.
- Households that need physical upgrading of their house, but do not meet poverty criteria may still be considered vulnerable and benefit from construction interventions. However, they will get a low priority and may get excluded from benefits if resources are exhausted before reaching their priority. Poor households and female-headed households will get highest priority amongst all vulnerable households.

Beneficiaries for the demonstration houses will be selected before the houses are constructed in order to promote ownership of the project implementation, to enable them to make decisions regarding details of their house, and to enable them to participate in the construction process.
The following flow chart visualizes the beneficiary selection and prioritization process and how the priorities will be applied during implementation:



Lao PDR has been rolling out land titling, but the rollout process has been slowed by resource constraints. The project will ensure that in the project sites, land ownership is recorded at a local level by authorities by appropriate and official methods which will ensure that project benefits can be sustained. This does not imply that informal houses (i.e. households currently without land titles) will not be selected. On the contrary, the project will support providing land titles, where possible, to selected households currently without land titles as

an extra project benefit.

In addition to enhancing the resilience of houses, this component will also construct community evacuation centres to uphold displaced households' right to shelter during times of disaster. The evacuation centres will be part of a disaster management system, of which awareness will be raised, ensuring that community members know the procedure should their home be threatened, forcing their evacuation. Two community evacuation centres will be constructed in towns for which no such shelter currently exists. In the remaining four provinces, existing evacuation centres will be improved in order to guarantee safety and adequacy. This will include the provision of WASH infrastructure. A key consideration will be the safety and rights of women, children, the disabled and elderly people in the evacuation centres.

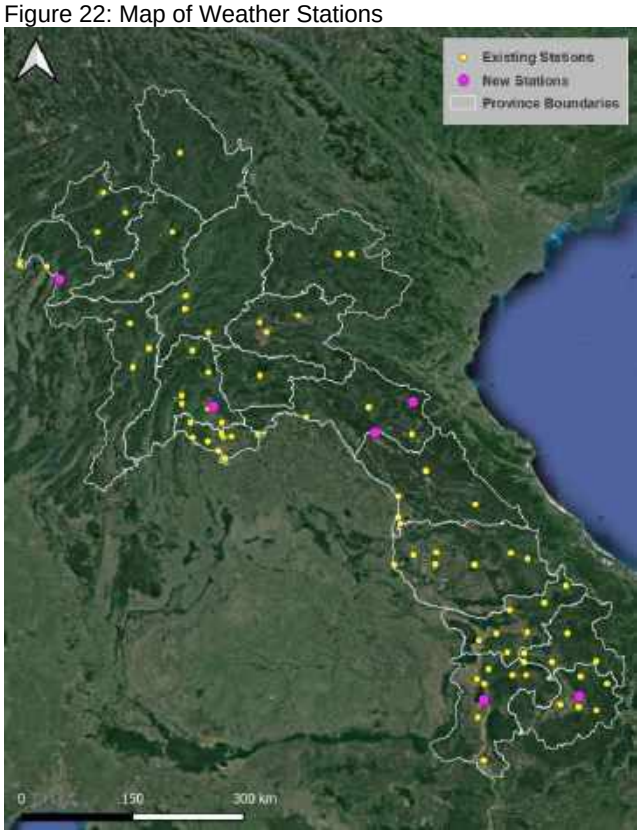
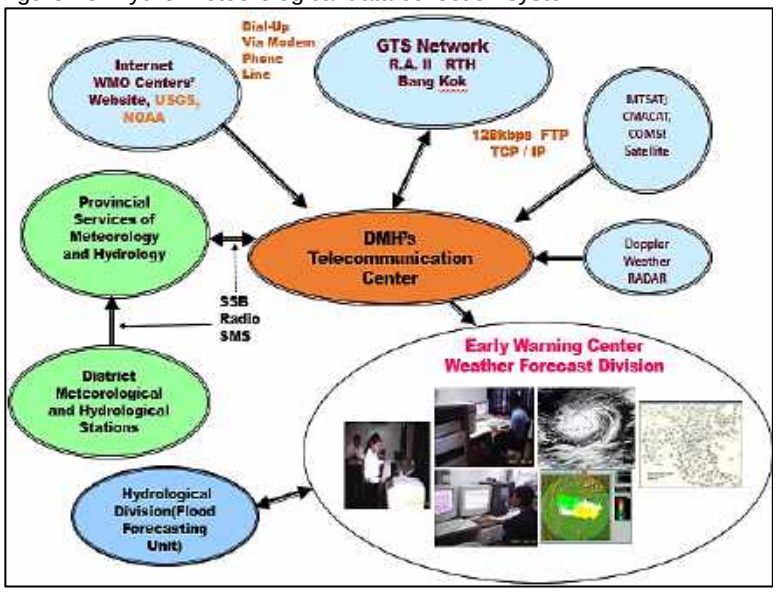
The construction of the six Coordination Centres is a pivotal part of the project. At the district level, DONRE is the focal point for climate change adaptation, and the office that drives implementation of the Climate Change Strategy and action plan, including raising awareness of climate change amongst other sectors. With no DONRE office building in a district, there is not a physical coordination centre from which to move the climate change adaptation agenda forward, or to ensure the inclusion of local data and considerations in planning and reporting. Whether it is a shelter project or has another focus, all climate change reporting goes through DONRE. DONRE also has responsibilities with regards to environmental screening and assessments, and land tenure. It is, therefore, a key part of development projects, and so it is crucial that DONRE has a coordination centre in each district. MONRE has already secured land for the Coordination Centres and will be responsible for operations and maintenance once the buildings are complete.

Figure 21: Location map of 6 provincial Coordination Centres doubling as DONRE offices.

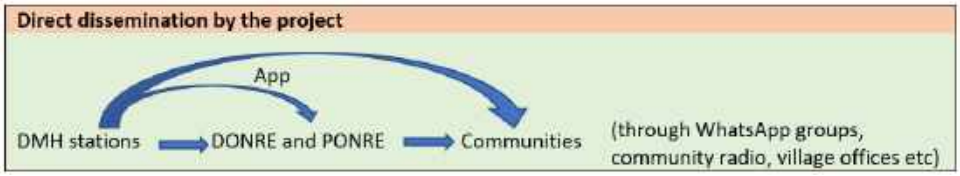
Source: UN-Habitat

The final activity of Component 2 is the improvement of the meteorological and hydrological network to enable accurate data to be fed into the hydro-meteorological data collection system. This will in turn improve weather forecasting, water level measurements and an early warning system to alert districts within the target provinces of impending climatic hazards. The specific provisions in each of the target provinces have been decided according to the needs of the province as assessed by DMH. Accordingly, new meteorological and hydrology stations will be provided in all the target provinces in locations where there are not yet stations but which have been assessed as requiring them. In addition, nine existing stations will be upgraded with new equipment to enable a more efficient and accurate data collection process.

Table 8: Climate services value chain and capacity gaps and investment needs in target areas

Climate services value chain	Capacity gaps and Investment needs
1. Data to be collected / analysed	DMH records show 105 weather stations under their management. Figure 22 shows a map of all existing weather stations and also the six new stations proposed in this document. A detailed list containing exact locations can be found in Annex 4. DMH aims to have a weather station in every district in the country, but some districts will need up to 3 stations because of their topography and climate conditions. There are 147 hydrological stations, with the majority being manual, and only measuring rainfall. These manual stations require data to be collected twice daily, however if there is a typhoon expected, staff are asked to monitor the stations every 30 minutes or hour. There is an aim to upgrade the manual stations to automatic ones. This will relieve pressure on the limited human resources available to District Offices of Natural Resources and Environment (DONREs) which are tasked with collecting data within their district, maintaining stations, and sending data to the central level. Data is the base input which feeds into all other parts on the value chain. The project will provide six new stations and upgrade nine more to cover some of the gaps in the existing network, thereby improving the data and enabling greater accuracy in modelling, weather forecasting and early warning systems. The project will also support data collections to inform early warning systems at the local level. In addition to district level data, DMH receives data from regional and global centres and satellites. Figure 23 shows the data collection system which informs weather forecasting and the early warning system, illustrating the critical role that meteorological and hydrological services play in providing accurate data, and also as communication nodes. Capacity gaps: There is a need to provide more meteorological and hydrological stations to ensure an adequate flow of data to the central level, as well as a need to upgrade a number of stations. In the target provinces six sites have been identified as requiring a new station and 9 Figure 22: Map of Weather Stations  Figure 23: Hydro-Meteorological data collection system 

	stations have been identified as in need of upgrading. District level staff need training in the operations and maintenance of the new or upgraded stations. Aside from the national system, there is limited knowledge or record keeping at the local level of the impact of meteorological and hydrological events, for example it is not recorded at what level a river will flood into houses. Investment needs: Investment is needed for the provision of new meteorological and hydrological stations and the upgrading of some existing stations, in the case of the project, 6 new stations and upgrades to 9 existing stations. There is also a need for trainings for district level staff on the operations and maintenance of new and upgraded meteorological and hydrological stations. DMH has training modules, so the investment is for running the trainings and monitoring and evaluating and support following the trainings. Data to be collected / analysed through new / upgraded stations: River flow and river level data Rain Gauge-Tipping Bucket Wind Speed and Direction Sensor-Ultra Sonic Air Temperature and Humidity Sensor Radiation Shield Barometric Pressure Sensor Global Radiation Sensor Lightning Detection System Cloud Base Height Sensor Soil Temperature Sensor-Standard depth for measurement of 0, 5,10,20,50 and 100 cm below the ground surface Soil Moisture Sensor-standard depths for measurements of 0-2, 5, 10, 20, 50 and 100 cm below the ground
2. Modelling for prediction	Once data has been collected, it is sent to DMH in Vientiane for analysis, modelling, and forecasting. The National Early Warning Centre is situated at DMH. There are complications in data analysis because each project which has provided meteorological and hydrological stations has used a different system and so there is not an integrated software system for processing data. As a result, DMH staff are required to manually enter data into Excel sheets which is a time-consuming process. Modelling is helped by historical data which goes back over fifty years in some places but where there is still no existing station, data will only be available when the station is built. The natural resources and environment sector has the people and knowledge to operate all existing stations. There is not yet any hydrological modelling but there are plans for developing it with the support from the World Bank. The improved data from the additional stations provided by the project will contribute to improved modelling. The project will also contribute directly to modelling by translating technical documents and improve material for capacity building within the DMH. Capacity gaps: There is a need for capacity building for DMH staff so that they remain current on climate modelling. A gap is the dearth of data in the Lao language, with a need to translate internationally produced documents into Lao to make them accessible to staff as well as other stakeholders in the country. DMH staff will also require trainings to keep abreast of modelling produced by the IPCC. There is a need to align and harmonize data collection systems and data flows from the different stations and to connect them to the national data centre through fully automated interfaces. Addressing these needs will entail further training for DMH technical staff. Investment needed: The World Bank is working with the DMH on harmonizing the data systems, however, investment is still required for the translation of documents and for the training of DMH staff on modelling.
3. Model interpretation and forecast production	Forecasts are produced from the central level for the long term (10 days - 3 months or seasonal), medium term (3 - 10 days), short term (3 hours - 3 days) and nowcasting (1 – 3 hours). DMH provides weather forecasts and water level forecasts for the Mekong River and its tributaries. Capacity gap: As at previous points of the chain, there is a need for real-time data, improvements in data flow and capacity building at central and district levels. Data flow improvement falls under the scope of the CREWS project, and this proposed project will align with new systems and will incorporate new systems into trainings for sub-national level staff. The need to standardise equipment and systems is well understood and should there be any problems with this being done by the CREWS project, UN-Habitat would consult with DMH and ensue that a standard type of system to be used is identified. Lessons learned from publications and tools produced by the SAMIS project will be considered in this proposed project. Investment need: The project requires no additional investment at this point of the chain since it is not a major focus of the project but rather falls under the scope of the CREWS project.

4.	Dissemination of products and services for users	Figure 23 shows the dissemination of climate products and early warnings. From the central level, early warnings are relayed through the Prime Minister's Office to local authorities who are prepared to issue warnings. Other key ministries are warned, as well as Disaster Management Committees from the national to village levels. Warnings are also broadcast through mass media including television and radio as well as social media and cell broadcasting to flags and sirens. In some districts warnings are able to be issued from automatic weather stations, but in general, warnings are issued from the Early Warning Centre in DMH. Local early warning systems are a focus of the climate services component. Whereas there is an established and improving process for sending data to the national level and disseminating it from there, there are not systems for disseminating local data from weather and hydrological stations to nearby areas which are affected by local weather and water levels. The following chart shows the system to be developed by the project in which information provided by the new and upgraded meteorological and hydrological stations will be disseminated to local villages not only in the event of risk, but also for use in their daily lives, such as planning activities based on the accessibility of locations, as many places are inaccessible during the rainy season.  This system will require coordination between DONREs and PONREs and villages. In Lao PDR, WhatsApp is the most common medium of communication and so WhatsApp groups will be set up so that weather information can be disseminated to all affected communities. Consultation about local early warning systems will be integrated into community awareness-raising activities so that there is a real-case application of the information communities are learning about climate change. This will give opportunity to local community-based organisations to participate in early warning systems and to take a leadership role. DONRE staff will organise awareness-raising activities and will share their expertise on weather forecasting. Capacity gap: There is a gap of forecasting weather, climate and hazards incidents and impacts (especially floods) at the local level, as the focus is on collecting data to transmit to the national data centre. The project will make use of local data to facilitate early warnings of local events, particularly of floods. In particular, this will include the development of an app to strengthen early warning at the local level in partnership with DMH and the National Disaster Management Office (NDMO. The app will be freely available to all members of the public and will transmit up-to-date local weather conditions and forecasts. In the case of emergency, an alert will be sent. Trainings will be given to district level officials on linking the app to non-digital warnings to ensure that all members of at-risk communities receive alerts. The app will be piloted through the project and will be owned by the government. The idea of the app was co-developed with DMH, who are keen to replicate it in the future in additional provinces. There is also a need for real-time data from more districts to enable DMH to improve their predictions. At all levels from national to local, there is a lack of coordination between sectors, including between meteorology and emergency response. Based on discussion with the Government the project will provide technical assistance and facilitate the setting up of a hydrometeorology sub-sector working group (or equivalent). The sub-sector working group will bring together all stakeholders including disaster management organisations and civil society organisations to disseminate knowledge and coordinate the dissemination of products and services. Investment need: Additional investment at this point in the chain is for support to local early warning systems, including the development of an app.

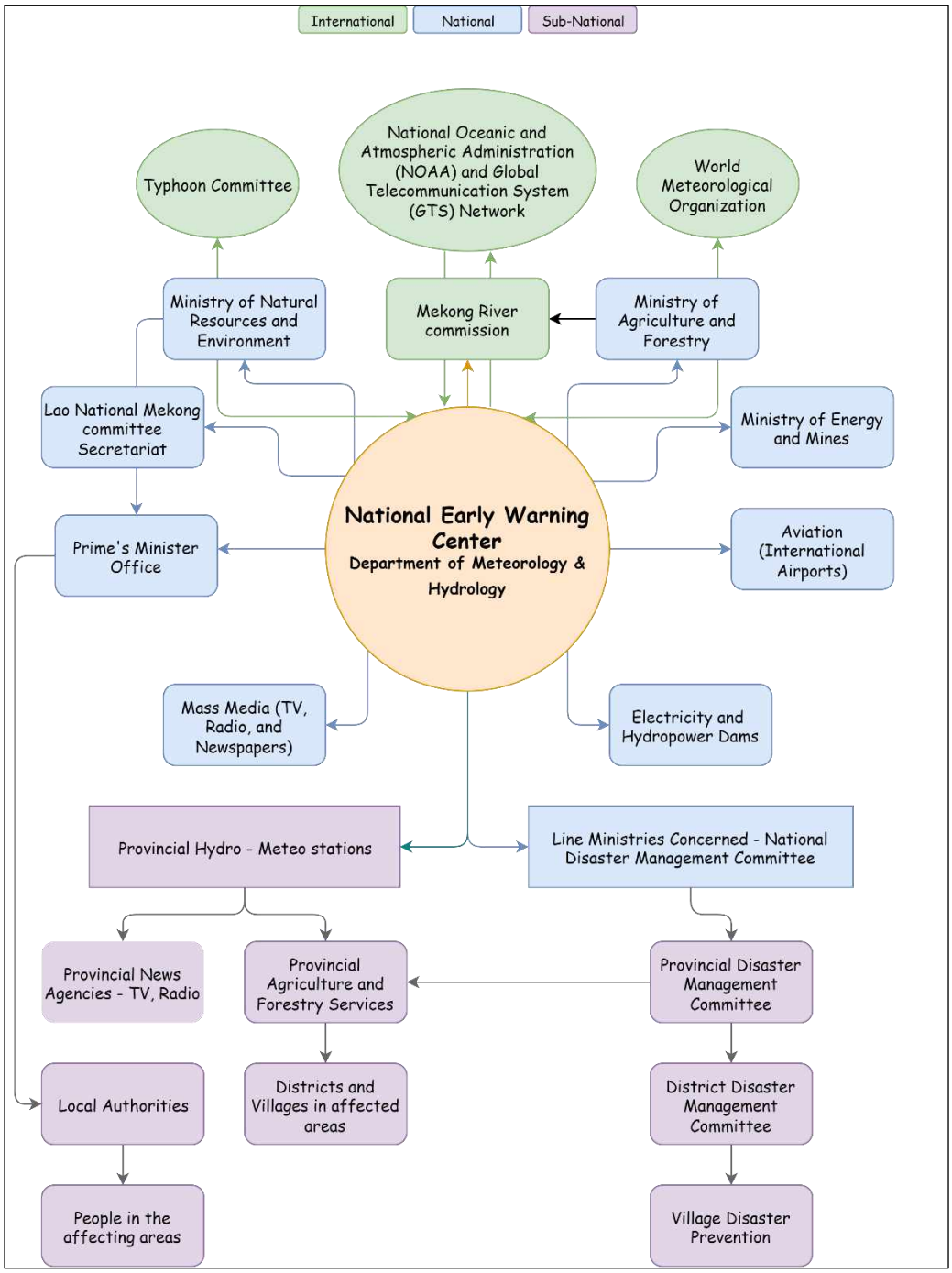


Figure 24: Forecast Information & Early Warning Dissemination System. Source: DMH

5. Understanding and use of forecasts	There is scope for stakeholders to make much more use of forecasts to inform decision making. This is being supported in the agriculture sector by an FAO project to strengthen agro-climatic monitoring and information systems (SAMIS). Capacity gap: In the urban areas targeted by this project, there is often not a clear link between weather forecasts, the impact of the forecast weather, and any actions which are required to minimise adverse impacts on assets and people. There is therefore a need to develop early warning systems at the local level based on an understanding of the impacts of weather conditions. Investment need: The climate risk and vulnerability assessments will assess the status of local level early warning systems and the project will provide support to improve the systems. Investment is therefore needed for capacity building at the local level to understand weather forecasting and operate early warning systems

UN-Habitat views beneficiaries as active agents to be mobilised and supported. Therefore, local communities are at the hub of the project. In Laos, consultations are often held at the village level, where the village chief calls a meeting for all villagers. In the context of this urban project, a village is the most local administrative area

within a town. Village level consultations will be held regularly throughout the project implementation, in order to update villagers on progress and to make decisions. UN-Habitat will make sure that women (i.e. women's union) and representatives of vulnerable groups will be represented at these meetings. The project aims to build enduring relationships between government officials and the communities they serve, contributing to the sustainability of the project and the officials' local knowledge.

Component 3: Strengthening community awareness and mainstreaming adaptation through advocacy and knowledge management.

Community knowledge of climate change adaptation and its application in the housing sector will be strengthened in the target communities. Advocacy in the housing and urban planning sector in the target provinces will strengthen multilevel governance and sustainability and provide input into national policy and planning. These activities will enable sustainability and scaling up of the Component 2 hardware activities.

Effective knowledge management will ensure maximum gains and cost-effectiveness, as well as inclusivity in sharing outputs, progress and lessons learned with stakeholders. Making this information available will enable replication and scaling up of effective processes. The project will follow Results-Based Management (RBM) according to Adaptation Fund and UN guidelines.

Component 3 will include:

3.1.1. Capturing and disseminating project activities and results disseminated through dissemination workshop.

3.2.1. Developing a strategy as a guidance document for policy development on the integration of climate change adaptation measures in the housing sector

3.2.2. Technical guidance on Housing, Land and Property (HLP)

3.3.1. Producing IEC materials for target communities

3.3.2. Carrying out community awareness raising activities.

3.4.1. Developing a shelter response profile to inform the IASC shelter cluster.

3.4.2. Developing a manual on managing community evacuation centres

3.4.3. Developing a technical manual on construction practices for climate-resilient housing for carpenters

3.4.4. Producing training guidelines on resilient shelter construction and adaptive measures in spatial planning and land-use for subnational DHUP staff.

3.4.5. School teachers trained to sensitize and educate students on climate change issues including relevant KM materials published

Note: Meetings and consultations related to the outputs listed above will be in languages understood by various communities and ethnic groups.

Knowledge management includes local communities. It is important that the knowledge about climate change adaptation, including resilient construction techniques, is widely available and accessible to community members, including to women and vulnerable groups. A common means of awareness raising in Lao PDR is through village meetings and word of mouth. The close working relationships between local authorities and communities will provide opportunities to ensure that the adaptation measures are understood throughout the communities to promote their adoption. The awareness raising and community consultations aim to fulfil a normative function of changing expectation and practices in housing construction so that activities begun in the project will be sustained, thereby enhancing future adaptive capacity.

Advocacy at the national level aims to influence national level policymaking. While UN-Habitat has previously contributed to national level discussion in terms of infrastructure, this project will focus on housing. It will extend the climate change adaptation discussion into the Department of Housing and Urban Planning and provide experience from the project to contribute to decision making for the Lao urban context. As a partner in this project, national level DHUP officials will be in regular contact with UN-Habitat during the project. A strategy to guide policy development on the integration of climate change adaptation measures in the shelter sector will capture key relevant learnings.

Not only will lessons learned be captured and disseminated to all levels of government, but previous lessons learned will be heeded in this project. In addition, previously developed manuals and tools will be updated and aligned with the shelter focus of the project before being added to UN-Habitat's knowledge repository and shared with relevant networks through uploading to the national level platform for climate change adaptation and mitigation learning.

B. Economic, Social and Environmental Benefits

The targeted provinces have been selected on account of the high climate change vulnerability of their communities, and their limited institutional and infrastructure resources to implement resilience building plans. At an institutional level, the construction of Coordination Centres in the target provinces will provide a coordination centre for climate change adaptation, thereby enabling awareness raising, education, and the integration of climate change considerations into local planning. This will activate climate change adaptation in districts where there is limited knowledge of both future scenarios and causes of climate change. Local planning which integrates climate change action will bring economic and environmental benefits through guiding the building of resilience, reducing losses from extreme weather events and protecting and restoring ecosystems. The offices will also act as a coordination point in their roles in environmental assessments, land tenure management and other environmental issues.

The project has the potential to bring economic and social benefits through protecting lives, livelihoods and infrastructure through extending the reach of early warning systems. This will be done by improving meteorological and hydrological networks to communicate accurate hydro-meteorological data from the target districts. This is of vital importance in districts which are vulnerable to extreme weather events. Early warning systems will benefit 164,381 people in the target districts, including 101,263 women and 58,578 young people.

The urban planning component of the project provides numerous direct and indirect benefits to the target communities. Detailed VAs and the development of town master plans will guide the trajectory of development and the improvement of living conditions in the target towns. The development of the town master plans will be done with the participation of and in agreement with women representatives (i.e. women's union) and other vulnerable groups. This will bring a long-term impact, and contribute to the development of well-designed, inclusive, and sustainable towns at a crucial phase of development.

At a district level, the project is designed to mitigate the losses in the housing sector which are caused by extreme weather events. Experience shows that floods. landslides and storms are the most destructive events, with an average of 200,000 people per year being affected by floods over the period 1991–2013.[6566] In previous disasters which have destroyed houses, it has fallen to the local authorities to provide funding for housing displaced people and for recovery and rebuilding. This has detracted from their funds for implementing development planning. Without the need to replace houses, this funding can contribute to achieving development goals instead of maintaining the status quo. The post-disaster needs assessment (PDNA), carried out after the 2018 floods by UN-Habitat and the World Bank, provides data on the cost of damages and loss to houses. The average cost of damage per house was 545 USD.[67] If this amount is saved for each rehabilitated house, then there is the potential to save 2,693,390 USD in reduced damage to houses each time there is a flood. The 600 reconstructed houses are estimated to save a larger amount since they are more at risk to flooding, are at risk of more severe flooding and will have more improvements made to them. The average value of houses destroyed in the 2018 floods was 1,300 USD. It is estimated that the savings through the 600 reconstructed houses will be 1,300 USD per house. The table below shows the payback period to recover the costs of the project funding using these estimates. The table shows that the cost of the rehabilitated houses will be more than recovered through reduced damages from one disaster incident. The cost of the reconstructed houses will be recovered in 1.5 disaster incidents. The cost of the entire project will be recovered in just over two disaster incidents. This cost recovery is from the houses which are rehabilitated and reconstructed by the project. In addition, the capacity building on resilient construction techniques is expected to improve the resilience of newly built and repaired houses throughout the target districts, leading to increased benefits due to reduced damage.

[65] D. Guha-Sapir, R. Below, and Ph. Hoyois, EM-DAT: The CRED/OFDA International Disaster Database, Université Catholique de Louvain, Brussels, www.emdat.be

[66] World Bank and GFDRR (Global Facility for Disaster Reduction and Recovery). 2012. Main Report. Vol. 1 of Advancing Disaster Risk Financing and Insurance in ASEAN Member States: Framework and Options for Implementation. Washington, DC: World Bank. http:// www.gfdrr.org/sites/gfdrr/files/publication/DRF ASEAN_REPORT_June12.pdf.

[67] Government of Lao PDR, 'Post-Disaster Needs Assessment, 2018 Floods, Lao PDR', 2018. p.38.

Output	Cost of inaction (USD per disaster incident)	Cost of action	Payback period for housing activities	Payback period only through housing activities to recover total project funding of USD 7,561,131
2.1.3. 4,942 existing houses rehabilitated	2,693,390	2,465,000	0.92 disaster incidents	
2.1.2. 600 existing houses reconstructed	780,000	1,200,000	1.5 disaster incidents	
Total costs for Outputs 2.1.3. and 2.1.2.	3,473,390	3,665,000	1.1 disaster incidents	2.2 disaster incidents

According to the Lao Disaster Database (LaoDi), in five of the six target provinces there have been significant disasters which have damaged or destroyed houses in at least 10 different years since 1990. In Bokeo there were significant events in 16 different years since 1990. In Khammouane Province, there have been significant events damaging houses in three years since 1990 but in one of those years there was a high number of houses damaged (31,370). Therefore, it is estimated that the savings in reduced damage would be repeated every 2-4 years on average.

At a household level, resilience to extreme weather events means that people retain not only their house but also their possessions. In previous events, households have lost all their food and possessions, including tools and implements necessary for their livelihoods. This has rendered them dependent on support from local authorities or external aid and has sometimes necessitated their relocation. With security of housing and therefore, added security of possessions, people's lives and livelihoods will not be disrupted by having to rebuild after disasters caused by extreme weather. Table 9 shows the number of beneficiaries of the project. In addition to direct beneficiaries, district populations will benefit from improved coordination of climate change adaptation, and improvements to the early warning system.

Table 9: Number of direct and indirect beneficiaries

Direct beneficiaries	Particulars	HH	People
Housing	Reconstructed houses	600	33,548
	Rehabilitated houses	4 942	
	Of which female-headed households	> 9 %	
	Demonstration houses	6	
Capacity Building	Provincial and district officials		1,733
	Of which women		30 percent
	Carpenter and mason trainings (with equal representation various groups)		6,944
Total direct beneficiaries			42,225
Indirect beneficiaries			
District populations served by Coordination Centres and meteorological and hydrological stations (minus direct beneficiaries)			164 381
Percentage women			51 percent
Percentage youth			30 percent
Total beneficiaries			**206 606**

The Lao Disaster Information (LaoDi) database shows the following losses for the target provinces.

Province	Total Recorded losses (USD)	Average losses per year (USD)
Vientiane Province	501,375,575	41,781,297
Bokeo	85,431,800	9,492,422
Bolikhamxay	266,825,204	24,256,836
Khammouane	941,850,074	78,487,506
Champasak	90,347,767	10,038,640
Attapeu	5,726,120	818,017

It is expected that the project will significantly decrease the losses from disasters through the increased resilience of houses, the improved planning of towns to take account of multiple climate-related hazards, the increased capacity of government institutions, the access to timely weather data and the effective functioning of early warning systems.

Increasing inequality is an issue of concern in Lao PDR and the poorest people are often the most impacted by extreme weather events. This project focuses on the poorest and most vulnerable people in the target towns. Security of housing and resilience to extreme weather events will mitigate recurring losses to their resources and livelihoods, enabling them to build up a buffer and improving their economic outlook.

Each of the target towns have unique characteristics, as identified in initial consultations. Table 4 provides socio-economic data on the towns, including populations, ethnic groups, key sources of income, housing typologies and key development indicators. The project is designed according to the principle of 'Leaving No One Behind.' UN-Habitat will ensure to engage directly with women and all ethnic groups represented in the project area, following on from the initial consultations with women and all ethnic groups represented in each town. There are eleven ethnic groups in total spread over the towns with two to four in each town, as shown in Table 4. Continuing engagement with women and each ethnic group will ensure that their aspirations are heard, and their input is incorporated into the project. Community-level data will be disaggregated by gender and ethnic group and monitored throughout the project implementation. Members of ethnic groups will benefit from more resilient houses, and ethnic groups will be made aware of climate change and adaptation. They will also benefit from the evacuation centres, improved early warning systems and improved adaptation coordination.

The implementation process of the project aims to strengthen the participation of all groups in decision making which affects their community. The communities in each target town differ, so consultations will be organised for specific groups identified in each town and participation in the assessment, planning and decision-making processes will be ensured. This will ensure that the requirements and aspirations of all groups are considered in the design of the houses and in the development of the towns. It will also build connections between DONRE and DPWT offices, contributing to cross-sectoral coordination, which is a key challenge in climate change adaptation in Lao PDR. Connections will also be built between the government offices and local communities, also improving local coordination. In previous UN-Habitat projects, such relationships have been reported as having an enduring benefit. Gender considerations have been incorporated into the project design. In particular, women in some ethnic groups have traditionally not been given a voice in decisions. The project will involve all groups throughout the preparation and implementation of the project. The Lao Women's Union (LWU) is already involved, and this will also build their capacity at local levels. The facilitation of meetings by LWU representatives aims to increase the comfort and confidence of women to participate. Women's participation in decision making, and the design of houses to incorporate the needs of women are two key areas which have been identified as areas of focus. On the other hand, past experience shows that men are less likely to attend consultations during work hours, and so there is a need to organize consultations and project planning and implementation activities so that all community members have the opportunity to attend at a suitable time and location. A gender challenge is achieving a positive ratio of men to women in trainings. This is due to there being a lower percentage of women in technical and management positions in DPWT. An aim of the project is to increase the percentage of women gaining further skills and qualifications in the public works and transport sector. To this end, a quota will be introduced for the number of women in trainings. The quota will reflect an achievable increase from the baseline, with the intention to continue the increase in any future interventions.

Specific environmental benefits will vary from town to town. In Lao PDR, ecosystem damage has exacerbated the impacts of climate change. The Vulnerability Assessments conducted through the project will assess the status of local ecosystems and the resulting data will feed into the town master plans. In this way, ecosystem protection and restoration will be integrated into the ongoing development of the towns. This is important as the populations grow and urban areas spread.

C. Cost-effectiveness of the proposed project

The project is designed to be as cost effective as possible in all areas.

In-house technical expertise:

UN-Habitat has the expertise in VAs, housing design, construction and urban planning to carry out the related technical aspects of the project. This reduces the need for specialist external consultants, which is a major cost in project implementation. The local office will also benefit from additional technical expertise and experience from the Headquarters and the Regional Office for Asia and the Pacific, especially from the Urban Legislation,

Land and Governance Branch and in-house programmes such as RISE-UP: Resilient Settlements for the Urban Poor. In recent years, the organisation has also strengthened its expertise in Nature-based adaptation and Ecosystem-based solutions with the objective of improving the connection between cities and nature through the integration of these principles into urban planning. UN-Habitat has the capacity and technical expertise to support the executing agencies in technical aspects of the project. This will also build capacity in the executing agencies and ensure that it is retained in the sector.

Alignment with previous and concurrent projects:

Although this project is designed as a standalone intervention, it builds on outputs from previous and concurrent projects in order to achieve goals in a cost-efficient manner. UN-Habitat has a wealth of experience in the housing sector in Laos and this will be drawn on in this project. Training materials such as a "Building Back Better Shelter manual", will be reviewed, updated, and modified to meet the requirements of the current project. It is likely that some officials at the provincial level in four provinces will have previously participated in trainings related to climate change adaptation and project implementation. There is an opportunity, therefore, for peer-to-peer sharing of experience and lessons learned. This will enhance the trainings and bring more value to the participants and their agencies.

Synergy and contribution from government partners:

Through working in partnership with government agencies, there is potential for synergy in resourcing, plans and budgets. By working with local partners there will not be a need to establish additional offices in the field. Relationships built with government agencies through previous projects have resulted in ongoing cooperation and alignment of resources. Regarding land tenure, vulnerable households in the target areas currently without land titles will NOT be excluded from receiving project benefits based on not owning such titles. On the contrary, the project will support providing land titles, where possible, to selected households currently without land titles as an extra project benefit. The project will ensure that land titles provided will be registered to both men and women. Moreover, the Government also states through a letter that NO involuntary resettlement will take place in the project target area during or after the project. Please find the letter in section K.

Considering Vulnerability Assessments using participatory methods, UN-Habitat has already conducted a pilot evaluation at the national level. The project will therefore build from this experience which involved strong coordination with institutional entities. Building on this foundation is a cost-effective way of using resources.

Cost-effective house designs:

A major cost of the project is the hardware component. There is a trade-off between the number of houses that can be constructed and the quality of the houses. The demonstration houses will be constructed to withstand the current and anticipated impacts of extreme weather events in their location. They will also be constructed according to cultural preferences and traditions in the location, while considering the needs of women and girls. These differ over the provinces, as does the cost of the different types of houses. The materials available also differ in different locations as does the transport cost of delivering materials. For these reasons, the house costs will not be uniform over the target towns. In-depth consultations with stakeholders will determine the most appropriate materials for each location. UN-Habitat has proven experience of cost-effectiveness in construction. For example, after the 2018 floods, UN-Habitat constructed houses at unit costs ranging from USD 14,960.44 to USD 17,743.28, depending on contracts negotiated with individual construction companies. The house design was improved from a government provided design which was used by a Thai Government project, for which the unit cost was USD 25,000. A third project constructed one, two, three and four bedroomed houses at an average unit cost of USD 35,000. In comparison to the other two projects, the UN-Habitat construction was highly cost-effective. UN-Habitat will bring the same expertise in cost-effectiveness to this project.

Cost comparison with alternative solutions:

The proposed approach to enhance climate resilience (reconstructing and rehabilitating existing houses in targeted areas) has been evaluated against potential alternative interventions and determined to be not only more cost-effective but also competitive in terms of climate resilience effectiveness. A comparison of three intervention approaches is presented in the following table:

Option	**Reconstruction and rehabilitation of existing houses**	**Construction of riverbank protection**	**Construction of new houses**
Description	Reconstruction and rehabilitation of existing 5,548 houses at flood prone areas in 6 provinces	Construction of 10,600 meters riverbank protection with retaining wall (2 meters high) in 6 provinces	Construction of new houses for 5,548 households located in flood-prone zones.

Calculation method	Reconstruct 600 houses at unit cost of USD 2,000 and rehabilitation of 4,942 houses at unit cost of USD 500.	10,600 meters of river bank protection at USD 1,500 per meter.	5,548 houses at unit cost of USD 20,500
Total cost	USD 3,671,000	USD 15,900,000	USD 113,734,000
Cost effectiveness	✓	✗	✗
Future cost of climate change impacts	✓	✓	✓
Community involvement	✓	✗	✓
Environmental and social safeguarding risks	Less risk	Less risk	Much less risk
Overall project efficiency	✓	✗	✗

Implementation Modality

UN-Habitat has implemented projects through its People's Process modality, consisting of five steps as shown below.

Figure 25: Implementation modality (i.e., the people's process)

As well as providing multiple benefits in other areas, The People's Process has proven to be extremely cost-effective with international studies showing savings of approximately 30%. Mobilising communities to participate in and own their own development process results in contributions of labour and a vested interest in the success of the project. As well as partnering with government agencies, target communities are seen as essential partners in this project. Local people will be employed wherever possible in the project implementation. The main need for employees will be for the house construction. By gaining experience and understanding of the need to take adaptive measures, local builders will gain the capacity to continue building resilience into housing after the project has ended, resulting in ongoing cost-effective construction practices. Beneficiaries of the newly constructed houses will be mobilised to contribute labour. This also aims to increase their sense of ownership of the houses. Through the use of quotas, ToRs or agreements with community, it will be ensured women, ethnic groups and any other vulnerable groups will be well represented. Someone from the project team and the Lao women's union should be present at all meetings to ensure everyone gets a voice and benefits are equally distributed.

COVID-19

As far as project implementation is concerned, there are risks of delays in implementation due to COVID-19 related restrictions, and risks of shortages in construction supplies due to global supply shortages. These risks are external to the project and will be taken into account in the design, procurement process and implementation schedule. The project has the opportunity to increase communities' socio-economic and psycho-social resilience through the provision of secure housing, particularly since studies have shown that housing is the sector to suffer the second highest amount of damage in natural disasters, with only agriculture sustaining higher damage. It is also important that there is secure housing and shelter in the event of extreme weather, to prevent displaced people crowding into relatives' houses or living in unsanitary conditions which escalate the transmission of COVID-19 and other illnesses.

D. Consistency with national or sub-national sustainable development strategies.

The project aligns with national and sub-national development objectives. An early sustainable development document is the 2008 Strategic Framework for National Sustainable Development Strategy for Lao PDR. This proposal aligns, particularly with the climate change and education sections, with objectives including increasing public awareness activities on climate change, data collection on temperature, rainfall, water flow, etc., enhancing safety by being able to mitigate negative impacts on lives, economies, and properties, and incorporating sustainable development into the school curriculum.

A key principle of climate change response in Lao PDR is mainstreaming climate change into strategies and plans. The Strategy on Climate Change of the Lao PDR (2010) introduces six guiding principles as noted in Table 10, which shows relevant aspects of national planning. The proposed project aligns especially with Principles 1, 2, 3 and 6 through its integrating climate change into town planning, building capacity in

government institutions and raising awareness in the community. In keeping with the principle of mainstreaming, the climate change strategy is being incorporated into the 9th National Socioeconomic Development Plan. Relevant links to the 9th NSEDP are shown in Table 10. A vision to 2030 and a ten-year strategy to 2025 have a focus on sustainability and green growth, and climate change adaptation is included in the NSEDP. However, despite a strong focus at national level, there is a lag in climate change being integrated into sector planning.

The Climate Change Action Plan 2013-2020 identifies seven priority sectors of which one is transport and urban development. The action plan places a high priority on, "Mainstreaming climate change into sector policies, strategies and development plans." However, this has not been completed and the 2020 Nationally Determined Contribution (NDC) states that priority adaptation objectives in key sectors as set out in the 2015 Intended Nationally Determined Contribution (INDC) remain the same, however, the emphasis is on their implementation and measurement, reporting and verification. As shown in Table 10, a sectoral adaptation strategy and action plan for the Transport and Urban Planning sector is still a priority, with a target completion date of 2025. The lengthy period of time that it is taking to implement priority objectives is partly due to the needs expressed in climate change documents such as the NDC, which cites, "weak institutional capacity to mainstream climate change into development plans or translate them into actionable measures at local level." The proposed project's capacity building will contribute to planning and implementing adaptation measures.

The urban development strategic plan has priorities which include urban plans, participatory planning, gender equality amongst staff, and improving coordination between the ministry, sectors, provincial and district levels. The proposed project will contribute to all of these priorities. Relevant priorities in the urban development strategy are shown in Table 10.

Lao PDR has recently submitted its National Progress Report (NPR) on the Implementation of the New Urban Agenda. In line with priorities outlined above, the NPR highlighted key suggested indicators related to the access to adequate and affordable housing through (i) ownership, (ii) habitability, (iii) adequate structure, (iv) infrastructure and services connectivity, and (v) climate resilience.

The project also supports the implementation of MONRE planning. Currently, 35 of the 145 districts of Lao PDR do not have a DONRE office. A MONRE five-year target is to build DONRE offices in all 35 of these districts, thereby facilitating climate change adaptation in all districts. Similarly, there are targets being developed for completing the hydro-meteorological network. The project will contribute to meeting these targets and enable the implementation of government planning.

At the provincial level, all plans, policies, and strategies are developed in accordance with the NSEDP – while climate action plans/policies at the provincial level are not well established. The priorities of the Provincial SEDP 2021-2025 include ensuring green and sustainable development, in line with the National Sustainable Development Goals (SDGs), with economic development at the centre and ensuring harmony between economic development, socio-cultural and environmental protection, responding to natural disasters in a timely manner and addressing poverty and development issues. Therefore, in line with these priorities, climate change and building resilience are both identified as key areas for sub-national policy making.

At the district level, SEDPs for the districts in which the project target towns are located are also in place to guide priority climate resilience infrastructure investments. Consultations with local authorities confirmed that the project is aligned in all the target towns with the existing local poverty-reduction, environmental, and housing and urban planning strategies, although five of the six target towns did not have a certified urban plan.

Table 10: Links to development and climate change planning

9th NSEDP (2021 – 2025)	
Outcome 4: Environmental Protection and Natural Disaster Risk Reduction	Output 1: Sustainable natural resource use and management
	Output 2: Green growth and climate change actions management Urban planning: Developing clean, beautiful, green and liveable cities […] by paying attention to urban design and development, urban building construction in municipal areas of provinces, districts and communities with an aim for having green, liveable, and arts […] that have climate resilient infrastructures; (p.42)
	Output 3: Enhance prevention, control and post-disaster recovery Climate change adaptation: Systematically mainstream climate change adaptation and natural disasters mitigation measures into sectoral and local development plans… (p.43)

Outcome 5: Robust infrastructure development, utilisation of the country's potentials and strategic location, and active engagement in the regional and international cooperation and integration	Output 4: Developed urban and special economic zone to become a production, investment, trade and tourism base to enable regional and international integration Urban infrastructure: Continue to improve and build drainage and flood protection systems in cities […] to ensure that cities have a good ecosystem and resilience to climate change (p.49);
Gender: the 7th NSEDP) has recognized that the effective participation of women, especially poor and ethnic women, is essential for Lao PDR to achieve its goals of poverty reduction and improved living standards.	
National Adaptation Programme of Action (NAPA) (2010)	
Objectives to 2020: 3. Ensure that Lao PDR has sufficient regulations and laws to mitigate the impacts of disasters on individuals, communities, society and the economy of the country; 4. Ensure that knowledge about disaster management and environmental protection is in line with, and integrated into, all development issues and that general public awareness is raised	
Climate Change Action Plan 2013-2020	
Mainstream climate change into sector policies, strategies and development plans p. 5 Conduct climate risk audits for key infrastructure services; p11 Promote awareness on climate change and related environment and disaster management for officials at all government levels; p17	
Nationally Determined Contribution (NDC) 2020	
Long-term: Increase the resilience of urban development and infrastructure to climate change 2025 Shorter Term Target: Transport and Urban Development: Develop sectoral adaptation strategy and action plan including results-based management framework	
10 years Strategic Plan for Urban Development (2016-2025)	
Overviews 1) Prioritise level of city in the country to be developed. Layout the vision of the urban development plan at all district and city level; ensuring the implementation follows the plans. 5) Strengthen capacity building of staff in the central and local for service delivery, encourage participation from various stakeholders during the planning and implementation. General Achievement Targets 1) Urban development plan should be prepared by all cities. 3) In each individual province, try to promote 1 or 2 districts that have high potential for social economic or social security. 4) The government should ensure citizens have access to proper housing, basic sanitation facility, and show willingness to participate in development. 5) Ensure 148 districts in Lao PDR follow the urban development plan and legislation in in managing the land use and housing system. Specific Achievement Targets Urban Planning: 3) Prepare detailed design for the new city to be aligned with concept of being green city, environmental sustainability, climate resilience – to be achieved over 50% by 2025. 4) Prepare detailed design by applying the participatory approach and integrated land use planning through efficiently use of natural resources – to be achieved over 80% by 2025. Urban Housing: 4) Improve management and monitoring system in managing the housing construction. 5) Strengthen capacity of local resources to be able to move forward within local and international level. Capacity Strengthening for Urban Development 1) Develop system where policy, legislation relates to urban planning are in place, particularly, housing law, land use urban planning regulation, construction management, environmental protection in urban area. 2) Improve the capacity building of central and local staff in planning, monitoring and evaluation. 4) Enhance capacity of local staff to enable them to manage city development plan and implementation. Encourage gender equality. 5) Strengthen coordinating mechanism between the ministry, sectors, provincial and district levels to align with government decentralized policy. Working Plan 3: Urban Housing Development Review national policy, improve quality of accommodation, sanitation and security Develop quality control system to monitor construction/structure quality	
The Law on Meteorology and Hydrology (2017)	
Article 9. Contents of Meteorological and Hydrological Strategy: The meteorological and hydrological strategy contains: 1. The expansion and improvement of the network of meteorological and hydrological stations and the national warning centre; 2. The provision of necessary equipment and technology to meteorological and hydrological activities;	
Natural Resources and Environment Strategy, 10 Years 2016-2025	

2.1. Promote the implementation of land use master planning and ISP [Integrated spatial planning] in the sustainable improvement and development of cities and rural areas; 3.1. Mainstreaming climate change adaptation and mitigation and disaster management into relevant sector policies, program and action plans; 3.2. Implement research programs to study and disseminate the updates climate change scientific data and develop maps of vulnerable and high-risk disaster areas to support in policy and strategy planning, national socio-economic development plans of line sectors at central and local levels and for people livelihood; 3.3. Implement public awareness raising programs on climate change and related impacts to ensure the effective use of local resources, appropriate governance arrangements and community participation in CC adaptation and disaster management and prevention; 3.4. Implement effective and efficient disaster protection and prevention measures and management system including preparedness, warning, protection, rescue, recover and rehabilitation systems, to ensure the protection and relocation of people and valuable assets in time.

E. Relevant national technical standards

The proposed project is designed to meet all relevant international and national technical rules, regulations, standards, and procedures. Relevant rules, regulations and standards have been identified, including steps / procedures to comply per proposed component, and including any risks screening and impact assessments and related approvals required by Lao PDR law.

Table 11 provides an overview of the proposed project component, relevant rules regulations, standards, steps / procedures to comply and authorizing offices. Besides that, the project will comply with the AF ESP and GP and UN-Habitat's 2021 Environmental and Social Safeguards System

Regarding any environmental and social risks screening and impact assessments and related approvals required by Lao law, the project should be in compliance with the following:

- Environmental Protection Law (Revised Version), No. 29/NA (2012)
- Decree on Environmental Impact Assessment, No. 112/PM (2010)
- Environmental Impact Assessment Guidelines
- Prime Minister Decree on Environmental Impact Assessment No. 389/Gov (20 October 2022)

According to Lao PDR regulations, none of the proposed project activities require an EIA or an IEE by national law. This is confirmed by MONRE in the letter on this page. However, an ESMP is required. The Ministry of Natural Resources and Environment confirmed an approved ESMP as part of the full proposal will suffice. Local authorities, in coordination with PONRE and DONRE will collect information before any construction to ensure social safeguards. Besides that, no further assessments and approval are required. The demonstration houses and improvement of existing houses will adhere to national and local regulations, and the executing entity is MPWT, which is in charge of construction regulations and codes.

Lao People's Democratic Republic
Peace Independence Democracy Unity Prosperity

Ministry of Natural Resources and Environment
Department of Climate Change — Vientiane Capital, Date: 6 February 2023

To Whom It May Concern

Regarding the project proposal entitled, "Enhancing adaptive capacity in Lao PDR provinces, and building resilient housing in vulnerable communities," please note that there is no requirement for an Environmental and Social Impact Assessment (ESIA) for any component. This decision is in accordance with the following Lao PDR regulations: Prime Minister Decree on Environmental Impact Assessment No.389/Gov, date 20 October 2022.

Furthermore, according to Lao PDR regulations, there is no requirement for an Initial Environmental Examination (IEE) for any component of the project, including demonstration houses, Coordination centres, evacuation centres and meteorological/hydrological stations. The size of all constructions in the project is below the threshold warranting such an examination.

Yours faithfully,

Syamphone Sengchandala
Director General,
Department of Climate Change,
Ministry of Natural Resources and Environment,
National Designated Authority of Adaptation Fund for Lao PDR.

As per the new Land Law 2019 Ordinance 003 and the construction law, the construction activities will require construction permits. Also, the construction activities will comply to the draft national building code prepared by MPWT. As the buildings will be small, the authorizing office will be the District Office of Public Works and Transport. The chart below summarises the approvals required and shows that the maximum time required for processing is 30 – 45 days. Regarding the Coordination Centres, sites have already been obtained in alignment with land and environmental laws and regulations.

Letter confirming no EIAs or IEEs are required

Approvals required and timelines for processing

PROCESS FLOW

COMPLETED				TO BE INITIATED AFTER SIGNING OF PROJECT
Construction types	ESIA	IEE	Design & Specificatons	Construction & Rehabilitation approval
Evacuation centers	Not required as per MoNRE regulations	Not required as per MoNRE regulations	Available	Approval from provincial Department of Public Works and Transport (30 - 45 days max)
Coordianion centers	Not required as per MoNRE regulations	Not required as per MoNRE regulations	Available	Approval from provincial Department of Public Works and Transport (30 - 45 days max)
DMH stations	Not required as per MoNRE regulations	Not required as per MoNRE regulations	Available	Approval from provincial Department of Public Works and Transport (30 - 45 days max)
Rehabilitation of HH	Not required as per MoNRE regulations	Not required as per MoNRE regulations	Available	Bulk provincial level approval from provincial Department of Public Works and Transport (30 - 45 days max)
Reconstruction of HH	Not required as per MoNRE regulations	Not required as per MoNRE regulations	Available	Bulk provincial level approval from provincial Department of Public Works and Transport (30 - 45 days max)

Table 11: Relevant rules, regulations, standards and procedures

Project compo-nent	Relevant rules, regulations, standards and procedures	Compliance, procedures and authorizing offices
1	Related to master planning and building codes and guidelines - Lao PDR Land Law (amended), No. 70 /NA, dated 21 June 2019. - Decree on Sam Sang, No. 9/PMO, dated 2012, related to district and provincial regulations, in conjunction with the Department of Planning and Investment. - Lao PDR Urban Planning Law, No.: 327/P, dated 2017 - Lao PDR Decree on Climate Change, No. 321/PMO, dated 18 September 2019 - Law on Disaster Risk Management, No. 262/NA, dated 05 Aug 2019	The project will comply with rules, regulations, standards and procedures for developing town master plans and to build upon draft building codes and building back better principles in guidelines. MONRE The Urban Planning Law is overseen by MPWT by which the plans need to be approved. This will also be done at the decentral level through Sam Sang. MONRE is responsible for the Decree on Climate Change. The project supports the decree through actions such as vulnerability assessment and mapping, raising awareness of adaptation. DRR will be a central element in the master plans and the master plans will comply with the law.
2	Related to building construction and land use or construction - Environmental Protection Law (Revised Version), No. 29/NA (2012) - Decree on Environmental Impact Assessment, No. 112/PM (2010) - Environmental Impact Assessment Guidelines - Lao PDR Land Law(amended), No. 70 /NA, dated 21 June 2019 - Lao PDR Construction Law. No. 159/LPDR, dated 2009 and Decision on Construction Management, 2019 - Law on Disaster Risk Management, No. 262/NA, dated 05 Aug 2019 - The Lao National Unexploded Ordnance Programme, which follows IMAS – International Mine Action Standards, under the National Regulatory Authority (NRA) for the UXO/Mine Action and UXO Lao, which adopted SOPs – Standard Operating Procedures. - Law No. 08/NA on National Heritage dated 9 December 2005.	Although no ESIA is required by national law, risks screening and impact assessment of proposed activities are being conducted in compliance with the AF ESP and GP. The MONRE will provide a letter confirming no ESIAs are required by national law for this project The Land Law is overseen by MONRE. For this project, land has already been obtained for Coordination Centres, in alignment with the Land Law. Construction permits will be obtained through OPWT or DPWT. The Construction Law is overseen by MPWT. MPWT also has oversight of Building Codes and Building Control. Any construction activities will comply with building codes and will support DRR in line with the law on DRR. The Decision on Construction Management has been established by MPWT. The project will comply with licensing regulations for construction and design, including design standards for ic projects. Since some target districts are at risk from Unexploded Ordinance, UN-Habitat will work with UXO Lao and the National Regulatory Authority for UXO, to conduct UXO risk assessments in the project towns. If necessary, UN-Habitat will survey the target areas and clear the risk areas. The project will comply with the Law on National

Project compo-nent	Relevant rules, regulations, standards and procedures	Compliance, procedures and authorizing offices
	- Lao PDR Law on Meteorology and Hydrology, No. 36/NA, dated 13 November, 2017 with article 47 concerning early warning systems - Agreement on Management of Meteorological and Hydrological Stations, No. 6748/MONRE, dated 12 December 2019	Heritage by promoting local design features into construction, and by incorporating consideration of physical features into urban planning. Oversight of the Law on Meteorology and Hydrology falls under MONRE's mandate. The project contributes to implementation of the law, which involves improvement of the network of meteorological and hydrological stations, and the responsibility of local authorities to give early warnings.
3	Related to knowledge production and sharing N/A	 N/A

F. Duplication of project with other funding sources.

This project proposal has been prepared in consultation with the Ministry of Public Works and Transport (MPWT) and with the Ministry of Natural Resources and Environment (MONRE). MONRE has the mandate for climate change and houses the focal point for the Adaptation Fund. MPWT has the mandate for housing and urban planning. These two ministries are responsible for coordinating interventions in their respective sectors and have been actively engaged in the project design. Both have vetted the project proposal to ensure there is no overlap with other interventions.

Two criteria which distinguish this project are the type of target settlements and the sector (housing). The Law on Urban Planning (2017) classifies towns and cities as follows:

1. Vientiane Capital City;
2. Cities (Kaysone Phomvihane, Pakse, Luang Prabang)
3. Municipalities
4. Towns (centre of a district)
5. Town Communities (centre of large villages or village clusters (kum ban)[68]

Most projects focus on one level of town. For example, UN-Habitat has an ongoing project focussing on rural villages and another focussing on towns along the east-west corridor. Many projects focus on either the cities, or rural villages, yet much of the urban growth is occurring in towns such as the district capitals targeted by this project. These towns often fall into a gap in resourcing by external projects.

The second distinguishing feature of this project is that it targets the housing sector. Although there are projects targeting transport or infrastructure, and despite the fact that the housing sector sustains the second highest amount of damage from natural disasters of all sectors, there is no current project focussing on housing, apart from a localised recovery project in Attapeu which is still rebuilding after the 2018 floods. Partners in the project will provide in-kind contributions, and the project will be aligned with any other urban development work which may take place in the target towns.

There are several projects focussing on green and sustainable urban areas. However, these are mainly in cities and are not in the same location as the towns targeted by this project. There are also projects with a climate adaptation focus. Table 12 provides an overview of relevant projects, while showing avoidance of geographical overlap and complementarity. Currently, there are two projects, those of the WB and WB/UNDRR (see below), with a similar focus on flood risks and hydro-meteorological services. The proposed project will complement these projects through concrete interventions in other geographic areas (i.e., avoiding overlap) and by a focus on capacity strengthening at the local level. Thus, the WB and WB/UNDRR project will mainly support capacity strengthening at the national and regional level, while the proposed project will complement this at the local level (of intervention). Extended discussions with DMH revealed an urgent need for an institutionalised coordination mechanism, It was therefore decided with the Government that the proposed project will also provide technical assistance to establish an entity such as a hydrometeorological sub-sector working group (SSWG) under the climate change sector working group. This SSWG or equivalent will bring together all

[68] Michael Epprecht, Nicholas Bosoni, and Daniel Hayward, 'Urbanization Processes in the Lao PDR: Processes, Challenges and Opportunities' (Centre for Development and Environment, University of Bern, Switzerland, 2018)

stakeholders involved in providing or using hydrometeorological services, and will provide a framework for coordinating with the all other initiatives in the sector, including the i) Lao PDR Southeast Asia Disaster Risk Management Project, the ii) Reinforcing the capacities of meteorological and hydrological services and enhancing the early warning systems (CREWS) in Cambodia and Lao People's Democratic Republic, and the iii) Flood and Drought Mitigation and Management Project.

A framework for coordinating interventions with other organizations supporting efforts to improve climate information systems in Laos, will be developed during the inception phase. Meetings will be organized to review the alignment of efforts and establish coordination mechanisms.

Table 12: Projects in urban or climate change sectors

Implementing Agency	Project, Funding Amount, Donor and Timeline (All amounts in USD)	Focus/project description	Geography and complementarity
ADB	Flood and Drought Mitigation and Management Project *Concept cleared in Oct 2020. Fact finding in Sept 2021.*	The Project will assist the Lao Peoples Democratic Republic to implement its National Water Management Strategy and Action Plan 2030 in the three central provinces of Bolikhamxai, Khammouan, and Vientiane Capital.	No geographical overlap Project is in preparation phase. The current project does not focus on water management
	Sustainable Rural Infrastructure and Watershed Management Sector Project Grants: ADB $5,000,000 EU $4.460,000 Loan: ADB $40 million *Signed Oct 2019* *Close Sept 2027*	Addresses issues of PRI and watershed management in mountainous provinces of Northern Lao PDR by using integrated land use planning that integrates efficient, sustainable and climate resilient rural infrastructure, and feasible watershed protection measures. Geographical focus: Houaphan, Luang Prabang, Vientiane, Xiangkhouang	No geographical overlap The proposed project will build from the project approach and lessons learned, especially outcome 2 aiming at improving land use management within the PRI scheme watersheds, while complementing this initiative by integrating cross-sectoral approaches with a focus on land use .
	Greater Mekong Subregion East-West Economic Corridor Towns Development Project Grants: $14,868,000 Loan: $26,600,000 *Jan 2013 – Dec 2021*	The project improved urban environmental infrastructure and strengthen the institutional capacity of provincial and local authorities in Kaysone Phomvihane, Phine, and Dansavanh. It included flood control measures and improvements in waste management and roads	No geographical overlap The town planning outcome of the proposed project will benefit from this initiative, and review tools and mechanisms developed.
World Bank	Lao PDR Southeast Asia Disaster Risk Management Project $31,000,000 *July 2017 –* *Dec 2024*	The project aims to reduce the impacts of flooding in Muang Xay and enhance the Government's capacity to provide hydro-meteorological services and disaster response Physical investments in hydro-meteorological services and disaster response will be in three provinces of the Nam Ou River Basin, namely Luang Prabang, Oudomxay, and Phongsali	No geographical overlap Use lessons from integrated urban flood risk management in Muang Xay and from investments in meteorological services and disaster response will be in three provinces of the Nam Ou River Basin, namely Luang Prabang, Oudomxay, and Phongsali The current project will complement the WB project by focusing on the gaps in the WB project, including investments in stations and communication at the local level in the project target areas.
UN-Environment Programme	Building resilience of urban populations with ecosystem-based solutions in Lao PDR Green Climate Fund $11,500,000 *June 2020 –June 2025*	The project aims to test an alternative approach to flood control in urban Laos, moving away from a traditional focus on grey infrastructure, such as dams and concrete drainage systems. It will implement ecosystem-based adaptation in urban areas. UN-Habitat will participate through developing capacities on EbA concepts with a focus on their	No geographical overlap The UNEP project focuses on flood control. UN-Habitat will use lessons from the project as active participant to the project.

Implementing Agency	Project, Funding Amount, Donor and Timeline (All amounts in USD)	Focus/project description	Geography and complementarity
		application in master planning processes, iterative planning and applications at the local level, as well as linking spatial planning with the planning of investments.	
	Building climate resilience of urban systems through Ecosystem-based Adaptation (EbA) in the Asia-Pacific region, $6 million ($1.5 million in Laos), GEF *2018 – 2022*	Ecosystem-based approaches to Adaptation (EbA) to reduce the vulnerability of urban and peri-urban communities to climate change. Vulnerability is reduced by protecting, maintaining, and rehabilitating priority ecosystems. UN-Habitat has been a partner and has provided support in building capacity to mainstream EbA approaches into urban development.	No geographical overlap Project has been completed. The proposed project will benefit through integrating EbA perspectives into capacity building. For the town planning component of the proposed intervention, lessons learned from the UNEP project and experience in working with local institutions to mainstream EbA into planning, will enable the development of approaches which enhance implementation efficiency and sustainability.
	Building the capacity of the Lao PDR government to advance the National Adaptation Planning process, 3,552,969 USD, GEF, *48-month project which was approved in December 2020 for implementation*	Institutional and technical capacity building to advance the NAP in Lao PDR and integrate climate change adaptation into national and sectoral planning, financing and coordinated implementation.	No geographical overlap While this GEF project focuses on institutional capacity building, with a strong focus on coordination (outcome 1), the proposed project will complement this by increasing policymakers and decision-makers awareness of climate vulnerability, gender and inclusion, and adaptation planning, within human settlements contexts.
UNDP	Effective Governance for Small Scale Rural Infrastructure and Disaster Preparedness in a Changing Climate $5.5m, GEF-LDCF *2013-2017*	Improving local administrative systems affecting small-scale rural infrastructure (including water and disaster preparedness) through participatory decision making .	No geographical overlap Project has been completed. The proposed project will benefit from mechanisms developed to enhance capacities of district planners to undertake climate change risk assessment.
UN-Habitat	Building climate and disaster resilience capacities of vulnerable small towns in Lao PDR Adaptation Fund $5,500,000 *2020 - 2024*	Building climate resilience in small towns along the EWEC in Lao PDR, with a focus on Savannakhet province. This will be achieved by providing climate-resilient water infrastructure and mainstreaming climate change into urban planning. A rapid vulnerability assessment has been carried out in each target settlement, forming the basis of an action plan and laying the foundation to mainstream climate action into urban planning.	No geographical overlap By focusing on different provinces, the proposed project will complement this initiative. This project was also an entry point to develop a methodology for deploying vulnerability assessments. The proposed intervention builds on lessons learned and tools developed in this project, particularly for community engagement, data collection and mainstreaming adaptation into planning. While this AF project focused on water infrastructure, the proposed project will encompass various aspects of settlements development with a focus on housing, with a multi-disciplinary approach to avoid sectoral division.
	Climate and Disaster Resilience in emerging human settlements project Adaptation Fund $4,500,000 *2017 - 2021*	"Enhancing the climate and disaster resilience of the most vulnerable human settlements in Southern Laos (Sekong, Saravane, Attapeu) by increasing sustainable access to basic infrastructure systems and services, emphasizing resilience to storms, floods, droughts, landslides	No geographical overlap Project has been completed. As for the previous discussed AF project, UN-Habitat proposed project will continue the work conducted through this AF grant at the national level. While this AF project focused on community engagement and

Implementing Agency	Project, Funding Amount, Donor and Timeline (All amounts in USD)	Focus/project description	Geography and complementarity
		and disease outbreaks". The project aims to ensure communities can plan, construct, and maintain resilient water-, drainage- and sanitation-, related infrastructure systems. This project focused on building capacity at the human settlement and community level, along with the physical construction and improvement of climate and disaster-resilient infrastructure systems.	small-scale water infrastructures development to advance resilience in Southern Laos, the proposed intervention aims to improve adaptation planning, and housing resilience. Consequently, the proposed project will build from this AF project experience, especially the methodology developed to conduct vulnerability assessments.
World Bank and UN Office for Disaster Risk Reduction (UNDRR)	Reinforcing the capacities of meteorological and hydrological services and enhancing the early warning systems in Cambodia and Lao People's Democratic Republic (CREWS Cambodia and Lao PDR) *July 2021 –July 2025*	Enhancing the capacities of national and regional stakeholders / institutions to provide hydrometeorological, early action and response services to ensure that vulnerable populations in Cambodia and Lao PDR are reached through effective and inclusive risk-informed early warning services.	No geographical overlap This project includes knowledge, capacity building, monitoring, and evaluation processes at the national and regional level; it does not include any infrastructure development component. The CREWS project carried out an assessment of national meteorological and hydrological services, but the results were not yet available in April 2023. Regarding data transmission from the new/upgraded stations to the national datacenter, CREWS project documentation states that," issues such as improving data acquisition and transmission, potential expansion of the observation network to cover the whole country, data distribution and delivery to end users, enhanced end users to the warning information as well as preparation of climate databases and services are not likely to be covered under the ongoing investments. These are items likely to be identified as needs in the context of the overall hydromet system."[69] The proposed project therefore complements the CREWS project by meeting identified needs in terms of network expansion and data acquisition. The proposed project will complement the CREWS project by focusing on supporting the Department of Meteorology and Hydrology to scale-down national / regional initiatives on meteorological and hydrological services to the local level in the project target areas. The CREWS project is working on standardising systems across the country and the proposed project will ensure that infrastructure aligns with the systems CREWS proposes. This is to ensure interoperability and data compatibility.
FAO	Strengthening Agro-climatic Monitoring and	SAMIS focused specifically on agroclimatology by strengthening agro-climatic monitoring, analysis, communication and use of data and	The focus of the SAMIS project is on agrometeorological information for farmers, while the proposed project focuses on climate resilience in towns,

[69] CREWS, 'CREWS Project Presentation Note to the Steering Committee,' 2021.

Implementing Agency	Project, Funding Amount, Donor and Timeline (All amounts in USD)	Focus/project description	Geography and complementarity
	Information System (SAMIS) 5,479,452 USD-GEF 16 130 000 Co-financing from FAO, JICA, ADB, CDE, Government of Lao PDR. May 2017 – December 2022	information for decision making in agriculture and food security.	requiring different information and systems. SAMIS upgraded 15 stations, all of which are included in the list in Annex 4 and none of which cover the same area as is covered by the stations in this proposed project. However, the SAMIS stations and the proposed new stations will complement each other in strengthening the national level data analysis. The SAMIS pilot areas of Xe Champone (Savannakhet) and Beung Kiat Ngong (Champasack) do not overlap with the proposed project.

G. Learning and knowledge management

Effective learning and knowledge management is an essential part of providing maximum value from a project. For this project, knowledge management not only refers to knowledge acquired through the project, it also covers the use of knowledge which has been gained from previous and other ongoing projects by UN-Habitat or other development partners. New lessons will be added to existing knowledge repositories so that they are continually growing and updated. Knowledge management will be included in capacity building on project implementation with the aim of mainstreaming it into practices at the local level.

In Lao PDR, information is not easily accessible. Many official documents are not available online and it is not clear which office holds them. As a result, it is time-consuming to source data. The project will, therefore, support platforms that are developing to share information at the national level.

At the international level, UN-Habitat will share lessons learned with the Adaptation Fund through the scheduled evaluations of the project. Evaluations will be carried out in Lao PDR but shared with the regional office and headquarters of UN-Habitat. Lessons learned and relevant resources will be shared on UN-Habitat's website. UN-Habitat is also running the #ClimateAction4Cities Campaign which provides a space to share actions taken in cities and communities. The Urban Thinkers Campus is a platform for critical exchange on urbanisation challenges with a 2021 focus on Climate Action Solutions. A thorough appraisal will be made of the climate change and urban related platforms to identify the most appropriate on which to share information from the project. The identified platforms will be included in the Knowledge Management strategy. UN-Habitat will capture data through the project monitoring system and will collect written data, photos, and videos to clearly display the project.

While data of a more general nature may be of interest internationally, there will be data generated which will be of use to government and development partners within Lao PDR. This includes the VAs, house designs, town profiles, guidelines, manuals, and house screening checklist. This data will be shared with government partners and made available on national platforms and through networks of development partners through such media as a well-used Google group. A workshop with key stakeholders will be held at the end of the project to disseminate lessons learned and to collect recommendations for improvements in design or implementation. With stakeholders from the national to the local level present, the workshop will be an opportunity to strengthen vertical integration in the housing sector. UN-Habitat is in regular contact with MPWT and will take every opportunity to advocate for sound climate adaptation measures in policy making decisions. This is an important time, since a sectoral adaptation strategy and action plan including results-based management framework is due to be developed by 2025.

Knowledge from the project will be disseminated to communities through media such as newspapers and television. This will reach communities which are not in the immediate vicinity of the project. For the target communities, the most effective communication is anticipated to be village meetings in which all villagers will be invited to participate, and which will be a key space for decision making in the project. The LWU will be invited to facilitate or co-facilitate meetings for women in order to ensure that women are comfortable in speaking and there is not a gender-based power differential. Similarly, where there are minority ethnic groups, it will be necessary to work through a leader of the group to ensure that members are comfortable in expressing their thoughts and in asking questions. In these ways, the project aims to include all members of communities and

to build inclusivity which will continue after the close of the project.

As well as maximising the efficiency, value, inclusivity and visibility of the project, the knowledge management component aims to raise the awareness of stakeholders of the importance of knowledge management and learning. Data management practices will be established and strengthened with a long-term view that continues past the project. The exact form of data management practices will be determined in consultation with stakeholders, considering the context in which they are working, for example, many local offices do not have reliable access to the internet and are not well resourced in terms of IT equipment or capacity.

H. Consultative Process

This project was conceived after recent floods ravaged several provinces in Lao PDR. Through its role as co-head of the Shelter Cluster of the Lao PDR Inter-Agency Contingency Plan (IASC), UN-Habitat partnered in assessing damage and needs, and in planning the recovery. As part of the recovery, UN-Habitat implemented a project which constructed houses for people who had been made homeless through the destruction of their houses and possessions by floods and landslides. The impact of the floods has been long term and in 2021, there are still people who are living in temporary shelters as a result of losing their houses in 2018. Discussion on the need to build resilience into houses has, therefore, been ongoing through the recovery efforts of successive floods. The discussion became more focused in the preparation of this concept note.

At the national level, in-depth discussions were held over several months with MONRE and MPWT. A key topic concerned the scope of the project, and the realisation that maximum effectiveness would be achieved through a holistic approach which includes resilience building in construction practices, strengthening adaptation coordination, improving the early warning system and providing shelter for displaced households.

The target provinces were selected at the national level, and multilevel consultations then determined the target districts for each of the interventions.

Table 13: Record of consultations

Stakeholder	Date of Consultation	Consultation Objective	Outcome	Remark
Ministry of Natural Resources and Environment (MONRE), Department of Climate Change (DCC) Minister of Natural Resources and Environment	In addition to the following dates, discussions were held throughout 2021 - 2023 and communication is ongoing. 25/03/21 01/06/21 16/07/21 08/10/21 21/10/21 08/10/21	• Confirm focal point support. • Confirm DCC's agreement to be an executing entity for the project • Establish target areas • Ensure harmonisation with other ongoing adaptation activities and with policy alignment • Establish project scope and clarify objective • Clarify scope, ensure harmonisation with MONRE goals and with other interventions	• MONRE has agreed to support the project formulation • DCC agreed to be an executing entity • The target areas named in this concept note were agreed upon • Information was exchanged on existing and planned initiatives in the target area • It was established that the project would meet urgent institutional and systemic needs in order to build resilience in a holistic manner	As designated authority, MONRE has approved the project.
Department of Meteorology and Hydrology (DMH) and DCC	19/12/22 10/04/23	• Confirm sites of meteorological and hydrological stations • Clarify aspects of early warning systems • Ensure harmonisation with other interventions	• Sites for the meteorological/ hydrological component of the project were confirmed • Updated information on other meteorological and hydrological projects was obtained • A more detailed understanding of the workings and needs of DMH was obtained	

Stakeholder	Date of Consultation	Consultation Objective	Outcome	Remark
DMH Division of Hydrology	23/12/22	• Clarify aspects of the hydrological network and early warning system	• Detailed information and understanding were obtained of the current status of the hydrological system	
Ministry of Public Works and Transport (MPWT), Department of Housing and Urban Planning (DHUP)	In addition to the following dates, discussions were held throughout 2021 – 2022 and communication is ongoing. 24/03/21 02/06/21 23/07/21 21/10/21	• Confirm MPWT's agreement to be an executing entity for the project • Establish target areas • • Ensure harmonisation with other ongoing adaptation and urban planning activities and with policy alignment • • Establish project scope and clarify objectives • • Understanding current technical standards, rules, and regulations	• MPWT agreed to be an executing entity • The target areas named in this concept note were agreed upon • Information was exchanged on existing and planned urban planning and climate change initiatives in the target area • The needs in the target provinces were clarified and the urban planning, and housing construction and rehabilitation components of the project were planned to meet the needs. • The project aligns with DHUP regulations and standards.	
MPWT and MONRE	09/11/22	• Confirm responsibilities of ministries, particularly regarding operations and maintenance	• MONRE confirmed their previous commitment to operations and maintenance of the 6 coordination centres, meteorological and hydrological stations, and evacuation centres. • MPWT committed to liaising with houseowners regarding maintenance of the housing interventions.	
Provincial and District authorities	In addition to the following dates, ongoing discussions have been held throughout 2021 – 2022. Vientiane Province: 30/03/21 Bokeo: 01/4/21 15/11/2022 Bolikhamxay: 5/4/21, 6/4/21, 22/11/22 Khammouane: 7/4/21, 22/11/22 Attapeu: 8/4/21, 23/11/22 Champasak: 9/4/21, 24/11/22	• Select target towns and clarify specific scope in each town. • Understand the current extent of climate change adaptation in the target towns and relevant local plans and aspirations. • Collect data on housing typology	• Towns were selected and activities were selected from those decided upon by DHUP, to meet the needs in each town. • Understanding was gained, and shown in rapid assessment results.	Detailed results of rapid vulnerability assessment are available on request
Communities in the target towns	Vientiane Province: 30/3/21 Bokeo: 1/4/21	• Gain understanding of local experience of climate change and decision-making processes.	• Floods identified as main hazard risk	Detailed results of rapid vulnerability assessment

Stakeholder	Date of Consultation	Consultation Objective	Outcome	Remark
	Bolikhamxay: 5/4/21, 6/4/21 Khammouane: 7/4/21 Attapeu: 8/4/21 Champasak: 9/4/21	• Understand local needs regarding housing. • Ascertain community buy-in and concerns regarding the proposed project	• Houses have generally weak construction and are often located in risk areas • Houses needs to be improved to withstand floods and storms • Concerns women and ethnic groups: limited participation and decision-making power	are available on request
Victoria Dart Gender specialist UNFPA - Lao	Zoom call 11/07/2022	• Understand how legal framework support women and how not? Where strong and where weak? • Identify any specific cultural / religious habits / practices, especially within ethnic groups • Understand gender division of labour and gender-based power structures • Understand Differentiated impacts of climate change (floods, storms) on men and women • Understand differentiated capacities of women and men to do adopt to impacts (floods, storms) • Opportunities for promoting women as agents of change • Any possible concerns of women when constructing resilient houses, evacuation centres, disaster risk reduction planning?	• Legal framework and women representation at national level is relatively good. • At local level, issues are limited representant, safety risks, early marriage, women more in informal sector, especially under ethnic groups • Opportunities: often women run the household, incl. finance, so a safe and good house is important; reach women through Lao women union focal point in each ministry and in each village	Integration in proposal: Design houses and services so women / girls safety is ensured Ensure Lao women union is present in all meetings to ensure equal participation Acknowledge different realities between ethnic groups and tailor activities where needed Ensure any land title registration as part of project activities is to both men and women. Prepare women for potential disasters through awareness and in DDR plans
Lao Women's Union – representatives from project target districts	Zoom call 15/07/2022		• Gender-related laws / responsibilities at national level improved • All ethnic groups in target areas free to practice according to traditions • Small portion of Mong and Khamou may not be able to communicate in Lao • Equally between men and women at local level improved • Women can have own titles • In Mong some inequalities still present • Gender specific impacts: psychological and physical burden on women because of high burden	
Office of the UN High Commissioner for Human Rights	4/1/23	• Identify any further human rights issues	• Consultation with OHCHR supported UN-Habitat's focus on mechanisms for communities to participate fully in decision-making and/or voicing their concerns	
Arcadis consultancy company	Ongoing consultation from March to September 2022 Kick-off meeting: 20/4/22 Closing meeting: 21/9/22	• Develop checklists and selection process for housing interventions • Carry out ESIA and develop ESMP	• Arcadis produced a housing report and an ESIA/ESMP report.	The full reports from Arcadis are available on request.

Stakeholder	Date of Consultation	Consultation Objective	Outcome	Remark
	Consultations with target communities in July 2022.			

Following confirmation of the target towns, consultations were held at the local level. A rapid vulnerability assessment was carried out in each town and consultations were held with the District Governor or Deputy District Governor, District chief cabinet, District Public Works and Transport office, District Natural Resource and Environment office, District Planning and Investment office, Village chiefs, Lao Women's Union, Lao Youth Union, Community members, including women, youth and minority ethnic groups.

In the initial consultative process, consultations were held with women of all ethnicities in all the target towns. Consultations were held in the community so that it was not necessary for people to travel to participate in the process. Among other things, women and ethnic group representatives were asked for their thoughts and needs related to resilient housing, and their willingness to participate in the project, and their responses taken into account in the project design. As for women, housing, including WASH, needs to be designed so it is safe for women and girls. As for ethnic groups, participation should be ensured in planning and decision-making and communication should be in the appropriate language, if needed,

Consultations with local authorities revealed the ethnic breakdown of the town populations. Consultations were then organized with members of all the ethnic groups represented in each town to gauge their needs, cultural requirements and willingness to participate in the project. Further consultations were held in order to refine the concept note into this fully developed proposal. Feedback from the initial local consultations is summarized in Appendix 5 Annex 5: Consultations in Towns Targeted for Urban Planning and House Rehabilitation.

Following the environmental and social screening assessment, the results of the assessment, including the proposed Environmental and Social Management plan, were translated and disseminated to PONRE, DPWT, LWU and District and village offices, with a notice in the village office window informing the public that the results are available to the public. A notice in the village office window was deemed the most effective way to communicate in the Lao context.

I. Justification for funding requested

There is an urgent need to build resilience in Lao PDR's rapidly growing towns, however, the Government does not have the financial resources or capacity to do this. Substantial capacity and knowledge gaps exist between the national and local levels, and these prevent many nationally designed plans from being effectively implemented at the local level. Lao PDR has expressed its need for assistance in reports such as the Second National Communication of 2013, which identified needs, including in the areas of capacity building, education and public awareness, and vulnerability assessment and adaptation in different sectors. By taking a comprehensive approach which includes institutional strengthening, capacity building, awareness raising, improvement of early warning systems and resilience building in construction, the project aims to embed climate change adaptation into multiple layers of the target provinces, ensuring an ongoing impact as the provinces' towns continue to grow.

This project meets needs that are becoming increasingly more obvious in the housing sector. As well as people having a house which is resilient to floods and other extreme weather events, people in the target communities will be aware of the impacts of climate change and the necessary changes to make to house construction. There is a need to act now to develop plans for the target towns, and plans which are aligned with vulnerability assessments will ensure that land use, spatial planning, house construction and the growth of the towns develops in a considered rather than in an indiscriminate way.

All the actions in the project are aligned with national planning, and the project incorporates responses to specific requests from the Government. In particular, the coordination centres and the hydro-meteorological component will enable government adaptation services to extend into vulnerable districts in a way which has not been previously achieved.

This project will increase the adaptive capacity of communities to respond to the impacts of climate change. It specifically aligns with five of the Adaptation Fund outcomes. In addition, it contributes to the implementation of national development goals. Table 14 shows the impact at activity level of AF funding compared to the scenario in which there is no AF funding.

Component-level comparison of a baseline situation with a with-project scenario.

Component 1 is critical as it provides the foundation of climate risk and vulnerabilities. Specifically, it maps the high-risk zones and enables the integration of CC risks and hazards into the master plans. Such master plans will be pivotal for future decision-making purposes. Without such a component the settlements and its masterplans will remain vulnerable to future climate induced hazards resulting in continued economic and non-economic losses and damages.

Component 2 is essential as it (a) enhances the resilience of the households at risk by providing adaptation measures against annual floods; (b) strengthens the early warning systems, thus prompting timely actions against climate-induced hazards; (c) improves response capacity by providing evacuation centers for affected households; and (d) improves disaster risk management coordination mechanism through the establishment of DoNRE offices. Without component 2 the vulnerable population continues to be affected by annual economic and non-economic losses and damages, which are beyond the bearable limit of many.

Component 3 captures the achievements of the above two components and develops essential guidelines, and dissemination of these is critical for further scaling up similar initiatives. Without such a change in approach there is always the danger of repetition of past mistakes linked to the development of master plans and infrastructure and thus rendering the population vulnerable to climate-induced hazards and experiencing economic and non-economic losses on a regular basis.

Table 14: Comparison of AF funding to scenario without AF funding

Activity	Vulnerability Baseline	Adaptation Benefit Resulting from the Project	Alternative Scenario
Seven town level master plans developed to guide the integration of climate change adaptation into socially inclusive shelter construction, spatial planning and land-use.	Climate change is not mainstreamed into town plans.	Town master plans will guide urban planning and investment in a way that builds the towns' resilience to climate change and will ensure intentional development as the towns' populations increase.	Town plans do not consider climate change, nor do they consider accurate population predictions.
Training provided to district, provincial and national government staff on mainstreaming climate adaptation into urban planning and housing.	Even at the national level, government staff in the housing sector do not have an in-depth knowledge of anticipated climate change impacts and of the adaptive measures required.	National and sub-national government officials are able to design and plan measures to build resilience in seven district towns, including in the housing stock, as a result of acquiring the knowledge and skills to collect and analyse climate, socio-economic and housing data.	Climate change is not taken into account in urban planning and housing.
Increased capacity of District Meteorological and Hydrological services in fifteen DMH centres.	Accurate data is not input into early warning systems from the target districts, leaving communities vulnerable to extreme weather events.	Improvements to the hydro-meteorological network will enable data to be received from the target districts, allowing weather forecasting and early warning of adverse events.	Minimal or no early warnings at the local level. Meteorological and hydrological data flow is not highly accurate due to gaps in the network of stations.
Socially inclusive housing and shelter constructed and improved in target towns, that builds resilience to current and anticipated climate change related impacts	Poor people live in fragile houses which are easily damaged or destroyed by increasingly recurring floods, resulting in a loss of their possessions and often their means to livelihoods	People have a secure house which is resilient to floods and therefore protects their lives and possessions. People are exposed to new methods of construction which build resilience in houses, and they are trained to construct houses in a manner which is resilient to climate change impacts	Expectations and norms regarding housing do not change and houses continue to be constructed in ways that are not resilient to flooding and other extreme weather events. As a result, there is an ongoing cycle of damage and recovery in the housing sector.
Six Coordination Centres constructed over six provinces, serving as a base for climate change adaptation coordination at the district level	DONRE staff are accommodated in spare rooms in the buildings of non-related sectors and have no dedicated space for climate change adaptation activities.	Having a physical space to work from will mean that the DONREs can grow as entities and establish climate change adaptation work in the target areas, leading to implementation of the Government's plans.	Minimal climate change knowledge in the target districts, leading to minimal actions taken to integrate climate change considerations into local planning.

Activity	Vulnerability Baseline	Adaptation Benefit Resulting from the Project	Alternative Scenario
Knowledge and awareness enhanced in the housing and urban planning sector at national and subnational levels, as well as in local communities.	There is limited knowledge of climate change and its anticipated impacts. As a result, people are continuing to plan town level development, and houses are being constructed without taking climate change into account.	This project will specifically raise awareness in the housing sector from the national to the local level. Through advocacy and knowledge sharing, the project will influence national policy, strategy, and action plan. At a local level, housing construction norms will be changed to take account of climate change impacts.	Without knowledge reaching stakeholders, town planning and housing construction policy and planning will not be effective in building resilience. There will not be a reason to change the way of constructing houses, and so people will remain vulnerable to the impacts of climate change.

J. Sustainability

The project has been designed to contribute to long-term development goals and to build climate change resilience into the ongoing development of the target towns. Impacts have been considered in terms of technical, financial, institutional, social, environmental, and economic sustainability.

Technical Sustainability

UN-Habitat has experience in designing houses to withstand the specific impacts that climate change is having on Lao communities. This experience, together with that of MPWT, will be used in ensuring that the houses constructed are durable, using the most appropriate materials, construction techniques and project implementation methods to safeguard rights to housing. The particular context of each town has been taken into account, including the hazard profile, population growth and cultural considerations. This is also the case with the town master plans. Technical expertise will be transferred to local communities and government institutions through the proposed capacity building activities and through the experience of working on the project.

Financial Sustainability

Regarding the town planning component of the project, the financial position of the towns will be considered in the planning, and cost-effectiveness will be a major consideration. Capacity building for local institutions will include a component on sourcing finance since this is a key issue in Lao PDR. The town master plans will improve the towns' development even without additional funding but additional infrastructure, for example waste management, will require financing. Considering housing, in the long term, it is likely that the reduced need to replace houses damaged or destroyed by floods and storms will bring about savings that can be used to construct more resilient houses. The cost of building a permanent, robust house is higher than building a temporary, fragile house. Although the project will initially fund rehabilitation of houses to increase their resilience, the aim is for the new standard of housing to become the norm. As the situation in each town is different, consultations will need to be held in each town to ensure that the poorest households are able to afford to improve the resilience of their houses.

Institutional Sustainability

The project is designed and will be implemented in partnership with all levels of government institutions. Multilevel workshops during the project aim to increase vertical integration in the housing sector. Similarly, the project will contribute to cross-sectoral coordination between the housing and urban planning sector and the natural resources and environment sector which includes the climate change department. This will open up lines of communication to continue adaptive measures in the target towns and other towns in the target provinces.

The provision and improvement of infrastructure in the form of coordination centres doubling as DONRE offices and the hydro-meteorological network will increase Natural Resources and Environment operations in the target districts. Capacity building will strengthen local government institutions' ability to continue to build resilience in their communities. Training materials and guidelines generated by the project will be held in the relevant institutions as a resource for training of new staff. Mass organisations such as the LWU and the Lao Youth Union (LYU) will also be included in capacity building. These organisations play a significant role in working with women and youth.

Social Sustainability

This project will be implemented using a community-based, inclusive approach which draws together

government institutions, mass organisations and community members, ensuring that all marginalised groups are included. A collective ownership of the project generates a sense of unity in the community. In previous projects using this approach, this unity has outlasted the project and contributed to social cohesion in the target communities. The involvement of mass organisations such as the LWU and the LYU will focus on ensuring not only that women and youth benefit from the project in an equitable way, but also that their role in the community is strengthened and that they acquire skills in decision making and representation.

Environmental Sustainability

Environmental well-being will be a key concern in the development of the town master plans. It will also be an important component of the capacity building. Capacity building will incorporate protection for ecosystems, some of which are currently at risk from unplanned urban spread. The project's safeguard measures will also ensure protection of local environmental features. Maps and plans generated by the project will provide guidelines for ongoing development.

Economic Sustainability

The project will employ local people in the housing construction and materials will be sourced locally. The acquisition of construction, decision-making, and project implementation knowledge and skills will provide people with attributes which they can use to generate income in the future. The changes in housing design will create an ongoing demand for construction materials and expertise.

Figure 25: Letter from MONRE - Commitment to operate and maintain

Lao People's Democratic Republic
Peace Independence Democracy Unity Prosperity

Ministry of Natural Resources and Environment
Department of Planning and Finance

4848
No:...../MONRE.DPF

Vientiane Capital: 15 July 2022

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Responsibility for operation and maintenance to-be-implemented concrete project activities under the proposed AF project "Enhancing adaptive capacity in Lao PDR provinces and building resilient housing in vulnerable communities."

To whom it may concern,

In my capacity as Department of Planning and Finance, Ministry of Natural Resources and Environment, the ministry commits to operate and maintain the DONRE offices, evacuation centres and meteorological and hydrological stations as proposed under the proposed AF project 'Enhancing adaptive capacity in Lao PDR provinces and building resilient housing in vulnerable communities,' also beyond of the project.

This is in line with:

- Lao PDR Land Law (amended), No. 70 /NA, dated 21 June 2019;
- Lao PDR Law on Meteorology and Hydrology, No. 36/NA, dated 13 November 2017;
- Agreement on Management of Meteorological and Hydrological Stations, No. 6744/MONRE, dated 12 December 2019

The Provincial departments of Natural Resources and Environment (PONRE) will conduct the operation and maintenance activities in coordination with local communities.

Thank you for your consideration and understanding of this matter.

Yours Sincerely,

Viena SONNASINH
Director General,
Department of Planning and Finance,
Ministry of Natural Resources and Environment

Sustainability of infrastructure

Demo houses: The houses will be built to demonstrate BBB and resilience principles, so will be technically sound. After they have been used for training purposes, they will be used by households selected according to the criteria previously described.
Reconstructed and rehabilitated houses: These will be more technically sustainable after they have been improved. Community level trainings for house maintenance and minor repairs will build the capacity of house owners to fulfil their house maintenance responsibilities. As well, carpentry training and masonry training will develop the capacity within those professions.
Coordination centres: These will be constructed on government land to which the relevant offices already have title. Local offices of Natural Resources and Environment will be responsible for operations and maintenance, and this has been factored into financial planning.
Evacuation centres and Meteorological and hydrological stations: The Ministry of Natural Resources and Environment will have the final responsibility over the operation and maintenance of the evacuation centres and meteorological and hydrological stations, including borne costs, also beyond the project. The provincial departments will take the lead in the operation and maintenance activities. This commitment is shown through a letter provided by the ministry stating that future operation and maintenance costs will be covered by the ministry (see Figure 25).

K. Environmental and social impacts and risks identified

The proposed project seeks to fully align with the Adaptation Fund's Environmental and Social Policy (ESP), and its 15 safeguard areas, as well as the Gender Policy (GP). Further to Section II.E on compliance with regulations / standards, outlined below is a summary of the findings of the screening process to identify and evaluate potential environmental and social risks and impacts of proposed interventions and based on that, of the entire project. With this information, the entire project has been categorized as category B. As shown in

Section II.H, consultations have been conducted to identify potential environmental and social risks and impacts and to identify specific group's needs and possible concerns. An ESMP describing the risk mitigation actions required to comply with the ESP has been developed by Arcadis and is attached in Annex 6. The ESMP will be implemented during the project.

Regarding Component 1, relating to urban planning and capacity building, and Component 3, relating to knowledge management, no 'adverse environmental or social risks and impacts' are expected. As such, the activities of these two components align with Category C, but while the risks are assessed as low, they have nevertheless been screened for, assessed and minimised. For instance, it needs to be insured that benefits will be equally distributed and that all groups can equally participate in any process.

Component 2 of the project involves construction activities. These physical works are not considered to pose "significant adverse environmental or social impacts"[70] because they are very small-scale and mostly on locations where buildings already exist. The proposed construction is in built-up areas, away from protected natural habitats and on government land or privately owned land in the case of house rehabilitations. The target households are the poorest and most vulnerable in the towns. The inclusive nature of the project implementation aims to mitigate any social risks. However, it is recognised that, by their nature, construction activities have the potential for environmental and social impacts and, therefore the project is classified under Category B.

An in-depth screening has been conducted which will also satisfy government requirements for environmental and social assessment.

Gender assessment and integration

As the International Federation of the Red Cross reminds, "although 'gender' is not just about women, it is a reality that women and girls are disproportionately affected by disasters. This is due to the roles, responsibilities and attitudes attributed to men and women, which impact their access to resources and information; decision making; participation and leadership. Disasters often exacerbate and reinforce gender inequalities". 'The worst impacts on women from disasters and climate change—and the disadvantages that emerge in decision making by societies on adaptation—happen because women are already structurally disadvantaged by entrenched gender inequality, direct and indirect discrimination, and social and economic disadvantage.'[71]

Representation in economic sectors: 'More than one-third of employed men and women work in agriculture. Besides agriculture, employed women were more likely to be in manufacturing, while employed men were more likely to be in public administration and defence. In both urban and rural areas, women were more likely to be managers and professionals than men.'[72]

In Lao PDR, there is a general bias toward men in decision-making positions, whilst women are typically responsible for family health, hygiene and food security,[73] and are intrinsically linked to resource choices for family consumption. Therefore, specific measures are required to encourage and support the engagement of women in decision-making processes and policy changes.

Women specific vulnerabilities in Lao PDR[74]:

- Health and safety: Relatively high maternal mortality rate and malnutrition; limited reporting violence
- Education: relatively lower school enrolment and education (also due to high early marriage and pregnancy)
- WASH: high burden on women where access is limited (also due to responsibility for family health, hygiene and food security
- Employment: lower participation and relatively high % women in informal sector; some discrimination
- Land, inheritance, and housing: unequal customary traditions often prevail (limited land titles)
- Decision-making: relatively limited participation (especially in rural areas and in ethnic groups)

Women specific vulnerabilities in target districts:

- Percentage of female-headed households is high in certain districts and especially in Nongbok (24 percent) and Moonlapamok (12 percent).
- In some districts the percentage of women is higher than men.

[70] Adaptation Fund., page 3, paragraph 8.

[71] ADB (2022) Women's resilience in the lao people's democratic republic

[72] Idem

[73] WB and ADB (2012) Country Gender Assessment for LAO PDR

[74] idem

Women climate change specific vulnerabilities in Lao PDR:

- Floods: Women are disproportionately affected by floods. For example, floods in 2018 increased women's workloads and the risk of experiencing gender-based violence in temporary shelters and camps.75
- Health: Floods and storm impacts worsen the health situation of women and limit access to health facilities
- Education: Floods and storm impacts may result in women and girls staying at home
- WASH: high burden on women where access is limited due to floods and storms
- Employment: floods and storms often reduce income opportunities
- Decision-making: relatively limited participation in e.g. DRR planning and limited specific needs integrated in the plans

Main opportunities:

- Engage women in project-related labour where appropriate and feasible
- Support women's participation in decision making (assessment, planning and implementation) and engage the Lao women's union to ensure all actors have a voice; this can be done through appropriate community organization with women and ethnic group representation
- Integrate measures that support women's resilience into disaster risk reduction (thus integrate women, girls and ethnic groups needs in any community and or DRR plans and ensure women's and girls' safety is ensured in housing and services design
- Women's traditional responsibilities in the household and community as stewards of natural resources position them well to contribute to strategies for adapting to changing environmental realities
- Improve women's access to land, housing, assets by providing land titles to women and men

For the past few years, the country has made significant progress on the gender portfolio at the institutional level. Under the Ministry of Planning and Investment (MPI) leadership, the National Commission for Advancement of Women and Mother and Child (NCAWMC) has been established, along with the development of a Gender Equality Strategy. In 2021, the Government of Lao PDR had endorsed the Second National Plan of Action on Preventing and Elimination of Violence Against Women and Violence against Children (2021-2025) (NPAVAWVAC) and successfully integrated the Fourth National Plan of Action on Gender Equality (2021-2025) (NPAGE) into the plans of all 18 provinces and 17 line/sector ministries, as well as ministry equivalent organizations (Prime Minister's Office, Bank of LAO PDR), 8 party organizations (such as LWU, LYU, Lao Trade Union, Party Cabinet Office, National Politics Institute etc), and 2 judiciary bodies, (People's Supreme Court and People's Supreme Prosecutor's Office). As a result, with the support of UNFPA in Lao PDR, over 780 government staff who have a role in drafting and implementing provincial, ministerial and sectoral plans were reached through virtual workshops, to strengthen systems at the sub-national level to align with national policy frameworks.

In parallel, as stated in the 9th NSEDP, the GoL is committed to developing female leaders and promoting gender equity. In this respect, targets have been set at the national level to:

- Coordinate all parties to integrate gender equality into development plans, programs, projects, activities to promote and create gender equality in all areas.
- Strengthen mechanisms to monitor, promote and enforce laws related to gender equality, the CEDAW Convention and the Convention on the Rights of the Child.
- Collect and use sex-disaggregated data relevant to poverty reduction and other national goals.
- Develop a gender strategy and action plan, identifying issues or problems related to women's participation in the sector and actions to address them.
- Improve the gender and ethnic balance of personnel at all levels.

However, considering the integration of climate change adaptation and disaster risk reduction at all levels, including gender considerations, efforts are yet to be made to achieve inclusivity and promote a gender-positive development. In that sense, the proposed intervention integrates gender equality as a success factor and identifies opportunities to increase female participation in activities and decision-making processes. These will include, but will not be limited to:

- Ensuring gender quotas in stakeholder consultations, workshops and trainings.

[75] ADB (2022) Women's resilience in the lao people's democratic republic

- Integrating gender-disaggregated indicators and targets in the result framework of the project for female participation at training workshops and management committees.
- Considering gender differentiated vulnerabilities when building climate change knowledge and suggesting/promoting adaptation priorities/options, including in housing design and DRR plans.
- Integrating gender-differentiated vulnerabilities into the selection criteria developed for the Vulnerability Assessment and the final NAP document.
- Encouraging all stakeholders to engage female staff in all activities.
- Liaising with local Lao Women's Union to actively enhance women's and girls' participation and support community engagement. This involvement will ensure that women's rights and interests are represented throughout the project.

Consequently, UN-Habitat has designed this proposal in consultation with women of all ethnic groups represented in the target areas and thus it has a strong focus on gender equality and women's empowerment. Gender will be mainstreamed into all project activities to ensure stakeholders promote an inclusive approach. Experts engaged throughout the project will also support gender integration within all activities, focusing on the importance of integrating women and girls according to their field of expertise. Local institutions and Ministries involved will be responsible for ensuring women staff are well represented to achieve gender targets set, and the LWU will provide expertise on gender as an in-kind contribution.

It is of note that in some areas and ethnic groups, women do not have a role in decision making on a par with men. Similarly, the DPWTs do not currently have a high percentage of female employees. Although the project aims to increase women's inclusion, experience has shown that including women in DPWT staffing is not easy. For this reason, these social aspects of the project require monitoring, and it is recognised that targets need to take account of the baseline situation.

Table 15 shows, as mentioned above, that no further assessments is required during the implementation of the project. Table 16 provides an overview of any potential risks (i.e., general possible risks NOT specific to the project) and proposed mitigation measures associated with AF Social and Environmental Principles to avoid or reduce these potential risks.

Table 15: Checklist of environmental and social principles

Checklist of environmental and social principles	No further assessment required for compliance (during project implementation)	Potential impacts and risks – further assessment and management required for compliance
1. Compliance with the Law		X
2. Access and Equity		X
3. Marginalized and Vulnerable Groups		X
4. Human Rights		X
5. Gender Equality and Women's Empowerment		X
6. Core Labour Rights		X
7. Indigenous Peoples		X
8. Involuntary Resettlement	X	
9. Protection of Natural Habitats		X
10. Conservation of Biological Diversity		X
11. Climate Change		X
12. Pollution Prevention and Resource Efficiency		X
13. Public Health		X
14. Physical and Cultural Heritage	X	
15. Lands and Soil Conservation		X

Table 16: ESP possible risks and proposed mitigation measures

ESP Principle	Potential Risks (general/non-specific to the project)	Mitigation Measures to avoid / reduce any potential risks
Compliance with the Law	There is limited risk of the project and activities not	The project and all its stakeholders will comply with domestic and international laws, including the following national regulations: 1. Environmental Protection Law (EPL) 2012.

<table>
<tr><th>ESP Principle</th><th>Potential Risks (general/non-specific to the project)</th><th>Mitigation Measures to avoid / reduce any potential risks</th></tr>
<tr><td></td><td>complying with all applicable domestic and international laws.</td><td>2. Environmental Impact Assessment Decree of 2010.
3. Law on Land 2003.
4. Law on Water and Water Resources 1996.
5. Labour Law 2013.
6. Law on National Heritage 2005.
7. Law on Urban Plans; and
8. Law on Investment Promotion.
All activities will be subject to local regulation, including for building permits and environmental protection. In parallel, child labour and forced labour are both regulated in the country.
The project will engage with the Department of Land Management under DONRE, Urban Planning and Construction under PWT at the provincial level, and will Integrate legal compliance into training and monitoring.</td></tr>
<tr><td>Access and Equity</td><td>Inequitable access to participate in project decision making. Inequitable process for selecting beneficiaries.</td><td rowspan="2">The project will ensure equal opportunities in participation and decision-making concerning the project of women, ethnic groups and other vulnerable groups by using quotas and by agreeing on representation in decision-making processes through the use of ToRs, agreements, etc. The Lao Women’s Union will be engaged at the national and local level in any project activity.

The selection of beneficiaries will be done according to objective tools including climate risk assessments to determine the most risk-prone areas, and by using criteria including poverty, vulnerability, female-headed households, equal representation of ethnic groups and a checklist to assess houses’ resilience, which will include women resilience. The tools will measure poverty, vulnerability and house resilience, irrespective of what groups these houses belong to.

The People’s Process, as shown in Figure 24 will be used to involve communities, women and ethnical groups and to ensure they ‘own’ the project and benefit from it directly. Someone from the project team and / or the Lao women union should be present at all meetings to ensure everyone gets a voice.

Below provides a quick / rough overview of the characteristics of the main vulnerable and marginalized groups, the possible adverse project impacts / risks and mitigation needs
<table>
<tr><th>Groups</th><th>Characteristics</th><th>Possible adverse impact of the project</th><th>Risk mitigation needs / measures</th></tr>
<tr><td>Women</td><td>See gender assessment text above</td><td rowspan="2">Potential inequitable participation and access to benefits</td><td>Women participation mechanisms will be put in place to ensure the participation of women in planning and decision-making processes. This is to be done in partnership with Lao Women’s Union. Women-headed households will be prioritized as beneficiaries Implementation of measures described in the Gender Action Plan (Annex 8)</td></tr>
<tr><td>Youth</td><td>Around 30% of population; sometimes limited authority / involvement due to hierarchy</td><td>Youth participation mechanisms will be put in place to ensure the participation of youth in planning and decision-making processes. This is to be done in partnership with Lao Youth Union.</td></tr>
<tr><td>Ethnic groups</td><td>Many ethnic groups with different</td><td>Potential inequitable</td><td>See principle 7. Free, Prior, Informed Consent (FPIC) will</td></tr>
</table></td></tr>
<tr><td>Marginalised and Vulnerable Groups</td><td>Marginalised groups excluded from implementation process and project benefits</td></tr>
</table>

<table>
<tr><th>ESP Principle</th><th>Potential Risks (general/non-specific to the project)</th><th>Mitigation Measures to avoid / reduce any potential risks</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td></td><td>traditions (sometimes with limited opportunities for women and language barriers; most groups are relatively poor and poorly informed</td><td rowspan="3">participation and access to benefits; potential non-appropriate housing design</td><td>be applied, including written consent on activities</td></tr>
<tr><td>People with disabi-lities</td><td rowspan="2">+ 3% of population. Physical barriers that could potentially prevent people with disabilities and elderly to participate in the decision-making process.</td><td rowspan="2">Inclusive spaces have to be considered at all stages in order to ensure the full participation of people with disabilities.</td></tr>
<tr><td>Elderly</td></tr>
</table>
</td></tr>
<tr><td>Human Rights</td><td>Individual’s land tenure could be at risk due to the lack of coordination regarding land tenure and a lack of knowledge and awareness regarding this.</td><td>The project follows the Universal Declaration of Human Rights, to provide fair and equitable access to benefits to all while promoting human rights throughout the entire project cycle. In this respect, the IE will monitor and report on human rights risks and opportunities and adjust activities if necessary if risks occur.

Once the houses for rehabilitation and reconstruction and plots of land for construction of new houses have been confirmed, consultations will take place at both the community level and with MoNRE to obtain approval of land allocation and to ensure that land tenure can be guaranteed. Coordination with MoNRE and MPWT will also need to take place to ensure that land tenure is taken into consideration into the town master plans- this is also to ensure that land tenure can be guaranteed in the future and not only for direct beneficiaries. Awareness raising sessions on tenure rights will also be held for beneficiaries, with a particular focus on marginalized groups.</td></tr>
<tr><td>Gender Equity and Women’s Empowerment</td><td>Local cultures block women’s voices or exclude them from decision making or access to project benefits.
Women are not well represented in local government authorities.</td><td>Gender related risks can be reduced by effective implementation of the Gender Action Plan (see Annex 8) which includes, amongst other, the following measures:
• Ensuring gender quotas of at least 30% in stakeholder consultations, workshops and trainings.
• Integrating gender-disaggregated indicators and targets in the result framework of the project for female participation at training workshops and management committees.
• Considering gender differentiated vulnerabilities when building climate change knowledge.
• Integrating gender-differentiated vulnerabilities into the selection criteria developed.
• Encourage all stakeholders to engage female staff in all activities.
• Liaise with local Lao Women Unions to actively enhance women and girls’ participation and support community engagement.</td></tr>
<tr><td>Core Labour Rights</td><td>Labour rights may not be respected in project contracts or in working contracts of sub-contractors.

ILO conventions and protocols currently not ratified:

Fundamental: C087; C098; C105; P029)

Governance: C081; C122; C129

Technical: most, incl. C169</td><td>The project follows local and international regulations considering labour rights, including the ILO core labour standards. Looking at the conventions and protocols not ratified, the project will be particularly attentive to any unvoluntary labour, non-organization, inspection and potential involvement of children and ethnic groups.

The IE will therefore mitigate adverse risks by:
<table>
<tr><th>Potential risk / impact</th><th>Mitigation</th></tr>
<tr><td>Non-in-volvement of Local Em-ployment, women, ethnic groups</td><td>• Include standard clause in AoCs / all contracts mentioning that local employment, women, ethnic groups, etc. will be equally represented / selected for employment
• Work with local community on verification / inspection of local workers where feasible</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>ESP Principle</th><th>Potential Risks (general/non-specific to the project)</th><th>Mitigation Measures to avoid / reduce any potential risks</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>Non-Local Procure-ment</td><td>• Measures to maximise local procurement
• Work with local community on verification of local suppliers where feasible</td></tr>
<tr><td>Non-compliance with Worker Rights</td><td>• Include standard clause in AoCs / all contracts:
• HR policy aligned with local law and ILO Core Conventions
• Worker Grievance Mechanism will be established
• Enforce minimum age expectations (according to ILO) and Government minimum age)
• Measures to ensure Contractor adopts project HR Policy standards (either contractually or through monitoring)
• Ensure all employees are provided with a written employment contract before start of works
• Provide details of the transport arrangements for all workers to and from their accommodation (dedicated or in the local community)
• Refer to Occupational Health and Safety Procedures</td></tr>
<tr><td>Limited Facilities</td><td>• Contractor to provide or facilitate access to necessary worker facilities which include but are not limited to: toilets, rest areas, smoking areas, canteen and potable drinking water to WHO standards
• All worker facilities and accommodation will be cleaned, maintained and centrally managed</td></tr>
<tr><td>Limited awareness</td><td>• Awareness raising of executing entities on above and share guidelines if required.</td></tr>
</table>
All companies contracted for the implementation of construction works will have to undergo rigorous screening, during which compliance with the above-mentioned risk mitigation measures and other requirements will be checked. For this purpose, a screening checklist will be produced that will serve as evidence of compliance checks performed.
In addition to screenings, site inspections will be conducted, during which employment and working conditions and other compliance matters will be checked, i.e. through observation or informal discussions with workers. Checks will also include the review of (samples of) working contracts (personal details redacted).
</td></tr>
<tr><td>Indigenous Peoples</td><td>Lack of representation of ethnic groups during consultations, resulting in non-integration of ethnic groups' needs, cultural considerations and possible concerns</td><td>The project recognises the rights of all ethnic groups according to the principles in the UNDRIP, including Free, Prior, Informed Consent (FPIC). FPIC will be applied by 1) mapping all ethnic groups and potential impacts and using the principle of Leaving No One Behind; 2) involving ethnic groups in planning and decision-making processes, including not going ahead with activities if agreed by ethnic groups (including having written consent received from the individual households). The engagement of ethnic groups will be monitored.

Also see section on Access and Equity and Marginalised and Vulnerable Groups</td></tr>
</table>

ESP Principle	Potential Risks (general/non-specific to the project)	Mitigation Measures to avoid / reduce any potential risks
Involuntary Resettlements	Involuntary resettlements	Component 2 comprises activities which involve improving existing houses or building new structures on land which has already been set apart. The land identified for construction is currently not in use, also from an informal perspective. Therefore, there will be no movement involved, and thus no risk of involuntary resettlement. The government also states in a letter (please enlarge the letter on the right) that no unvoluntary resettlement will take place due to any project activities. 
Protection of Natural Habitats	Natural Habitats may be impacted by construction activities Convention on Wetlands (Ramsar, Iran, 1971) in Lao PDR: beung kiat ngong wetlands xe champhone wetlands UNESCO Man and the Biosphere Programme in Lao PDR: none	While the project will not involve the destruction of natural assets, with regards to the relatively rural environment and the forest coverage in the selected provinces, the project will particularly focus in limiting impacts to legally protected areas and critical natural habitats and ecosystems. In this respect, the IE and local partners will ensure construction sites are chosen considering present natural assets. It should be noted that sites have already been selected for the construction of new DoNRE Offices and for the installation of new DMH stations (see related comments in the section on Biological Diversity below). To ensure activities will not have adverse impacts on natural habitats, and with the aim to build environmental awareness over the long run, the IE will ensure the following: • Using sustainable resources for building and reconstruction and rehabilitation activities. • Ensuring construction integrates local ecosystems into design. • Incorporating protection of habitats and ecosystems into action planning. • Developing town plans that include environmental concerns, promote the use of EbA, and bring back nature at the centre. These and other measures described in the project's Resource Efficiency and Waste Management Plan (Annex 9) will help minimizing the risks to natural habitats. If, despite best efforts to avoid critical natural habitats risks are still identified or suspected, a site-specific implementation plan will be developed to minimize them. This may require on-site inspection carried out by an expert. The proposed construction sites are not in, or close to, any natural habitats recognized by Ramsar or UNESCO.
Conservation of Biological Diversity	Destruction or damage to biodiversity Potential loss of biological diversity due to construction	Although there is a lack of local information on local biodiversity, at the national scale, several endangered species have been identified such as plants like the Parish's Paphiopedilum and Double Flowered Paphiopedilum. Also, it is estimated that approximately 90% of households confirmed the use of wildlife at the national level, primarily for food rather than trade. However, so far, no concrete information has been found about the presence of (protected) animal and plant species in or near the project locations. Given the very limited scale

ESP Principle	Potential Risks (general/non-specific to the project)	Mitigation Measures to avoid / reduce any potential risks
		of new construction of houses and buildings, the risk of damage to biodiversity is considered to be very limited. With respect to the project's approach to preserving biological diversity, the following should be noted: • The sites for the construction of new DoNRE Offices and installation of new DMH stations have already been identified. They were carefully chosen in concertation with local entities and communities and considering the absence of significant biodiversity. All sites are located in inhabited village areas, they are small in size (less than on hectare) and have been cleared of significant vegetation several years ago (not as a consequence of this project). Geo-locations and images of those sites can be found in Annex 10. Two of the DMH stations will be set up on the same property as the DoNRE offices. The remaining sites for the construction of two Community Evacuation Centres and six Demonstration Houses will be identified following the same processes and standards. • All activities must be developed and implemented to limit impact on local biodiversity, and ideally contribute to the enrichment of the biological diversity. The measures described in the project's Resource Efficiency and Waste Management Plan (Annex 9) which are to be complied with by all contractors, will further help minimizing the risks to biodiversity. If despite best efforts to avoid significant biodiversity risks are still identified or suspected, a site-specific implementation plan will be developed to minimize them. This may require on-site inspection carried out by an expert.
Climate Change	Building materials and project implementation, including construction activities and travel, may emit greenhouse gases	The project will not be implemented at a large enough scale to significantly increase greenhouse gas (GHG) emissions. Nevertheless, the project has been screened to identify the main activities which will emit negligible GHGs, and principles will be followed to ensure these emissions are minimal. Activities which have the potential for nominal emissions are: • Travel for consultations, trainings, and monitoring. Activities will be planned in a way that minimises travel, and most of the travel will be local in nature. • Construction activities for which building materials have been selected taking into account operational and embodied carbon emissions in line with best practice. • Transportation of materials for construction activities in Component 2: Materials will be sourced locally to minimise transportation, and this will be emphasised in procurement documents. The exception is components for the meteorological and hydrological stations which are not available in Lao PDR and will need to be imported. Materials will also be sourced in bulk whenever possible to minimise the number of deliveries. • Disposing of waste from construction sites, for which there is a requirement to follow the project's Resource Efficiency and Waste Management Plan. These and other measures described in the project's Resource Efficiency and Waste Management Plan (Annex 9) will help minimizing the impacts of GHG emissions. The IE and EE will continuously screen the project activities to ensure that GHG emissions remain minimal and to identify and react to potential unexpected increases of emissions.
Pollution Prevention and Resource Efficiency	Risks may arise from construction activities, such as waste of materials, inappropriate disposal of waste, use of unsustainable building materials, Soil contamination due to chemical spills	To avoid the listed potential risks, the IE envisages the following: • Use locally and sustainable sourced materials. • Incorporate local knowledge. • Integrate communities and marginalised groups at every step of the project • Minimize surplus and waste material through efficient design/planning • Maximize re-use and recycling of waste material • Establish dedicated waste collection areas on worksites • Use environment friendly and recycled materials whenever possible. A resources efficiency and waste management plan (see Annex 9) will be implemented to maximize the use of local resources and limit impacts on resources availability. The plan will apply to all project activities and to all contractors for construction works.

ESP Principle	Potential Risks (general/non-specific to the project)	Mitigation Measures to avoid / reduce any potential risks
		Activities will be implemented considering the need to avoid land contamination due to waste generation from construction works. On this matter, enterprises hired will have to provide the IE with a waste management plan to ensure construction works have limited impacts on soils and local ecosystems. Compliance with the resource efficiency and waste management plans will be checked during periodic inspections of construction sites and monitoring visits. Additionally, contractors will be required to adhere to sound procedures for occupational health and safety, which helps control hazardous work and minimize the risk of accidents that could lead to pollution.
Public Heath	Badly planned towns could lead to excessive waste, inaccessibility of social services. Construction works could lead to spills or other types of pollution affecting public health.	Overall, the project aims at providing fair and equitable access to benefits in a manner that is inclusive while not impeding access to basic health services, clean water and sanitation, energy, education, housing, safe and decent working conditions, and land rights. In this regard, the project represents limited to no risks of public health issues. The ESIA and the ESMP include public health analysis. Since pollution caused by construction activities can also pose risks to public health, the same safeguard measures described under ESP 12 also apply here. Potential public health risks from construction activities will be minimized through enforcement of Resource Efficiency and Waste Management plans and through screenings of construction contractors. The latter is to ensure that health and safety standards are in place and respected, thus minimizing the risks of accidents and spills that could lead to public health hazards. The process of developing town master plans is to include a risk assessment covering relevant AF ESP principles. This includes assessing potential effects of town designs on public services affecting public health (e.g. waste management, water/sanitation). There are master plans planned for 6 towns with a combined population of 52,751. Master plans will be developed by experienced professionals who will consult with communities to ensure that public health is considered in the planning process. UN-Habitat will coordinate with town planners and will approve the finalised plans before they are presented to provincial authorities.
Physical and Cultural Heritage	Heritage impacted by project activities Sites recognized by UNESCO: Megalithic Jar Sites in Xiengkhuang Plain of Jars (2019) Town of Luang Prabang (1995) Vat Phou and Associated Ancient Settlements within the Champasak Cultural Landscape (2001)	Lao PDR has a law relating to cultural heritage sites. However, none of the project sites are located at a cultural heritage site. The same accounts for heritage sites recognized by UNESCO. All project activities will comply with relevant regulations, in particular the 2005 Law on National Heritage.
Lands and Soil Conservation	Local, limited and probably at most temporary in-crease in erosion resist-ance on a very local scale as a result of construction work. Potential low risk of lack of compliance with waste management procedure and risks related to potential contamination of soil	The IE is committed to maintain the natural state of the targeted lands. In this respect, the proposed designs and interventions will ensure valuable lands are not converted for urbanisation purposes, while preventing soil erosion in the selected areas. At the local scale, the IE noted the absence of fragile soils limiting the risks of degradation. A waste management plan will be implemented to avoid soil contamination as a result of chemical products.

PART III: IMPLEMENTATION ARRANGEMENTS

A. Arrangements for project management

For this AF supported project, UN-Habitat will be the Multilateral Implementing Entity (MIE), as requested by the Government of the Lao People's Democratic Republic. While UN-Habitat's Regional Office for Asia and the Pacific (ROAP) and UN-Habitat's Headquarters (HQ) will ensure project management compliance in accordance with UN-Habitat and AF policies and requirements, the UN-Habitat Laos office will represent UN-Habitat in the country and take the lead in day-to-day Implementing Agency functions, management of project activities and related coordination with the Executing Agencies and other local stakeholders.

The following mechanisms for project execution, coordination and oversight on behalf of the government have been agreed with the Ministry of Natural Resources and Environment (MONRE), as the national designated authority to the Adaptation Fund, with the Ministry of Public Works and Transport (MPWT) and with the Ministry of Education and Sports (MOES), and in consultation with provincial and district stakeholders:

The MPWT and MONRE at the national level, the Provincial Departments of Public Works and Transport, and the Provincial Offices of Natural Resources and Environment in Bokeo, Vientiane, Bolikhamxay, Khammouane, Champasak and Attapeu, will be jointly responsible for executing **Component 1**. The provincial departments will work in close cooperation with the district offices in concerned target districts. Since MONRE is the focal point Ministry for the UNFCCC, it is also responsible for the coordination of climate change related matters across the government system.

The MPWT and MONRE at the national level and the Provincial Departments of Public Works and Transport will be responsible for executing **Component 2**.

MONRE and the MPWT at the national level, with support from the Ministry of Education and Sports (MOES), and together with the Provincial Departments of Public Works and Transport and Provincial Offices of Natural Resources and Environment as well as concerned Departments of Education will be jointly executing **Component 3**.

The execution of this project will follow the general principles laid out in the Lao Government's 'Samsang' or 'Three-build' decentralization policy. They stipulate that provincial level units of the government are responsible for managing implementation activities at the sub-national level. This applies to the implementation of all three project components, but in particular to the delivery of physical works of component 2.

Legal Arrangements

This project already features in the UN-Habitat Country Programme Document HCPD 2022-2026, which has been signed by the Executive-Director of UN-Habitat and by Minister of the Lao Ministry of Planning and Investment (MPI). The document serves as a legal basis and commitment to implement this project, thus a separate Memorandum of Understanding (MOU) will no longer be needed.

UN-Habitat will sign **Agreements of Cooperation (AoCs)** with each of the Provincial Departments of Public Works and Transport of the provinces in which the project activities will take place. The AoCs will create accountability with the executing entities, requiring them to deliver their activities in accordance with the project budget, workplan and in compliance with the Project's Environmental and Social Management Plan. The AoCs will enforce a system of checks and balances by segregating operational and financial duties: AoCs will be drafted by UN-Habitat in consultation with the EEs and will undergo a n approval process by UN-Habitat's Regional Office and HQ. The AoC process will take 30 – 45days. The Government is very keen to make a start on this project and the AoC process will at the earliest possible opportunity. The operational responsibilities will rest with the provincial Departments of Public Works and Transport, whereas the financial responsibilities will be assigned to the Provincial Nam Papa State Enterprise (NPSE) offices. In this function, the NPSEs will also assist the Departments of Public Works and Transport with general oversight on behalf of the government and help ensuring that the project is implemented in accordance with the Lao PDR's laws, the Environmental and Social Management Plan of the Project and in compliance with the specifications laid down in this project document. NPSEs are autonomous enterprises but are under the overall responsibility of MPWT.

Project Governance

At the national level, the Project will be supported by a **Project Management Committee (PMC)**. The PMC will be monitoring project progress and provide guidance during the entire execution phase of the project. The PMC will be chaired by the MPWT and co-chaired by UN-Habitat. The members of the PMC will include the Director Generals from all involved ministries, namely MONRE, MPWT and MOE as well as the Directors from concerned line departments at the provincial and district levels.

The main responsibilities of the Committee are to:

1. Approve annual work plans and review key periodical project reports.
2. Review and approve the contractual agreements, including workplans, with a particular emphasis on environmental and social safeguards, budgets, and payment schedules.
3. Review any deviations and consider amendments to workplans and contractual arrangements.

The PMC will meet at least once per year throughout the project implementation period, but more often if needed to fulfil the above functions. The PMC may also convene ad-hoc meetings to address actual or potential impacts from unforeseen events, such as those from economic shocks, or from serious Environmental and Social safeguard risks.

UN-Habitat will act as the secretariat to the Project Management Committee.

Project Oversight

In-country project oversight lies with the PMC, but overall, it ultimately rests with UN-Habitat as the Multilateral Implementing Entity. This function is led by the responsible officer in UN-Habitat's Regional Office for Asia and the Pacific (ROAP), with support from Project Management Officers (financial management and administration) and UN-Habitat's headquarters' Monitoring and Evaluation Unit, the Programme Division, including the Climate Change Planning Unit and the External Relations Division (particularly with regard to advocacy, outreach and communications). All entities will work together to ensure project management compliance in accordance with UN-Habitat standards and requirements, particularly with regards to financial management, timely delivery and the Environmental and Social Management Plan (ESMP).

Project Execution

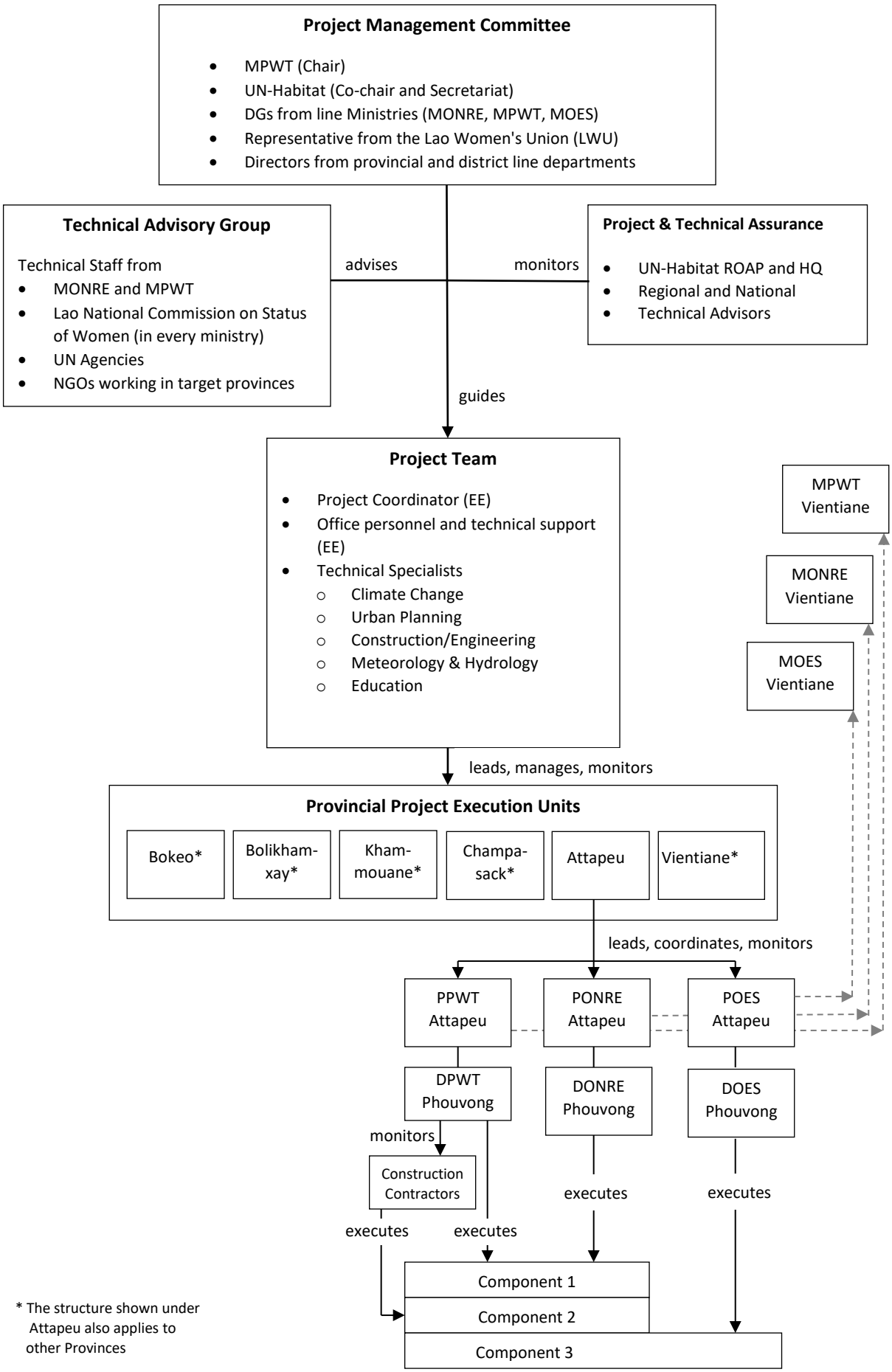
At the National level there will be a **Project Team (PT)** that will comprise the following positions:

- A Project Coordinator who will be recruited by the project based on a recruitment decision by the PMC, who will be a project personnel.
- Office personnel
- Technical level personnel from MPWT and MONRE. Additional technical specialists from the construction sector will be based at provincial levels as an in-kind contribution to oversee the works under Component 2.

The project team will be responsible for managing day-to-day project activities and ensuring compliance with all obligations described in this document, particularly with the 15 principles of the Adaptation Fund's Environmental and Social Policy and the Gender Policy, as covered in the ESMP. The project team will also take the lead in monitoring through periodic visits to the intervention sites in the six districts and in ensuring continuous learning throughout the project period. The Project Team will develop a detailed Monitoring and Evaluation Plan during the project's inception phase, which will be distributed to key stakeholders and reported to the PMC.

There will also be **local Project Execution Units** to manage day-to-day execution of activities on the ground. These units will be particularly active in implementing the activities under Component 2. They will include a provincial level coordinator who will oversee the day-to-day running of activities in each district. The provincial Project Execution Units will draw support from other local entities such as the NPSEs, the Provincial Departments and District Offices of Natural Resources and Environment, Public Works And Transport, Education, Planning and Investment, Lao Women's Union and the Lao Youth Union.

Organization Structure



* The structure shown under Attapeu also applies to other Provinces

B. Measures for Financial and Project Risk Management

The status of financial and project risks, including the measures required to avoid, minimize, or mitigate these risks, will be monitored throughout the project life cycle (as described in section D "Arrangements for Monitoring, Reporting and Evaluation"). A final financial statement in compliance with AF requirements will detail the project's finances.

Table 17: Financial and project management risks, significance of risks and measures to manage/mitigate risks

#	Category and Risk	Rating: Impact/ probability 1: Low 5: High	Management/Mitigation Measure
1.	Environmental/social: Current climate and seasonal variability and/or hazard events result in infrastructure construction delays or undermine confidence in adaptation measures by local communities	Impact: 3 Prob: 2	• Current climatic variability will be taken into account in the planning and execution of project activities. This concerns in particular project Component 2 (construction of new demonstration houses and reconstruction or rehabilitation of existing houses). Construction activities will mainly occur during the dry season. • Criteria and methodology for the selection of beneficiaries for housing improvements will promote ownership and confidence in proposed interventions.
2.	Institutional: Loss of government support (at all levels) for the project (activities and outputs) may result in lack of prioritization of AF project activities.	Impact: 4 Prob: 1	• Establishment of a project management committee and the overall participatory and inclusive project design will improve national, provincial, district and beneficiary level ownership throughout and thus enhance government support for project implementation. • UN-Habitat will establish agreements (AoCs) to ensure executing entities will deliver project activities and outputs. UN-Habitat will facilitate planning processes to deliver these outputs at all levels of government and in communities. • Government staff working on climate change, environment, disaster management, urban planning, land use and community awareness will be strongly networked into the project (e.g. capacity assessments and development of plans).
3.	Institutional: Capacity constraints of local institutions may limit the effective implementation of interventions	Impact: 2 Prob: 1	• The project includes a capacity assessment component that will inform the project of training needs. There will be sufficient resources allocated to address those training needs through trainings or other capacity building methods. All interventions are designed to promote effectiveness and sustainability at the community and the district, province and national government levels.
4.	Institutional/social: Lack of commitment/ buy-in from local communities may result in delay at intervention sites.	Impact: 2 Prob: 1	• Community stakeholders have been consulted during the whole project development phase to ensure their buy-in into the AF project. • A bottom-up approach (the people's process) integrating the community into the AF project's implementation phases – including community contracting - will be followed.
5.	Institutional/social: Disagreement amongst stakeholders with regards to adaptation measures (infrastructure) and site selection.	Impact: 2 Prob: 2	• Beneficiaries of adaptation measures for climate resilient housing will be selected using an agreed upon process and list of criteria to ensure the selection is transparent and equitable. • There will be a participatory approach to the AF project, particularly with regards to climate change vulnerability and disaster risk assessments and related to this, the planning and selection of adaptation measures and site selection.
6.	Institutional:	Impact: 2	• The interventions will be institutionalized within the ministries, local government bodies and communities to ensure sustainable

	Communities may not adopt activities during or after the AF project, including infrastructure maintenance	Prob: 2	delivery of (post-) project implementation, including formal agreements for infrastructure maintenance (e.g. for community evacuation centres or early warning systems). • Capacity building and training of communities will be undertaken to improve their awareness and understanding of the benefits of the activities, including infrastructure maintenance.
7.	Financial: Complexity of financial management and procurement. Certain administrative processes could delay the project execution or could lack integrity	Impact: 2 Prob: 2	• Financial management arrangements have been defined during project preparation. • UN-Habitat's control framework, under the financial rules and regulations of the UN secretariat, will ensure documentation of clearly defined roles and responsibilities for management, internal auditors, the governing body, and other personnel, and demonstrates proof of payment / disbursement. • A draft procurement plan will be developed, in line with UN-Habitat's procurement policy, including evidence of international standards aligned procurement policies and procedures. The plan will be further defined in cooperation with all the involved institutions and stakeholders.
8.	Institutional: Delays in project implementation, and particularly in the development of infrastructure interventions	Impact: 1 Prob: 2	• Delays in projects are often related to capacity issues but also external factors such as weather, economy, etc. UN-Habitat has worked with the ministries to develop infrastructure in previous project and activities have always been implemented in a timely and cost-effective way. • Ownership by the Government has been high during the preparation phase, which helps reducing this risk. • The construction of infrastructure projects will be planned to take place in the dry season to avoid weather related risks.
9.	Institutional: A lack of coordination between and within national government Ministries and Departments.	Impact: 1, Prob:2	• The Project Management Committee under the leadership of MONRE is to ensure good coordination between line Ministries and their sub-national offices. Should UN-Habitat observe coordination problems, the agency will try to resolve issues directly with concerned parties and or the PMC.

C. Measures for the Management of Environmental and Social Risks and Compliance with the Gender Policy of the Adaptation Fund

Part II of this document, namely Section E and Section K outline the screening and assessment process that has been applied based on a detailed analysis of relevant laws and following expert consultations to identify the project's potential exposure to risks. Part II, Section H describes the consultation process that has been undertaken to ensure inter alia inclusion of potentially marginalised groups, including women and ethnic minorities. The results of those consultations and analysis are reflected throughout the project design.

Based on a screening against the principles laid out in the Environmental and Social Policy (ESP) of the Adaptation Fund, the project has been categorised as a "B" category project, in terms of exposure to environmental and social risks. Further information on the risk screening is provided in Part II, Section K, and in Annex 6.

An Environmental and Social Risk Management Plan (ESMP) has been developed (see Table 5 of Annex 6) to ensure that risks are avoided and that, where this is not possible, they are identified and mitigated in a timely manner. The ESMP tries to identify all the potential risks and the prevention and mitigation measures that the project proposes to take to reduce potentially adverse environmental and social risks to acceptable levels. The plan also identifies roles and responsibilities for monitoring risks. The ESMP also covers risk management arrangements, risk reduction and the project's grievance mechanism.

Similarly, a Gender Action Plan (GAP) has been developed (see Table 1 of Annex 8) that describes concrete measures on how the project intends to address the risks and challenges that women face in the context of this project. The measures are directly assigned to individual outputs and come with indicators, targets and responsibilities. The GAP is the project's main tool to ensure compliance with the AP's Gender Policy (GP).

For the activities under the three components of the project, the ESP and GP will be upheld by ensuring that:

i. The Agreements of Cooperation with the Executing Entity will include detailed reference to the ESMP (in particular the 15 ESP principles) and the GAP.

ii. The ToR of committees, project personnel and focal points will include detailed references to the ESMP and the GAP.

iii. The Executing Entity and other relevant government agencies will receive training / capacity development to understand the 15 principles of the ESP, the GP, the ESMP and the GAP, and in particular their respective responsibilities. This will include members of the Project Management Committee, the Local Project Execution Units and other stakeholder groups at the local level.

iv. A comprehensive Monitoring and Evaluation Framework will be developed by the project management team and presented for approval to the Project Management Committee. The M&E framework will ensure that all project monitoring activities have the 15 environmental and social principles, the gender policy, and the ESMP and GAP mainstreamed into it.

In addition to upholding the ESP/GP of the Adaptation Fund and to familiarize all project stakeholders with the 15 ESP principles, the measures described above will also ensure that all stakeholders fully take ownership of the environmental and social safeguards procedures of the project and that any activity that may have been altered or not yet assessed in detail are captured.

D. Arrangements for Monitoring, Reporting and Evaluation

The project's expected results and corresponding indicators and targets outlined in Section E "Project Results Framework" will form the basis for a comprehensive Monitoring and Evaluation Framework. The framework will be developed during the inception phase, i.e. before project implementation commences. In developing the monitoring system, the project will ensure compliance with all formal guidelines, tools and templates issued by the Adaptation Fund, as well as with those of UN-Habitat.

The M&E system will further provide a mechanism to monitor the status of identified environmental and social risks and the project's ESMP and GAP, including the measures required to avoid, minimize, or mitigate environmental and social risks (at the activity level and through annual project performance, mid-term and terminal reports). The same applies to financial and project management risks and mitigation measures.

UN-Habitat will ensure that MPWT is fully informed of all M&E requirements, so that systems can be put in place at local levels, to produce the data necessary for effective M&E. UN-Habitat will also ensure that a feedback loop is established between M&E and Learning & Knowledge Management. MPWT will subsequently provide clear guidance to all entities involved in project execution, in particular the Provincial Departments of Public Work and Transport, on how to contribute to M&E. The Agreements of Cooperation will reflect M&E related roles too.

The audit of the project's financial system and management practices will follow UN financial rules and regulations and applicable audit policies, and a final financial statement in compliance with AF requirements will be provided.

Monitoring and Evaluation Framework

The monitoring and evaluation framework of the project will be a key tool to ensure that the project is on track with operational plans and in compliance with all requirements covered in this document. The framework will further ensure that the data collected for monitoring purposes is disaggregated appropriately, to provide evidence of compliance with gender or social inclusion policies.

The M&E plan will be implemented as outlined in Table 18 below.

Table 18: M&E outline

Type of M&E Activity	Responsible Parties	Time Frame	Reporting	Budget
Inception Workshop and Report	• Project Coordinator • Project Management Committee • UN-Habitat ROAP	Workshop: Within the first three months Report: Within one month after workshop	Inception Report	10,000
Periodic progress reports	• Project Coordinator	Mid-term Annual	Annual review reports	20,000

Type of M&E Activity	Responsible Parties	Time Frame	Reporting	Budget
Annual Project Performance Review PPR (Meeting)	• Project Coordinator • Project Management Committee • UN-Habitat ROAP	Annually	Annual review meeting report	12,000
Compliance with ESP and GP	• Project Coordinator	Annual, as well as upon receipt of complaints, grievances or queries	Annual, final, terminal reports	15,000
Field Visits	• UN-Habitat ROAP • Project Management Committee • Stakeholder representatives	At least every six months	Field Visit Report	25,000
Project Terminal Report	• Project Coordinator • UN-Habitat ROAP • Local consultant	At least three months before the end of the project	Terminal Report	5,000
Final Evaluation	• Project Coordinator • UN-Habitat ROAP • Project Management Committee • External Consultants	Final: At least three months before the end of project implementation	Final Evaluation Report	32,000
Mid-term evaluation	• Project Coordinator • UN-Habitat ROAP • Project Management Committee • External Consultants			22,000

Following are brief summaries describing the main M&E activities covered in Table 18 above.

Project Inception Workshop and Report: A project Inception Workshop (IW) will be held within the first three months of the project start date. Participants will include all entities with assigned roles in project management, namely the members of the Project Management Committee, as well as representatives from the Project Team, the UN-Habitat regional and country offices, and from additional stakeholders as deemed appropriate. The inception workshop is crucial in building ownership for the project results and to plan the first-year annual work plan (AWP). The workshop will address a number of key issues, such as:

- Ensure all partners fully understand and take ownership of the project.
- Detail the roles & responsibilities of the implementing and executing entities. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms.
- Based on the project's results framework, finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and discuss assumptions and risks.
- Discuss the ESMP and GAP and related processes (monitoring, reporting, land risk assessment, etc.)
- Provide a detailed overview of reporting and M&E requirements. The M&E work plan and budget will be agreed and scheduled.
- Discuss financial reporting procedures.
- Agree on the Terms of Reference for the PMC and plan and schedule PMC meetings. Roles and responsibilities of all project organization structures will be clarified. The first PMC meeting should be held within the first 6 months following the Inception Workshop.

A Project Inception Report is to be produced, documenting the results and decisions from the Inception Workshop. It will form the basis for the first detailed annual work plan.

Annual Progress Reports: The Project Coordinator, with the assistance of involved executing entities, will coordinate and organize all inputs necessary to prepare the Annual Progress Reports for submission to the PMC. The reports will outline financial, procurement and activity implementation progress against the targets in the results framework as well as compliance with the requirements of the environmental and social assessment and management frameworks.

The annual reports will be presented and discussed during the Annual Review Meetings, at which the members of the PMC and other identified stakeholders will be present. The annual progress reports will also contain recommendations to inform the subsequent annual work plan. The annual reports and workplans will be

reviewed and approved by the PMC.

Annual Project Performance Reviews (PPR) will be conducted to monitor progress made since the project's start and in particular progress made during the reporting period. The PPR covers, but is not limited to the following topics:

- Progress versus the project's objectives, expected outcomes and outputs
- Lessons learned/good practices,
- Annual Work Plan and expenditure,
- Environmental and social risks (i.e. status of ESP/GP compliance and implementation of ESMP and GAP, including those measures required to avoid, minimize, or mitigate environmental and social risks. The reports shall also include, if necessary, a description of any corrective actions that are deemed necessary.
- Project financial and management risks

Mid-Term Evaluation: An external mid-term evaluation will be carried out halfway through the project implementation. It will engage all key stakeholders and will examine progress being made toward the achievement of outcomes and also identify course corrections, if needed. The evaluation may propose mid-course corrective measures and may reassess the objectives and implementation strategy. It will focus on the effectiveness, efficiency and timeliness of project implementation, will highlight issues requiring decisions and actions, and will also present initial lessons learned about project design, implementation and management. The mid-term evaluation will further include a focus on environmental and social risks, to ensure compliance with the AF ESP. Findings of the mid-term review will be addressed during implementation of the second half of the project's term.

The **Final Evaluation** will be conducted at the conclusion of the project. UN-Habitat will commission a full external evaluation assessing the accomplishment of the project's objectives. The independent Final Evaluation will take place three months prior to project closure and will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The final evaluation will include a focus on environmental and social risks, and ensure compliance with the AF ESP. The Final Evaluation should also provide recommendations for follow-up activities and requires a management response.

During the last three months, the project team will prepare the **Project Terminal Report**. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), risk management, lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps.

Participatory Monitoring mechanisms (involving different levels of government and communities) will be put in place for the collection of additional information to support M&E. This will provide beneficiary communities a chance to interact directly with the project's M&E system, and to highlight issues with project delivery or provide inputs on how adaptation benefits can be improved, including on replication and sustaining project benefits. Data collection will also target marginalized groups of society (e.g. women or ethnic minorities). Project site visits will be jointly conducted based on agreed schedules to assess project progress and effectiveness first-hand.

E. Project Proposal Results Framework

Table 19: Project Proposal Results Framework

Project Outcome/Output	Project Indicator	AF Outcome Indicator	Baseline	Target	Source of Verification	Risk & Assumptions
Project Impact Enhance the adaptive capacity in provinces and build resilient housing in vulnerable communities.	Number beneficiaries Direct (male) Direct (female) Direct (total) Direct (youth) Indirect (male) Indirect (female) Indirect (total) Indirect (youth)	Number beneficiaries (direct and indirect)	0 0 0 0 0 0 0 0 0	206,648 24,973 17,294 42,267 10,064 82,190 82,191 164,381 49,314	Project report	
COMPONENT 1						
Project Objective 1 Increase adaptive capacity of communities and provincial institutions to develop and sustain climate-resilient community infrastructure and housing.	**1.a.** Percentage of targeted sub-national institutions reporting increased ability to respond to and mitigate impacts of climate-related events through local adaptation planning and implementation.	**2.1.** No. and type of targeted institutions with increased capacity to minimize exposure to climate variability risks	0	100%	Project report, Survey Questionnaire	Assumption: No major emergencies or external shocks jeopardize the implementation of training activities. Assumption: There is full government commitment, expressed in maximum training participation of officials of appropriate rank.
	1.b. Number of carpenters and masons trained to build climate-resilient houses (disaggregated by gender).	**3.1.** Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	0 0 0	6,944 m: 6,944 f: 0	Project report, Training records	
Outcome 1.1. Accurate data is available to inform training for provincial and district staff.	**1.1.** Number of offices that report having sufficient information on staff capacity building needs.	-	0	7	Survey Questionnaire, Capacity Assessment Reports	Assumption: The scope of the capacity assessment is appropriate and the assessment is carried out effectively.
Output 1.1.1. Capacity assessments conducted on integrating climate change into urban plans for seven district capitals	**1.1.1.** Number of Capacity assessments conducted in target district capitals.	-	0	7	Capacity Assessment Reports	-

Project Outcome/Output	Project Indicator	AF Outcome Indicator	Baseline	Target	Source of Verification	Risk & Assumptions
Outcome 1.2. Institutions in seven district capitals have data to guide urban planning, and the capacity to conduct and update vulnerability assessments	**1.2.** Number of institutions reporting availability of appropriate data to guide urban planning and sufficient capacity to conduct or update vulnerability assessments.	**2.1.** No. and type of targeted institutions with increased capacity to minimize exposure to climate variability risks	0	7	Survey Questionnaire, Vulnerability Assessment Reports	Assumption: Limited staff turn-over amongst targeted officials.
Output 1.2.1. Risk and vulnerability assessments conducted or updated in seven district capitals	**1.2.1.** Number of risk and vulnerability assessments conducted or updated		0	7	Vulnerability Assessment Reports	
Outcome 1.3. Officials in government institutions have capacity to develop climate resilient town master plans.	**1.3.** Number of government institutions reporting sufficient capacity to develop climate resilient town master plans.	**2.1.** No. and type of targeted institutions with increased capacity to minimize exposure to climate variability risks	0		Survey Questionnaire	Assumption: Limited staff turn-over amongst targeted officials.
Output 1.3.1. Training provided to provincial and district staff, as well as national government staff on mainstreaming climate adaptation into urban planning, including adaptive measures in spatial planning and land-use; and on resilient housing construction.	**1.3.1.** Number of staff from provincial, district and national government institutions trained on mainstreaming climate adaptation into urban planning (disaggregated by gender).		0 0 0	1,733 m: 1,213 f: 520	Training Records	
Outcome 1.4. Seven district capitals have working master plans to guide adaptive measures in urban planning, serving the towns' combined populations.	**1.4.** Number of offices reporting availability of up-to-date and approved town master plans and enforcement thereof.	**7.** Climate change priorities are integrated into national development strategy	0	7	Survey Questionnaire, Town Master Plans	
Output 1.4.1. Seven town level master plans developed to guide the integration of climate change adaptation into socially inclusive housing construction, spatial planning and land-use, ensuring sustainability of the houses constructed and rehabilitated under this project as well as further development interventions, and influencing policy changes from the national level.	**1.4.1.** Number of town level master plans developed to guide the integration of climate change adaptation.		0	7	Town Master Plans	

Project Outcome/Output	Project Indicator	AF Outcome Indicator	Baseline	Target	Source of Verification	Risk & Assumptions
Outcome 1.5. Increased capacity of District Meteorological and Hydrological services in six provinces.	**1.5.** Number of offices reporting increased capacity to manage meteorological and Hydrological equipment and information systems.	**2.1.** No. and type of targeted institutions with increased capacity to minimize exposure to climate variability risks	0	6	Survey Questionnaire	Assumption: Limited staff turn-over amongst targeted officials.
Output 1.5.1. Training provided for DMH staff on operation of meteorological and hydrological stations, and on climate information communication and early warning systems, including development of an app for local weather information and early warnings, and technical assistance in establishing a Meteorology and Hydrology Sub Sector Working Group (SSWG) or similar body...	**1.5.1.** Number of DMH staff trained on operation of meteorological and hydrological stations, and on climate information communication and early warning system (disaggregated by gender).		0 0 0	24 m: 17 f: 7	Training Records	
Outcome 1.6. Resilience measures integrated into building guidelines	**1.6.** Approved building guidelines with integrated resilience measures.	**7.** Climate change priorities are integrated into national development strategy	0	1	Building Guidelines incl. evidence of approval.	
Output 1.6.1. Building guidelines developed which integrate climate change resilience	**1.6.1.** Building guidelines developed which integrate climate change resilience		0	1	Building Guidelines	
Outcome 1.7. District officials have capacity to manage community evacuation centres	**1.7.** Number of offices reporting sufficient capacity to manage community evacuation centres.	**2.1.** No. and type of targeted institutions with increased capacity to minimize exposure to climate variability risks	0	6	Survey Questionnaire	Assumption: Limited staff turn-over amongst targeted officials.
Output 1.7.1. Training provided for district officials on managing community evacuation centres.	**1.7.1.** Number of district officials trained on managing community evacuation centres (disaggregated by gender).		0 0 0	18 m: 9 f: 9	Training Records	
Outcome 1.8. Local carpenters and masons from 6 provinces have the capacity to build climate-resilient houses.	**1.8.** Number of carpenters and masons trained to build climate-resilient houses (disaggregated by gender).	**3.1.** Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses.	0 0 0	6,944 m: 6,944 f: 0	Training Records	

Project Outcome/Output	Project Indicator	AF Outcome Indicator	Baseline	Target	Source of Verification	Risk & Assumptions
Output 1.8.1. Training of trainers to build capacity in local carpenters and masons in climate-resilient construction practices, and community-level trainings.	**1.8.1.** Number of trainers trained to build capacity in local carpenters and masons in climate-resilient construction practices, and conduct of community-level trainings (disaggregated by gender).		0 0 0	30 m: 30 f: 0	Training Records	
COMPONENT 2						
Project Objective 2 Empower with adaptive measures through construction of community infrastructure and reconstruction and rehabilitation of houses.	**2.a.** Percentage of houses of targeted households assessed as being not vulnerable to the impacts of extreme climate-related weather events.	**4.2.** Physical infrastructure improved to withstand climate change and variability-induced stress	0%	100%	Vulnerability Assessment, Handover report (new houses), Completion reports (improved houses)	Detailed vulnerability assessments will be conducted to determine the exact number of beneficiaries (vulnerable households). The resulting numbers will replace the estimates from the rapid vulnerability assessment. It is assumed that there are no material deviations between estimates and actuals. Assumption: No major emergencies or external shocks jeopardize the implementation of construction activities.
	2.b. Percentage of targeted sub-national institutions with adequate physical infrastructure and technical equipment to fulfil their climate-related mandates (coordination & response).	-	0%	100%	Project Report, Survey Questionnaire	
	2.c. Number of Early Warning Systems (EWS) established or upgraded Geog. area covered (in km2) Communities benefitting	Number of Early Warning Systems (Core Indicator)	0	12 850 182	Handover/Completion reports	
	2.d. Number of Physical Assets produced or strengthened.	Assets Produced, Developed, Improved, or Strengthened	0	5,572	Handover/Completion reports	
Outcome 2.1. Target towns have socially inclusive housing, that builds resilience to current and anticipated climate change related impacts	**2.1.** Percentage of households in target areas that are resilient to the impacts of climate change Data will be disaggregated by ethnicity.	**4.2.** Physical infrastructure improved to withstand climate change and variability-induced stress		95%	Terminal Evaluation	Assumption: The Vulnerability Assessments to select the beneficiaries in the target areas are effective and adequately capture the needs for intervention.

Project Outcome/Output	Project Indicator	AF Outcome Indicator	Baseline	Target	Source of Verification	Risk & Assumptions
Output 2.1.1. 6 resilient demonstration houses constructed.	**2.1.1.** Number of new demonstration houses constructed to withstand climate-induced hazards and to meet the needs of women, children and other vulnerable groups of society. Data to be collected will include beneficiary details disaggregated by gender and ethnicity.		0	6	Project Report, Handover Certificates	Assumption: There will be agreement of beneficiaries to carry out the proposed interventions.
Output 2.1.2. 600 existing houses (for 3,000 people) reconstructed to increase resilience to climate change impacts.	**2.1.2.** Number of existing houses reconstructed to increase their resilience to the impacts of climate change while addressing the needs of women, children and other vulnerable groups of society. Data to be collected will include beneficiary details disaggregated by gender and ethnicity.		0 0	600 ≥10% Female-headed HHs	Project Report, Completion Certificates (1 per house)	
Output 2.1.3. 4,942 existing houses rehabilitated to increase resilience to climate change impacts.	**2.1.3.** Number of existing houses rehabilitated to increase their resilience to the impacts of climate change while addressing the needs of women, children and other vulnerable groups of society. Data to be collected will include beneficiary details disaggregated by gender and ethnicity.		0 0	4,942 ≥10% Female-headed HHs	Project Report, Completion Certificates (1 per house)	
Outcome 2.2. Displaced households have a safe place to shelter following their evacuation.	**2.2.** Number of district authorities reporting access to adequate shelter facilities for	**4.2.** Physical infrastructure improved to withstand	0	6	Survey Questionnaire	Assumption: The scale of future extreme weather

Project Outcome/Output	Project Indicator	AF Outcome Indicator	Baseline	Target	Source of Verification	Risk & Assumptions
	people at risk of or displaced by the effects of extreme weather events.	climate change and variability-induced stress				events will be within the range anticipated. Assumption: People in target areas will be made sufficiently aware of the shelter option.
Output 2.2.1. Two community evacuation centres constructed as a safe place for people to shelter in the event of extreme flooding.	**2.2.1.** Number of new community evacuation centres constructed, including provision of WASH facilities and addressing the needs of women, children and other vulnerable groups of society.		0	2	Project Report, Handover Certificates (1 per building)	
Output 2.2.2. Four existing community evacuation centres assessed, and necessary improvements made, including provision of WASH facilities	**2.2.2.** Number of existing community evacuation centres assessed and improved, including provision of WASH facilities and addressing the needs of women, children and other vulnerable groups of society.		0	4	Project Report, Completion Certificates (1 per building)	
Outcome 2.3. The Natural Resources and Environment sector has an operational base in the district, enabling improved climate change adaptation coordination and activities.	**2.3.** Number of government institutions reporting a physical presence in the target districts, appropriate to serve as Coordination Centre for Adaptation and DRR and as DONRE office.	**2.1.** No. and type of targeted institutions with increased capacity to minimize exposure to climate variability risks	0	6	Survey Questionnaire	
Output 2.3.1. Six Coordination Centres for Adaptation and DRR (doubling as DONRE Offices) constructed over six provinces, serving as a base for climate change adaptation coordination.	**2.3.1.** Number of Coordination Centres for Adaptation and DRR constructed.		0	6	Project Report, Handover Certificates (1 per building)	
Outcome 2.4. People in target districts are able to be provided with climatic	**2.4.** Number of government institutions reporting ongoing	**1.** Relevant threat and hazard information generated and	0	6	Survey Questionnaire	A: Effective implementation of Output 1.5.1. (Training of DMH staff).

Project Outcome/Output	Project Indicator	AF Outcome Indicator	Baseline	Target	Source of Verification	Risk & Assumptions
information and early warning of impending hazards.	operation of an effective early warning system.	disseminated to stakeholders on a timely basis				
Output 2.4.1. Six new meteorological and hydrological stations constructed in 6 provinces	**2.4.1.** Number of new meteorological and hydrological stations constructed.		0	6	Project Report	
Output 2.4.2. Nine existing meteorological and hydrological stations upgraded in six provinces	**2.4.2.** Number of existing meteorological and hydrological stations upgraded.		0	9	Project Report	
COMPONENT 3						
Project Objective 3 Strengthen community awareness of the impacts of climate change and mainstream adaptation measures through advocacy and knowledge management.	**3.a.** Number of events or initiatives conducted in target communities to raise awareness of the impacts of climate change and of adaptation measures.	**3.1.** Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	0	24	Project Report	Assumption: There will be full government buy-in, expressed in form of approvals of dissemination materials and events, and active/public participation of key government officials in events. Assumption: No major emergencies or external shocks jeopardize the implementation of awareness raising activities.
	3.b. Number of technical documents produced to create awareness of or enforce climate adaptation measures.	**7.** Climate change priorities are integrated into national development strategy	0	6		
Outcome 3.1. Knowledge and awareness enhanced in the housing and urban planning sector at national and subnational levels, ensuring sustainability and influencing policy changes from the national level.	**3.1.** Number of national and sub-national government offices reporting increased awareness of the effects of climate change and adaption measures, and capacity to influence policy changes.	**3.1.** Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	0	27	Survey questionnaire	
Output 3.1.1. Project activities and results are captured and disseminated through dissemination workshop.	**3.1.1.** Number of dissemination workshops conducted.		0	8	Workshop reports	

Project Outcome/Output	Project Indicator	AF Outcome Indicator	Baseline	Target	Source of Verification	Risk & Assumptions
Outcome 3.2. Documented knowledge available to inform climate policy and planning to enhance climate change adaptation in the shelter sector.	**3.2.** Number of strategies developed, approved and made accessible to all institutions dealing with policy and planning matters in the shelter sector.	**7.** Climate change priorities are integrated into national development strategy.	0	2	Strategy documents	
Output 3.2.1. Strategy developed as guidance document for policy development on the integration of climate change adaptation measures in the housing sector.	**3.2.1.** Strategy on the integration of climate change adaptation measures in the housing sector developed.		0	1	Strategy document	
Output 3.2.2. Technical guidance developed on Housing, Land and Property (HPL).	**3.2.1.** Technical guidance developed.		0	1	Strategy document	
Outcome 3.3. Town populations aware of predicted adverse impacts of climate change, and of resilient shelter construction and adaptive measures in spatial planning and land-use	**3.3.** Percentage of target population aware of adverse impacts of climate change, and of adaption measures (disaggregated by gender).	**3.1.** Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses.	Baseline available 0	80%	Survey	Assumption: Timing and format of community awareness activities are suitable to attract people's attention.
Output 3.3.1. IEC materials produced for target communities.	**3.3.1.** IEC materials produced.		0	1	IEC material	
Output 3.3.2. Community awareness raising activities conducted.	**3.3.2.** Number of Community awareness raising activities conducted.		0	12	Project report Media reports	
Outcome 3.4. Guidelines and manuals available for future reference and use	**3.4.** Number of guidelines/manuals produced, approved and made accessible to target audience.	**7.** Climate change priorities are integrated into national development strategy.	0	4	Guidelines/Manuals	
Output 3.4.1. Shelter response profile to inform the IASC Shelter Cluster	**3.4.1.** Shelter response profile produced.		0	1	Shelter response profile (document)	
Output 3.4.2. Manual on managing community evacuation Centres.	**3.4.2.** Manual for managing Community Evacuation Centres produced or updated.		0	1	Manual	
Output 3.4.3. Technical manual on construction practices for climate-resilient housing for carpenters.	**3.4.3.** Technical Manual on construction practices for climate-resilient housing for		0	1	Manual	

Project Outcome/Output	Project Indicator	AF Outcome Indicator	Baseline	Target	Source of Verification	Risk & Assumptions
	carpenters produced or updated.					
Output 3.4.4. Training guidelines produced on resilient shelter construction and adaptive measures in spatial planning and land-use for Subnational DHUP staff.	**3.4.4.** Training guidelines on resilient shelter construction and adaptive measures in spatial planning and land-use produced or updated.		0	1	Training Guidelines	
Outcome 3.5. School teachers and students are aware of climate change impacts and adaptation options	**3.5.** Percentage of school teachers in target areas reporting awareness of climate change issues and adaption options, and capacity to sensitize their students.	**3.1.** Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses.	0	95%	Training (evaluation) records.	Assumption: Teachers actually implement awareness raising activities they were trained for.
Output 3.5.1. School teachers trained to sensitize and educate students on climate change issues including relevant KM materials published.	**3.5.1.** Number of trainings conducted for Teachers to sensitize students on climate change issues.		0	6	Training records	

Project Milestones

- Month 3:Inception Workshop conducted
- Month 12Capacity Assessment/Training Needs Assessment conducted
- Month 12:Seven Town Master Plans produced/developed for Provincial Assembly approval
- Month 12:Training on mainstreaming climate adaption complete
- Month 28:Midterm Evaluation conducted and presented to the Project Management Committee (if required)
- Month 26:Six Coordination Centres for Adaptation and DRR (doubling as DONRE Offices) constructed and handed over
- Month 12:Two new Evacuation Centres constructed and handed over
- Month 12:Six new Demonstration Houses constructed and handed over
- Month 24:Six new meteorological and hydrological stations established and operational
- Month 26:Six Coordination Centres for Adaptation and DRR (doubling as DONRE Offices) constructed and handed over
- Month 28:Midterm Evaluation conducted and presented to the Project Management Committee
- Month 48: Project completion report produced

F. Project alignment with the Adaptation Fund results framework

Table 20: Project alignment with the Adaptation Fund results framework

Project Objective(s)	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)

Project Impact Enhance the adaptive capacity in provinces and build resilient housing in vulnerable communities.	Number beneficiaries	**Fund Impact:** Increased adaptive capacity of communities to respond to the impacts of climate change	Core Impact Indicator: Number beneficiaries	
Objective 1. Increase adaptive capacity of communities and provincial institutions to develop and sustain climate-resilient community infrastructure and housing. (Component 1)	**1.a.** Percentage of targeted sub-national institutions reporting increased ability to respond to and mitigate impacts of climate-related events through local adaptation planning and implementation.	**Outcome 2:** Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	**2.1.** No. and type of targeted institutions with increased capacity to minimize exposure to climate variability risks	987,060
	1.b. Number of carpenters and masons trained to build climate-resilient houses (disaggregated by gender).	**Outcome 3:** Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	**3.1.** Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	
Objective 2. Empower with adaptive measures through construction of climate-resilient community infrastructure and improvement of houses. (Component 2)	**2.a.** Percentage of houses of targeted households assessed as being vulnerable to the impacts of extreme climate-related weather events.	**Outcome 4:** Increased adaptive capacity within relevant development and natural resource sectors	**4.2.** Physical infrastructure improved to withstand climate change and variability-induced stress	4,919,690
	2.b. Percentage of targeted sub-national institutions with adequate physical infrastructure and technical equipment to fulfil their climate-related mandates (coordination & response).	-	-	
	2.c. Number of Early Warning Systems (EWS) established or upgraded	**Fund Impact:** Increased adaptive capacity of communities to respond to the impacts of climate change	Core Impact Indicator: Number of Early Warning Systems	
	2.d. Number of Physical Assets produced or strengthened.		Core Impact Indicator: Assets Produced, Developed, Improved, or Strengthened	
Objective 3. Strengthen community awareness and mainstream adaptation into policy through advocacy and knowledge management. (Component 3)	**3.a.** Number of events or initiatives conducted in target communities to raise awareness of the impacts of climate change and of adaption measures.	**Outcome 3:** Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	**3.1.** Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	400,000
	3.b. Number of policy documents produced or amended to create awareness of or enforce climate adoption measures.	**Outcome 7:** Improved policies and regulations that promote and enforce resilience measures	**7.** Climate change priorities are integrated into national development strategy	

Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
Outcome 1.1. Accurate data is available to inform training for provincial and district staff.	**1.1.** Number of offices reporting sufficient information on staff capacity building needs.	No match with AF output		50,000
Outcome 1.2. Institutions in seven district capitals have data to guide urban planning, and the capacity to conduct and update vulnerability assessments	**1.2.** Number of institutions reporting availability of appropriate data to guide urban planning and sufficient capacity to conduct or update vulnerability assessments.	**Output 1.** Risk and vulnerability assessments conducted and updated at a national level	**1.1.** No. and type of projects that conduct and update risk and vulnerability assessments.	145,060
Outcome 1.3. Officials in government institutions have capacity to develop climate resilient town master plans.	**1.3.** Number of government institutions reporting sufficient capacity to develop climate resilient town master plans.	**Output 2.1.** Strengthened capacity of national and regional centres and networks to respond rapidly to extreme weather events	**2.1.1.** No. of staff trained to respond to, and mitigate impacts of, climate-related events.	40,000
Outcome 1.4. Seven district capitals have working master plans to guide adaptive measures in urban planning, serving the towns' combined populations.	**1.4.** Number of offices reporting availability of up-to-date and approved town master plans and enforcement thereof.	**Output 7.** Improved integration of climate-resilience strategies into country development plans	**7.2.** No. or targeted development strategies with incorporated climate change priorities enforced	500,000
Outcome 1.5. Increased capacity of District Meteorological and Hydrological services in six provinces.	**1.5.** Number of offices reporting increased capacity to manage meteorological and Hydrological equipment and information systems.	**Output 2.1.** Strengthened capacity of national and regional centres and networks to respond rapidly to extreme weather events	**2.1.1.** No. of staff trained to respond to, and mitigate impacts of, climate-related events.	122,000
Outcome 1.6. Resilience measures integrated into building guidelines	**1.6.** Approved building guidelines with integrated resilience measures.	**Output 7.** Improved integration of climate-resilience strategies into country development plans	**7.2.** No. or targeted development strategies with incorporated climate change priorities enforced	50,000
Outcome 1.7. District officials have capacity to manage community evacuation centres	**1.7.** Number of offices reporting sufficient capacity to manage community evacuation centres.	**Output 2.1.** Strengthened capacity of national and regional centres and networks to respond rapidly to extreme weather events	**2.1.1.** No. of staff trained to respond to, and mitigate impacts of, climate-related events.	20,000
Outcome 1.8. Local carpenters and masons from 6 provinces have the capacity to build climate-resilient houses.	**1.8.** Number of carpenters and masons trained to build climate-resilient houses (disaggregated by gender).	No match with AF output		60,000
Outcome 2.1. Target towns have socially inclusive housing, that builds	**2.1.** Percentage of households in target areas that are considered sufficiently resilient to the impacts of climate change (assessed as	**Output 4.** Vulnerable physical, natural, and social assets strengthened in response to	**4.1.2.** No. of physical assets strengthened or constructed to withstand conditions resulting	3,845,000

resilience to current and anticipated climate change related impacts	being above a certain Vulnerability Index threshold).	climate change impacts, including variability	from climate variability and change (by asset types)	
Outcome 2.2. Displaced households have a safe place to shelter following their evacuation.	**2.2.** Number of district authorities reporting access to adequate shelter facilities for people at risk of or displaced by the effects of extreme weather events.			183,690
Outcome 2.3. The Natural Resources and Environment sector has an operational base in the district, enabling improved climate change adaptation coordination and activities.	**2.3.** Number of government institutions reporting a physical presence in the target districts, appropriate to serve as Coordination Centre for Adaptation and DRR and as DONRE office.	No match with AF output		540,000
Outcome 2.4. People in target districts are able to be provided with climatic information and early warning of impending hazards.	**2.4.** Number of government institutions reporting ongoing operation of an effective early warning system.	**Output 1.** Risk and vulnerability assessments conducted and updated at a national level	**1.2.** Development of early warning systems	351,000
Outcome 3.1. Knowledge and awareness enhanced in the housing and urban planning sector at national and subnational levels, ensuring sustainability and influencing policy changes from the national level.	**3.1.** Number of national and sub-national government offices reporting increased awareness of the effects of climate change and adaption measures, and capacity to influence policy changes.	**Output 3.** Targeted population groups participating in adaptation and risk reduction awareness activities	**3.1.1.** No. and type of risk reduction actions or strategies introduced at local level	40,000
Outcome 3.2. Documented knowledge available to inform climate policy and planning to enhance climate change adaptation in the shelter sector.	**3.2.** Number of strategies developed, approved and made accessible to all institutions dealing with policy and planning matters in the shelter sector.	**Output 7.** Improved integration of climate-resilience strategies into country development plans.	**7.1.** No., type, and sector of policies introduced or adjusted to address climate change risks	70,000
Outcome 3.3. Town populations aware of predicted adverse impacts of climate change, and of resilient shelter construction and adaptive measures in spatial planning and land-use	**3.3.** Percentage of target population aware of adverse impacts of climate change, and of adaption measures (disaggregated by gender).	**Output 3.** Targeted population groups participating in adaptation and risk reduction awareness activities	**3.1.1.** No. and type of risk reduction actions or strategies introduced at local level	120,000
Outcome 3.4. Guidelines and manuals available for future reference and use	**3.4.** Number of guidelines/manuals produced, approved and made accessible to target audience.	**Output 7.** Improved integration of climate-resilience strategies into country development plans.	**7.1.** No., type, and sector of policies introduced or adjusted to address climate change risks	120,000
Outcome 3.5. School teachers and students are aware of climate change impacts and adaptation options	**3.5.** Percentage of school teachers in target areas reporting awareness of climate change issues and adaption options, and capacity to sensitize their students.	**Output 3.** Targeted population groups participating in adaptation and risk reduction awareness activities	**3.1.1.** No. and type of risk reduction actions or strategies introduced at local level	50,000

Table 21: Indicative Core Indicator Targets

Adaption Fund Core Indicators	Indicative Targets		Comments
Number of Beneficiaries	Total beneficiaries Direct beneficiaries Male Female Youth Indirect beneficiaries Male Female Youth	206,648 42,267 24,973 17,294 10,064 164,381 82,190 82,191 49,314	"Direct beneficiaries" measures the number of people benefitting from the reconstruction and rehabilitation of existing houses and from the 6 new demonstration houses (component 2), and also the number of people benefitting from capacity building efforts (component 1). It does not include the number of school teachers trained to sensitize students on climate change issues (component 3). Of the 42,267 direct beneficiaries, 17,294 are expected to be female (50% of house construction/improvement beneficiaries and 30% of government officials benefitting from capacity building). 30% of housing beneficiaries are expected to be youth (10,064). "Indirect beneficiaries" refers to the district population benefitting from the coordination centres, the community evacuation centres and early warning systems (minus direct beneficiaries). 50% of indirect beneficiaries are expected to be female (82,190 people). 30% of all indirect beneficiaries are expected to be youth (49,314).
Number of Early Warning Systems	Geographic area covered (in km2) Number of communities benefitting	15 850 182	This includes six new meteorological and hydrological stations and the upgrading of nine existing stations. The systems (category 2) will allow data collection for the monitoring of hydro meteorological hazards, mainly floods but also storms. The total geographical coverage of all 15 systems is estimated at 850 km2 and the number of benefitting communities is 182.
Assets Produced, Developed, Improved, or Strengthened	Physical assets produced Physical assets strengthened Total physical assets	20 5,555 5,575	This concerns assets in the Disaster Risk Management sector. The 20 assets produced include the 6 new demo houses, 2 new community evacuation centres, 6 new coordination centres (DONRE offices) and 6 new weather stations. The 5,555 assets strengthened account for the reconstruction of 600 houses, rehabilitation of 4,942 houses, improvement of 4 community centres and upgrading of 9 weather stations.
Increased income, or avoided decrease in income	0		Not applicable
Natural Assets Protected or Rehabilitated	0		Not applicable

G. Detailed Budget

Table 22: Detailed Budget

Outputs	Details	Total budget	Year 1	Year 2	Year 3	Year 4	Budget Notes
1.1.1. Trainings for 7 district capitals on climate risk and vulnerability assessments	1.1.1.1 Prepare training materials ($22,000) 1.1.1.2 Provide trainings (28,000)	50,000 Training and technical experts 47,675 Other operations 2,325	50,000				Training and technical experts consists of the following experts recruited by the project for the purpose of preparing training materials and providing trainings: 2 Regional Technical Leads (1 for northern provinces and 1 for southern provinces)-16,000, 1 Technical Adviser 24,000, Information Management Specialist: 5,350. Budget for trainings includes the total cost of preparing and implementing training workshops, including needs assessments, the preparation of materials, the delivery of the trainings, evaluations of the trainings and training reports Trainings will be held at government offices and there will be no cost for training venues. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for the trainings

1.2.1. Risk and vulnerability assessments conducted or updated, including on-the-job training for local government	1.2.1.1. Collect data ($90,277) 1.2.1.2. Analyse data and write up results ($54,783)	145,060 Urban Climate Change Experts 130,554 Other operations 14,506	145,060				Urban Climate Change Experts consists of the following experts recruited by the project for the purpose of conducting risk and vulnerability assessments: 2 Regional Technical Leads - 48,000, 1 Technical Adviser - 40,000, Climate Change Expert - 48,000, Information Management Specialist: 9,060 The budget covers the practical training component of local government staff on risk and vulnerability assessments and for carrying out the assessments, including collecting and analysing data, and writing reports. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for the risk and vulnerability assessments.
1.3.1. Training provided to government staff on mainstreaming climate adaptation into urban planning.	1.3.1.1. Baseline knowledge/training needs assessment ($4,800) 1.3.1.2. Prepare training materials ($10,500) 1.3.1.3 Provide the trainings ($24,700)	40,000 Urban Climate Change Experts 36,000 Other operations 4,000	40,000				Urban Climate Change Experts consists of the following experts recruited by the project for the purpose of providing training to government staff on mainstreaming climate change into urban planning.: 2 Regional Technical Leads - 16,000, Technical Adviser 14,000, CC Expert -: 5,000, Information Management Specialist - 5,000. The budget covers the preparation and implementation of trainings, including preparing and conducting needs assessments, preparing training materials, delivering the trainings, evaluating the trainings and writing training reports. Trainings will be held at government offices with no cost for venues. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for the trainings
1.4.1. Seven town level master plans developed	1.4.1.1. Identify key vulnerabilities ($50,000) 1.4.1.2 Define objectives for the planning process ($25,000) 1.4.1.3 Define future adaptation actions ($50,000) 1.4.1.4 Draft plans ($350,000) 1.4.1.5 Approve plans ($25,000)	500,000 Urban Planning Experts 450,000 Other operations 50,000	500,000				Urban Planning Experts consists of the following experts recruited by the project: Public Transport Research Institute Specialists - 280,000, 2 Regional Technical Leads - 64,000, Technical Adviser - 48,000, CC Expert - 20,000, Community Specialist - 18,000, Information Management Specialist - 20,000. The budget covers the full process of developing master plans including data collection, consultations, data analysis and drafting plans and obtaining approval of plans. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for the master plans.
1.5.1. Training provided for DMH staff on meteorological and hydrological stations, and on climate info communication and early warning systems, including development of an app for local weather information and early	1.5.1.1. Baseline knowledge/training needs assessment ($7,500) 1.5.1.2. Prepare training materials ($20,000) 1.5.1.3 Provide the trainings ($22,500) 1.5.1.4 Develop the app ($37,000) 1.5.1.5. Trainings on how to use the app ($35,000)	122,000 IT and capacity development experts 99,000 Other operations 23,000		122,000			IT and capacity development experts consists of the following experts recruited by the project for the purpose of developing an app and providing trainings on its use: MH Expert - 10,000, 2 Regional Technical Leads - 10,000, Technical Adviser - 10,000, Information Management - 10,000, Community Specialists - 41,000, IT specialist - 18,000. As well as development of an app, the budget covers the preparation and implementation of trainings, including preparing and conducting needs assessments, preparing training materials, delivering the trainings, evaluating the trainings and writing training reports Trainings will be held at government offices and there will be no cost for training venues. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for the trainings and for consultations relating to the app.

warnings, and technical assistance in establishing a Meteorology and Hydrology Sub Sector Working Group (SSWG) or similar body..							
1.6.1. Building guidelines developed which integrate climate change resilience	1.6.1.1. Consultations ($5,000) 1.6.1.2. Desk review of existing documentation ($5,000) 1.6.1.3. Draft guidelines ($35,000) 1.6.1.4. Submit for approval ($5,000)	50,000 Construction experts with strong ESG credentials 45,000 Other operations 5,000		50,000			Construction experts with strong ESG credentials consists of the following experts recruited by the project for the purpose of developing building guidelines: Technical Adviser - 20,000, 2 Regional Technical Leads - 16,000, CC expert -9,000. The budget covers the entire process of developing the guidelines, from reviewing existing relevant documentation to drafting the guidelines to completing the approval process. Other operations covers all communication, stationery, toner and printing ink, binding, and translation for the guidelines.
1.7.1. Training provided for district officials on managing community evacuation centres.	1.7.1.1. Consultations with stakeholders ($5,000) 1.7.1.2. Prepare training materials ($5,000) 1.7.1.3. Conduct trainings ($10,000)	20,000 DRR and site management experts 16,000 Other operations 4,000		20,000			DRR and site management experts consists of the following experts recruited by the project for the purpose of training evacuation centre managers: Community Specialist - 10,000, and Technical Adviser - 6,000. The budget covers the preparation and implementation of trainings, including preparing and conducting needs assessments, preparing training materials, delivering the trainings, evaluating the trainings and writing a training report. Trainings will be held at government offices and the evacuation centres and there will be no cost for training venues. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for the trainings.
1.8.1. Training of trainers to build capacity in local carpenters and masons, and community-level trainings.	1.8.1.1. Consultations with women's representatives ($5,000) 1.8.1.2. Prepare training materials ($10,000) 1.8.1.3. Conduct trainings of trainers (45,000)	60,000 Community mobiliser and vocational training experts 50,000 Other operations 10,000	60,000				Community mobiliser and vocational training experts consists of the following experts recruited by the project for the purpose of providing training to trainers of carpenters and masons: Community Specialist - 20,000, Technical Adviser - 10,000, 2 Regional Technical Leads - 20,000. The budget covers the preparation and implementation of trainings, including preparing and conducting needs assessments, consulting with women's representatives, preparing training materials, delivering the trainings, evaluating the trainings and writing a training report. Trainings will be held at government offices and there will be no cost for training venues. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for the trainings.
Component 1 total		987,060	795,060	192,000	-	-	
2.1.1. 6 Demonstration resilient houses constructed.	2.1.1.1. Consultations with stakeholders ($3,000) 2.1.1.2 Re-confirm all aspects of design ($5,000) 2.1.1.3. Procure materials ($144,000) 2.1.1.4. Construct houses	180,000 Infrastructure 180,000	180,000				The cost of consultations will be borne by EEs. Infrastructure covers the procurement costs for construction materials for the demonstration houses. The houses will be constructed as part of the training of trainers for carpenters.

	as part of training for carpenters ($28,000)						
2.1.2. 600 existing houses (for 3,000 people) reconstructed to increase resilience to climate change impacts. resilience to climate change impacts.	2.1.2.1. Assess houses and identify the most vulnerable ($70,000) 2.1.2.2. Consult with householders and decide on the required work to be done ($70,000) 2.1.2.3. Qualification process for construction companies 20,000) 2.1.2.4. Carry out the reconstruction ($1,000,000) 2.1.2.5. Quality assurance including certificate issued for each house ($40,000)	1,200,000 Foremen and skilled labour 120,000 Other operations 120,000 Infrastructure 960,000	240,000	480,000	360,000	120,000	Foremen and skilled labour consists of the following experts recruited by the project for the purpose of providing technical support for house reconstruction, and for carrying out the reconstruction: 2 Regional Technical Lead - 40,000, Technical Adviser -30,000, Community Specialist -10,000, Local Engineers - 40,000. Activities 2.1.2.1. and 2.1.2.2. will be carried out by DPWT staff as an in-kind contribution to the project The budget covers technical advice to DPWT in the seven towns including training on house assessments, and QA. Engineers will be based in the towns and will provide technical advice related to procurement and construction matters, and QA. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for trainings, QA processes and community consultations. Infrastructure covers the costs of reconstruction which will be done through construction companies through AoCs with the EEs.
2.1.3. 4,942 existing houses rehabilitated to increase resilience to climate change impacts.	2.1.3.1. Train carpenters in rehabilitation of houses ($30,000) 2.1.3.2. Assess all houses in at-risk zones ($200,000) 2.1.3.3. Decide with householders on the required work ($100,000) 2.1.3.4. Qualification process for construction companies ($5,000) 2.1.3.5. Carry out the rehabilitation ($2,100,000) 2.1.3.6. Quality assurance including certificate issued for each house ($30,000)	2,465,000 Community specialist and construction experts 247,100 Other operations 241,100 Infrastructure 1,976,800	241,100	988,400	988,400	247,100	Community specialist and construction experts consists of the following experts recruited by the project for the purposes of house assessments, carpenter trainings and technical advice: 2 Regional Technical Leads – 87,100, Technical Adviser - 80,000, Community Specialist - 40,000, Local Engineers - 40,000. Activities 2.1.3.1. – 2.1.3.3. will be carried out by DPWT at no cost to the project. The budget covers technical advice to DPWT in the seven towns including training on house assessments, and QA Engineers will be based in the towns and will provide technical advice related to procurement and construction matters, and QA. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for trainings, QA processes and community consultations. Infrastructure covers the costs of reconstruction which will be done through construction companies through AoCs with the EEs.
2.2.1. Two community evacuation centres constructed as a safe place for people to shelter in the event of extreme flooding.	2.2.1.1. Consultations with stakeholders to ensure that the needs of all groups are catered for ($5,290) 2.2.1.2 Re-confirm all aspects of design ($5,200) 2.2.1.3. Qualification process for construction companies ($5,200) 2.2.1.4. Construct evacuation centres ($100,000)	123,690 Community and construction experts 11,768 Other operations 11,770 Infrastructure 100,152	123,690				Community and construction experts consists of the following experts recruited by the project for the purpose of community engagement and technical support to the construction of evacuation centres: Community Specialist - 5,000, Local Engineers: 6,768. The budget covers consultations with local stakeholders, and technical advice on procurement and construction, as well as QA. The engineers will be based in the areas of the evacuation centres. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for consultations and QA processes. Infrastructure covers the costs of construction which will be done through construction companies through AoCs with the EEs.

	2.2.1.5. Quality assurance ($8,000)						
2.2.2. Four existing community evacuation centres assessed, and necessary improvements made, including provision of WASH facilities	2.2.2.1. Consultations with stakeholders to ensure that the needs of all groups are catered for ($2,500) 2.2.2.2 Re-confirm all aspects of upgrade design ($2,500) 2.2.2.3. Qualification process for construction companies ($5,000) 2.2.2.4. Upgrade evacuation centres ($45,000) 2.2.2.5. Quality assurance ($5,000)	60,000 Local engineers 6,000 Other operations 6,000 Infrastructure 48,000	60,000				Local engineers consists of local engineers at a cost of $6,000. The budget covers technical advice on procurement and construction, as well as QA. The engineers will be based in the areas of the evacuation centres. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for consultations and QA processes. Infrastructure covers the costs of construction which will be done through construction companies selected through a qualification process through AoCs with the EEs.
2.3.1. Six Coordination Centres for Adaptation and DRR (doubling as DONRE Offices) constructed over six provinces, serving as a base for climate change adaptation coordination.	2.3.1.1 Re-confirm all aspects of construction design ($10,000) 2.3.1.2. Qualification process for construction companies (5,000) 2.3.1.3. Carry out construction ($495,000) 2.3.1.4. Quality assurance ($30,000)	540,000 Construction and engineering experts 54,000 Other operations 54,000 Infrastructure 432,000	270,000	270,000			Construction and engineering experts consists of the following experts recruited by the project for the purpose of providing technical support in the construction of coordination centres/DONRE Offices.: 2 Regional Technical Leads - 19,000, Technical Adviser - 19,000, Local Engineers: 16,000. The budget covers technical advice to DPWT in the seven towns including the qualification process for construction companies, the construction and QA. Engineers will be based in the towns and will provide technical advice related to procurement and construction matters. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for procurement and QA processes. Infrastructure covers the costs of construction which will be done through construction companies through a qualification process through AoCs with the EEs.
2.4.1. Six new meteorological and hydrological stations constructed in ~~6~~ provinces	2.4.1.1. Consult with DMH to ensure details are compatible with national system ($10,000) 2.4.1.2.Procure and install meteorological /hydrological stations ($180,000) 2.4.1.3. Quality assurance ($26,000)	216,000 Technical and engineering experts 18,000 Other operations 18,000 Infrastructure 180,000		216,000			Technical and engineering experts consists of the following experts recruited by the project for the purpose of providing technical support in the construction of meteorological and hydrological stations: Technical Adviser- 8,000 and Local Engineers -10,000. The budget covers technical guidance on the meteorological/hydrological stations including QA. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for procurement and QA processes. Infrastructure covers the costs of the meteorological/hydrological stations and their installation which will be done through AoCs with the EEs.
2.4.2. Nine existing meteorological and hydrological stations upgraded in six provinces	2.4.2.1. Consult with DMH to confirm upgrade details ($10,000) 2.4.2.2. Upgrade stations ($100,000) 2.4.2.3. Quality assurance ($25,000)	135,000 Technical and engineering experts 13,500 Other operations 13,500	45,000	90,000			Technical and engineering experts consists of the following experts recruited by the project for the purpose of providing technical guidance in the upgrading of meteorological and hydrological stations: Technical Adviser - 4,000, Local Engineers - 9,500. The budget covers technical guidance on the upgrade of the meteorological/hydrological stations including QA. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for procurement and QA processes. Infrastructure covers the costs of the upgrades which will be done through AoCs with the EEs.

		Infrastructure 108,000					
Component 2 Total		4,919,690	1,159,790	2,044,400	1,348,400	367,100	
3.1.1. Project activities and results are captured and disseminated through dissemination workshop.	3.1.1.1. Prepare dissemination materials, ensuring gender considerations ($5,000) 3.1.1.2. Conduct 1 national and 7 provincial workshops ($35,000)	40,000 Technical and knowledge management experts 36,000 Other operations 4,000			40,000		Technical and knowledge management experts consists of the following experts recruited by the project for the purpose of preparing and disseminating knowledge management materials: KM Specialist - 20,000, 2 Regional Technical Leads - 8,000, Technical Adviser - 8,000. The budget covers all aspects of the preparation of knowledge management materials and conducting and reporting on the dissemination workshops. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for workshops. Workshops will be held at government venues with no charge to the project.
3.2.1. Strategy developed for policy on climate change adaptation measures in the housing sector.	3.2.1.1. Desk review of housing sector documentation ($5,000) 3.2.1.2. Consult with stakeholders ($7,000) 3.2.1.3. Draft strategy ($20,000) 3.2.1.4. Circulate draft and finalise strategy ($3,000)	35,000 Urban climate change and construction experts 31,500 Other operations 3,500			35,000		Urban climate change and construction consists of the following experts recruited by the project for the purpose of developing a strategy relating to climate change adaptation in the housing sector.: KM Specialist - 7,500, CC Expert - 10,000, 2 Regional Technical Leads - 10,000, Technical Adviser - 4,000. The budget covers the development of technical guidance from beginning to end, including consultations with technical stakeholders and women, disabled people, and other vulnerable groups such as children, elderly people, and ethnic minorities. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for consultations and the technical guidance development.
3.2.2. Technical guidance developed on Housing, Land and Property (HLP).	3.2.1.1. Desk review of existing documentation ($5,000) 3.2.1.2. Consult with stakeholders ($7,000) 3.2.1.3. Draft guidance document ($20,000) 3.2.1.4. Circulate draft to stakeholders, and finalise guidance ($3,000)	35,000 HLP experts 31,500 Other operations 3,500			35,000		HLP experts consists of the following experts recruited by the project for the purpose of developing technical guidance on HLP: KM Specialist - 3,000, Housing Expert - 7,000, 2 Regional Technical Leads - 10,000, Technical Adviser - 11,500. The budget covers the development of technical guidance from beginning to end, including consultations with technical stakeholders and women, disabled people, and other vulnerable groups such as children, elderly people, and ethnic minorities. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for consultations and the technical guidance development

3.3.1. IEC materials produced for target communities.	3.3.1.1. Consult with stakeholders ($5,000) 3.3.1.2. Draft and circulate IEC materials before finalising ($12,000) 3.3.1.3. Produce IEC materials ($5,000)	22,000 Technical and KM experts 18,000 Other operations 4,000	22,000				Technical and KM experts consists of the following experts recruited by the project for the purpose of producing IEC materials: KM Specialist - 10,000, 2 Regional Technical Leads - 4,000, Technical Adviser - 4,000. The budget covers the full process of producing IEC materials, from consultations with vulnerable groups, to the design of the materials, to their drafting and finalisation. Other operations includes all communication, stationery, toner and printing ink, binding, translation and refreshments for consultations and the IEC materials, including the printing of KM materials.
3.3.2. Community awareness raising activities conducted.	3.3.2.1. Train local stakeholders in awareness raising content ($28,000) 3.3.2.2. Conduct community awareness raising activities including disseminating IEC materials ($70,000)	98,000 Technical and community engagement experts 90,000 Other operations 8,000	28,000	25,000	25,000	20,000	Technical and community engagement experts consists of the following experts recruited by the project for the purpose of community awareness raising: Community Specialist - 30,000, Technical Specialist - 20,00, 2 Regional Technical Leads - 30,000, KM Specialist - 10,000. The budget covers the training of local government staff in awareness raising processes and in the climate change adaptation content. Local government staff will conduct awareness raising activities and disseminate IEC materials at no cost to the project. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for trainings and awareness raising activities.
3.4.1. Shelter response profile to inform the IASC shelter cluster.	3.4.1.1. Desk review of housing and land sector documentation ($3,000) 3.4.1.2. Consult with stakeholders. ($3,000) 3.4.1.3. Draft shelter response profile ($19,000) 3.4.1.4. Circulate draft and finalise ($5,000)	30,000 Housing experts 27,000 Other operations 3,000			30,000		Housing experts consists of 2 Regional Technical Leads to the value of 27,000. The 2 Regional Technical Leads will be responsible for travelling throughout the country to collect data and consult with stakeholders including vulnerable groups. They will develop the shelter profile from beginning to end with the support of MPWT and DPWTs. Other operations covers all communication, stationery, toner and printing ink, binding, translation and refreshments for consultations and development of the shelter profile.
3.4.2. Manual on managing community evacuation Centres.	3.4.2.1. Desk review of evacuation centre documentation ($3,000) 3.4.2.2. Consult with stakeholders ($3,000) 3.4.2.3. Draft manual ($20,000) 3.4.2.4. Circulate draft and finalise ($4,000)	30,000 Community and site management experts 27,000 Other operations 3,000			30,000		Community and site management experts consists of the following experts recruited by the project for the purpose of producing a manual on the management of community evacuation centres: Community Specialist - 10,000, Technical Specialist - 5,000, 2 Regional Technical Leads - 5,000, KM Specialist - 7,000. The budget covers the full process of producing a manual, from consultations with vulnerable groups, to the drafting, review and finalisation of the manual. Other operations includes all communication, stationery, toner and printing ink, binding, translation and refreshments for consultations and development of the manual.
3.4.3. Technical manual on construction practices for climate-resilient housing for carpenters.	3.4.3.1. Consult with stakeholders ($3,000) 3.4.3.2. Draft manual ($24,000) 3.4.3.3. Circulate draft and finalise ($3,000)	30,000 Construction experts 27,000 Other operations 3,000			30,000		Construction experts consists of the following experts recruited by the project for the purpose of producing a technical manual on climate-resilient housing: Technical Specialist -14,000, 2 Regional Technical Leads - 13,000. The budget covers the full process of producing a manual, from consultations with technical stakeholders and vulnerable groups, to the drafting, review and finalisation of the manual. Other operations includes all communication, stationery, toner and printing ink, binding, translation and refreshments for consultations and development of the manual.

3.4.4. Training guidelines produced on resilient shelter construction and adaptive measures in spatial planning and land-use for Subnational DHUP staff.	3.4.4.1. Desk review of existing materials (2,000) 3.4.4.2. Consult with stakeholders (3,000) 3.4.4.3. Draft training guidelines (22,000) 3.4.4.4. Circulate draft and finalise (3,000)	30,000 Construction and spatial planning experts 27,000 Other operations 3,000			30,000		Construction and spatial planning experts consists of the following experts recruited by the project for the purpose of producing training guidelines: Technical Specialist - 14,000, 2 Regional Technical Leads - 13,000. The budget covers the full process of producing a manual, from consultations with technical stakeholders, DHUP, and vulnerable groups, to the drafting, review and finalisation of the manual. Other operations includes all communication, stationery, toner and printing ink, binding, translation and refreshments for consultations and development of the training guidelines.
3.5.1. School teachers trained to sensitize and educate students on climate change issues including relevant KM materials published.	3.5.1.1. Consult with stakeholders ($2,000) 3.5.1.2. Draft training materials ($30,000) 3.5.1.3. Circulate draft and finalise ($3,000) 3.5.1.4. Disseminate to teacher training institutions and MoES ($15,000)	50, 000 Education specialists 45,000 Other operations 5,000	40,000	10,000			Education specialists consists of the following experts recruited by the project for the purpose of training school teachers: Education Specialists - 35,000, KM Expert - 10,000. The budget covers the full process of producing training materials, from consultations with technical stakeholders and vulnerable groups, to the drafting, review and finalisation of the training materials. Other operations includes all communication, stationery, toner and printing ink, binding, translation and refreshments for consultations and development of the training materials.
Component 3 Total		400,000	90,000	35,000	255,000	20,000	
Project Activities Total		**6,306,750**	**2,044,850**	**2,271,400**	**1,603,400**	**387,100**	
Programme execution	Project Coordinator	390,000	120,000	90,000	90,000	90,000	The Project Coordinator is a project personnel who will be recruited by the project, based upon a recruitment decision by the PMC, and who will lead the project team, They will be accountable to the PMU and based at the PMU.
	Office staff and technical support	92,006	23,002	23,002	23,001	23,001	The admin/finance assistant is a project personnel who is accountable to the Project Management Unit and is responsible for finance and admin matters. The admin/finance assistant will be based at the PMU.
	Mid-term Evaluation	22,000		22,000			Cost of an external consultant to carry out a Mid-Term Evaluation.
	End-term evaluation	32,000				32,000	Cost of an external consultant to carry out an external end-term evaluation
	Office facilities	98,850	24,712	24,713	24,712	24,713	The office space is for the project staff of the project management unit.
	Travel related to execution	27,178	6,750	6,928	6,750	6,750	Travel related to execution refers to travel undertaken by PMU for project execution.
Programme execution total		**662,034**	**174,464**	**166,643**	**144,463**	**176,464**	
Total Programme Cost		**6,968,784**	**2,219,314**	**2,438,043**	**1,747,863**	**563,564**	
Programme Cycle Management	PSC 7 Percent (on total operational budget including components below) approx. 7.1 percent	494,654	161,560	161,560	125,559	45,975	Programme Support Cost or PSC is UN standard practice and covers the overall HQ costs for project and programme delivery, including contributions towards M & E,

	Project Support (UN-Habitat Lao PDR)	54,000	14,000	14,000	13,000	13,000	Project support from the UN-Habitat Lao PDR office covers in-country monitoring and supervision of reports.
	Project supervision missions	10,000	2,500	2,500	2,500	2,500	Project supervision missions are a function of the IE's oversight role and are to ensure the sound execution of the project in compliance with AF and UN-Habitat principles, policies and regulations.
	PMO/PA costs towards M&E	33,693	8,800	8,693	8,200	8,000	Programme Management Officer and Programme Assistant costs cover the role of UN-Habitat regional office staff in project management support (human resources, reporting, financial management, M &E etc)
Programme cycle management total		**592,347**	**186,860**	**186,753**	**149,259**	**69,475**	
Amount of financing requested		**7,561,131**	**2,406,174**	**2,624,796**	**1,897,122**	**633,039**	

Table 23: Schedule of Activities

Output/Activity	Year 1	Year 2	Year 3	Year 4
1.1.1. Conduct capacity assessments for 7 district capitals	X			
1.2.1. Conduct risk and vulnerability assessments for 7 district capitals	X			
1.3.1. Provide training on mainstreaming climate adaptation into urban planning	X			
1.4.1. Develop 7 town level master plans	X			
1.5.1. Provide training to DMH staff on operation of equipment and information management		X		
1.6.1. Develop building guidelines		X		
1.7.1. Provide training on managing community evacuation centres		X		
1.8.1. Train trainers to build capacity in local carpenters and masons	X			
2.1.1. Construct 6 demonstration houses	X			
2.1.2. Reconstruct 600 existing houses	X	X	X	X
2.1.3. Rehabilitate 4,942 existing houses	X	X	X	X
2.2.1. Construct 2 community evacuation centres	X			
2.2.2. Assess and upgrade 4 existing community evacuation centres	X			
2.3.1. Construct 6 DONRE Offices	X	X		
2.4.1. Construct 6 new meteorological and hydrological stations		X		
2.4.2. Upgrade 9 existing meteorological and hydrological stations	X	X		
3.1.1. Disseminate project activities and results through dissemination workshop			X	
3.2.1. Develop a strategy on the integration of climate change adaptation measures in the housing sector			X	
3.2.2. Develop technical guidance on Housing, Land and Property (HPL).			X	
3.3.1. Produce IEC materials	X			
3.3.2. Conduct community awareness raising activities	X	X	X	X
3.4.1. Develop a shelter response profile			X	
3.4.2. Produce a manual on managing community evacuation Centres			X	
3.4.3. Produce a technical manual for carpenters.			X	
3.4.4. Produce training guidelines on resilient shelter construction and adaptive measures in spatial planning and land-use			X	
3.5.1. School teachers trained to sensitize and educate students on climate change issues including relevant KM materials published.	X	X		

H. Disbursement Matrix

Table: 24 Disbursement Milestones

	Upon signature of Agreement	One Year after Project Start	Year 2	Total
Scheduled date	Aug 2023	Aug 2024	Aug 2025	
Project Funds	2,585,768	2,585,768	1,135,215	6,306,751
Project Execution Cost	271,434	271,434	119,166	662,034
Implementing Entity Fees	242,862	242,862	106,622	592,346
Total	3,100,064	3,100,064	1,361,003	7,561,131

PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government

Mr. Syamphone Sengchandala, Director General, Department of Climate Change, Ministry of Natural Resources and Environment, Designated Authority for the Adaptation Fund of Lao PDR	Date: January 4th, 2022

Letter of Endorsement by Government

Lao People's Democratic Republic
Peace Independence Democracy Unity Prosperity

Ministry of Natural Resources and Environment
Department of Climate Change

Vientiane Capital, Date: 4th January 2023

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for the proposed project entitled "Enhancing adaptive capacity in Lao PDR provinces, and building resilient housing in vulnerable communities".

In my capacity as designated authority for the Adaptation Fund in Lao PDR, I confirm that the above national project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Lao PDR.

Accordingly, I am pleased to endorse the submission of the above full project proposal with support from the Adaptation Fund. If approved, the project will be implemented by UN-Habitat and executed by the Ministry of Public Works and Transport, the Ministry of Natural Resources and Environment, the Ministry of Education and Sports, Provincial Departments of Public Works and Transport and Provincial Departments of Natural Resources and Environment in Bokeo, Vientiane, Bolikhamxay, Khammouane, Champasak and Attapeu Provinces.

Sincerely,

Syamphone Sengchandala
Director General,
Department of Climate Change,
Ministry of Natural Resources and Environment
Designated Authority for Lao PDR

B. Implementing Entity certification

I certify that this full proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans including the 9th National Socio-economic Development Plan, National Adaptation Programme of Action, the Strategy on Climate Change of the Lao PDR, the 2021 Updated NDC of Lao PDR, and sector strategies and plans, and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
Mr. Rafael Tuts, Director, Global Solutions Division, UN-Habitat Implementing Entity Coordinator	
Date: 6 January 2023	Tel. +254 20 76 23 726; Email: raf.tuts@un.org
Project Contact Person 1: Bernhard Barth, Human Settlements Officer, Regional Office for Asia and the Pacific & Subprogramme Coordinator (a.i.), Climate Change and Urban Environment	
Tel. +81 92 724 7121; Email: Bernhard.Barth@un.org	
Project Contact Person 2: Avi Sarkar, Regional Advisor - South-East Asia, UBS | Head of Office, Lao PDR | UN-Habitat	
Tel. +856.21.267707; Email: avi.sarkar@un.org	

Annex 1: Rapid Vulnerability Assessments (RVA)

The following rapid vulnerability assessments were produced as a result of the formulation mission. In 6 target towns, the following data was collected:

Contextual data

- Current and projected populations
- Sources of income
- Ethnicity distribution
- Medical facilities
- Educational institutions
- Water sources
- Sanitation coverage
- Water and vector-borne diseases

Climate change and disaster risks

- Temperature change
- Rainfall change
- Floods
- Storms
- Droughts

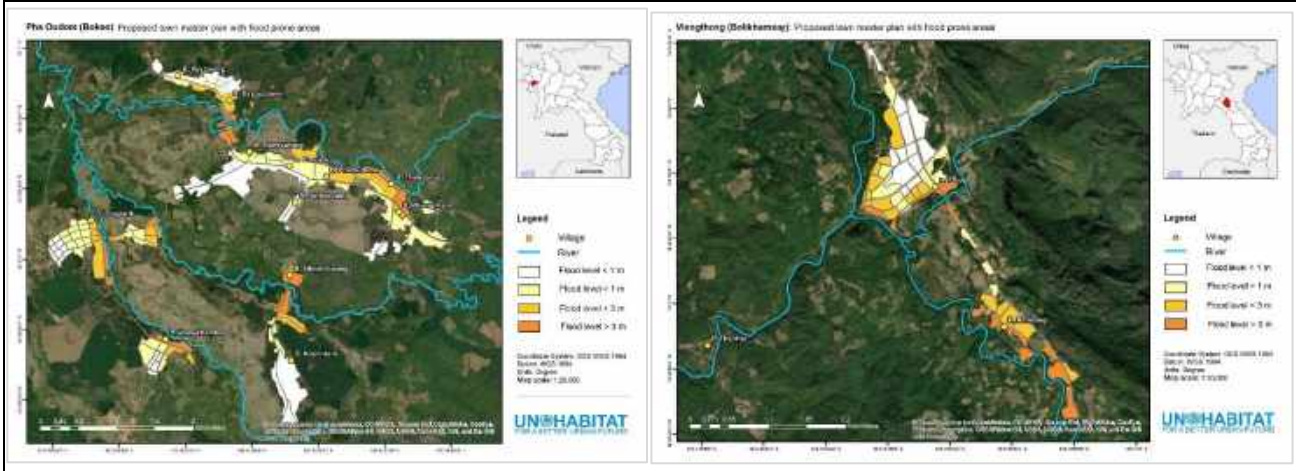
Environmental risks

- Deforestation
- Hydropower activity
- UXOs

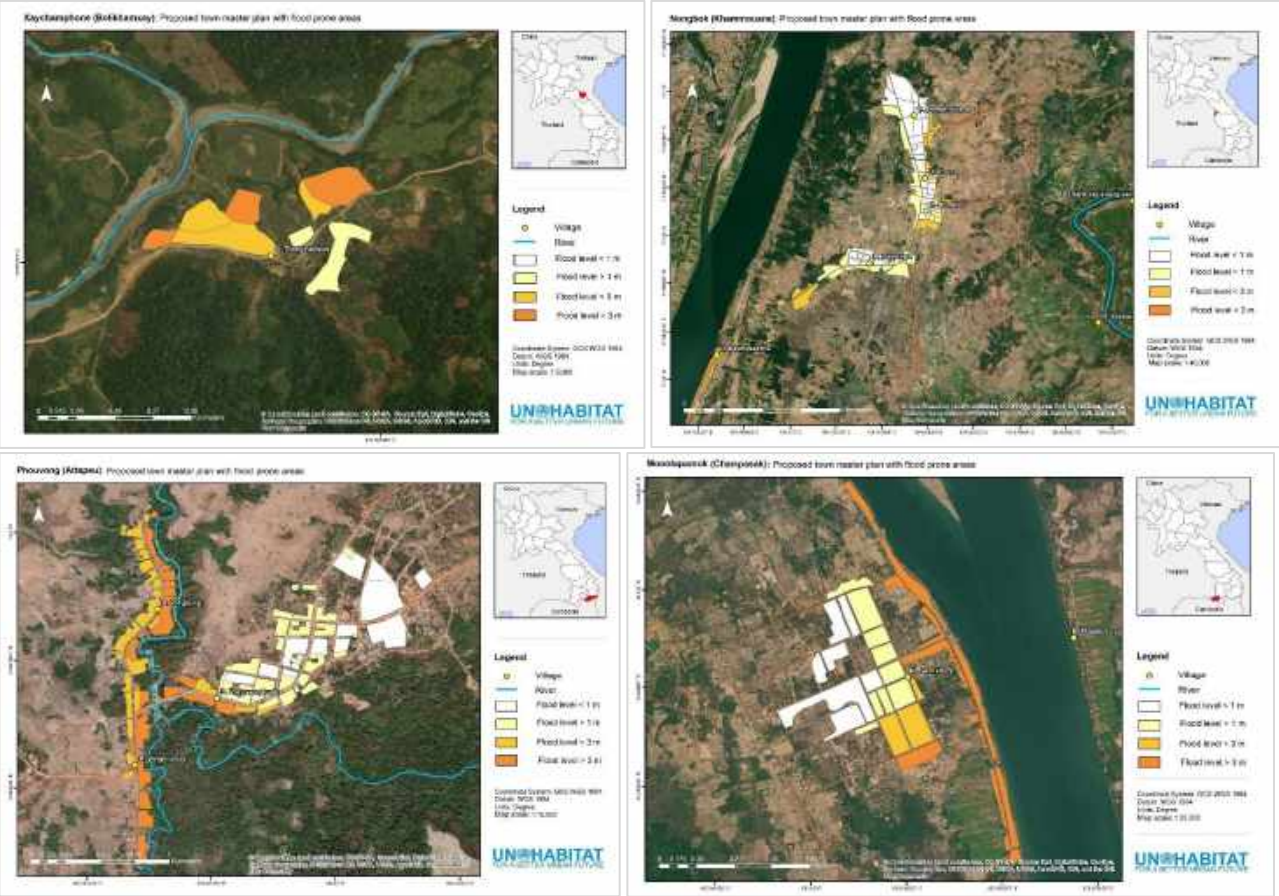
On the basis of the data, stakeholders then prioritised the town's needs and interventions were proposed to meet the needs.

Rapid Vulnerability Assessment: Pha Oudom (Bokeo), Xaychamphone & Viengthong (Bolikhamxay), Nongbok (Khammouane), Phouvong (Attapeu) and Moolapamok (Champasak)

RAPID VULNERABILITY ASSESSMENT	
Population of 6 Districts (2020)	173,590
Population of 6 District capitals (2020)	52,751
Population Growth Rate	2.5% annum (average)
Projection Population of 6 District capital (2030)	67,994
MAP OF LOCATION: SIX (6) PROPOSED TOWNS	



RAPID VULNERABILITY ASSESSMENT



Six (6) of the district capitals in Lao PDR proposed for inclusion in the Adaptation Fund programme are Pha Oudom (Bokeo), Xaychamphone & Viengthong (Bolikhamxay, Nongbok (Khammouane), Phouvong (Attapeu) and Moolapamok (Champasak) as shown in below Table:

SN	Province	District	Hazard	Population 2020		Growth Rate	Projected Town Population 2030
				District	Town	%	
1	Bokeo	Pha Oudom	Floods	17,360	12,824	2.3	16,903
2	Bolikhamxay	Xaychampone	Floods/storms	13,066	1,913	2	2,425
		Viengthong	Floods/storms	32,448	8,535	2.3	10,926
3	Khammouane	Nongbok	Floods	53,618	12,416	2.5	16,849
4	Attapeu	Phouvong	Floods/storms	16,249	8,279	2.3	10,393
5	Champasak	Moonlapamok	Floods	40,849	8,784	1.8	10,500
				173,590	**52,751**		**67,994**

Main objective of the project is to build climate resilience in vulnerable, poor communities in six district capitals in Lao PDR through building resilience in the shelter sector, including policy, planning; capacity building; strengthening construction practices with “Building Back Better” (BBB) principles with checklist to make shelter more resistant against storms. Some parts of the shelter are very important like: footings, posts, braces, the main frame and the roof structure to improve the stability of existing shelter, especially in this area, which is prone to seasonal rains, storms and floods. The local carpenter has an important role to improve existing shelter or to construct new shelter in such a way that can better resist to the shelter structure. While resistance to the storms and floods is beyond the scope of the local carpenter, they should be in a position to advise the community/households if their shelter can withstand an usual rains, storms and floods - or how the shelter can be improved to better protect the families in the rainy season and eventually, if required, build a new, more resistant or resilient shelter as well as to meet the needs of the communities in which they are situated, including women, children, disabled people and all represented ethnic groups.

RAPID VULNERABILITY ASSESSMENT

Two target villages Vongsomphou and Vangyang were experiences with many floods during years 2005, 2009, 2011, 2012, 2017, 2018, 2019 & 2020 with the tropical storms Haima, Ketsana, Nokten, Doksuri, Son-Tinh & Bebinca (Photo: © UN-Habitat)

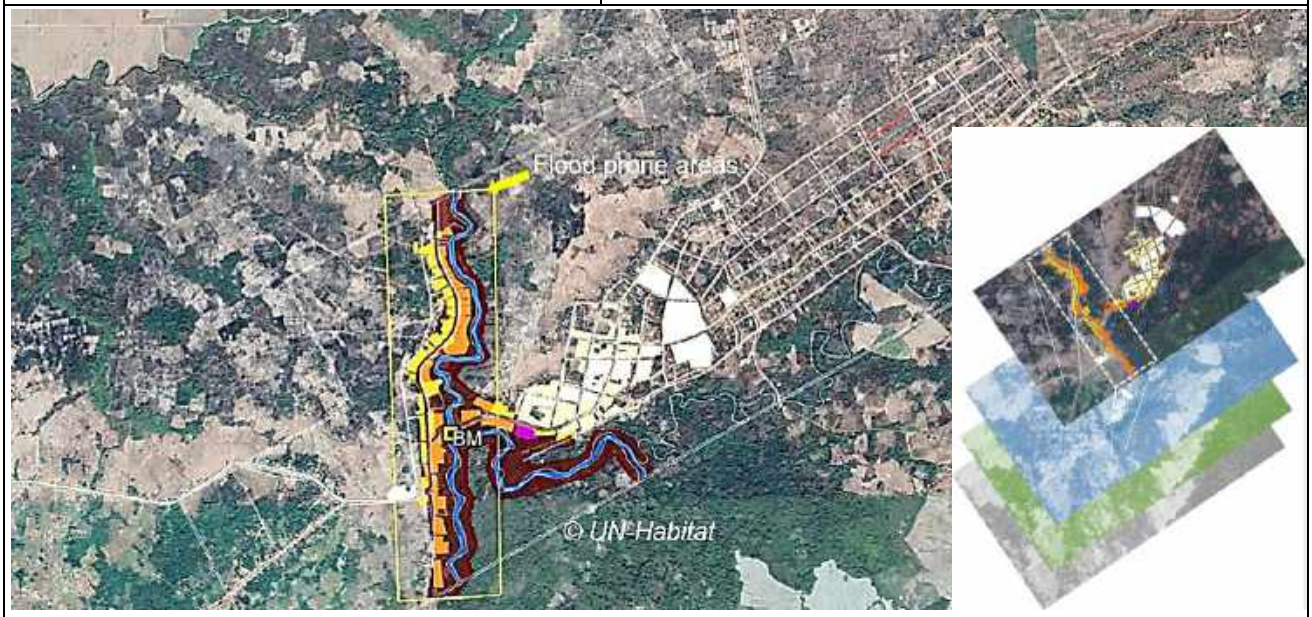
In view of the above, the Government of Lao PDR considers as of high priority the building of climate resilience in vulnerable, poor communities in district capitals of Lao PDR. To increase resilience, houses will be rehabilitated or constructed in a manner which is designed to withstand climate induced hazards such as storms and floods as well as to meet the needs of all subsectors of the communities in which they are situated, including women, children, disabled people and all represented ethnic groups. Subsequently, Pha Oudom, Xaychamphone, Viengthong, Nongbok, Phouvong and Moolapamok Towns with comparable advantage in terms of "*Enhancing adaptive capacity in Lao PDR provinces, and building resilient housing in vulnerable communities".*

Below a table showing the number of beneficiaries per town:

SN	Province	District	Shelter- Town level direct beneficiaries		District level - Indirect beneficiaries from Town Planning/Capacity building)	
			People	Households	Community	Government staff
1	Bokeo	Pha Oudom	6,498	1,048	694	174
2	Bolikhamxay	Xaychamphone	1,338	257	523	131
3		Viengthong	4,818	831	1,298	324
4	Khammouane	Nongbok	8,731	1,408	2,145	536
5	Attapeu	Phouvong	7,319	1,180	650	162
6	Champasak	Moolapamok	4,844	835	1,634	408
			33,548	**5,560**	**6,944**	**1,736**

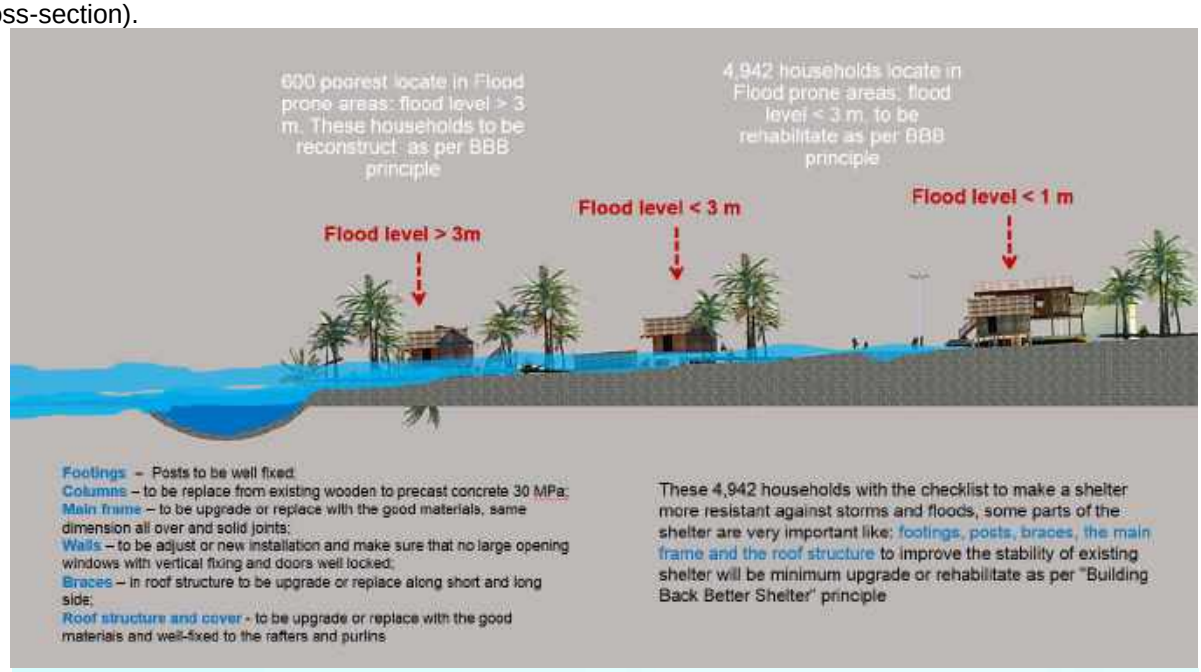
CLIMATE CHANGE & DISASTER RISKS	
TEMPERATURE	Significant increase
RAIN	Significant Decrease
FLOOD	Years: 2005/2009/2011/2012/2017/2018/2019/2020
STORM	Haima/Ketsana/Nokten/Doksuri/ Son-Tinh /Bebinca
DROUGHT	Years: 2013/2014/2015/2019
ENVIRONMENTAL ISSUES	
DEFORESTATION	Yes
HYDROPOWER	Yes
MINING	Yes
UXO	Yes
GARBAGE ISSUES	Yes
SOURCES OF INCOME	
AGRICULTURE	80%
LIVESTOCK	5%

RAPID VULNERABILITY ASSESSMENT	
HANDICRAFT	5%
CASUAL LABOR	10%
EDUCATION	
PRIMARY SCHOOL	Yes
SECONDARY SCHOOL	Yes
FULL SECONDARY SCHOOL	No
HEALTH	
HOSPITAL	Yes
DISPENSARY	Yes
WATER-BORNE	Yes
VACTOR-BORNE	Dengue
SHELTER	
TYPOLOGY OF EXISTING HOUSE	• Hut made by grass and bamboo • 1 storey semi- bamboo and grass • 1 storey semi-wooden and bamboo
WASH	
WATER	Hand dug well/deep bore well/river
SANITATION	About 43% households have latrine
PRIORITIZED NEEDS	
RESILIENT SHELTER	First priority
DoNRE Office	First priority
DMH Station	First priority
EVACUATION CENTER	First priority
WASH FACILITIES	Second priority
FLOOD PROTECTION	Bank protection of the river
WATER SOURCE MANAGEMENT	River

RAPID VULNERABILITY ASSESSMENT	
PROPOSED INTERVENTIONS	
Improved urban planning that promotes and enforces resilience measures in shelter, land-use and spatial planning in in seven (7) vulnerable district towns of the six (6) target provinces which are vulnerable to the impacts of climate change, in particular to flooding. Drawings 1 & 2: Proposed to improve Town Master Plans in 7 vulnerable district towns with maps showing hazard levels.	
	
Drawing 3: Resilient Demonstration Houses: In each of the six target towns one demonstration house will be built, based on the "Building Back Better and Safer" model. The houses will offer an opportunity for local carpenters and masons to acquire new skills and knowledge on climate resilient house construction. People will be given technical information and instructions that guide them through the entire process of building resilient shelter, using materials available in the region. People will also acquire the knowledge to upgrade existing houses by way of reconstruction or rehabilitation.	

Drawing 4: The proposed "Building Back Better" (BBB) principles will provide local carpenters and masons with the necessary skills and knowledge to construct safer shelters.	
Drawing 5: The proposed the "Building Back Better" (BBB) principles and checklists will make shelter more resistant against extreme weather events, in particular against floods and storms. Some parts of the shelter are very important, such as footings, posts, braces, the main frame and the roof structure, as they improve the stability of the house. The local carpenters have an important role when it comes to improving existing shelter or constructing new shelter in ways that can better resist the forces of weather events. If building resistance to the storms and floods is beyond the scope of work of local carpenters, they should still be in a position to advise communities and households on whether their shelter can withstand regular storms and floods. They should also be able to advise on how to improve houses to better protect the families during the rainy season.	

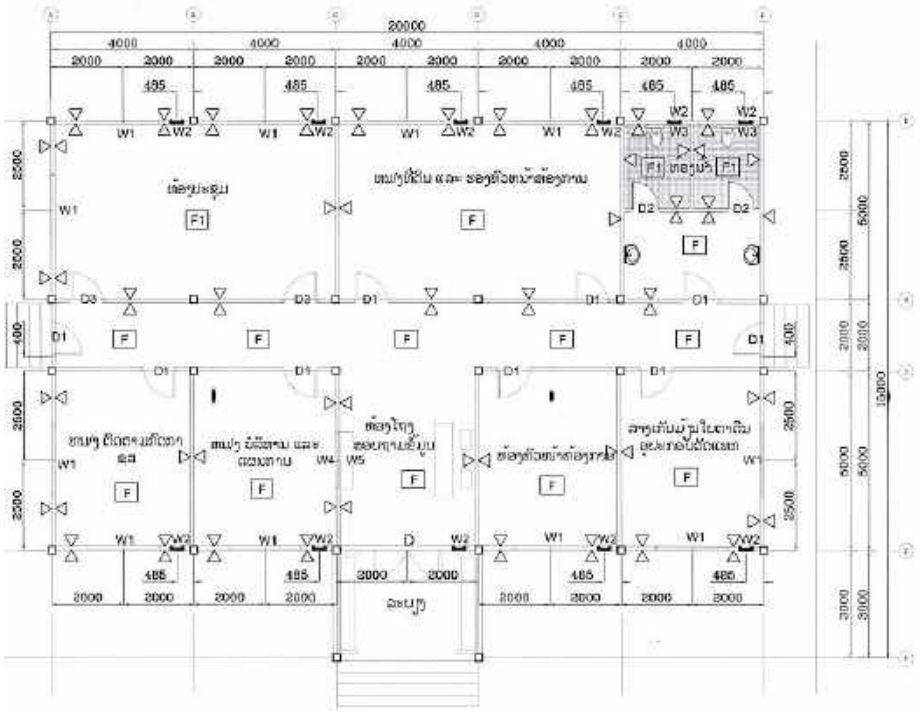
- Reconstruction of 600 houses of the poorest households: This will benefit about 600 of the poorest households of the six proposed target towns. The houses concerned will mainly be located in areas identified as 'Flood level > 3 meters' (see below Map showing hazard level and 3D view showing HHs in Hazard level).
- Rehabilitation 4,942 houses: This will benefit about 4,942 households from the six proposed target towns. The concerned houses will mainly be located in areas identified as 'Flood level < 3 meters' (see below cross-section).



Drawing 6: One new DoNRE's office will be constructed in each of the six target provinces, on about 1,432m2 of state land. The six Coordination Centres for Climate Adaptation and Disaster Risk Reduction (DRR) will be serving as a base for climate change adaptation coordination.

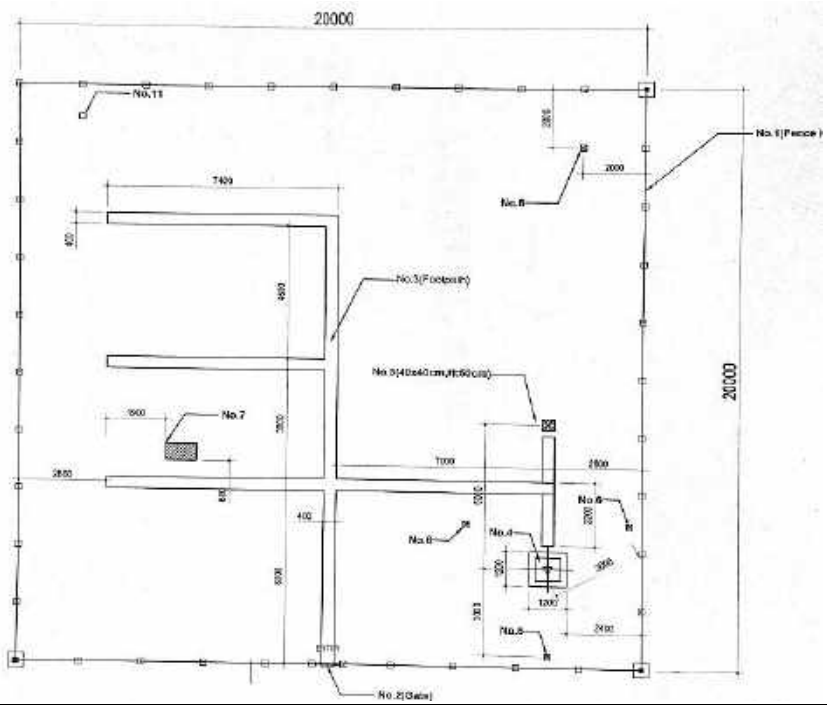
This dwelling type is one storey building with the dimension of 12 m x 20 m at the layout, concrete structure and masons wall with roof covering concrete tiles.

RAPID VULNERABILITY ASSESSMENT



Drawing 7: Shows the basic layout of meteorological and hydrological stations. Six new stations will be constructed in six different provinces. Nine existing stations will be upgraded in 6 provinces.

The DMH provides weather forecasts, water level forecasts as well as issues early warnings to protect, mitigate and reduce loss of life and people's properties.



- Capacity building at provincial and district levels of Natural Resources and Environment, and Housing and Urban Planning sectors, through improved urban planning that promotes and enforces resilience measures in shelter, land-use and spatial planning in seven district capitals from six provinces, and through capacity building in adaptation actions plan.	- Increased institutional and community knowledge of climate change adaptation in the housing and urban planning sector in target district and province; - Strengthening multilevel governance and sustainability, and providing input into national policy and planning; - Training DMH staff on operation of meteorological and hydrological stations, and on climate information communication and early warning system; - Training district officials on managing community evacuation centres; and - Training local carpenters and community with Building Back Better (BBB) principles in climate-resilient construction practices;

RAPID VULNERABILITY ASSESSMENT

TYPOLOGY OF EXISTING POOR/VULNERABLE HOUSES

Figure 1: Typical of poorly constructed bamboo house.

Figure 2: Typical of poorly constructed wooden + corrugated zinc house.

Figure 3: Typical of poorly constructed wooden + corrugated zinc house.

Figure 4: Typical of poorly constructed bamboo + corrugated zinc house.

Figure 5: Typical wooden house.

Figure 6: Typical wooden house. This house is located in Vangsomphou village

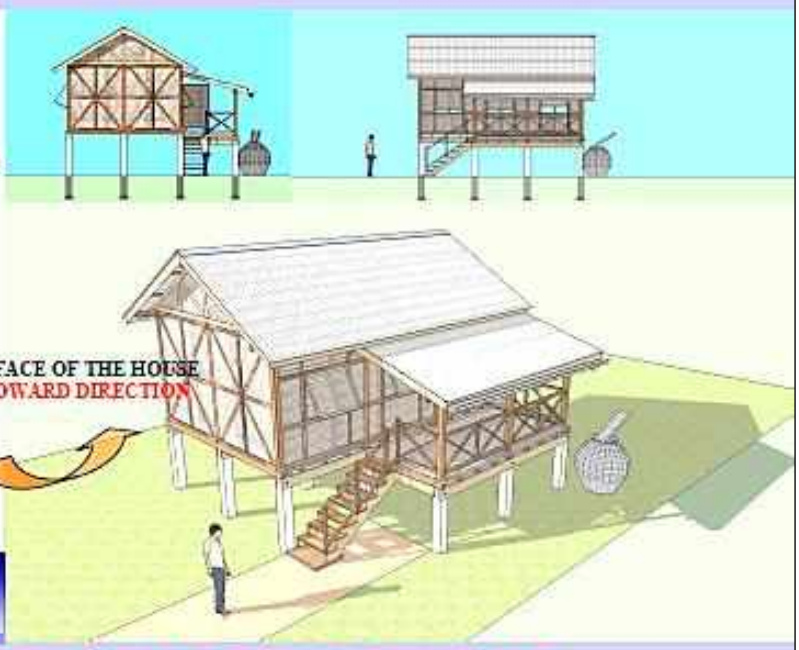
Figure 7: Typical wooden house.

Figure 8: Poor and vulnerable houses affected by the 2020 flood with the tropical storm Son-Thinh.

Annex 2: Poster of Building Back Better Shelter

The poster shows the proposed “Building Back Better” (BBB) principles with a checklist to make a shelter more resistant against storms, some parts of the shelter are very important like: footings, posts, braces, the main frame and the roof structure to improve the stability of existing shelter, especially in this area, which is prone to seasonal rains, storms and floods.

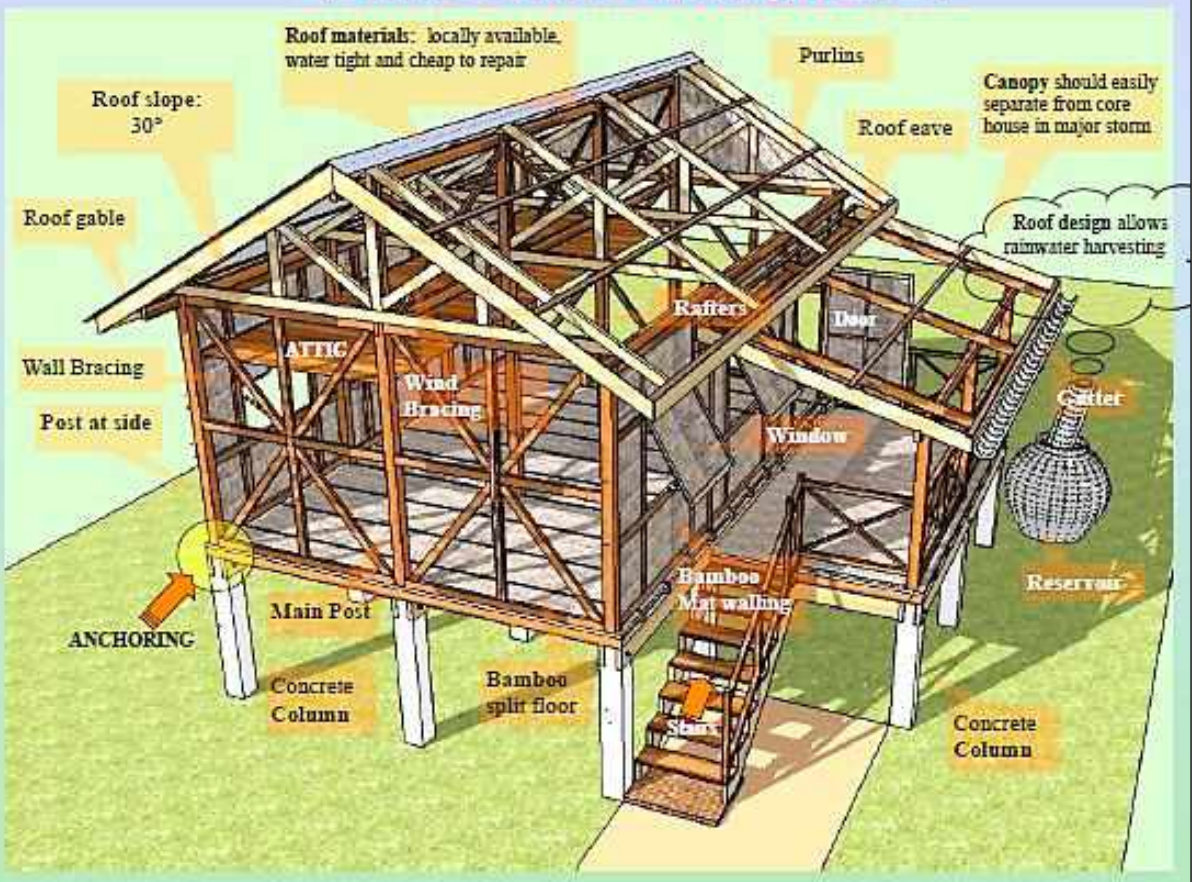
BUILDING BACK BETTER - WOODEN SHELTER



UN-HABITAT

MODEL WOODEN HOUSE

DETAILS OF A SAFER SHELTER



UN-HABITAT LAOS: 3rd Floor, UN-House, Lane Xang Avenue, B.O. Box 345, Vientiane Lao PDR. Tel/Fax:+856 21 267714/+856 21 264939

Checklist for project rehabilitation of houses.

While carpenters will be taught the BBB principles as shown in the posters on the previous pages, the following checklist is proposed for the rehabilitation of houses in the project, recognising that relocation is not an option.

CHECKLIST: POINTS FOR IMPROVEMENTS FOR SAFER/RESILIENT HOUSING WITH BBB PRINCIPLES

SN	POINTS	TO BE CHECKED	OK	REMARKS
1	Analyze vis-à-vis maximum flooding level at the location	● Safe space within the house above the maximum flooding level		
2	Design relative to wind direction	● Strengthen structure with cross-bracings, solid joints, etc.		
3	Footings	● Posts well fixed		
4	Main frame	● Good materials, same dimension all over and solid joints		
5	Braces	● In roof frame, along short and long side		
6	Roof frame	● Roof slope 30 degrees and canopy roof detached		
7	Walls	● No large opening windows with vertical fixing and doors well locked		
8	Roof cover	● Well-fixed to rafters and purlins		
9	Roof design	● Allows rainwater harvesting with roof cover sheets		
10	Attic	● Attic with ladder to be added		

Annex 3: Translations of Agreements with Local Authorities

The following is an example of an agreement with local authorities regarding the construction of Coordination Centres doubling as DONRE offices, and the provision of land for the same. There is a similar agreement for each one of the six Coordination Centres.

ໃບຕາດິນລັດ

ແຜນທີ່ຕອນດິນ

Ministry of Resources and Environment
Provincial Department of Resources and Environment
No: 0404
Issue No: 01

Location of land:
Province: Borkeo
District: Parktha
Village: Yaiparktha
Unit:

Land title

Issued to: Department of Resources and Environment of Parktha district, **Purpose of use:** construct office

Land type: for construction, **Region:** mountains suburbs,
No of land book: 09, **No of land:** 0404, **Land map no:** C666-222/02,
Land plot No: 96, **Area:** 1.432 m2, **Scale:**1:500

Provincial Department of Resources and Environment

No: 481
Borkeo, Date:14/10/2021

Land Certificate

- Pursuant to the Law on Environmental Protection No. 29 / NA, dated 18 December 2021.
- According to the Decree on Environmental, Social and Natural Impact Assessment No: 21/LB, date:30 Jan 2019

Department of Resources and Environment has agreed

1. Approved the Preliminary Study Report on Environmental, Social and Natural Impacts and Environment in Paktha District, October 2021. The project is located in Paktha Village, Paktha District, Bokeo Province, with the Paktha District Office of Natural Resources and Environment as the project owner.
2. The project owner should pay attention to the following conditions.

A. Be responsible for the accuracy of the data studied and reported in the Preliminary Study Report on the Environmental, Social and Natural Impacts and the Environmental Monitoring Management Plan of the project, October 2021.
B. Project owners and construction companies should pay special attention to the implementation of preventive measures. Minimize and address environmental impacts during construction In the event of an unforeseen impact, the project owner must have adequate planning and budgeting to address the problem in an adequate and technical manner.
C. It is necessary to cooperate, facilitate and provide a budget for inspections to the relevant staff of the province and the relevant staff of the district and the administrative authority in the inspection, as well as to make a summary report on the results of the inspection and send it to the provincial Department of Natural Resources and Environment and relevant parties in a regular manner.

Note:
- This certificate only covers the construction phase of the project and is valid from the date of signing.
- Do not transfer or counterfeit.

Annex 4: Details of Meteorological and Hydrological Stations Component

New Stations

Six new stations at a cost of $30,000 each. All parameters to be installed including:

- Data Logger
- Instrument Enclosure
- Solar Power Supply
- Telemetry Communication System
- Rain Gauge-Tipping Bucket
- Wind Speed and Direction Sensor-Ultra Sonic
- Air Temperature and Humidity Sensor
- Radiation Shield
- Barometric Pressure Sensor
- Global Radiation Sensor
- Lightning Detection System
- Cloud Base Height Sensor
- Soil Temperature Sensor-Standard depth for measurement of 0, 5,10,20,50 and 100 cm below the ground surface
- Soil Moisture Sensor-standard depths for measurements of 0-2, 5, 10, 20, 50 and 100 cm below the ground

Existing Stations

Nine stations upgraded at a cost of $15,000 each. Provision of equipment including:

- Solar Power Supply
- Rain Gauge-Tipping Bucket
- Lightning Detection System
- Soil Temperature Sensor-Standard depth for measurement of 0, 5,10,20,50 and 100 cm below the ground surface
- Soil Moisture Sensor-standard depths for measurements of 0-2,5, 10, 20, 50 and 100 cm below the ground surface
- Ruggedized Field Laptops

List of Hydro-Meteorological Stations

#	Funding Source	Remark	Province Name	District Name	Village Name	Latitude	Longitude
1	Adaptation Fund	New (proposed)	Bolikhamxai	Xaychamphone District	B. Namon	18.58055	104.98861
2	Adaptation Fund	New (proposed)	Champasak	Champasak	B. Vatthad	14.86917	105.87236
3	Adaptation Fund	New (proposed)	Khammouan	Khounkham District	B. Khounkham	18.19520	104.51660
4	ADB	Existing	Khammouan	Bualapha District	B. Natangchai	17.30389	105.76722
5	ADB	Existing	Khammouan	Nongbok District	B. Sokbor	17.06306	104.83108
6	ADB	Existing	Khammouan	Nongbok District	B. Songnongtai	17.14250	104.80944
7	ADB	Existing	Savannakhet	Atsaphangthong District	B. Dong li lo	16.69833	105.29167
8	ADB	Existing	Savannakhet	Champhone District	B. Tha mueng	16.56167	105.26922
9	ADB	Existing	Vientiane Capital	Hadxaifong District	B. Salakhamneua	17.87789	102.65081
10	ADB	Existing	Vientiane Capital	Mayparkngum District	B. Hai	18.17570	103.05721
11	ADB	Existing	Vientiane Capital	Sangthong District	B. Houaikham	18.13757	102.25141
12	FAO	Existing	Bokeo	Huoixai District	B. Paooy	20.26194	100.43722
13	FAO	Existing	Bokeo	Tonpheung District	B. Kvan	20.32265	100.10705
14	FAO	Existing	Champasak	Khong District	B. Kangkong	14.11833	105.85389
15	FAO	Existing	Louangnamtha	Namtha District	B. Naleu	20.93083	101.41639
16	FAO	Existing	Louangnamtha	Sing District	B. Si li hueang	21.17972	101.14083
17	FAO	Existing	Louangphabang	Xieng ngeun District	B. Houaikhork	19.73528	102.15583
18	FAO	Existing	Oudomxai	Hoon District	B. Vunglor	20.15417	101.49306
19	FAO	Existing	Salavan	Lao ngarm District	B. Nonkham	15.46167	106.16417
20	FAO	Existing	Vientiane	Feuang District	B. Laokham	18.65556	102.11611
21	FAO	Existing	Vientiane	Phonhong District	B. Nayung	18.49306	102.44889
22	FAO	Existing	Vientiane Capital	Naxaithong District	B. Darnxii	18.08806	102.44278
23	FAO	Existing	Xaignabouly	Hongsa District	B. Huoichong	19.55667	101.47592
24	FAO	Existing	Xaignabouly	Phiang District	B. Naxing	19.00917	101.50889
25	FAO	Existing	Xaisomboun	Anouvong District	B. Phouhouaxang	18.90639	103.09028
26	FAO	Existing	Xiengkhouang	Kham District	B. Longpiew	19.65167	103.57056
27	JICA	Existing	Bolikhamxai	Pakxane District	B. Myxai	18.39111	103.66572
28	JICA	Existing	Bolikhamxai	Viengthong District	B. Sobna	18.51111	104.44133
29	JICA	Existing	Champasak	Paksxong District	B. Phaksong	15.17917	106.22753
30	JICA	Existing	Champasak	Sukhuma District	B. Phon pheung	14.65417	105.79544
31	JICA	Existing	Houaphan	Viengxay District	B. Longkou	20.41722	104.23086
32	JICA	Existing	Khammouan	Thakhek District	B. Chormpeth	17.40472	104.80836
33	JICA	Existing	Louangnamtha	Viengphoukha District	B. Dong vieng	20.67806	101.06064
34	JICA	Existing	Louangphabang	Luangprabang District	B. Donkao	19.90861	102.17800
35	JICA	Existing	Oudomxai	Xay District	B. Donsai	20.68944	102.00225
36	JICA	Existing	Phongsaly	Phongsaly District	B. Phoun keo	21.67611	102.09211
37	JICA	Existing	Salavan	Khongxedone District	B. Hongleuaymixai	15.61333	105.81025
38	JICA	Existing	Salavan	Samuoi District	B. Thedsabanh	16.29139	106.89358
39	JICA	Existing	Savannakhet	Outhoomphone District	B. Ma ny vong xai	16.67611	104.99464
40	JICA	Existing	Savannakhet	Sepone District	B. Vong vi lai	16.69833	106.20647
41	JICA	Existing	Vientiane	Vangvieng District	B. Hoysakgao	18.94556	102.44875
42	JICA	Existing	Vientiane Capital	Sikhottabong District	B. Akat	17.97000	102.57083
43	JICA	Existing	Xaignabouly	Xayabury District	B. Kaeng	19.24361	101.71039
44	JICA	Existing	Xiengkhouang	Pek District	B. Nasay	19.44389	103.17092
45	World Bank	Existing	Attapeu	Phouvong District	B. Etoom	14.74475	107.27200
46	World Bank	Existing	Attapeu	Samakkhixay District	B. Saysaead	14.81642	106.82419
47	World Bank	Existing	Attapeu	Sanxay District	B. Jalernsay	15.16278	107.07675
48	World Bank	Existing	Attapeu	Sanxay District	B. Vungtatnoy	15.07269	107.40403
49	World Bank	Existing	Attapeu	Xaysetha District	B. Hadsun	14.78361	107.05028
50	World Bank	Existing	Champasak	Bachiangchaleunsook Distr.	B. Nongkok	15.25456	105.93097
51	World Bank	Existing	Champasak	Paksxong District	B. Chanhsavang	15.17986	106.39667
52	World Bank	Existing	Salavan	Saravane District	B. Nakokpho	15.71214	106.41283
53	World Bank	Existing	Salavan	Ta oi District	B. Thetsabanmeuang	16.07953	106.62533
54	World Bank	Existing	Salavan	Toomlarn District	B. Pathiabgnai	15.98964	106.19219

#	Funding Source	Remark	Province Name	District Name	Village Name	Latitude	Longitude
55	World Bank	Existing	Savannakhet	KaysonePhomvihane Distr.	B. Xainha moung khoun	16.55444	104.75556
56	World Bank	Existing	Xekong	Dakcheung District	B. darkden	15.35186	107.27178
57	World Bank	Existing	Xekong	Kaleum District	B. Teenteum	15.69817	106.91003
58	World Bank	Existing	Xekong	Lamarm District	B. Phiamay	15.34253	106.72003
59	World Bank	Existing	Xekong	Thateng District	B. Par luang nuea	15.45067	106.37469
60	n/a	Existing	Attapeu	Samakkhixay District	B. Saysaead	14.81611	106.82425
61	n/a	Existing	Bokeo	Huoixai District	B. Paooy	20.26194	100.43717
62	n/a	Existing	Bokeo	Tonpheung District	B. Kvan	20.32306	100.10722
63	n/a	Existing	Bokeo	Tonpheung District	B. Phonhoum	20.28960	100.09900
64	n/a	Existing	Bolikhamxai	Khamkeuth District	B. Sandoudom	18.17528	104.97847
65	n/a	Existing	Bolikhamxai	Pakxane District	B. Myxai	18.39111	103.66572
66	n/a	Existing	Champasak	Bachiangchaleunsook Distr.	B. Pakhouaiduean	15.06810	105.88000
67	n/a	Existing	Champasak	Khong District	B. Hadsaikoon	14.11833	105.87278
68	n/a	Existing	Champasak	Pakse District	B. Kangkeuag	15.12944	105.78425
69	n/a	Existing	Champasak	Paksxong District	B. Chanhsavang	15.17972	106.39664
70	n/a	Existing	Champasak	Sukhuma District	B. Phon pheung	14.65556	105.79503
71	n/a	Existing	Houaphan	Viengxay District	B. Longkou	20.41722	104.23078
72	n/a	Existing	Houaphan	Xamneua District	B. Nanongbua	20.41806	104.06261
73	n/a	Existing	Khammouan	Nakai District	B. Ou dom souk	17.71944	105.15200
74	n/a	Existing	Khammouan	Nongbok District	B. Songnongtai	17.14250	104.80911
75	n/a	Existing	Khammouan	Thakhek District	B. Chormpeth	17.40472	104.80836
76	n/a	Existing	Louangnamtha	Namtha District	B. Naleu	20.93083	101.41639
77	n/a	Existing	Louangnamtha	Sing District	B. Si li hueang	21.17944	101.14078
78	n/a	Existing	Louangnamtha	Viengphoukha District	B. Viengsavang	20.68806	101.06492
79	n/a	Existing	Louangphabang	Luangprabang District	B. Hardhiang	19.89833	102.16519
80	n/a	Existing	Louangphabang	Phoukhoune District	B. Saensi	19.43694	102.44792
81	n/a	Existing	Oudomxai	Xay District	B. Donsai	20.68944	102.00222
82	n/a	Existing	Phongsaly	Phongsaly District	B. Phoun keo	21.67611	102.09217
83	n/a	Existing	Salavan	Khongxedone District	B. Hongleuaymixai	15.61333	105.81042
84	n/a	Existing	Salavan	Saravane District	B. Nakokpho	15.71194	106.41283
85	n/a	Existing	Salavan	Saravane District	B. Nakokpho	15.71222	106.41275
86	n/a	Existing	Salavan	Vapy District	B. Lao	15.69694	106.02725
87	n/a	Existing	Savannakhet	Atsaphangthong District	B. Ta bong pheth	16.70667	105.27875
88	n/a	Existing	Savannakhet	Outhoomphone District	B. Ma ny vong xai	16.67583	104.99469
89	n/a	Existing	Savannakhet	Phine District	B. Ar louy nhai	16.55389	105.75561
90	n/a	Existing	Savannakhet	Sepone District	B. Dong nhai	16.62583	106.41703
91	n/a	Existing	Vientiane	Feuang District	B. Nakang	18.55556	102.11606
92	n/a	Existing	Vientiane	Kasy District	B. Viengkeo	19.21417	102.24772
93	n/a	Existing	Vientiane	Phonhong District	B. Nayung	18.49278	102.44878
94	n/a	Existing	Vientiane	Thoulakhom District	B. Phonekham	18.32000	102.61594
95	n/a	Existing	Vientiane	Vangvieng District	B. Hoysakgao	18.94556	102.44889
96	n/a	Existing	Vientiane Capital	Sangthong District	B. Nalath	18.32067	102.22415
97	n/a	Existing	Vientiane Capital	Sikhottabong District	B. Akat	17.97000	102.57028
98	n/a	Existing	Vientiane Capital	Xaythany District	B. Cha lurn say	18.17667	102.61236
99	n/a	Existing	Vientiane Capital	Xaythany District	B. Phaun tong	18.15000	102.73333
100	n/a	Existing	Vientiane Capital	Xaythany District	B. Phou kham	18.13806	102.63294
101	n/a	Existing	Xaignabouly	Xayabury District	B. Kaeng	19.24361	101.71042
102	n/a	Existing	Xaisomboun	Anouvong District	B. Phouhouaxang	18.90639	103.09031
103	n/a	Existing	Xekong	Lamarm District	B. Phiamay	15.34250	106.71994
104	n/a	Existing	Xekong	Thateng District	B. Luckkhao	15.34222	106.37472
105	n/a	Existing	Xiengkhouang	Kham District	B. Longpiew	19.65139	103.57053
106	n/a	Existing	Xiengkhouang	Pek District	B. Nasay	19.44389	103.17106
107	n/a	Existing	Xiengkhouang	Phoukoud District	B. Phouvieng	19.56778	103.08553

Annex 5: Consultations in Towns Targeted for Urban Planning and House Rehabilitation

Following the consultations carried out at the national and provincial levels (see Section H. Consultative Process), and following confirmation of the target towns, district and community-level consultations were undertaken in all of the towns targeted for urban planning and house rehabilitation.

At the district level, this involved meetings with

- District Governor or Deputy District Governor,
- District Chief Cabinet,
- District Public Works and Transport office,
- District Natural Resource and Environment office,
- District Planning and Investment office,
- Lao Women's Union and
- Lao Youth Union.

Consultations at the community level involved

- Village Chiefs,
- Village Representatives from the Lao Women's Union,
- Village Representatives from the Lao Youth Union
- Representatives from minority ethnic groups,
- Individual villagers

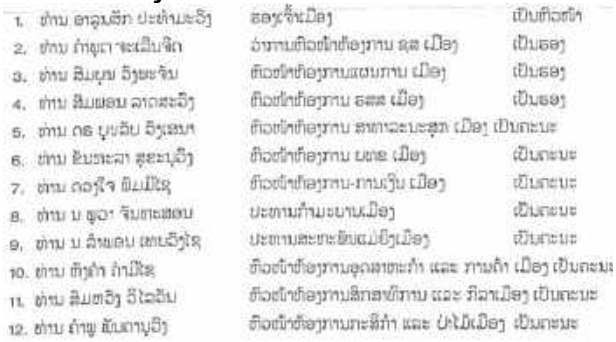
The discussions with community members aimed at gaining insight into local experiences with the impacts of climate change, to gather views and opinions on current housing issues and proposed solutions, and to understand the overall perception of the project and its potential benefits. Meetings were held in formal settings, such as the village office or the village chief's house, whenever possible. When this was not feasible, consultations took place in informal settings, such as private homes, workplaces, or public spaces. The outcomes of these informal consultations were shared with the Village Chief for information, feedback, and endorsement. After completing community-level consultations, the results were compiled and summarized, and subsequently presented at the district-level consultation meeting. No formal records of individual community-level consultations are maintained.

The meetings with district-level authorities aimed at ensuring that the project is aligned with local policies and plans, evaluate urban planning status, look at housing issues, including those discussed in village consultations, and discuss broader urban planning perspectives in the context of climate vulnerability. They also sought to identify capacity building needs that may need to be addressed during project implementation. The meetings were held in formal settings with a pre-announced agenda and were led by the District Governor. Sample lists of participants are shown further below.

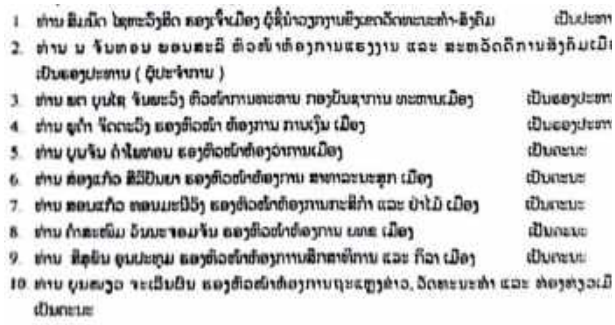
Village-level consultations were conducted in appropriately sized groups, whereby separate closed sessions were organized for women, youth and ethnic minorities. Translators were arranged to ensure clear communication with all ethnic groups. Discussions were structured and based on questionnaires. Similar consultations will be held regularly throughout the project implementation period, in order to update villagers on progress, make decisions or to give people the opportunity to report issues or grievances. The overwhelmingly positive feedback from all community members and their assurances to personally contribute to the planned project activities, are good indicators for continued high engagement, strong ownership and future sustainability of the project.

Sample List of Participants (District consultations)

Bolikhamxay



Bokeo



Mounlapamok District (Champasack)

Table 1 below summarizes the outcomes of the community-level consultations. Not included in the summary is the community members' feedback on preferred house designs and features (available on request).

Table 1: Summary of Consultations in Target Towns

Location						
District Capital	Pha Oudom	Viengthong	Xaychamphone	Nongbok	Moonlapamok	Phouvong
Province	Bokeo	Bolikhamxai	Bolikhamxai	Khammouan	Champasak	Attapeu
Climate Information						
Average monthly temperatures	20°C to 30°C	8°C to 34°C	24°C to 32°C	29°C to 36°C	30-36 °C	28-36°C
Average annual rainfall	115 ml/year	1400 to 1800 ml/year	1,560mm/year	2,000 mm/year	n/a	1,450mm/year
Feedback from District and Sector Authorities						
Other development projects in town	None	None	None	None	None	None
Capacity needs with respect to project implementation	Need for technical engineers for construction and quality control	Assistance to create a management system for project implementation (incl. QC and engineering)	Need to build project management capacity and need for engineer in the field of housing.	Need for technical support on management, design and quality control during the building process.	Need for technical training on Housing and Urban Planning.	Need for technical training on Housing and Urban Planning.
Capacity needs with respect to housing construction based on BBB principles.	Capacity to perform quality controls during construction activities.	Compliance with regulations and quality control. Capacity to manage construction activities.	Need for technical/engineering capacity to oversee and monitor the quality of construction activities.	Need for an engineer for monitoring the quality of the construction and compliance with housing regulations.	Capacity building for Quality Management for house construction.	Capacity building for Quality Management for house construction.
Consistency of project with local strategies and plans.	Project has been assessed as being fully aligned with local strategies and plans.	Project has been assessed as being fully aligned with local strategies and plans.	Project has been assessed as being fully aligned with local strategies and plans.	Project has been assessed as being fully aligned with local strategies and plans.	Project has been assessed as being fully aligned with local strategies and plans.	Project has been assessed as being fully aligned with local strategies and plans.
Status of urban planning and land tenure	No urban planning in place. Land tenure system is under improvement.	Master plan created in 2008. Land tenure system is under improvement and being expanded due to high population growth.	No proper plan in place. Currently using a temporary master plan. Land tenure: Use of temporary certificates of land use.	No proper planning in place. Land tenure: Underway. Prov. PWT is assisting the district. Now land documents can be issued, covering 80% of the total district population.	The current urban planning is not certified. Land tenure: 60% of land deeds have been issued.	The current urban planning is not certified. Land tenure: 70% of land deeds have been issued.
Environmental issues	Deforestation, Hydropower	Deforestation, Hydropower, Mining	Deforestation	Deforestation, Mining	Deforestation, UXOs	Garbage issues, Deforestation, UXOs, Hydropower, Mining
Housing issues	Many houses are not built according to housing and urban planning regulations.	Land management, because the land is not flat and not according to the housing and	Construction does not comply with housing and urban planning regulations.	Proximity of houses to road.	Many Houses are not built in compliance with Housing and Urban planning law	Many houses in town are not built in compliance with Housing and Urban

		urban planning regulation				Planning law.
Additional comments	Request for assistance with polytechnical training for the community.	-	Request for additional assistance with disaster management.			
Feedback common to all community focus groups						
Overall value of the project	Very beneficial	Very beneficial	Very beneficial	Very beneficial	Very beneficial	Very beneficial
Types of project benefits	Improved safety, due to stronger, more resilient houses.	Improved safety, due to stronger, more resilient houses.	Improved safety, due to stronger, more resilient houses.	Improves compliance with housing regulations and urban planning. Improved safety.	Improved safety, due to stronger, more resilient houses.	Improved safety, due to stronger, more resilient houses.
Willingness to participate	Highly committed to participate	Highly committed to participate	Highly committed to participate	Highly committed to participate	Highly committed to participate	Highly committed to participate
Current housing issues	Risk of damage from storms and floods.	Houses are too small, and not strong/resilient enough.	Houses are too small, and not strong/resilient enough.	Houses are not strong/ resilient enough. Houses are built in unsuitable locations.	Houses are too small	Houses are too small
Additional feedback from specific focus groups						
Women	-	Housing issues: Access road is in very bad condition.	Project value: Very beneficial for the poor. Housing issues: Lack of toilets.	Project value: Saves money for the household	Housing issues: Toilets are of poor quality	Housing issues: Toilets are of poor quality
Ethnic Groups	Housing issues: People from the Hmong community also report their houses being too small.	Housing issues: Members of the Hmong community also report having bad access roads to their house. Project benefits: Improved economic wellbeing	-	Project value: Both Lao Loum and Photai communities highlighted the benefits of saving household budget.	Housing issues: Members of the Khmer community state that they are impacted by floods and houses are unable to withstand storms.	Housing issues: Members of the Brao community state that houses are not able to withstand the impacts of storms and floods. Leng and Alak ethnic groups are also affected by floods.
Youth	-	Project benefits: Improved protection of assets.	-	-	Housing issues: Poor quality of construction, and houses located in flood-prone areas.	Housing issues: Poor quality of construction, and poor construction material.

Annex 6: ESIA and ESMP

Project: Enhancing adaptive capacity in Lao PDR provinces, and building resilient housing in vulnerable communities

UN-Habitat: 28 July 2022

Subsequently revised by UN-Habitat on 06/02/2023

Contact:

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Contents

Appendices

1.Introduction

1.1.Purpose

The project's main objective is to enhance climate resilience for vulnerable communities in six provinces (Bokeo, Vientiane, Bolikhamxay, Khammouane, Champasak and Attapeu) in Laos through designing and building resilient housing as well as improving provincial adaptation capacity.

The purpose of this ESIA-ESMP document is to demonstrate (in an overview) compliance of the project with the Environmental and Social Policy (ESP)[76] of the Adaptation Fund (AF). The document shows what potential environmental and social risks and co-benefits and opportunities have been identified per project activity, the potential impacts of the risks and how these will be managed.

1.2.Compliance with standards

The project will comply with:

i. The Environmental and Social Principles of the Environmental and Social Policy of the Adaptation Fund
ii. The Environment and Social Safeguards System Policy of the UN-Habitat
iii. All applicable domestic and international law.

1.2.1.Adaptation Fund's Environmental and Social principles

UN-Habitat and partners are required to conduct risk screenings and impact assessments of all proposed projects and programmes against the Adaptation Fund's Environmental and Social Policy (ESP). There are 15 environmental and social principles that are part of the ESP and are used to identify and manage environmental and social risks. The principles are divided into two groups: those that are always applicable such as compliance with the law, human rights and core labour rights and specific principles that may or may not be relevant to the project or programme.

All project activities should include the following 15 Principles of the Environmental and Social Policy:

The full description of the ESP principles, as written in the Adaptation Fund's ESP Guidance document, has been removed to avoid repetition.

1. Compliance with the law
2. Access and equity
3. Marginalized and vulnerable groups
4. Human rights
5. Gender Equity and Women's Empowerment
6. Core Labour Rights
7. Indigenous Peoples
8. Involuntary Resettlement
9. Protection of Natural Habitats
10. Conservation of Biological Diversity
11. Climate Change
12. Pollution Prevention and Resource Efficiency
13. Public Health
14. Physical and Cultural Heritage
15. Lands and Soil Conservation

1.2.2.Environment and Social Safeguards System

The Environmental and Social Safeguards System (ESSS) described the UN-Habitat's roles, commitment, and responsibilities towards environmental and social (E&S) risks and impacts associated with UN-Habitat's projects and programmes. It provides guidance to ensure that risks and impacts are managed from project/programme conceptualization to implementation and close-out, and in accordance with local regulations, international standards and standards applied by potential partners.

The project/programme should comply with the 15 Safeguards comprised of 9 principles, 4 social inclusion

[76] Environment and Social Policy (March 2016)

issues and 2 Cross-Cutting Thematic Areas throughout the entire project lifecycle. The 9 E&S Principles are as follows:

1. Labour and Working Conditions
2. Zero-Carbon Development, Pollution Prevention and Resource Efficiency
3. Climate Change Resilience. Community Health, Safety & Security
4. Displacement and Involuntary Resettlement
5. Biodiversity Conservation and Sustainable Management of Living Natural Resources
6. Indigenous Peoples
7. Cultural Heritage
8. Compliance with the Law, and
9. Access and Spatial Justice

The 4 social inclusion issues are as follows:

1. Human Rights
2. Gender
3. Children, Youth and Older Persons
4. Disability

The 2 Cross-Cutting Thematic Areas are as follows:

1. Resilience
2. Safety

1.2.3.Domestic laws

An overview of applicable national regulations that are applicable to the project is listed below and shown in Table 1.

Two articles of the Environmental Protection Law[77] are relevant for this ESIA/ESMP report:

Article 21 Initial Environmental Examination - Initial Environment Examination (IEE) is a data examination, exploration and analysis to anticipate possible minor environmental impacts, while identifying appropriate methods and measures to prevent, avoid or mitigate environmental impacts from investment projects or activities including considerations of climate change. IEE shall promote participations by organizations, local concerned authorities and people, who directly or indirectly affected by the sector's plan or program. Process of conducting IEE on investment projects and activities shall comply with the specific regulations.

Article 22 Environmental Impact Assessment (revised) - Environment Impact Assessment (EIA) shall be a process of addressing an issue in order to anticipate impacts that may affect the environment, society and nature, derived from investment projects or activities, along with considerations related to climate change in Lao PDR, and development of reports. Apart from reporting, there shall be development of Environmental Social Management and Monitoring Plans. Both the report and the plan shall be approved by MONRE prior to functioning investment projects and activities. The process of assessing impacts from the investment project and the activity on the environment, society and nature, shall comply with the specific regulations.

According to Article 8 of the Lao Decree on Environmental Impact Assessment[78], "*Screening of investment projects and activities is the first process of environmental impact assessment*" and "*Screening of investment projects and activities [must] be based on the grouping list of investment projects and activities in respect of environmental impact assessment*." According to Article 9 paragraph 2, the activities of the project fall under group 1 thus necessitating a preliminary environmental impact assessment. The preliminary environmental impact assessment report must consist of the following:

1. A project description,
2. The project selection of options,
3. An explanation of the basic environmental data such as biological, physical, socio-economic data in the project area and nearby areas, and
4. An environmental and natural disaster risk assessment.

[77] Lao People's Democratic Republic Peace Independence Democracy Unity Prosperity. Unofficial Translation. Environmental Protection Law (Revised Version) 2013.

[78] Lao People's Democratic Republic Peace Independence Democracy Unity Prosperity. DECREE ON ENVIRONMENTAL IMPACT ASSESSMENT. Government No. 21/GOL. Vientiane Capital, date 31 January 2019

An environmental management and monitoring plan must also be submitted along with the preliminary environmental impact assessment to the office of natural resources and environment.

The project activities do not fall under the ESIA-required projects as mentioned in the list referred to in paragraph 2.2 of the Ministerial Instruction on the Process of Environmental and Social Impact Assessment[79], however an Initial Environmental Examination (IEE) Process must be conducted. Implementation of an IEE is thus mandatory and, according to Article 2.1 of the Lao's Ministerial Instruction on the Process of Initial Environmental Examination[80]. An Environmental and Social Management and Monitoring Plan must also be included.

[79] Lao People's Democratic Republic Peace Independence Democracy Unity Prosperity. Ministerial Instruction on the Process of Environmental and Social Impact Assessment of the Investment Projects and Activities. No. 8030/MONRE. Vientiane Capital, date 17 December 2013

[80] Lao People's Democratic Republic Peace Independence Democracy Unity Prosperity. Ministry of Natural Resources and Environment. No. 8029/MONRE. Vientiane Capital, 17 December 2013. Ministerial Instruction on the Process of Initial Environmental Examination of the Investment Projects and Activities.

Table 1: An overview of the applicable national laws, rules, regulations and procedures

Project Output	Relevant laws, rules, regulations and procedures	Applicability and compliance to the project	Government authority responsible
Outputs 1.1.1, 1.3.1, 1.4.1, 2.1.1, 2.2.1, 2.3.1, 3.2.1, 3.2.2	Lao PDR Land Law (amended) NO. 70 /NA, dated 21 June 2019	The project has gained consent for the construction on land which has been zoned for construction of public buildings (coordination centres) or private residences (demonstration houses). Construction permits will be obtained. The project will also comply with rules, standards and procedures for developing master town plans and building back better principles in guidelines	This law is overseen by MoNRE.
Outputs 1.6.1, 2.1.1, 2.3.1, 2.4.1	Lao PDR Construction Law. No.: 159/LPDR, dated 2009	Any construction activities under Component 2 will comply with building codes.	This law is overseen by the Ministry of Public Works and Transport (MPWT). MPWT also has oversight og Building Codes and Building Control
Outputs 1.1.1, 1.2.1, 1.3.1, 1.4.1, 1.5.1, 1.7.1	Decree on Sam Sang, No. 9/PMO, dated 2012, related to district and provincial regulations, in conjunction with the Department of Planning and Investment	The project complies with this Decree by partnering with and building capacity in district and provincial authorities.	Approval for the plans will need to be granted at the decentral level through Sam Sang.
Outputs 1.4.1, 2.1.1, 2.1.2, 2.1.3	Lao PDR Urban Planning Law, No.: 327/P, dated 2017	The project supports resilient urban planning in alignment with the law.	This law is overseen by the MPWT. The plans need to be approved by MPWT.
Outputs 1.1.1, 1.2.1, 1.3.1, 1.4.1, 1.5.1, 1.6.1, 1.7.1, 1.8.1, 3.2.1, 3 4.3, 3.4.4	Lao PDR Decree on Climate Change, No. 321/PMO, dated 18 September, 2019	The project supports the decree through actions such as vulnerability assessments and mapping, raising awareness of adaptation.	The Ministry of Natural Resources and Environment (MoNRE) is responsible for this Decree.
Outputs 1.5.1, 2.4.1, 2.4.2	Lao PDR Law on Meteorology and Hydrology, No. 36/NA, dated 13 November, 2017	The project contributes to implementation of the law, which involves improvement of the network of meteorological and hydrological stations, and the responsibility of local authorities to give early warnings.	Oversight of this law falls under MoNRE's mandate.
Outputs 2.1.1, 2.2.2, 2.3.1, 2.4.1	The Lao National Unexploded Ordnance Programme, which follows IMAS – International Mine Action Standards, under the National Regulatory Authority (NRA) for the UXO/Mine Action and UXO Lao, which adopted SOPs – Standard Operating Procedures	Some target districts are at risk from Unexploded Ordinance, UN-Habitat will work with UXO Lao and the National Regulatory Authority for UXO, to conduct UXO risk assessments in the project towns. If necessary, target areas will be surveyed to clear the risk areas.	The Lao National Unexploded Ordnance Programme (UXO LAO) was established by the Lao Government and is a Nationally Executed Project of the Ministry of Labour and Social Welfare and the United Nations Development Programe (UNDP).
Outputs 2.1.1, 2.1.2, 2.1.3, 2.2.1,	Ministerial Instruction on the Process of Initial Environmental Examination of the Investment Projects and Activities	The project falls into the first category *"Investment Projects and Activities that are anticipated to cause the insignificant or minimal environmental and social impacts; therefore, are required to conduct an Initial Environmental Examination Process".*	The Ministerial Instruction is overseen by MoNRE.

Project Output	Relevant laws, rules, regulations and procedures	Applicability and compliance to the project	Government authority responsible
2.2.2, 2.3.1, 2.4.1, 2.4.2	No.8029/MONRE, dated 17 December 2013		
	Ministerial Instruction on the Process of Environmental and Social Impact Assessment of the Investment Projects and Activities No.8030/MONRE, dated 17 December, 2013	The project falls into the first category "*Investment Projects and Activities that are anticipated to cause the insignificant or minimal environmental and social impacts; which should conduct an Initial Environmental Examination Process".* No ESIA is required by national law. Nevertheless, risk screening and impact assessment of proposed activities are being conducted in compliance with AF ESG and GP.	The Ministerial Instruction is overseen by MoNRE.
	Decree on Environmental Impact Assessment No.21/GOL, dated 31 January, 2019	The project falls into the first category "*The investment projects and activities that are believed that will cause less or not-severe impacts on social and natural environment will conduct a preliminary environmental impact assessment".*	The Decree is overseen by MoNRE.
	Law on Environmental Protection (Amended) No. 29/NA, dated 18 December 2012	Articles 21 and 22 of the Law on Environmental Protection include descriptions on the IEE and ESIA that are relevant to the project.	MoNRE is assigned by the Lao Government to take on the direct responsibilities and leading role in coordinating with like sectors and local authorities.
	Law on Disaster Risk Management, No. 262/NA, dated 05 Aug 2019	The project complies with the Law on Disaster Risk Management as it builds resilience to climate related hazards. Disaster risk reduction will also be a central element in the master plans, which will comply with the law.	This law has been established by the State.
	Decision on Construction Management, 2019	The project will comply with licensing regulations for construction and design, including design standards for ic projects.	This Decision has been established by the MPWT.
	Law No. 08/NA on National Heritage, dated 9 December 2005	The project will comply with the Law on National Heritage by promoting local design features into construction, and by incorporating consideration of physical features into urban planning.	The State centrally administers the national heritage throughout the country by assigning tasks to the Ministry of Information and Culture as the focal coordinating point with local authorities.

2. Summarized description of the project

The summary has been removed to avoid repetition of the main proposal

3. Screening and categorization

Project Components 1 and 3 consist of studies, workshops, community consultations, training events, information sharing through print and web-based means. Thus, they are not expected to have environmental or social impacts. The only potential risk related to these activities is the unequal involvement of different groups in processes. The ESMP provided in Table 5 provides some mitigation measures.

In line with UN-Habitats Environmental and Social Safeguards System and in line with the Adaptation Fund's Environmental and Social Policy, an initial risk analysis, screening and assessing potential environmental and social impacts for component 2 of the proposed project has been completed. The method to identify, assess, manage and mitigate the environmental and social risks of (sub)projects and related activities is based primarily on the AF ESP policy and validated against the LAO PDR's "Instructions on Initial Environmental Examination (IEE) of the investment projects and activities." This is the initial screening to identify potential adverse impacts and risks early in the project cycle.

In line with the Adaptation Fund's guidelines all activities were screened against international and national laws and policies to ensure full compliance. At this stage, significant risks were not identified and it is very unlikely that national ESIA equivalent procedures will be triggered.

Further, the entire project has been screened and assessed and mitigation measures proposed against the 15 other Environmental and Social Principles of the Adaptation Fund. This reflects the knowledge and information available at the project preparation stage.

The method to identify, assess, manage and mitigate the environmental and social risks of (sub)projects and related activities is based primarily on the AF ESP policy, the UN-Habitats Environmental and Social Safeguards Systems and the LAO PDR's "Instructions on Initial Environmental Examination (IEE) of the investment projects and activities". The screening tool used consists of 57 questions that are categorized in 15 thematic areas that correspond with the 15 Environmental and Social Principles of the Adaptation Fund. Complete results of the screening and assessment are included in Appendix A. Based on the screening results (Appendix A, B, C, D, E and F) further assessment actions during the full proposal development stage are required for the principles that have been triggered in the risk screening and assessment and are applicable at this stage. For an overview of project activities' screening results against the 15 AF principles see tables below (Table 2 and Table 3). For details, see Appendix A, B, C, D, E and F.

Table 2: Overview of environmental and social impacts and risks for which further assessments and management are required

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
1. Compliance with the Law		**Low risk**- There is limited risk of the project and activities not complying with applicable domestic and international laws. Non-compliance may arise due to various preventable reasons such as lack of knowledge of legal requirement, human errors like following incorrect processes, working with incorrect or incomplete information, etc. Without risk mitigation measures compliance issues might still occur and, in severe cases, cause project delays, loss of funds or unexpected additional cost. To ensure compliance with all relevant laws, national, regional and district authorities have been consulted during the proposal development process and will continue to be consulted during implementation. Moreover, government institutions at various levels will be directly involved with the implementation of project activities, which will facilitate compliance with all relevant laws and regulations. However, this alone will not be enough. To further minimize the risks of non-compliance, compliance trainings and monitoring checks will have to be carried out at regular intervals.
2. Access and Equity		**Low risk**- Potential risks may arise from capacity building activities under component 1 and construction activities under component 2. For component one the risk lies in the selection of training participants. Without proper risk

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
		mitigation measures, some individuals may receive preferential access to training while others may be excluded based on factors such as gender, ethnicity, or beliefs. The project will promote values such as respect, inclusiveness, impartiality to ensure that these issues are addressed in all activities. Additionally, a Gender Action Plan has been established to promote gender equity and provide equal access to trainings for women, which is particularly critical as lack of education can further weaken women's role in society. For component 2 the risk lies in selection of beneficiaries for the different types of construction works. Without effective management and risk mitigation measures, project benefits might not reach those who need them most, namely the poor, or certain groups of society may get disadvantaged or entirely excluded because of their ethnicity or because they lack representation (women, children, elderly). Transparent processes and tools for the selection of respective beneficiaries have been documented and will be implemented to ensure that equal access to project benefits. The implementation of the above-mentioned systems and measures will require ongoing monitoring activities, including the review of project documentation and monitoring visits. UN Habitat will pay close attention to the beneficiary selection process prior to the initiation of any construction activities to ensure its effectiveness and fairness.
3. Marginalized and Vulnerable Groups		**Low risk**- The risk to not involve or neglect marginalized, and vulnerable groups is mainly related to component 2, however, an inclusive and non-discriminatory process for the selection of beneficiaries has been designed to minimize such risks. The process will prioritize in particular households with poor and otherwise vulnerable members of society such as women and children, elderly people, disabled people or members of ethnic groups. Mechanisms will also be put in place to ensure that the needs of all different sections of society are addressed in the planning and implementation of component 1. This concerns issues such as training needs assessments, the design of training material or the selection of training participants. Without such measures, there could be a risk that certain members of the government workforce, such as women, disabled people or members of ethnic groups get excluded or underrepresented in trainings, or that the content of trainings is not sensitive to the needs of marginalized and vulnerable groups. The project will ensure equal opportunities in participation and decision-making concerning the project of women, ethnic groups, and other vulnerable groups by using quotas and by agreeing on representation in decision-making processes through the use of ToRs, agreements, etc. The Lao Women's Union will be engaged at the national and local level in any project activity. Youth participation mechanisms will be put in place to ensure the participation of youth in planning and decision-making processes. This will be done in partnership with the Lao Youth Union. To ensure the full participation of people with disabilities, inclusive spaces will be considered and utilised at all stages of the project. Steps also need to be taken to prevent or minimize potential negative indirect effects from town master plans. For example, it should be ensured that first and second-order effects from new town master plans on marginalized and vulnerable groups, in particular ethnic groups, are considered, and that these groups do not disproportionately suffer from potential adverse effects.
4. Human Rights		**Low risk**- An assessment has been done to identify which Human rights have been ratified or not. Laos Human rights not ratified:[81] CAT-OP - Optional Protocol of the Convention against Torture CCPR-OP2-DP - Second Optional Protocol to the International Covenant on Civil and Political Rights aiming to the abolition of the death penalty

[81] Treaty bodies Treaties (ohchr.org)

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
		CED - convention for the protection of all persons from enforced disappearance CED, Art.32 - interstate communication procedure under the international convention for the protection of all persons from enforced disappearance CMW- International Convention on the Protection of the Rights of Migrant Workers and Members of their Families. These Human rights do not pose a risk for the project. However, a risk regarding land tenure and livelihood rights has been identified at the national level[82] and the need for land titling to be undertaken. Once the houses for rehabilitation and reconstruction and plots of land for construction of new houses have been confirmed, consultations will take place at both the community level and with MoNRE to obtain approval of land allocation and to ensure the guarantee of land tenure. Coordination with MoNRE and MPWT will also need to take place to ensure that land tenure is taken into consideration in the town master plans- this is also to ensure that land tenure can be guaranteed in the future and not only for direct beneficiaries. Awareness raising sessions on tenure rights will also be held for beneficiaries, with a particular focus on marginalized groups.
5. Gender Equity and Women's Empowerment		**Low risk**: Potential risks could emerge from capacity building activities under component 1, construction activities under component 2, and community awareness activities under component 3. Exclusion from capacity building activities could have a disproportionate impact on women, exacerbating existing gender inequalities in the workforce and undermining their role in society. Similarly, for component 2, women in households that do not benefit from reconstruction or rehabilitation efforts could be disproportionately affected by natural disasters. In addition, there is a risk that a lack of inclusion of women in planning and policy development may result in biased policies favouring men or neglecting the needs of women. The gender action plan (detailed in Table 1 of Annex 8) outlines measures and targets to ensure gender considerations are incorporated throughout project planning and implementation, reducing gender-related risks. Without these measures, there is a risk of underrepresentation of women in consultations, planning meetings, needs assessments, and trainings, hindering the inclusion of their needs and opinions and exacerbating gender inequalities. Successful risk reduction, e.g. through implementation of the gender action plan will require ongoing monitoring. This includes reviewing project documentation and conducting monitoring visits.
6. Core Labour Rights		**Low risk**- Potential risks could arise from the construction-related activities under component 2 of the project. The project will engage contractors for the implementation of construction works, who will likely hire personnel from local communities for both skilled and unskilled work. This process carries the risk of exploitative practices such as hiring school-age children, employing people on insecure contracts, paying below minimum wage, discrimination against women, or unsafe working conditions. To safeguard workers' rights as per ILO core labour standards, the project will implement measures to screen all contracted enterprises. These screening measures will ensure that workers are hired in compliance with the ILO standards and the Lao Labour Law, receive fair compensation, are not subjected to discrimination, and work in safe environments with protocols for occupational health and safety and anti-harassment and complaint procedures in place. Ongoing monitoring, including reviewing working contracts and speaking with construction workers, will be necessary to ensure continued adherence to these standards.
7. Indigenous Peoples		**Low risk**- The concept of indigenous people is foreign to Lao culture, however this section can still be applied in the context of ethnic groups. Most potential risks related to ethnic minorities have already been covered under the ESP Principles "Access and Equity" and "Marginalised and Vulnerable Groups". Potential additional risks could arise from the non-integration of ethnic groups' needs in the construction design of new, reconstructed or rehabilitated houses (component 2) or

[82] United Nations Special Procedures of the Human Rights Council. Report of the Special Rapporteur on extreme poverty and human rights. A/HRC/41/39/Add.2. 20 June 2019

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
		from a lack of involvement in public planning and policy development (component 1). The latter could result in plans and policies neglecting the needs of ethnic people and further aggravating existing inequalities. During the preparation of this proposal all ethnic groups in the target areas have been included in initial consultations and will continue to be involved in decision making. Engagement of ethnic groups will also be monitored and further consultations on specific needs and concerns will be carried out.
8. Involuntary Resettlement	X	**No risk**- Activities under component 2 involve improving existing houses or building new structures on land that has already been designated for this purpose, meaning that there is no resettlement involved at any stage in the project.
9. Protection of Natural Habitats		**Low risk**- Very limited potential risks to natural habitats could arise from construction activities under component 2. Due to the small land areas concerned by construction activities, the potential impacts on natural habitats are considered extremely small. Furthermore, the proposed construction sites are not in, or close to, any natural habitats recognised by Ramsar or UNESCO.
10. Conservation of Biological Diversity		**Low risk**- The lack of information regarding biodiversity at the local level signifies that there could be a potential risk regarding potential destruction to local biodiversity and potential loss of biological diversity due to construction activities. In view of the limited scale of physical interventions in or near existing urban areas, this risk is considered to be very limited.
11. Climate Change		**Low risk**- Potential climate risks may arise from the construction activities under component 2 and from the travel required for the implementation of other project activities. These risks stem from the emission of greenhouse gases during construction work, including from the production, transportation, and disposal of building materials, as well as from travel for other activities such as consultations, trainings, monitoring visits, etc. Although the impact on climate change is considered negligible due to the small scale of the project, ongoing screening will be conducted to ensure that there are no significant or unjustified increases in greenhouse gas emissions or other drivers of climate change. While the use of sophisticated project-based management tools to measure and monitor GHG emissions is not deemed necessary, other steps have been taken to minimize emissions and reduce the impact of project activities on the environment. One such step is the creation of a Resource Efficiency and Waste Management Plan (see annex 9).
12. Pollution Prevention and Resource Efficiency		**Low risk**- Potential risks may arise from the construction activities under component 2. The risks lie in the use of unsustainable building materials and potential soil contamination from chemical products used during construction works. To further minimize these risks, a resources efficiency and waste management plan (see annex 9) will be implemented. Effective implementation of these plans by the construction contractors will need to be monitored on an ongoing basis, e.g. by way of conducting periodic site inspections.
13. Public Health		**Low risk**- The project represents limited to no risks of public health issues. Potential public health risks from construction activities will be minimized through enforcement of Resource Efficiency and Waste Management plans and through screenings of construction contractors. The latter is to ensure that health and safety standards are in place and respected, thus minimizing the risks of accidents and spills that could lead to public health hazards. Project activities under component 2 will be designed and implemented in order to avoid any negative impacts on public health.
14. Physical and Cultural Heritage	X	**No risk**- No cultural heritage sites are located near the project areas.
15. Lands and Soil Conservation		**Low risk**- No fragile soils have been identified at the local scale. The project could result in more erosion-prone, localized soils. However, this is highly dependent on the soil properties and the way in which work is carried out. In view of the limited scale of physical interventions in the soil, this risk is considered to be very limited. Activities related to the construction of houses could result in soil contamination as a result of chemical products, however a waste management plan will be implemented to avoid this. A very low risk is associated with this principle, however given the lack of information of types of soil at the proposed construction sites, uncertainty remains regarding risk.

The outcome of the screening and assessment process was used to determine the environmental and social risk categorization for the project, using the criteria for categorization as described in paragraph 8 of the ESP. Based on this the project was categorized as a Category B project: *a project with potential adverse impacts that are less adverse than Category A projects/programmes, because for example they are fewer in number, smaller in scale, less widespread, reversible or easily mitigated*.

The LAO PDR IEE divides projects and activities into two groups, with Group 1 consisting of projects and activities that are anticipated to cause insignificant or minimal environmental and social impacts (and therefore being required to conduct an Initial Environmental Examination Process), and Group 2 comprising of projects and activities that are anticipated to cause significant or major environmental and social impacts (and therefore being required to conduct an Environmental and Social Impact Assessment Process). The project is categorized as Group 1 and therefore requires an IEE to be carried out.

Table 3: Overview of project activities' screening results against the 15 AF risk areas/principles (in line with Table 2). This table is in line with Table 2 and the risks screening sheets presented later, as these are directly related to project activities and not typical or general risks. The explanations in this table are kept brief. More detailed descriptions of respective risks and impacts can be found in Table 2 and the risk screening sheets in the appendices A, B, C, D, E and F

Detailed outputs / activities	Risk screening result	Explanation why triggered or not
Component 1:		
1.1.1 Conducting capacity assessments on integrating climate change into urban plans for seven district capitals.	Potential risks identified related to ESP principles 1, 2, 3, 4 and 5, 13.	Project activities involve needs assessments, risk and vulnerability assessments, planning processes and trainings. Potential risks considered are those related to unequal representation, access and equity, also for vulnerable groups such as women, members of ethnic groups or disabled people. The project will also consider indirect risks that may arise from the implementation of town-level master plans developed with its support, such as the potential for planning decisions to have a disproportionate impact on marginalized communities, such as the poor or ethnic groups, potential impacts on land tenures or public health.
1.2.1 Conducting or updating risk and vulnerability assessments in seven district capitals.		
1.3.1 Providing training to 1,733 provincial and district staff, as well as national government staff, on mainstreaming climate adaptation into urban planning.		
1.4.1 Developing seven town level master plans.		
1.5.1 Providing training for DMH staff on operation of meteorological and hydrological stations, and on climate information communication and early warning systems, including development of an app for local weather information and early warnings, and technical assistance in establishing a Meteorology and Hydrology Sub Sector Working Group (SSWG) or similar body...		
1.6.1 Developing building guidelines which integrate climate change resilience.		
1.7.1 Providing training for district officials on managing community evacuation centres.		
1.8.1 Training of trainers to build capacity in local carpenters and masons in climate-resilient construction practices, and community-level trainings.		
Component 2:		
2.1.1 Constructing 6 demonstration resilient houses.	Potential risks identified related to AF risk areas 1, 2 ,3, 4, 5, 6, 9, 10, 11, 12, 13 and 15	Although the risk of damage to biodiversity is considered to be very limited, the lack of information regarding the presence of (protected) animal and plant species in or near the project locations makes it difficult to determine the impact of the project on biodiversity. It is therefore considered a potential risk. The same applies to the risks to Natural Habitats and Lands and Soil Conservation. Depending on the implementation method, the project can also lead to a (temporary) limited and very local increase in the soil's sensitivity to erosion. Women and vulnerable and marginalized groups are often excluded from the decision-making process at the local level. It must therefore be ensured that consultations are held with these groups to address this risk.
2.1.2 Rehabilitating 600 existing houses (for 3,000 people) to increase resilience to climate change impacts.		
2.1.3 4,942 existing houses retrofitted to increase resilience to climate change impacts.		
2.2.1 Constructing 2 community evacuation centres as a safe place for people to shelter in the event of extreme flooding.		

Detailed outputs / activities	Risk screening result	Explanation why triggered or not
		Potential adverse impact regarding equal access to benefits generated by activities under this component have been triggered and consideration must be taken during the selection of beneficiaries for the construction, reconstruction and rehabilitation of houses. Construction activities carry the risk of violations of workers' rights, as well as the risks of inefficient resource use and pollution of natural resources, which could further impact public health. Lastly, a potential adverse impact regarding land tenure has been triggered. This is considered a potential risk as construction, reconstruction, and rehabilitation of houses will take place on private land and it must thus be ensured that project beneficiaries have land ownership to avoid expropriation or resettlement.
2.2.2 Assessing 4 existing community evacuation centres, and making necessary improvements, including provision of WASH facilities		As for other potential risks, these have not been triggered because of the information provided - see also risks screening sheets.
2.3.1 Constructing six Coordination Centres for Adaptation and DRR (doubling as DoNRE Offices) over six provinces, serving as a base for climate change adaptation coordination.		
2.4.1 Constructing new meteorological and hydrological stations in 6 provinces		
2.4.2 Upgrading existing meteorological and hydrological stations in 6 provinces		
Component 3:		
3.1.1 Capturing and disseminating project activities and results disseminated through dissemination workshop.	Potential risks identified related to AF risk areas 1, 2 ,3, 5, 6.	Activities involve assessment, planning processes, training, and community awareness. Potential risks considered are those related to unequal access and equity, also for vulnerable groups and gender, throughout the assessment and planning processes. UN Habitat will involve beneficiary groups, including identified vulnerable groups (and women and youth) in the activities. All potential risks have been identified and risk minimization measures initiated.
3.2.1 Developing a strategy as a guidance document for policy development on the integration of climate change adaptation measures in the housing sector.		
3.2.2 Technical guidance on Housing, Land and Property (HPL).		
3.3.1 Producing IEC materials for target communities.		
3.3.2 Carrying out community awareness raising activities.		
3.4.1 Developing a shelter response to inform the IASC shelter cluster.		
3.4.2 Developing a manual on managing community evacuation centres.		
3.4.3 Developing a technical manual on construction practices for climate-resilient housing for carpenters.		
3.4.4 Producing training guidelines on resilient shelter construction and adaptive measures in spatial planning and land-use for subnational DHUP staff.		

4.Environmental and Social Impact Assessment

In this section, the potential risks and impacts identified during the screening have been, where possible, quantified.

Table 4. Summary of project activities' screening and assessment results against the 15 AF risk areas / principles. Here, only the risks identified directly linked to the project activities are discussed.

Table 4: Quantifying impacts for four principles, has been deleted as most of the information it shows is repeated in Table 5

5. Environmental and Social Management Plan

The ESMP designed for this project will track identified risks, or any new risks, ensuring they are properly monitored, evaluated, and reported upon. The ESMP developed for this project will consider and track risks that have been identified at the proposal stage; screen for any new risks during the implementation of the project and serve to monitor and report on the mitigation measures. The ESMP does not allow the implementation of activities with high risk.

Table 5 below provides an overview of the management approach for project related risks.

Table 5: Overview / summary of project risks management approach.

ESP principle	Initial ES risks present (Y/N)	Potential risk description	Impacts assessment	Safeguard measures	Monitoring indicator(s) and method	Responsibility and frequency
1 - Compliance with the law	Yes	There is limited risk of the project and activities not complying with all applicable domestic and international laws.	Non-compliance would impact a small number of workers in the case of the Labour Law, a small area of land in the case of environmental protection laws, or the users of a building in the case of construction regulations.	The project will engage with the Department of Land Management under DONRE, Urban Planning and Construction under PWT at the provincial level and will integrate legal compliance into trainings. Compliance checks will be integrated into checklists used during M&E visits. Note: Labour law-related measures, indicators and methods are described under ESP principle 6.	Compliance trainings completed Number of compliance issues raised in monitoring reports. Number of complaints, warnings or offences.	UN-H in coordination with MoNRE, MPWT Regular monitoring throughout project Compliance training during inception phase
2 - Access and equity	Yes	Inequitable access to participate in project decision making. Inequitable process for selecting beneficiaries.	The number of individuals impacted are estimated at 33,548 for output 2.1. This should be updated when the selection of houses for construction, reconstruction, and rehabilitation is made.	Consulting the process of selection of beneficiaries set in the Housing Report. Following the selection criteria listed in the proposal- this will also be informed by the updated vulnerability assessments. The selection process uses objective tools, of which criteria include poverty, vulnerability, female-headed households, equal representation of ethnic groups and a checklist to assess houses' resilience, which will include women resilience. The tools will measure poverty, vulnerability and house resilience, irrespective of what groups these houses	Check consultation reports Number of complaints	UN-H in coordination with MoNRE, MPWT Inception phase and any consultation report

ESP principle	Initial ES risks pre-sent (Y/N)	Potential risk description	Impacts assessment	Safeguard measures	Monitoring indicator(s) and method	Responsibility and frequency
				belong to. Consultations with members of the community to ensure that access to benefits is fair and equitable. Using quotas and agreeing on representation in decision-making processes through the use of TORs, agreements etc. Engaging the LWU at national and local levels.		
3 – Marginalized and vulnerable Groups	Yes, potentially	Marginalised groups excluded from implementation process and project benefits		The project design has focused on the most vulnerable group of populations to climate change. The participation of representatives of the disabled, women, youth, community leaders and planners in further consultations that will take place in the inception phase will ensure fair and equitable access to benefits in a manner that is inclusive and does not deny access of community members to other services. It will also ensure that all specific needs have been identified. Related to that the ESMP will be updated. Youth participation mechanisms will be put in place to ensure the participation of youth in planning and decision-making processes. This will be done in partnership with the Lao Youth Union. To ensure the full participation of people with disabilities, inclusive spaces will be considered and utilised at all stages of the project. The People's Process, as shown in Figure 24 will be used to involve communities, women and ethnic groups and to ensure they 'own' the project and benefit from it directly. Someone from the project team and / or the Lao women union should be present at all meetings to ensure everyone gets a voice.	Check consultation reports with latest data on identified specific needs, limitation and constraints of beneficiary groups; updated ESMP. Number of marginalised and vulnerable groups benefitting from the project Number of complaints.	UN-H in coordination with MoNRE, MPWT Inception phase and any consultation report
4 – Human rights	Yes	Individual's land tenure could be at risk due to the lack of coordination regarding land tenure and a lack of knowledge and awareness regarding this. Indirect risks related to land tenures may arise from town-level master	The number of individuals impacted are estimated at 33,548 for output 2.1. This should be updated when the selection of houses for construction, reconstruction, and rehabilitation is	Once the houses for rehabilitation and reconstruction and plots of land for construction of new houses has been confirmed, consultations will take place at both the community level and with MoNRE to obtain approval of land allocation and to ensure that land tenure is guaranteed. Coordination with MoNRE and MPWT will also need to take place to ensure that land tenure is taken into consideration into the town master plans- this is also to ensure that land tenure can be guaranteed in the future and not only for direct beneficiaries.	Number of reports providing proof of land ownership Number of trainings provided regarding land tenure and land use	UN-H in coordination with MoNRE, MPWT, provincial, district and village authorities Regular monitoring throughout project

ESP principle	Initial ES risks pre-sent (Y/N)	Potential risk description	Impacts assessment	Safeguard measures	Monitoring indicator(s) and method	Responsibility and frequency
		plans, particularly in towns with incomplete land tenure systems.	made.	Awareness raising sessions on tenure rights will also be held for beneficiaries, with a particular focus on marginalized groups.		
5 – Gender equality and women's empower ment	Yes, poten-tially	Lack of inclusion of women in the decision-making process and women not being well represented in local government authorities		Safeguard measures are those covered in the Gender Action Plan. They include, amongst others, the following: • Ensuring gender quotas of at least 30% in stakeholder consultations, workshops and trainings[83]. • Integrating gender-disaggregated indicators and targets in the result framework of the project for female participation at training workshops and management committees. • Considering gender differentiated vulnerabilities when building climate change knowledge. • Integrating gender-differentiated vulnerabilities into the selection criteria developed. • Encourage all stakeholders to engage female staff in all activities. • Liaise with local Lao Women's Union to actively enhance women and girls' participation and support community engagement.	Minutes and attendance sheets of consultation meetings Percentage of women attending trainings and workshops Number of meetings with Lao Women Unions to track progress regarding women's engagement and to keep track of any issues/ complaints that may arise. Reports on the implementation of the GAP.	UN-Habitat Regular monitoring throughout project
6 – Core labour rights	Yes, poten-tially	Labour rights may not be respected in project contracts or in working contracts of sub-contractors. ILO conventions and protocols currently not ratified: Fundamental: C087; C098; C105; P029) Governance:	Impacts will be on workers or potential workers for construction activities.	• Looking at the conventions and protocols not ratified, the project will be particularly attentive to any unvoluntary labour, non-organization, inspection and potential involvement of children and ethnic groups. • Enterprises hired throughout the project will be screened to ensure child labour and forced labour are absent and to ensure compliance with local and international regulations, including ILO core labour standards. • Ensuring workers are not facing any gender or other discrimination in employment situations by ensuring that men, women and marginalized people have equal job opportunities and incomes. The IE will make sure hired enterprises have equal hiring standards. • Ensuring that hired enterprises have security protocol,	Workers grievance mechanism in place and regular review of grievance register Completed contractor screening checklists. (Review of) Examples of working contracts (with personal details redacted) Construction site	UN Habitat, MPWT, MoNRE: Training on compliance and screening procedures during the Inception phase MPWT, UN Habitat: Contractor screening upon contract award UN Habitat, MPWT, MoNRE: Periodic

[83] The 30% quota does not apply to carpentry and masonry trainings as there is a lower baseline of women in these sectors.

ESP principle	Initial ES risks pre-sent (Y/N)	Potential risk description	Impacts assessment	Safeguard measures	Monitoring indicator(s) and method	Responsibility and frequency
		C081; C122; C129 Technical: most, incl. C169		and ideally Anti-harassment Policies and Complaint Procedures • To ensure the employment of local people including women and ethnic groups, a standard clause will be included in all contracts mentioning that local employment, women, ethnic groups, etc. will be equally represented / selected for employment, and the project will work with the local community on verification / inspection of local workers where feasible •Measure will be put in place to maximise local procurement and the project will work with the local community on verification of local suppliers where feasible. • To ensure compliance with workers' rights, all contracts will include clauses on the following: ➢ HR policy aligned with local law and ILO Core Conventions ➢ Worker Grievance Mechanism will be established ➢ Enforce minimum age expectations (according to ILO) and Government minimum age) ➢ Measures to ensure Contractor adopts project HR Policy standards (either contractually or through monitoring) ➢ Ensure all employees are provided with a written employment contract before start of works ➢ Provide details of the transport arrangements for all workers to and from their accommodation (dedicated or in the local community) ➢ Refer to Occupational Health and Safety Procedures • Contractors will be required to provide or facilitate access to necessary worker facilities which include but are not limited to: toilets, rest areas, smoking areas, canteen and potable drinking water to WHO standards. All worker facilities and accommodation will be cleaned, maintained and centrally managed • Awareness raising will be carried out with the executing entities on the above and guidelines shared if required. Conduct training on compliance and screening procedures during the inception phase. Conduct periodic site inspection to observe working	inspection reports.	site inspections

ESP principle	Initial ES risks pre-sent (Y/N)	Potential risk description	Impacts assessment	Safeguard measures	Monitoring indicator(s) and method	Responsibility and frequency
				conditions and to obtain worker testimonies through informal discussions.		
7 – Indigenous peoples	Yes	Lack of representation of ethnic groups during consultations resulting in non-inclusion of their needs and lack of cultural considerations.	There are approximately 23,446 people belonging to ethnic groups living in the target towns.	The project recognises the rights of all ethnic groups according to the principles in the UNDRIP, including Free, Prior, Informed Consent (FPIC). FPIC will be applied by 1) mapping all ethnic groups and potential impacts and using the principle of Leaving No One Behind; 2) involving ethnic groups in planning and decision-making processes, including not going ahead with activities if agreed by ethnic groups (including having written consent received from the individual households). The engagement of ethnic groups will be monitored.	Keep records of consultations Written consent from households	UN-Habitat Regular monitoring throughout project
8 – Involuntary resettlement	No					
9 – Protection of natural habitats	Yes	Natural habitats may be impacted by construction activities.	Lack of information – no specific local information on critical natural habitats is available. A maximum of 6-7 ha of land is exposed to such risks.	The selection of sites for construction of new buildings is to be done in consultation with local entities and communities and taking into account the presence of existing natural assets (natural habitats, biological diversity and soils). This is to avoid or minimize potential impacts on legally protected areas or critical habitats. However, if despite best efforts to avoid areas with critical natural habitats, risks are still present or suspected, a site-specific implementation plan is to be developed to minimize them. This plan is to be shared with contractors and other people involved in construction works. The preparation of the plan may require an on-site assessment carried out by an expert. The assessment will include the collection photo material and development of checklists for location-specific inventory, and possible measures. The site selection process will be presented, discussed and agreed upon during the inception phase. Furthermore, contractors will be required to adhere to safeguard measures described in the Resource Efficiency and Waste Management procedures (see annex 9), which will minimize the impacts of construction works on natural assets. Compliance needs to be monitored through periodic site inspections.	Meeting minutes (covering site selection process) Report from expert site inspection (Implementation plan) Construction site inspection reports	UN Habitat, MPWT, MoNRE: Discuss and agree on site selection process. At inception workshop or during inception phase. Contractor: Conduct of expert site inspection, prior to construction work and, if necessary, during work and upon completion. UN Habitat, MPWT, MoNRE: Periodic site inspections

ESP principle	Initial ES risks pre-sent (Y/N)	Potential risk description	Impacts assessment	Safeguard measures	Monitoring indicator(s) and method	Responsibility and frequency
10 – Conservation of biological diversity	Yes	Destruction or damage to biodiversity Potential loss of biological diversity due to construction	Lack of information - no distribution data of (protected) flora and fauna on a local scale are available. A maximum of 6-7 ha of land is exposed to such risks.	The process for selecting sites for the construction of new buildings is outlined under ESP 9 also applies to ESP 10 The safeguard measures stated in the Resource Efficiency and Waste Management Plan, which are to be adhered to by all contractors, are also applicable in the context of ESP 10. The monitoring requirements stated under ESP 9 also apply. With respect to the project's approach to preserving biological diversity, the following should be noted: •The sites for the construction of new DoNRE Offices and installation of new DMH stations have already been identified. They were carefully chosen in concertation with local entities and communities and considering the absence of significant biodiversity. All sites are located in inhabited village areas, they are small in size (less than on hectare) and have been cleared of significant vegetation several years ago (not as a consequence of this project). Geo-locations and images of those sites can be found in Annex 10. Two of the DMH stations will be set up on the same property as the DoNRE offices. The remaining sites for the construction of two Community Evacuation Centres and six Demonstration Houses will be identified following the same processes and standards. •All activities must be developed and implemented to limit impact on local biodiversity, and ideally contribute to the enrichment of the biological diversity	See ESP 9.	See ESP 9
11 – Climate change	Yes	Building materials and project implementation, including construction activities and travel, may emit greenhouse gases	The conduct of a comprehensive impact assessment using GHG manage-ment and calculation tools has been evaluated but considered not necessary, due to the small scale of the project and negligible	The project will not be implemented at a large enough scale to significantly increase greenhouse gas (GHG) emissions. Nevertheless, the project has been screened to identify the main activities which will emit negligible GHGs, and principles will be followed to ensure these emissions are minimal. Activities which have the potential for nominal emissions are: •Travel for consultations, trainings, and monitoring. Activities will be planned in a way that minimises travel, and most of the travel will be local in nature. •Construction activities for which building materials have	Project reports. (Screening for signs that indicate changes to GHG emissions) Construction site inspection reports (covering assessments of GHG emissions through observation and discussion with	UN-H in coordination with MoNRE, MPWT Regular monitoring throughout the project

ESP principle	Initial ES risks pre-sent (Y/N)	Potential risk description	Impacts assessment	Safeguard measures	Monitoring indicator(s) and method	Responsibility and frequency
			emission of GHG. Ongoing screening of project activities will be sufficient.	been selected taking into account operational and embodied carbon emissions in line with best practice. •Transportation of materials for construction activities in Component 2: Materials will be sourced locally to minimise transportation, and this will be emphasised in procurement documents. The exception is components for the meteorological and hydrological stations which are not available in Lao PDR and will need to be imported. Materials will also be sourced in bulk whenever possible to minimise the number of deliveries. •Disposing of waste from construction sites, for which there is a requirement to follow the project's Resource Efficiency and Waste Management Plan. These and other measures described in the project's Resource Efficiency and Waste Management Plan (Annex 9) will help minimizing the impacts of GHG emissions. The IE and EE will continuously screen the project activities to ensure that GHG emissions remain minimal and to identify and react to potential unexpected increases of emissions.	contractors)	
12 – Pollution preven-tion and resource efficiency	Yes	Risks may arise from construction activities, such as waste of materials, use of unsustainable building materials, inappropriate disposal of waste, soil contamination due to spills or other types of accidents.		To avoid the listed potential risks, the IE envisages the following: •Use locally and sustainable sourced materials. •Incorporate local knowledge. •Integrate communities and marginalised groups at every step of the project •Minimize surplus and waste material through efficient design/planning •Maximize re-use and recycling of waste material •Establish dedicated waste collection areas on worksites - Use environment friendly and recycled materials whenever possible. A resources efficiency and waste management plan (see Annex 9) will be implemented to maximize the use of local resources and limit impacts on resources availability. The plan will apply to all project activities and to all contractors for construction works. Activities will be implemented considering the need to	Construction site inspection reports Number of complaints from the public Grievances from construction workers	UN-Habitat in coordination with MoNRE, MPWT Regular monitoring throughout the project

ESP principle	Initial ES risks pre-sent (Y/N)	Potential risk description	Impacts assessment	Safeguard measures	Monitoring indicator(s) and method	Responsibility and frequency
				avoid land contamination due to waste generation from construction works. On this matter, enterprises hired will have to provide the IE with a waste management plan to ensure construction works have limited impacts on soils and local ecosystems. Compliance with the resource efficiency and waste management plans will be checked during periodic inspections of construction sites and monitoring visits. Additionally, contractors will be required to adhere to sound procedures for occupational health and safety, which helps control hazardous work and minimize the risk of accidents that could lead to pollution.		
13 – Public health	Yes	Badly planned towns could lead to excessive waste or inaccessibility of social services. Construction works could lead to spills or other types of pollution affecting public health.	For town plans, assessments of potential risks and impacts will have to be conducted during the implementation of project activities as they depend on the outcome of the town planning process.	Overall, the project aims at providing fair and equitable access to benefits in a manner that is inclusive while not impeding access to basic health services, clean water and sanitation, energy, education, housing, safe and decent working conditions, and land rights. In this regard, the project represents limited to no risks of public health issues. The ESIA and the ESMP include public health analysis. The process of developing town master plans is to include a risk assessment covering relevant AF ESP principles. This includes assessing potential effects of town designs on public services affecting public health (e.g. waste management, water/sanitation). There are master plans planned for 6 towns with a combined population of 52,751. Master plans will be developed by experienced professionals who will consult with communities to ensure that public health is considered in the planning process. UN-Habitat will coordinate with town planners and will approve the finalised plans before they are presented to provincial authorities. Since pollution caused by construction activities can also pose risks to public health, the same safeguard measures described under ESP 12 also apply here. Potential public health risks from construction activities will	(Review of) Documented evidence of assessment of potential risks that could result from town master plans. See ESP 12.	MPWT: Verify evidence of risk assessment during town master planning. See ESP 12.

ESP principle	Initial ES risks pre-sent (Y/N)	Potential risk description	Impacts assessment	Safeguard measures	Monitoring indicator(s) and method	Responsibility and frequency
				be minimized through enforcement of Resource Efficiency and Waste Management plans and through screenings of construction contractors. The latter is to ensure that health and safety standards are in place and respected, thus minimizing the risks of accidents and spills that could lead to public health hazards.		
14 – Physical and cultural heritage	No	No risk				
15 – Lands and soil conservat ion	Yes	Local, limited and probably at most temporary in-crease in erosion resist-ance on a very local scale as a result of construction work. Potential low risk of lack of compliance with waste management procedure and risks related to potential contamination of soil	Impact on a maxi-mum of ca. 620-625 soil surfaces at new built or rehabilitated houses and buildings, leading to a maximum of 6-7 ha soil surface in total.	The process for selecting sites for the construction of new buildings is outlined under ESP 9 also applies to ESP 15. The safeguard measures stated in the Resource Efficiency and Waste Management Plan, which are to be adhered to by all contractors, are also applicable in the context of ESP 15. The monitoring requirements stated under ESP 9 also apply.	See ESP 9.	See ESP 9

Budget notes: Except for the measures related to ESP 9, 10 and 15, where a deployment of experts for on-site assessments may be required, cost associated with the implementation of the safeguard measures will be part of the regular duties and responsibilities of existing staff or contractors, and will therefore incur little to no additional cost. For the potential conduct of before-mentioned expert site assessments, an amount of USD 4,500 has been budgeted (apportioned equally to outputs 2.1.1, 2.2.1 and 2.3.1), covering consultant fees and travel related cost. Other cost related to (construction) site inspections and monitoring visits is integrated into the project execution cost.

6. Monitoring and evaluation arrangements

6.1.Periodic reports on monitoring and evaluation

The environmental and social risks management approach includes monitoring of potential risks and implementation of risks mitigation measures. This monitoring program commensurate with project activities and will report on the monitoring results to the Fund in the mid-term, annual, and terminal performance reports. Monitoring will be done to ensure that actions are taken in a timely manner and to determine if actions are appropriately mitigating the risk / impact or if they need to be modified in order to achieve the intended outcome. Annual reporting will include information about the status of implementation of this ESMP, including those measures required to avoid, minimize, or mitigate environmental and social risks. The reports shall also include, if necessary, a description of any corrective actions that are deemed necessary. It is recommended that these reports will be accompanied by location- and subject-specific maps and photo material.

An overview of the monitoring arrangements is provided in the table below.

Table 6: Monitoring arrangements for general risks management

Action	Indicator and method	Responsibility and frequency
Monitoring of capacity execution entities to comply	1. Guidelines and action plans shared 2. Monitoring reports comply to requirements	UN Habitat within half a year from inception when reports are required
Implementation of grievance mechanism	3. Grievance mechanism information is at target locations (buildings, etc.) 4. Grievance mechanism information is shown on UN-Habitat project website	UN Habitat in coordination with execution entities Within half a year from inception
Monitoring of measures to avoid or mitigate risks / impacts per output	5. See table above	UN Habitat in coordination with execution entities When reports are required

UN Habitat will assess annually the effectiveness of the project's Environmental and Social Management System (ESMS), and initiate adaptive measures as needed. The results from these assessments will inform the need for measures such as:

- Adjust resources allocated for the implementation and monitoring of the ESMS (e.g. need for dedicated social risk compliance personnel, need for training, additional funding, etc.).
- Need for revisions to the ESMP format, content, monitoring arrangements or reporting requirements.
- Need for revision of key documents associated with the ESMP (e.g. Gender Action Plan or Resource Efficiency and Waste Management Plan).
- Need for additional direction to project management regarding the management of the ESMS.

6.2.Grievance Mechanism

UN-Habitat will implement a grievance mechanism in the target areas, which will allow an accessible, transparent, fair and effective means of communicating if there are any concerns regarding project design and implementation. Employees, and people affected by the project will be made aware of the grievance mechanism for any criticism or complaint of an activity. This includes village chiefs in the target areas, who will facilitate/assist with the collection of grievance and, depending on the nature of the grievance, be involved in the resolution process.

These mechanisms consider the special needs of different ethnic groups as well as gender considerations. A hotline and mailbox (per community) will offer an immediate way for employees and people affected by the project to express their concerns. The hotline will offer services in local languages and dialects and offer the opportunity for people affected by the project to complain or provide suggestions on how to improve project design and implementation. The hotline will be available 24 hours every day. Grievance received are to be documented and logged in grievance registers.

Concerns are to be addressed at the closest appropriate level, i.e. at the provincial execution unit level or programme management/technical level. If a concern or grievance cannot be resolved through consultations and measures at the project management level, then UN-Habitat will facilitate the resolution of concerns.

Project staff will be trained in procedures for receiving calls and on the reporting of any grievances. Community leaders also will be briefed how to obtain and document feedback from community members on a regular basis.

In addition, monitoring activities allow project participants to voice their opinions or complaints as they may see fit. A questionnaire will be used to understand participants' perceptions of the project and capture suggestions to improve project design and implementation.

The address and e-mail address of the Adaptation Fund will also be made public (i.e. project website, facebook and mailbox) for anyone to raise concerns regarding the project:

Adaptation Fund Board secretariat
Mail stop: MSN P-4-400
1818 H Street NW
Washington DC
20433 USA
Tel: 001-202-478-7347
afbsec@adaptation-fund.org

Appendix A - Component 1 Risks/Impact Screening Sheet

Note that the full report is available on request, but questions which have been assessed as not applicable to the project have been removed from the following tables

TABLE 1: GENERAL INFORMATION	
Name, intro and problem description and need statement	
1. Name / title proposed adaptation measure / intervention	Increasing adaptive capacity of communities and provincial institutions to develop and sustain community infrastructure and housing
2. Name Country, town, community	Lao People's Democratic Republic: 1. Bokeo province- Pha Oudom district 2. Vientiane province- Vangvieng district 3. Khammouan province- Nongbok district 4. Champasak province- Moonlapamok district 5. Attapeau province- Phouvong district 6. Bolikhamxai province- Viengthong district and Xaychamphone district
3. Introduction	This is component 1 of the proposal, consisting of 8 outputs
4. Problem description and need statement	The low level of adaptive capacity in Lao PDR makes its population vulnerable to the climate related events to which it is exposed. The mandate for climate change adaptation is held by the Ministry of Natural Resources and Environment (MoNRE) which was established in 2011 and is still establishing itself at the subnational level in terms of infrastructure and human capacity. In some provinces there is a lack of understanding of climate change, minimal cross-sectoral coordination. Furthermore, the lack of s strong focal point and technical support at the provincial and district level hinders sectors (such as housing and urban planning) in progressing the integration of climate change adaptation into their plans and activities.
5. Adaptation action (how will the measure(s) address problems and needs)	The adaptive capacity at the provincial and district levels of Natural Resources and Environment, and Housing and Urban Planning sectors will be increased through activities including improved urban planning that promotes and enforces resilience measures in land-use, shelter and spatial planning in seven target district capitals from 6 provinces. Adaptive capacity will also be increased through capacity building in adaptation practices including hydrometeorological data gathering, climate resilient construction, and management of evacuation centres. The capacity building will also enable activities listed in component 2.

TABLE 2: ADAPTATION MEASURE / INTERVENTION DETAILS	
Location	
1. Location (map, showing issues and response action)	Target towns for the town planning component:  1.Bokeo province 2.Vientiane province 3.Khammouan province 4.Champasak province 5.Attapeau province 6.Bolikhamxai province (two master plans will be developed for this province)
Specifics (design dimensions and technique) and budget required	
2. Adaptation measure / intervention description (what will be developed)	**Output 1.1. Provision of accurate data to inform training for provincial and district staff** 1.1.1 Conducting capacity assessment on integration of climate change into urban plans for seven district capitals **Output 1.2: Institutions in seven district capitals have data to guide urban planning and have the capacity to conduct and update vulnerability assessments** 1.1.2 Conducting (or updating) risk and vulnerability assessments **Output 1.3 Officials in government institutions have capacity to develop climate resilient town plans** 1.3.1 Training provided to 1,733 provincial and district staff, as well as national government staff on mainstreaming climate adaptation into urban planning, including adaptive measures in spatial planning and land-use; and on resilient housing construction **Output 1.4 Seven district capitals have a working master plan to guide adaptive measures in urban planning, serving the towns' combined populations** 1.4.1 Development of seven town level master plans to guide the integration of climate change adaptation into socially inclusive housing construction, spatial planning and land use, ensuring sustainability of the houses constructed and rehabilitated under this project (component 2) as well as further development interventions, and influencing policy changes from the national level

	Output 1.5 Increased capacity of District Meteorological and Hydrological services in six provinces 1.5.1 Training provided for DMH staff on operation of meteorological and hydrological stations, and on climate information communication and early warning system. **Output 1.6 Resilience measures integrated into building guidelines** 1.6.1 Building guidelines developed which integrate climate change resilience **Output 1.7 District officials have capacity to manage community evacuation centres** 1.7.1 Training provided for district officials on managing community evacuation centres. **Output 1.8 Provision of training to 6,944 local carpenters and masons from 6 provinces to ensure capacity to build climate-resilient houses** 1.8.1 Training of trainers to build capacity in local carpenters and masons in climate resilient construction practices, and community-level trainings.
1. Budget required	Component 1: USD: 915,060
2. Start date of activity / works	August 2023
3. End date of activity / works	August 2027
Beneficiaries (disaggregated, vulnerable, marginalized, etc.) and benefits	
4. Beneficiaries (type and number, disaggregated)	<table><tr><th>Direct beneficiaries</th><th>Particulars</th><th>Total number of people</th></tr><tr><td>Output 1.3</td><td>Output 1.3.1</td><td>1,733</td></tr><tr><td>Output 1.8</td><td>Output 1.8.1</td><td>6,944</td></tr><tr><td>**Total beneficiaries**</td><td></td><td>**8,677**</td></tr></table>
5. How will equal access / benefits be ensured?	This component will focus on ensuring that all knowledge regarding climate change adaptation is disseminated to local stakeholders in order to build resilience at a local level.
6. What are the economic, social and environmental benefits of proposed measures to the community, marginalized and vulnerable groups and women and youth?	The proposed activities aim at building the resilience and improving the wellbeing of all indirect and direct beneficiaries. 1. Economically: Local planning which integrates climate change action will result in economic and environmental benefits through the building resilience and reducing losses from extreme weather events and protecting and restoring ecosystems. 2. Socially: The project will provide numerous direct and indirect benefits to target communities. Detailed vulnerability assessments and the development of town master plans will guide the trajectory of development and improvement of living conditions in the target towns. This will result in a long-term benefit for these communities and will contribute to the development of well-designed, inclusive and sustainable towns. 3. Environmentally: specific environmental benefits will vary from town to town. The vulnerability assessments conducted as part of the project will determine the status of the local ecosystems and the resulting data will feed into the town master plans, signifying that ecosystem protection and restoration will be integrated into the ongoing development of the towns.
7. How have beneficiary communities and groups been consulted (see detailed requirements in questions	See section II.H of the proposal. To inform the project, stakeholder consultations have been carried out at national and provincial levels, and in the target districts in all six provinces, with all identified subsectors of the target communities included. The project will be implemented in a participatory manner, with inclusive decision making at all stages.

below) and how will they be engaged in the future?	
8. Have relevant local authorities (and national government) been consulted and how will they be engaged in the future?	See section II.H of the proposal. See above.
Data and monitoring (data needs to measures effectiveness of measure - monitoring)	
9. What data is needed to measure the effectiveness of the proposed measure?	Initial Vulnerability Assessments have been conducted; however more-in depth assessments will be conducted which will feed into the master town plans. Regular consultation with MoNRE and MPWT to assess progress with regards to the implementation of outputs under this component.
10. Any data / consultations missing? How to get it?	Local consultations will be carried out in the district towns and provinces, including consultations with women and ethnic groups in the target towns.

TABLE 3: CONTEXT AND POTENTIAL RISKS	
Environmental and social context and potential risks (see also questions below)	
11. Description of gender and youth situation. Are there any unions, organisations in the area? How will these be involved?	There is bias towards men in decision making in Lao PDR and specific measures are therefore required to encourage and support the engagement of women in the decision-making process. Lao PDR has made significant progress on gender portfolio at the institutional level. However, efforts are yet to be made to ensure inclusivity with regards to the climate change adaptation and disaster risk reduction. The project proposal has been designed in consultation with women of all ethnic groups represented in the target areas. The project will ensure gender quotas in stakeholder consultations, encourage all stakeholders to engage female staff in all activities and will liaise with the local Lao Women Unions to enhance women and girls' participation and support community engagement. Furthermore, the project will also consider gender differentiated vulnerabilities when building climate change knowledge and will integrate gender-differentiated vulnerabilities into the selection criteria developed for the vulnerability assessment.

Appendix B - CHECKLIST OF POTENTIAL RISK AREAS OF NON-COMPLIANCE WITHIN THE ADAPTATION FUND'S ENVIRONMENTAL AND SOCIAL PRINCIPLES FOR COMPONENT 1

Potential Risk Area and Check Performed	Answer (Y/N)	Explanation why Yes/No and Reference to Information
ADAPTATION FUND PRINCIPLE 1: COMPLIANCE WITH THE LAW: ***Requirement: The proposed activity should be in compliance with all applicable domestic and international law.***		
1. Have all relevant rules, regulations and technical standards been identified?	YES	All relevant rules, regulations and standards have been identified for all proposed project activities. The main ones are listed in table 11 of part II, section E, and in table 1 of this report. Procedures for compliance of key ones initiated.
2. Have the procedures to comply, including authorizing offices been identified?	YES	See Part II.E
3. If an ESIA is required by national law for the proposed activity, has this been prepared and approved?	YES	This component of the project does not involve physical interventions and hence no ESIA is required by national law.
ADAPTATION FUND PRINCIPLE 2: ACCESS AND EQUITY: ***Requirement: Ensure fair and equitable access to benefits of the activity***		
4. Have all potential beneficiaries, including marginalized and vulnerable groups been identified?	YES	All project beneficiaries (i.e. population; groups) have been mapped (see overview table 9 part II. B and table 13 part II.H) for each project output.
5. Have rivals, disputants and concerns related to equal access of project beneficiaries been identified and are measures in place to avoid these?	YES	Community consultations and focus groups discussions have been conducted per beneficiary group to identify concerns related to equal access of project benefits.
6. Has the process of allocating and distributing benefits equally (fair and impartial access) been described?	YES	The project has robust mechanisms in place to ensure the local authorities have the necessary capacity to include all different sections of society and ensure the principle of leaving no one behind is adhered to.
ADAPTATION FUND PRINCIPLE 3: VULNERABLE AND MARGINALIZED GROUPS: ***Requirement: Avoid imposing any disproportionate adverse impacts on marginalized and vulnerable groups including children, women and girls, the elderly, indigenous people, tribal groups, displaced people, refugees, people living with disabilities, and people living with HIV/AIDS.***		
7. Have groups mentioned in the principle been identified and quantified?	YES	All project beneficiaries (i.e. population; groups) have been mapped (see overview table 9 part II. B and table 13 part II.H) for each project output. The project design will ensure that marginalized groups are involved in decision making at all stages of the project.
8. Have the characteristics of the marginalized or vulnerable groups been described?	YES	Initial community consultations and focus group discussions have been used (see Part II.H) to identify possible risks / adverse impacts of project activities on marginalized and vulnerable beneficiary groups (i.e. specific needs, limitations, constraints and requirements of groups).
9. Have potential adverse impacts that each marginalized and vulnerable group may experience from the activity been identified and have the groups been consulted on specific needs, limitations, constraints and requirements?	YES	As per above, any potential adverse impact has been identified. Further consultations with vulnerable groups to identify their specific needs, limitations and constraints will be done during the implementation of the project. This project will be implemented using a community-based, inclusive approach which draws together government institutions, mass organizations and community members, ensuring that all marginalized groups are included.

ADAPTATION FUND PRINCIPLE 4: HUMAN RIGHTS: ***Requirement: The activity shall respect and where applicable promote international human rights***		
10. Has any citing of the host country in any Human Rights Council Special Procedures been identified and has the project described how to deal with potential related issues?	YES	Laos Human rights not ratified:84 CAT-OP - Optional Protocol of the Convention against Torture CCPR-OP2-DP - Second Optional Protocol to the International Covenant on Civil and Political Rights aiming to the abolition of the death penalty CED - convention for the protection of all persons from enforced disappearance CED, Art.32 - interstate communication procedure under the international convention for the protection of all persons from enforced disappearance CMW- International Convention on the Protection of the Rights of Migrant Workers and Members of their Families Any agreement / contract signed will include reference to compliance with Human rights
11. Has it been identified if the activity could possibly affect land tenure arrangements and/or community-based property rights/customary rights to land, territories and/or resources and has the project described how to deal with potential related issues?	YES	The land tenure system in Laos poses a risk as much of many land plots in towns have not been mapped or recorded in a database. This could have an impact on the development of seven town level master plans (and vice-versa) which will guide the integration of climate change adaptation into housing construction as well as spatial planning and land use. The project is seen to have a positive impact by securing formal land tenure for project beneficiaries,
ADAPTATION FUND PRINCIPLE 5: GENDER EQUALITY AND WOMEN'S EMPOWERMENT: ***Requirement: Design and implement the activity in such a way that both women and men 1) have equal opportunities to participate; 2) receive comparable social and economic benefits; and 3) do not suffer disproportionate adverse effects during the development process***		
12. Has the legal and regulatory context with respect to gender equality and women's empowerment been analysed to identify any obstacles to comply?	YES	The proposed intervention integrates gender equality as a success factor and identifies opportunities to increase female participation in activities and decision-making processes (an overview is provided in Part II.K). Furthermore, the proposal has been designed in consultation with women of all ethnic groups. An aim of the project is to increase the percentage of women gaining further skills and qualifications in the public works and transport sector. To this end, a quota has been introduced for the number of women in trainings. A complete list of measures and targets aimed at minimizing various gender related risks is provided in the Gender Action Plan (see Annex 8).
13. Has the cultural, traditional, religious, or any other grounds that might result in differential allocation of benefits between men and women of the activity been analysed?	YES	The Departments of Public Works and Transport do not currently have a high percentage of female employees. Although the project aims to increase women's inclusion, experience has shown that including women in DPWT staffing is not easy. For this reason, these social aspects of the project will require monitoring. See section K part II *Gender assessment and integration.*
14. Does the project actively pursue equal participation and access to activity benefits through specific gender approach?	YES	A specific 'gender' (women and youth) approach and baseline section has been developed based on a gender assessment.
ADAPTATION FUND PRINCIPLE 6: CORE LABOUR RIGHTS: ***Requirement: The activity should meet the core labour standards as identified by the International Labour Organization and respect, promote ILO core labour standards***		
15. Has it been summarized how Executing Entities will comply to core labour standards?	YES	UN Habitat will apply ILO core labour standards + see below

[84] Treaty bodies Treaties (ohchr.org)

16. Has it been identified if the eight ILO core conventions have been ratified in project countries and if not ratified, are measures in place to avoid potential risks of non-compliance?	YES	Laos core labour rights (not) ratified Fundamental Conventions: 5 of 10 Governance Conventions (Priority): 3 of 4. Not ratified: 1. C122 - Employment Policy Convention, 1964 (No. 122) 2. C081- Labour Inspection Convention, 1947 (No.81) 3. C129- Labour Inspection (Agriculture) Convention, 1969 (No. 129) Technical Conventions: 57 of 176 Any agreement / contract signed will include reference to compliance with ILO labour standards.
17. Have potential risks of non-compliance with ILO core labour standards of the activity been identified through consultations (experts and communities) and are measures in place to avoid potential risks of non-compliance?	YES	The project will follow local and international regulations considering labour rights, including the ILO core labour standards and ensure that the working environment is free from child and forced labour and discrimination.
ADAPTATION FUND PRINCIPLE 7: INDIGENOUS PEOPLE: ***Requirement: The activity shall not be inconsistent with the rights and responsibilities set forth in the UN Declaration on the Rights of Indigenous Peoples and other applicable international instruments relating to indigenous peoples.***		
18. Has it been assessed if indigenous people are present in the activity target area?	YES	There are many ethnic groups that have been in Laos for thousands of years. The country operates on a principle of unity and inclusivity in which the uniqueness of all ethnic groups is acknowledged. The concept of indigenous groups is foreign to Lao culture and therefore does not have a focus separate from ethnic groups in the proposal.
19. Has it been identified if the host country ratified the ILO Convention 169?	YES	169 has not been ratified[85]
20. Has awareness about the rights of indigenous peoples and how it is a general principle in the implementation of the project been included in the project design?	N/A	N/A
*The requirements under the principles 8 to 15 are not applicable to Component 1 as it does not involve physical interventions**. Corresponding checks has therefore been removed.***		

[85] Up-to-date Conventions not ratified by Lao People's Democratic Republic (ilo.org)

Appendix C - Component 2 Risks/Impact Screening Sheet

TABLE 1: GENERAL INFORMATION	
Name, intro and problem description and need statement	
1. Name / title proposed adaptation measure / intervention	Empowering with adaptive measures through the construction of community infrastructure and retrofitting of houses
2. Name Country, town, community	Lao People's Democratic Republic: 1. Bokeo province- Pha Oudom district 2. Vientiane province- Vangvieng district 3. Khammouan province- Nongbok district 4. Champasak province- Moonlapamok district 5. Attapeau province- Phouvong district 6. Bolikhamxai province- Viengthong district and Xaychamphone district
3. Introduction	This is component 2 of the proposal, consisting of 4 outputs
4. Problem description and need statement	Construction methods in of houses in the six target provinces are often inadequate and non-climate resilient. Poor households live in semi-permanent houses that are constructed of grass, bamboo and plywood and thus show little resilience to storms and flooding meaning that these houses and means of livelihood are often destroyed when these weather events occur. Furthermore, there is a lack of key infrastructure related to climate change adaptation.
5. Adaptation action (how will the measure(s) address problems and needs)	Increasing the resilience of housing through the rehabilitation and retrofitting of houses in vulnerable, poor communities prone to climate related risks in the six target provinces in order to enable households to withstand climate change impacts such as extreme weather events. In addition to the rehabilitation and retrofitting of houses, this component of the project will also focus on providing district and community level infrastructure including equipment and hydrological stations, Coordination Centres and community evacuation centres.

TABLE 2: ADAPTATION MEASURE / INTERVENTION DETAILS	
Location	
6. Location (map, showing issues and response action)	**The Coordination Centres** The location of 6 provincial coordination centres doubling as DONRE offices:

Coordinates of the offices:

1.	Bokeo Province (Pak Tha):	20°06'24.0"N 100°35'54.8"E
2.	Vientiane Province (Meun):	18°15'54.4"N 101°57'20.7"E
3.	Bolikhamxay Province (Xaychamphone):	18°34'50.0"N 104°59'18.0"E
4.	Khammouan Province (Khounkham):	18°11'43.7"N 104°30'59.7"E
5.	Champasak Province (Paksong):	15°11'01.8"N 106°12'47.5"E
6.	Attapeu Province (Samakkhixay):	14°49'11.7"N 106°49'29.3"E

The evacuation centres
The 2 evacuation centres will be constructed in

• Pha Oudom in Bokeo province	20°13'18.06"N 100°32'38.60"E
• Xaychamphone in Bolikhamxai province	18°34'59.57"N / 104°59'18.14"E

The meteorological and hydrological stations

- Bokeo Province (Pak Tha district):	New station and exisitng station
- Vientiane Province (Vang Vieng district):	New station and existing station
- Bolikhamxay Province (Xaychamphone district):	New station and existing station
- Khammouane Province (Khounkham district):	New station and existing station
- Champasak Province (Champasak district)	New station and existing station
- Attapeu Province (Phouvong district):	New station and existing station

Houses
Locations of the six target towns for the construction, reconstruction, and rehabilitation of houses:

…Maps showing the locations of housing interventions have been deleted but can be seen as Figures 12 – 17 in the main proposal…

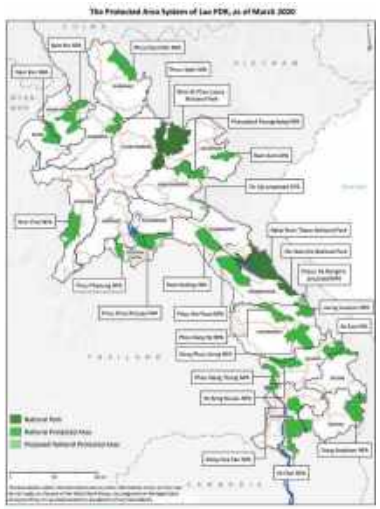
7. Has land ownership (private; public) been identified, as	1. The Coordination Centres will be constructed on government land to which the relevant offices already have a title. 2. Evacuation centres will be constructed on government land to which the relevant offices already have a title.

well as land use (also informally and consent with intervention given?	3. The houses will be built on private land.
8. Are there vulnerable / critical natural habitats in or close to the target area. If so, describe	National plans and legal documents: No national biodiversity conservation areas (NBCAs) are located in close proximity to the proposed project areas. Convention on Wetlands (Ramsar, Iran, 1971)[86]: The Beung Kiat Ngong Wetlands are located partly within the Xe Pian and Dong Hua Sao National Protected Areas. The wetlands are located approximately 50 km from the project area in the Moonlapamok district.  Map 1. Map of Beung Kiat Ngong Wetlands UNESCO Man and the Biosphere Programme[87]: Not in or close to target area National plans and policies on nature conservation area's and biodiversity[88]: No protected areas or national parks near the project sites.

[86] Lao People's Democratic Republic | Convention on Wetlands (ramsar.org)

[87] Biosphere reserves in Asia and the Pacific (unesco.org)

[88] 2016-MoNRE-IUCN -Fifth national report to the united nations convention on biological diversity –- DFRM-MoNRE and Technical support: IUCN - Vientiane, Lao PDR. And: Ministry of Natural Resources and the Environment (MoNRE), 2016. National Biodiversity Strategy and Action Plan for Lao PDR 2016-2025. Vientiane Lao PDR.



Source: The World Bank, Lao Biodiversity: A Priority for Resilient Green Growth, 2019

The GoL has designated three forest management categories, each with its own corresponding level of protection and use according to the Forestry Law. These are protection forests, conservation forests, and production forests. Protection and conservation forests have similar levels of protection and are both under the jurisdiction of the DFRM. Protection forests are defined in the 2007 forestry law as "forests classified for the function of protecting water resources, river banks, road sides, preventing soil erosion, protecting soil quality, strategic areas for national defence, protection from natural disasters, environmental protection and so on," while conservation forests are defined as "forests classified for the purposes of conserving nature, preserving plant and animal species, forest ecosystems and other valuable sites of natural, historical, cultural, tourism, environmental, educational and scientific research experiments".[89]
See map. Multiple project locations are located in conservation forest areas. None of the project locations are located in or near a protection forest area.

[89] Ministry of Natural Resources and the Environment (MoNRE), 2016. National Biodiversity Strategy and Action Plan for Lao PDR 2016-2025. Vientiane Lao PDR.

9. Is there vulnerable biodiversity in or close to the target area. If so, describe	IUCN Red List of Threatened Species (vulnerable to extinct)[90]: There are many animal and plant species that are on the IUCN red list in the vicinity (radius 25 km2) of all the project areas. The Lao PDR lies at the center of the Indomalayan biogeographical zone and as a result of its relatively wide ranges of latitude and altitude, as well as its rich water resources and tropical climate, it is home to a large number of species of plants, animals, fungi and other organisms. The country covers parts of four of the WWF's 200 Global Ecoregions1, and there are 27 Important Bird Areas (IBAs) which are distributed over the country with a total area of 23,850 km2. Of the 27 IBAs, eight are located fully outside the protected area system. The Lao PDR is one of the most biodiversity rich counties in Southeast Asia, with on-going discovery of new species. The great diversity of wildlife exists thanks to the Lao PDR's abundance of forest and water resources, which cover the entire length of the country. The forests and watersheds are important habitats for all species of wildlife and aquatic animals. These habitats are home to many rare and endangered species, some of which are extinct in some parts of the world but are still found in the Lao PDR.[91] No information has been made available about the presence of (protected) animal and plant species in or near the project locations. It is not easy to determine the impact of the project on biodiversity. Given the very limited scale of new construction of houses and buildings, the risk of damage to biodiversity is considered to be very limited.
10. Are there heritage sites in or close to the target area? If so describe	According to UNESCO[92], the Vat Phou Associated Settlements within the Champasak Cultural Landscape is located is located 50 km north of the project area in the Moonlapamok district.
11. Are there any fragile soils in the target area? If so, describe	No fragile soils were noted in the project area.
12. Are there lands that provide ecosystem services in the target area?	Local communities rely on local resources for household use, infrastructure development and expansion of settlement areas.
Specifics (design dimensions and technique) and budget required	
13. Adaptation measure / intervention description (what will be developed)	**Output 2.1. Target towns have socially inclusive housing, that builds resilience to current and anticipated climate change related impacts** 2.1.1 Construction of 6 demonstration resilience houses 2.1.2 Reconstruction of 600 existing houses (for 3,000 people) to increase resilience to climate change impacts 2.1.3 Rehabilitation of 4,942 houses to increase resilience to climate change impacts **Output 2.2: Displaced households have a safe place to shelter following their evacuation** 2.2.1 Construction of 2 Community Centres as a safe space for people in the event of extreme flooding. 2.2.2 Assessment and improvements made to 4 existing community evacuation centres, including the provision of WASH facilities **Output 2.3 The Natural Resources and Environment sector has a physical presence in the district, enabling improved climate change adaptation coordination and activities.** 2.3.1 Construction of 6 Coordination Centres for Adaptation over 6 provinces, serving as a base for climate change adaptation coordination.

[90] https://www.iucnredlist.org/search/map?landRegions=LA&searchType=species

[91] 2016-MoNRE-IUCN -Fifth national report to the united nations convention on biological diversity –- DFRM-MoNRE and Technical support: IUCN - Vientiane, Lao PDR

[92] Lao People's Democratic Republic - UNESCO World Heritage Convention

	Output 2.4 People in target districts are able to be provided with climatic information and early warning of impending hazards 2.4.1 Construction of new meteorological and hydrological stations in 6 provinces 2.4.2 Upgrading existing meteorological and hydrological stations in 6 provinces
14. Materials to be used	- Timber - Cement corrugated sheets (free of asbestos) - Wood - Steel rafters and purlins - Reinforced concrete
15. Dimensions and other technical specifications (length, size, etc.)	**Output 2.1:** The demonstration houses will be constructed using the "Building Back Better" principle. Two house designs have been developed which take into account cultural preferences and available materials. The demonstration houses will be construction according to the most appropriate design for local conditions. The rehabilitation of houses will focus on rehabilitating houses in extremely poor conditions by changing floor systems, replacing the main frame with improved materials and introducing bracing elements to improve the structural stability and flexibility to adapt to shocks (improved distribution of structural weight, wire bracing). Reconstruction will target houses in relatively better condition that require fewer adjustments, which will include upgrade works such as cross bracing, roof upgrading, upgrading of facades to protect from heat, an increase resilience to extreme weather. A screening checklist has been developed to determine the resilience needs of the (to be) selected houses. **Output 2.3:** The 6 Coordination Centres will be constructed on state land, with an area of approximately 1,432 m^2. **Output 2.4:** The 6 new stations will include the following: data logger, instrument enclosure, solar power supply, telemetry communication system, rain gauge-tipping bucket, wind speed and direction sensor-ultra sonic, air temperature and humidity sensor, radiation shield, barometric pressure sensor, global radiation sensor, lightning detection system, cloud base height sensor, soil temperature sensor, soil moisture sensor. The 9 stations that will be upgraded will include the following: solar power supply, rain gauge-tipping bucket, lightning detection system, soil temperature sensor, soil moisture sensor, ruggedized field laptops.
12. Budget required	Component 2: USD: 4,793,690
13. Does the intervention result in extra energy use. If so, describe	Energy use related to the project will be monitored, managed and maintained to remain at a nominal rate of increase.
14. Start date of activity / works	August 2023
15. End date of activity / works	August 2026

Beneficiaries (disaggregated, vulnerable, marginalized, etc.) and benefits

16. Beneficiaries (type and number, disaggregated)

	Particulars	Number of houses	Total number of people
Direct beneficiaries			
Output 2.1	Output 2.1.1	6	33,536
	Output 2.1.2	600	
	Output 2.1.3	4,942	
Indirect beneficiaries			
Output 2.3 and 2.4	Output 2.3.1		188,252
	Output 2.4.1		
	Output 2.4.2		
Total beneficiaries			**221,770**

17. How will equal access / benefits be ensured?

Beneficiaries for the construction, reconstruction and rehabilitation of houses (targeting individual households) will be selected using a clearly defined process and transparent selection criteria. The selection criteria include poverty, vulnerability, and house condition. Setting the criteria before beneficiaries are selected and following the criteria, will ensure that the selection process is carried out in a fair and non-discriminatory manner. Beneficiaries for the demonstration houses will be selected before the houses are constructed in order to promote ownership of the project implementation, to enable them to make decisions regarding details of their house, and to enable them to participate in the construction process. The reconstruction of houses will benefit 600 of the poorest households in the 6 target towns that are indicated as a hazard level 4. The rehabilitation of 4,942 houses will benefit households at the 6 proposed towns that are classified as Hazard level 2 and 3.

Gender considerations have also been incorporated into the project design. Consultations in each town will include all groups and the Lao Women's Union (LWU) will be involved.

18. What are the economic, social and environmental benefits of proposed measures to the community, marginalized and vulnerable groups and women and youth?

The proposed activities aim at building the resilience and improving the wellbeing of all indirect and direct beneficiaries.

1. Economically: The construction of Coordination Centres will activate climate change adaptation in districts, this along with the construction and reconstruction and rehabilitation of houses, will economically benefits through the building of resilience, reducing losses from extreme weather events. In previous disasters that have destroyed houses, it has fallen to the local authorities to provide funding for housing displaced people and for recovery and rebuilding. This has detracted from their funds for implementing development planning. Without the need to replace houses, this funding can contribute to achieving development goals instead of maintaining houses.
2. Socially: The project will ensure that to engage directly with all ethnic groups represented in each town and members of ethnic groups will benefit from more resilient houses and will be made aware of climate change and adaptation. They will also benefit from the evacuation centres, improved early warning systems and improved adaptation coordination. The project will also build connections between DoNRE and DPWT offices, contributing to cross-sectoral coordination, which is a key challenge in climate change adaptation in Lao PDR. Connections will also be built between the government offices and local communities, also improving local coordination. In previous UN-Habitat projects, such relationships have been reported as having an enduring benefit.
3. Environmentally: specific environmental benefits will vary from town to town.

19. How have beneficiary communities and groups been consulted (see detailed requirements in questions below) and how will they be engaged in the future?	See section II.H of the proposal. To inform the project, stakeholder consultations have been carried out at national and provincial levels, and in the target districts in all six provinces, with all identified subsectors of the target communities included. The project will be implemented in a participatory manner, with inclusive decision making at all stages. For newly constructed demonstration houses, two designs have been developed, based on the data provided by the consultations.
20. Have relevant local authorities (and national government) been consulted and how will they be engaged in the future?	See section II.H of the proposal. See above
Data and monitoring (data needs to measures effectiveness of measure - monitoring)	
21. What data is needed to measure the effectiveness of the proposed measure?	Initial Vulnerability Assessments have been conducted, however more in-depth Climate Risk and Vulnerability Assessments will be conducted to provide data on the locations within each town that is deemed to be at risk of climate-related hazards. These assessments will also assess the status of local ecosystems.
22. Any data / consultations missing? How to get it?	Local consultations will be carried out in the district towns and provinces, including consultations with women and ethnic groups in the target towns.

TABLE 3: CONTEXT AND POTENTIAL RISKS	
Environmental and social context and potential risks (see also questions below)	
23. Is an EIAs required by national law? If yes, has this been conducted / will it be conducted? Have outcomes been shared publicly?	According to the Lao Decree on Environmental Impact Assessment (Article 8 paragraph 2), the project activities do not fall under the ESIA-required projects. However, the implementation of an Initial Environmental Examination (IEE) is mandatory according to the Lao's Ministerial Instruction on the Process of Initial Environmental Examination for project and activities that fall under Group 1 (Article 2.2) "Investment projects and activities that are anticipated to cause insignificant or minimal environmental and social impacts". It is also stated that if an EIA is not required, the Provincial/Capital Department of Natural Resources and Environment will impose certain conditions or requirements to the project owner for the implementation of an Environmental and Social Management and Monitoring Plan (Article 2.1).
24. Description of gender and youth situation. Are there any unions, organisations in the area? How will these be involved?	There is bias towards men in decision making in Lao PDR and specific measures are therefore required to encourage and support the engagement of women in the decision-making process. Lao PDR has made significant progress on gender portfolio at the institutional level. However, efforts are yet to be made to ensure inclusivity with regards to the climate change adaptation and disaster risk reduction. The project proposal has been designed in consultation with women of all ethnic groups represented in the target areas. The project will ensure gender quotas in stakeholder consultations, encourage all stakeholders to engage female staff in all activities and will liaise with the local Lao Women Unions to enhance women and girls' participation and support community engagement.

Appendix D - CHECKLIST OF POTENTIAL RISK AREAS OF NON-COMPLIANCE WITHIN THE ADAPTATION FUND'S ENVIRONMENTAL AND SOCIAL PRINCIPLES FOR COMPONENT 2

Potential Risk Area and Check Performed	Answer (Y/N)	Explanation why Yes/No and Reference to Information
ADAPTATION FUND PRINCIPLE 1: COMPLIANCE WITH THE LAW: ***Requirement: The proposed activity should be in compliance with all applicable domestic and international law.***		
1. Have all relevant rules, regulations and technical standards been identified?	YES	All relevant rules, regulations and standards have been identified for all proposed project activities. The project and all its stakeholder will comply with domestic and international laws, including the following: 1. Environmental Protection Law (EPL) 2012. 2. Environmental Impact Assessment Decree of 2010. 3. Law on Land 2003. 4. Law on Water and Water Resources 1996. 5. Labour Law 2013. 6. Law on National Heritage 2005. 7. Law on Urban Plans; and 8. Law on Investment Promotion. A more comprehensive list of rules, regulations, standards and procedures can be found in table 11, part II, section E, and in table 1 of this report. Possible mitigation measures are described in the relevant parts of this document. Procedures for compliance of key ones initiated.
2. Have the procedures to comply, including authorizing offices been identified?	YES	See Part II.E
3. If an ESIA is required by national law for the proposed activity, has this been prepared and approved?	YES	The project activities do not fall under the ESIA-required projects as mentioned in the list referred to in Article 8 paragraph 2 of the Lao Decree on Environmental Impact Assessment[93]. Implementation of an IEE is mandatory and, according to Article 2.1 of the Lao's Ministerial Instruction on the Process of Initial Environmental Examination[94], can lead to the implementation of further ESIA.
ADAPTATION FUND PRINCIPLE 2: ACCESS AND EQUITY: ***Requirement: Ensure fair and equitable access to benefits of the activity***		
4. Have all potential beneficiaries, including marginalized and vulnerable groups beer identified?	YES	All project beneficiaries (i.e. population; groups) have been mapped (see overview in table 9, part II, section B and table 13, part II, section H) for each project output.
5. Have rivals, disputants and concerns related to equal access of project beneficiaries been identified and are measures in place to avoid these?	YES	Community consultations and focus groups discussions have been conducted per beneficiary group to identify concerns related to equal access of project benefits.

[93] Lao People's Democratic Republic Peace Independence Democracy Unity Prosperity. DECREE ON ENVIRONMENTAL IMPACT ASSESSMENT. Government No. 21/GOL. Vientiane Capital, date 31 January 2019

[94] Lao People's Democratic Republic Peace Independence Democracy Unity Prosperity. Ministry of Natural Resources and Environment. No. 8029/MONRE. Vientiane Capital, 17 December 2013. Ministerial Instruction on the Process of Initial Environmental Examination of the Investment Projects and Activities.

Potential Risk Area and Check Performed	Answer (Y/N)	Explanation why Yes/No and Reference to Information
6. Has the process of allocating and distributing benefits equally (fair and impartial access) been described?	YES	With regards to the two main construction components, namely the reconstruction of 600 houses and the rehabilitation of 4,942 houses, a detailed beneficiary selection process has been described in part II of section A. The section includes provisions that will ensure fair and impartial distribution of project benefits.
ADAPTATION FUND PRINCIPLE 3: VULNERABLE AND MARGINALIZED GROUPS: ***Requirement: Avoid imposing any disproportionate adverse impacts on marginalized and vulnerable groups including children, women and girls, the elderly, indigenous people, tribal groups, displaced people, refugees, people living with disabilities, and people living with HIV/AIDS.***		
7. Have groups mentioned in the principle been identified and quantified?	YES	All project beneficiaries (i.e. population; groups) have been mapped (see overview table 9 part II. B and table 13 part II.H) for each project output. The project design will ensure that marginalized groups are involved in decision making at all stages of the project.
8. Have the characteristics of the marginalized or vulnerable groups been described?	YES	Initial community consultations and focus group discussions have been used (see Part II.H) to identify possible risks / adverse impacts of project activities on marginalized and vulnerable beneficiary groups (i.e. specific needs, limitations, constraints and requirements of groups).
9. Have potential adverse impacts that each marginalized and vulnerable group may experience from the activity been identified and have the groups been consulted on specific needs, limitations, constraints and requirements?	YES	As per above, any potential adverse impact has been identified. However, ongoing consultations will be organized with specific groups identified in each town throughout the project implementation to ensure that the requirements and aspirations of all groups are considered in the design of the houses. The Lao Women's Union (LWU) will be involved to ensure women's participation in decision making.
ADAPTATION FUND PRINCIPLE 4: HUMAN RIGHTS: ***Requirement: The activity shall respect and where applicable promote international human rights***		
10. Has any citing of the host country in any Human Rights Council Special Procedures been identified and has the project described how to deal with potential related issues?	YES	Laos Human rights not ratified:[95] CAT-OP - Optional Protocol of the Convention against Torture CCPR-OP2-DP - Second Optional Protocol to the International Covenant on Civil and Political Rights aiming to the abolition of the death penalty CED - convention for the protection of all persons from enforced disappearance CED, Art.32 - interstate communication procedure under the international convention for the protection of all persons from enforced disappearance CMW- International Convention on the Protection of the Rights of Migrant Workers and Members of their Families Any agreement / contract signed will include reference to compliance with Human rights
11. Has it been identified if the activity could possibly affect land tenure arrangements and/or community-based property rights/customary rights to land, territories and/or resources	YES	The Coordination Centres will be constructed on government land to which the relevant offices already have a title. Evacuation centres will be constructed on government land to which the relevant offices already have a title. A potential risk could arise with regards to the construction of houses. The land tenure system in Laos poses a risk as much of many land plots in towns have not been mapped or recorded in a database. Furthermore, while Art. 130 of the new Land Law (2019) provides for the recognition of customary land without documents, the recognition of this in cases of expropriation

[95] Treaty bodies Treaties (ohchr.org)

and has the project described how to deal with potential related issues?		is often left to the discretion of government officials, with no accountability to an independent decision-making process. The project must therefore ensure that consent is given to construct on private land and must ensure that the land has a title to avoid expropriation or, where this is not possible, to identify other ways to retain project benefits.
ADAPTATION FUND PRINCIPLE 5: GENDER EQUALITY AND WOMEN'S EMPOWERMENT: ***Requirement: Design and implement the activity in such a way that both women and men 1) have equal opportunities to participate; 2) receive comparable social and economic benefits; and 3) do not suffer disproportionate adverse effects during the development process***		
12. Has the legal and regulatory context with respect to gender equality and women's empowerment been analysed to identify any obstacles to comply?	YES	The proposed intervention integrates gender equality as a success factor and identifies opportunities to increase female participation in activities and decision-making processes (an overview is provided in Part II.K). Furthermore, the proposal has been designed in consultation with women of all ethnic groups. The project will ensure that consultations with women continue to take place throughout the project lifecycle. In the context of reconstruction and rehabilitation works, the consultations will help ensuring that special needs of women and other vulnerable groups will be considered. These and other requirement are described in more detail in the Gender Action Plan (see Annex 8).
13. Has the cultural, traditional, religious, or any other grounds that might result in differential allocation of benefits between men and women of the activity been analysed?	YES	See section K part II *Gender assessment and integration.*
14. Does the actively pursue equal participation and access to activity benefits through specific gender approach?	YES	A specific 'gender' (women and youth) approach and baseline section has been developed based on a gender assessment.
ADAPTATION FUND PRINCIPLE 6: CORE LABOUR RIGHTS: ***Requirement: The activity should meet the core labour standards as identified by the International Labour Organization and respect, promote ILO core labour standards***		
15. Has it been summarized how Executing Entities will comply to core labour standards?	YES	UN Habitat will apply ILO core labour standards + see below
16. Has it been identified if the eight ILO core conventions have been ratified in project countries and if not ratified, are measures in place to avoid potential risks of non-compliance?	YES	Laos core labour rights (not) ratified Fundamental Conventions: 5 of 10 Governance Conventions (Priority): 3 of 4. Not ratified: 1. C122 - Employment Policy Convention, 1964 (No. 122) 2. C081- Labour Inspection Convention, 1947 (No.81) 3. C129- Labour Inspection (Agriculture) Convention, 1969 (No. 129) Technical Conventions: 57 of 176 Any agreement / contract signed will include reference to compliance with ILO labour standards.
17. Have potential risks of non-compliance with ILO core labour standards of the activity been identified through consultations (experts and communities) and are measures in place to avoid potential risks of non-compliance?	YES	Potential risks could arise from the construction-related activities. The project will engage contractors for the implementation of construction works, who will likely hire personnel from local communities for both skilled and unskilled work. This process carries the risk of exploitative practices such as hiring school-age children, employing people on insecure contracts, paying below minimum wage, discrimination against women, or unsafe working conditions. To prevent or minimise such risks and safeguard workers' rights as per ILO core labour standards, the project will implement measures to screen all contracted enterprises. These screening measures will ensure that workers are hired in compliance with the ILO standards and the Lao Labour Law, receive fair compensation, are not subjected to discrimination, and work in safe environments with protocols for occupational health and safety and anti-harassment and complaint

		procedures in place. Ongoing monitoring, including reviewing working contracts and speaking with construction workers, will be necessary to ensure continued adherence to these standards.
ADAPTATION FUND PRINCIPLE 7: INDIGENOUS PEOPLE: ***Requirement: The activity shall not be inconsistent with the rights and responsibilities set forth in the UN Declaration on the Rights of Indigenous Peoples and other applicable international instruments relating to indigenous peoples.***		
18. Has it been assessed if indigenous people are present in the activity target area? If so:	YES	Note: In this context the term "ethnic people" will be used synonymous with "indigenous people" as they share many of the same identifying characteristics. There are many ethnic groups that have been in Laos for thousands of years. The country operates on a principle of unity and inclusivity in which the uniqueness of all ethnic groups is acknowledged. The concept of indigenous groups is foreign to Lao culture and therefore does not have a focus separate from ethnic groups in the proposal.
19. Has it been identified if the host country ratified the ILO Convention 169?	YES	169 has not been ratified[96]
20. Has it been described how the project (and activity) will be consistent with UNDRIP, and particularly with regard to Free, Prior, Informed Consent (FPIC) during project design, implementation and expected outcomes related to the impacts affecting the communities of indigenous peoples?	YES	The project recognizes the rights of all ethnic groups according to the principles in the UNDRIP, including Free, Prior, Informed Consent (FPIC). Throughout every stage of the project, including the initial consultations which have already been conducted, all ethnic groups in the target areas will be involved in project decision making, and the engagement of ethnic groups will be monitored.
21. Has it been described how indigenous peoples will be involved in the design and the implementation of the project and provide detailed outcomes of the consultation process of the indigenous peoples?	YES	Representatives of all ethnic groups in the target areas have been included in initial consultations and will continue to be involved in decision making. Engagement of ethnic groups will also be monitored and further consultations on specific needs and concerns will be carried out.
ADAPTATION FUND PRINCIPLE 8: INVOLUNTARY RESETTLEMENT: ***Requirement: The activity shall be designed and implemented in a way that avoids or minimizes the need for involuntary resettlement.***		
22. Has it been determined if physical or economic displacement is required by the activity and if it is voluntary or involuntary (through identification of land ownership and use (also informally) and consultations on consent to the activity?	YES	This component of the project involves the construction of offices, evacuation centres and houses as well as the improvement of existing houses on land that has already has already been set apart for such purposes and as such, no movement or resettlement is involved.
ADAPTATION FUND PRINCIPLE 9: PROTECTION OF NATURAL HABITATS:		

[96] Up-to-date Conventions not ratified by Lao People's Democratic Republic (ilo.org)

Requirement: The activity shall not result in unjustified conversion or degradation of critical natural habitats		
23. Has the presence in or near the activity area of natural habitats been identified?	YES	The proposed construction of houses will take place in built-up areas, away from protected natural habitats. The project will also focus on limiting impacts to natural habitats and ecosystems. Convention on Wetlands (Ramsar, Iran, 1971)[97]: Not in or close to target areas (Beung Kiat Ngong Wetlands, Xe Champhone Wetlands). UNESCO Man and the Biosphere Programme[98] No target areas (Biosphere reserves) in in Laos.
24. Has the potential of activity to impact directly, indirectly, or cumulatively upon natural habitats been identified?	YES	While the project will not involve the destruction of natural assets, with regards to the relatively rural environment and the forest coverage in the selected provinces, the project will particularly focus in limiting impacts to legally protected areas and critical natural habitats and ecosystems. The GoL has designated three forest management categories, each with its own corresponding level of protection and use according to the Forestry Law. These are protection forests, conservation forests, and production forests. Protection and conservation forests have similar levels of protection and are both under the jurisdiction of the DFRM. Protection forests are defined in the 2007 forestry law as "forests classified for the function of protecting water resources, river banks, road sides, preventing soil erosion, protecting soil quality, strategic areas for national defence, protection from natural disasters, environmental protection and so on," while conservation forests are defined as "forests classified for the purposes of conserving nature, preserving plant and animal species, forest ecosystems and other valuable sites of natural, historical, cultural, tourism, environmental, educational and scientific research experiments".[99] See map below. Multiple project locations are located in conservation forest area's. None of the project locations are located in or near a protection forest area. 

[97] https://www.ramsar.org/wetland/lao-peoples-democratic-republic

[98] https://en.unesco.org/biosphere/aspac

[99] Ministry of Natural Resources and the Environment (MoNRE), 2016. National Biodiversity Strategy and Action Plan for Lao PDR 2016-2025. Vientiane Lao PDR.

25. Are there any risks management arrangement in place for potential risks identified above?	YES	Construction sites will be chosen considering present natural assets. To ensure activities will not have adverse impacts on natural habitats, and with the aim to build environmental awareness over the long run, the following will be ensured: • Using sustainable resources for building and retrofitting activities; • Ensuring construction integrates local ecosystems into design. • Incorporating protection of habitats and ecosystems into action planning. Additional requirements are covered in the Resource Efficiency and Waste Management Plan (see Annex9)
26. If such habitats exist, has the location of the critical habitat in relation to the project and why it cannot be avoided, as well as its characteristics and critical value been described?	YES	No critical habitats have been identified in the vicinity of the project.
ADAPTATION FUND PRINCIPLE 10: CONSERVING BIODIVERSITY: ***Requirement: The activity shall be designed and implemented in a way that avoids any significant or unjustified reduction or loss of biological diversity or the introduction of known invasive species.***		
27. Has the presence in or near the project/programme area of important biological diversity been identified?	NO	Although there is a lack of local information on local biodiversity, several endangered species have been identified for Lao PDR (IUCN Red List of Threatened Species (vulnerable to extinct)[100]: in the vicinity (radius 25 km^2) of the project areas there are many of animal and plant species that are on the IUCN red list).
28. Has the potential of a significant or unjustified reduction or loss of biological diversity, and the potential to introduce known invasive species been identified?	YES	If for implementation purposes the IE needs to bring commodities or materials, particular attention will be paid to not introducing invasive species. Construction sites will be carefully chosen in concertation with local entities and communities and considering the absence of significant biodiversity. All activities will also be developed and implemented to limit impact on local biodiversity, and ideally contribute to the enrichment of the biological diversity.
29. If important biological diversity exists (Biological diversity), have the elements of known biological diversity importance in the project/programme area been described?	NO	A lack of information regarding this currently exists. If there is uncertainty about the existence of significant biological diversity, external experts will be contracted to conduct initial site assessments, to collect photo material and develop checklist for location-specific inventory and possible measures. Depending on the course of action, further site inspections will be conducted during construction work and also at completion.
ADAPTATION FUND PRINCIPLE 11: CLIMATE CHANGE: ***Requirement: The activity shall not result in any significant or unjustified increase in greenhouse gas emissions or other drivers of climate change.***		
30. When relevant, has a risk-based assessment of resulting increases in the emissions of greenhouse gases or in other drivers of climate change been conducted?	YES	A risk assessment has been conducted and the project concluded that the scale of activities to be conducted is not large enough to significantly increase greenhouse gas (GHG) emissions. Nevertheless, during the assessment the project has identified the main activities which will emit negligible GHGs, and principles to be followed to ensure these emissions are minimal. A list of such measures in included in the Resource Efficiency and Waste Management Plan (see Annex 9).
ADAPTATION FUND PRINCIPLE 12: POLLUTION AND RESOURCE EFFICIENCY: ***Requirement: The activity shall be designed and implemented in a way that meets applicable international standards for maximizing energy efficiency and minimizing material resource use, the production of wastes, and the release of pollutants.***		
31. Has it been shown how the concept of minimization of resource has been applied in the activity design and how	YES	A Resource Efficiency and Waste Management Plan has been developed that will apply to all project activities to maximize the use of local resources and limit the impacts on resources availability. The project will also ensure to use locally and sustainably sourced materials.

[100] https://www.iucnredlist.org/search/map?landRegions=LA&searchType=species

this will be effective during implementation? Are the possible inefficiencies in energy and material resource use and waste and pollution due to project activity?		
32. Does the activity included preventing waste and pollution by e.g. preparing a waste and pollution prevention and management plan for the activity or whole project/programme?	YES	This is covered in the Resource Efficiency and Waste Management Plan (see Annex 9).
ADAPTATION FUND PRINCIPLE 13: PUBLIC HEALTH: ***Requirement: The activity shall be designed and implemented in a way that avoids potentially significant negative impacts on public health.***		
33. Has it been demonstrated that the activity will not cause potentially significant negative impacts on public health by screening for possible risks / impacts (related to safe water, clean air, healthy workspace, safe house, communities and roads, employment and working conditions, etc. and including the results of the screening in the Proposal, including general project measures to avoid risks?	YES	The project represents limited to no risks on public health issues as it aims to provide fair and equitable access to benefits in a manner that is inclusive while not impeding access to basic health services, clean water and sanitation. The development of town-level master plans bears a small risk of having indirect impacts on public health as badly planned towns could lead to excessive waste or inaccessibility of social services. The potential risks associated with construction activities will be minimized through the enforcement of various requirements on contractors, such as occupational health and safety requirements or requirements stated in the project's Resource Efficiency and Waste Management Plan. These requirements will not only minimize potential risks to workers but also to public health.
ADAPTATION FUND PRINCIPLE 14: PHYSICAL AND CULTURAL HERITAGE: ***Requirement: The activity shall be designed and implemented in a way that avoids the alteration, damage, or removal of any physical cultural resources, cultural sites, and sites with unique natural values recognized as such at the community, national or international level.***		
34. Has the presence of heritage in or near the activity been identified?	YES	According to UNESCO[101], the Vat Phou Associated Settlements within the Champasak Cultural Landscape is located is located 50 km north of the project area in the Moonlapamok district. The project therefore represents no risks on physical and cultural heritage issues.
ADAPTATION FUND PRINCIPLE 15: LAND AND SOIL EROSION: ***Requirement: The activity shall be designed and implemented in a way that promotes soil conservation and avoids degradation or conversion of productive lands or land that provides valuable ecosystem services.***		
35. Soil conservation: Has the presence of fragile soils (e.g. soils on the margin of a desert area, coastal soils, soils located on steep slopes, rocky areas with very thin soil) within the activity area been identified?	NO	No fragile soils were identified in the project area. Information on local soil properties and erosion sensitivity is limited.
36. Soil conservation: Have activities that could result in the loss of otherwise	YES	The natural state of the targeted lands will be maintained, and the proposed designs and interventions will ensure that valuable lands are not converted for urbanisation processes and that soil erosion is prevented in the selected areas.

[101] Lao People's Democratic Republic - UNESCO World Heritage Convention

non-fragile soil been identified. If such soils exist and potential soil loss activities will take place:		
37. Has the following been described? 1. Soils that may be impacted by the activity 2. Activities that may lead to loss of soils. 3. Reasons why soil loss is unavoidable 4. Measures that will be taken to minimize soil loss.	YES	Activities will be implemented considering the need to avoid land contamination due to waste generated during construction works. Local, limited and probably at most temporary increase in erosion resistance on a very local scale may occur as a result of construction work.
38. Has it been described how soil conservation has been promoted to the Executing Entities?	YES	Enterprises hired will have to present a waste management plan to avoid land contamination, as per the Resource Efficiency and Waste Management Plan in Annex 9.
39. Valuable lands: Have productive lands and/or lands that provide valuable ecosystem services within the activity area been identified.	NO	There is a lack of information regarding the presence of valuable lands near the project area. If there is uncertainty about the existence lands with valuable ecosystems, external experts will be contracted to conduct initial site assessments and, if necessary, to propose possible measures. Depending on the course of action, further site inspections will be conducted during construction work and also at completion. The proposed designs and interventions will ensure that valuable lands are not converted for urbanisation processes.

Appendix E - Component 3 Risks/Impact Screening

TABLE 1: GENERAL INFORMATION	
Name, intro and problem description and need statement	
1. Name / title proposed adaptation measure / intervention	Strengthening community awareness and mainstreaming adaptation through advocacy and knowledge management
2. Name Country, town, community	Lao People's Democratic Republic: 1. Bokeo province- Pha Oudom district 2. Vientiane province- Vangvieng district 3. Khammouan province- Nongbok district 4. Champasak province- Moonlapamok district 5. Attapeau province- Phouvong district 6. Bolikhamxai province- Viengthong district and Xaychamphone district
3. Introduction	This is component 3 of the proposal, consisting of 4 outputs
4. Problem description and need statement	There is a need to develop community-based processes to enhance climate resilience at the local level. This is particularly evident when it comes to the housing sector, which is impacted by natural disasters such as floods and landslides.
5. Adaptation action (how will the measure(s) address problems and needs)	This component will strengthen community knowledge of climate change adaptation and its application in the housing sector in the target communities. Advocacy in the housing and urban planning sector in the target provinces will strengthen multilevel governance and sustainability and provide input into national policy and planning. Effective knowledge management will ensure inclusivity in sharing outputs, progress and lessons learned with stakeholders. Furthermore, making this knowledge available will enable replication and scaling up of processes.

TABLE 2: ADAPTATION MEASURE / INTERVENTION DETAILS	
Location	
6. Location (map, showing issues and response action)	This component of the project will take place in the target communities listed in Table 1, section 2 above.
Specifics (design dimensions and technique) and budget required	
7. Adaptation measure / intervention description (what will be developed)	**Output 3.1. Knowledge and awareness enhanced in the housing and urban planning sector at national and subnational levels, ensuring sustainability and influencing policy changes from the national level.** 3.1.1 Project activities and results are captured and disseminated through dissemination workshop. **Output 3.2 Knowledge available to inform climate policy and planning to enhance climate change adaptation in the shelter sector** 3.2.1 Strategy developed as guidance document for policy development on the integration of climate change adaptation measures in the housing sector 3.2.2 Technical guidance on Housing, Land and Property (HPL) – this can also include a HPL mapping to better understand the land and property-related context **Output 3.3 Town populations aware of predicted adverse impacts of climate change, and of resilient shelter construction and adaptive measures in spatial planning and land-use** 3.3.1 IEC materials produced for target communities 3.3.2 Community awareness raising activities conducted

	Output 3.4 Seven district capitals have a working master plan to guide adaptive measures in urban planning, serving the towns' combined populations 3.4.1 Shelter response profile (technical document) that can feed the Shelter Cluster community of practice (https://www.sheltercluster.org/global/com munities-practice) and contribute to the "promoting safer building" initiative (https://www.sheltercluster.org/workinggroup/promoting-safer-building) 3.4.2 Manual on managing community evacuation centres 3.4.3 Technical manual on construction practices for climate-resilient housing for carpenters 3.4.4 Training guidelines produced on resilient shelter construction and adaptive measures in spatial planning and land-use for Subnational DHUP staff
8. Materials to be used	N/A as this component does not involve physical interventions.
1. Budget required	Component 3: USD: 400,000
2. Start date of activity / works	August 2023
3. End date of activity / works	August 2027
Beneficiaries (disaggregated, vulnerable, marginalized, etc.) and benefits	
4. Beneficiaries (type and number, disaggregated)	
5. How will equal access / benefits be ensured?	The close working relationships between local authorities and communities will ensure that the adaptation measures are understood throughout the communities to promote their adaptation. Lessons learned will be disseminated to all levels of government.
6. What are the economic, social and environmental benefits of proposed measures to the community, marginalized and vulnerable groups and women and youth?	The proposed activities aims at building the resilience and improving the wellbeing of all indirect and direct beneficiaries. 1. Economically: Local planning which integrates climate change action will result in economic and environmental benefits through the building resilience and reducing losses from extreme weather events and protecting and restoring ecosystems. 2. Socially: Connections will be built between the government and the local communities. 3. Environmentally: specific environmental benefits will vary from town to town.
7. How have beneficiary communities and groups been consulted (see detailed requirements in questions below) and how will they be engaged in the future?	See section II.H of the proposal. To inform the project, stakeholder consultations have been carried out at national and provincial levels, and in the target districts in all six provinces, with all identified subsectors of the target communities included. The project will be implemented in a participatory manner, with inclusive decision making at all stages.
8. Have relevant local authorities (and national government) been consulted and how will they be engaged in the future?	See section II.H of the proposal. See above.

Data and monitoring (data needs to measure effectiveness of measure - monitoring)	
9. What data is needed to measure the effectiveness of the proposed measure?	Regular contact between the Department of Housing and Urban Planning (DHUP) officials and the UN Habitat to ensure the inclusion of climate change adaptation in the housing sector. Knowledge and lessons learned will be disseminated.
10. Any data / consultations missing? How to get it?	Local consultations will be carried out in the district towns and provinces, including consultations with women and ethnic groups in the target towns.

TABLE 3: CONTEXT AND POTENTIAL RISKS	
Environmental and social context and potential risks (see also questions below)	
11. Description of gender and youth situation. Are there any unions, organisations in the area? How will these be involved?	There is bias towards men in decision making in Lao PDR and specific measures are therefore required to encourage and support the engagement of women in the decision-making process. Lao PDR has made significant progress on gender portfolio at the institutional level. However, efforts are yet to be made to ensure inclusivity with regards to the climate change adaptation and disaster risk reduction. The project proposal has been designed in consultation with women of all ethnic groups represented in the target areas. The project will ensure gender quotas in stakeholder consultations, encourage all stakeholders to engage female staff in all activities and will liaise with the local Lao Women Unions to enhance women and girls' participation and support community engagement.

Appendix F - CHECKLIST OF POTENTIAL RISK AREAS OF NON-COMPLIANCE WITHIN THE ADAPTATION FUND'S ENVIRONMENTAL AND SOCIAL PRINCIPLES FOR COMPONENT 3

Potential Risk Area and Check Performed	Answer (Y/N)	Explanation why Yes/No and Reference to Information
ADAPTATION FUND PRINCIPLE 1: COMPLIANCE WITH THE LAW: ***Requirement: The proposed activity should be in compliance with all applicable domestic and international law.***		
1. Have all relevant rules, regulations and technical standards been identified?	YES.	All relevant rules, regulations and standards have been identified for all proposed project activities. The main ones are listed in table 11 of part II, section E, and in table 1 of this report. Procedures for compliance of key ones initiated.
2. Have the procedures to comply, including authorizing offices been identified?	YES	See Part II.E
3. If an ESIA is required by national law for the proposed activity, has this been prepared and approved?	YES	This component of the project does not involve physical interventions and hence no ESIA is required by national law.
ADAPTATION FUND PRINCIPLE 2: ACCESS AND EQUITY: ***Requirement: Ensure fair and equitable access to benefits of the activity***		
4. Have all potential beneficiaries, including marginalized and vulnerable groups been identified?	YES	All project beneficiaries (i.e. population; groups) have been mapped (see overview table 9 part II. B and table 13 part II.H) for each project output.
5. Have rivals, disputants and concerns related to equal access of project beneficiaries been identified and are measures in place to avoid these?	YES	Community consultations and focus groups discussions have been conducted per beneficiary group to identify concerns related to equal access of project benefits.

6. Has the process of allocating and distributing benefits equally (fair and impartial access) been described?	YES	The project will have robust mechanisms in place to ensure the local authorities have the necessary capacity to include all different sections of society and ensure the principle of leaving no one behind is adhered to.
ADAPTATION FUND PRINCIPLE 3: VULNERABLE AND MARGINALIZED GROUPS: ***Requirement: Avoid imposing any disproportionate adverse impacts on marginalized and vulnerable groups including children, women and girls, the elderly, indigenous people, tribal groups, displaced people, refugees, people living with disabilities, and people living with HIV/AIDS.***		
7. Have groups mentioned in the principle been identified and quantified?	YES	All project beneficiaries (i.e. population; groups) have been mapped (see overview table 9 part II. B and table 13 part II.H) for each project output. The project design will ensure that marginalized groups are involved in decision making at all stages of the project.
8. Have the characteristics of the marginalized or vulnerable groups been described?	YES	Initial community consultations and focus group discussions have been used (see Part II.H) to identify possible risks / adverse impacts of project activities on marginalized and vulnerable beneficiary groups (i.e. specific needs, limitations, constraints and requirements of groups).
9. Have potential adverse impacts that each marginalized and vulnerable group may experience from the activity been identified and have the groups been consulted on specific needs, limitations, constraints and requirements?	YES	As per above, any potential adverse impact has been identified. This project will be implemented using a community-based, inclusive approach which draws together government institutions, mass organizations and community members, ensuring that all marginalized groups are included.
ADAPTATION FUND PRINCIPLE 4: HUMAN RIGHTS: ***Requirement: The activity shall respect and where applicable promote international human rights***		
10. Has any citing of the host country in any Human Rights Council Special Procedures been identified and has the project described how to deal with potential related issues?	YES	Laos Human rights not ratified:[102] CAT-OP - Optional Protocol of the Convention against Torture CCPR-OP2-DP - Second Optional Protocol to the International Covenant on Civil and Political Rights aiming to the abolition of the death penalty CED - convention for the protection of all persons from enforced disappearance CED, Art.32 - interstate communication procedure under the international convention for the protection of all persons from enforced disappearance CMW- International Convention on the Protection of the Rights of Migrant Workers and Members of their Families Any agreement / contract signed will include reference to compliance with Human rights
11. Has it been identified if the activity could possibly affect land tenure arrangements and/or community-based property rights/customary rights to land, territories and/or resources and has the project described how to deal with potential related issues?	YES	The land tenure system in Laos poses a risk as much of many land plots in towns have not been mapped or recorded in a database. This could have an impact on the Strategy on Housing, Land and Property and policy implementation.
ADAPTATION FUND PRINCIPLE 5: GENDER EQUALITY AND WOMEN'S EMPOWERMENT: ***Requirement: Design and implement the activity in such a way that both women and men 1) have equal opportunities to participate; 2) receive comparable social and economic benefits; and 3) do not suffer disproportionate adverse effects during the development process***		

[102] Treaty bodies Treaties (ohchr.org)

12. Has the legal and regulatory context with respect to gender equality and women's empowerment been analysed to identify any obstacles to comply?	YES	The proposed intervention integrates gender equality as a success factor and identifies opportunities to increase female participation in activities and decision-making processes (an overview is provided in Part II.K). Furthermore, the proposal has been designed in consultation with women of all ethnic groups.
13. Has the cultural, traditional, religious, or any other grounds that might result in differential allocation of benefits between men and women of the activity been analysed?	YES	See section K part II *Gender assessment and integration.* Community awareness programmes may have different outreach to men and women, depending on the time and location they are conducted. This is due to cultural norms and traditional allocation of roles and responsibilities between men and women. As stated in the Gender Action Plan (see Annex 8) these aspects are to be considered when organizing Community Awareness Activities.
14. Does the project actively pursue equal participation and access to activity benefits through specific gender approach?	YES	A specific 'gender' (women and youth) approach and baseline section has been developed based on a gender assessment. See overview in section K part II *Gender assessment and integration.* See also detailed measures described in the Gender Action Plan (see Annex 8).
ADAPTATION FUND PRINCIPLE 6: CORE LABOUR RIGHTS: ***Requirement: The activity should meet the core labour standards as identified by the International Labour Organization and respect, promote ILO core labour standards***		
15. Has it been summarized how Executing Entities will comply to core labour standards?	YES	UN Habitat will apply ILO core labour standards + see below
16. Has it been identified if the eight ILO core conventions have been ratified in project countries and if not ratified, are measures in place to avoid potential risks of non-compliance?	YES	Laos core labour rights (not) ratified Fundamental Conventions: 5 of 10 Governance Conventions (Priority): 3 of 4. Not ratified: 1. C122 - Employment Policy Convention, 1964 (No. 122) 2. C081- Labour Inspection Convention, 1947 (No.81) 3. C129- Labour Inspection (Agriculture) Convention, 1969 (No. 129) Technical Conventions: 57 of 176 Any agreement / contract signed will include reference to compliance with ILO labour standards.
17. Have potential risks of non-compliance with ILO core labour standards of the activity been identified through consultations (experts and communities) and are measures in place to avoid potential risks of non-compliance?	YES	The project will follow local and international regulations considering labour rights, including the ILO core labour standards.
ADAPTATION FUND PRINCIPLE 7: INDIGENOUS PEOPLE: ***Requirement: The activity shall not be inconsistent with the rights and responsibilities set forth in the UN Declaration on the Rights of Indigenous Peoples and other applicable international instruments relating to indigenous peoples.***		
18. Has it been assessed if indigenous people are present in the activity target area? If so:	YES	There are many ethnic groups that have been in Laos for thousands of years. The country operates on a principle of unity and inclusivity in which the uniqueness of all ethnic groups is acknowledged. The concept of indigenous groups is foreign to Lao culture and therefore does not have a focus separate from ethnic groups in the proposal.
19. Has it been identified if the host country ratified the ILO Convention 169?	YES	169 has not been ratified[103]
*The requirements under AF principles 8 to 15 are not applicable to Component 3 as it does not involve physical interventions**. Corresponding checks has therefore been removed.***		

[103] Up-to-date Conventions not ratified by Lao People's Democratic Republic (ilo.org)

ESIA and ESMP

Project: Enhancing adaptive capacity in Lao PDR provinces, and building resilient housing in vulnerable communities

Client

UN-Habitat

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HOUSING REPORT

Project: Enhancing Adaptive Capacity in Lao PDR Provinces, and Building Resilient Housing in Vulnerable Communities

UN-Habitat

25 July 2022

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Contents

1 Introduction

The exacerbated hydrological and meteorological phenomena brought by climate change, and continuous rising global temperatures calls for the shift to adaptable built environments. This includes housing systems and communities which should be resilient to changing weather and climate conditions. Over the years, engineers, architects, urban planners, and other experts in the housing sector, had been creating varying designs and building construction techniques to adapt to these challenges.

Housing being the primary and critical unit of human beings is the most fundamental form of community. Associated factors like location, elevation profile, exposure to risks, vulnerability, and sensitivity in terms of physical built structure, area demographics, and other hazards dictate the performance of houses in the face of climate threats.

Intensified rates of precipitation which causes flash floods directly impact houses in the low-lying areas, riverine channels, and bay areas where residual water overflow run off. Not only do floods directly destroy houses, but they also pose threats of landslides, and collapse of dams and destruction of critical infrastructures which connect people.

The design for shelters and houses conforming to specific standards addressing impacts of changing climate and weather conditions has been a new norm. And field experts will be in continuous study and research to find the balance ground of a healthy, decent, sustainable, and affordable house design resilient during the threats of climate change.

2 Objective of the Report

The Arcadis Laos Mission Team 2002 was requested by the UN Habitat to provide a Housing Report for the Mission - Provinces, Laos 2022: Climate Resilience Housing. The project aims to enhance the climate resilience of vulnerable, poor communities in Laos six provinces thru provincial adaptation capacity, design and building of resilient housing systems. The project will address dimensions to build resilience in the housing sector, including policy, planning and regulation; capacity building; strengthening construction practices; and improving early warning and evacuation systems.

This Housing Report will be comprised of three main parts, namely:

a) Methodology of selecting housing beneficiaries based on aspects of risk zones, climate vulnerability, housing resilience, and poverty,

b) Housing metrics in a scoring rubric - which will calculate the vulnerability of households in target areas, and

c) Specific interventions - for retrofitting and rehabilitation components.

3 Characterizing of Study Area

The project targets six provinces in Lao PDR: **Bokeo, Vientiane, Borikhamxay, Khammouane, Champasak** and **Attapeu**, which were selected based on data from the 2019 National Vulnerability Assessment that was jointly carried out by UN-Habitat and MoNRE. It is important to highlight that these provinces were selected given their greater climatic vulnerability in relation to the others, indicating the need for greater attention.

In order to propose solutions to increase the resilience of houses in the six provincials, it is essential to identify which climate change-related hazard these territories are most vulnerable to and where are the most risk-prone areas. Added to this is the understanding of the socio-economic context in which these communities are inserted, which means, in which ethnic groups that population is inserted and which is the most vulnerable, as well as the level of poverty of the households. Finally, another aspect to be considered is in relation to the characteristics of the houses in these provinces, since the proposed solutions must also be aligned with local customs, so that the interchanges to be proposed for the retrofit or rehabilitation of houses can combine the use of local and low-cost materials, with constructive techniques adherent to the context where it is included. This information is relevant to compose the beneficiary selection process, defining priorities and clear criteria for choosing households whose homes will undergo retrofit or rehabilitation processes.

3.1. Climate Vulnerability

… Content which can be found in the main body of the proposal has been deleted to avoid repetition …

As can be seen in the table below, most of the provinces under study of this work have a considerable number of drought prone areas. The second highest risk identified concerns the existence of flood prone areas, especially in the provinces of Khammouane and Champsak. It is worth highlighting that, while drought more directly impacts social and economic issues, in terms of urban planning and housing, the impacts generated by floods are more significant, since they can directly affect built areas, especially those built in more vulnerable areas and with inadequate construction methods and materials.

Table 1: Climate Vulnerability profiles of the target provinces

Province	Climate Vulnerability			
	Drought Prone Areas	Flood Prone Areas	Landslide Prone Areas	Storm Prone Areas
Bokeo	63%	10%	12%	16%
Vientiane	20%	4%	3%	2%
Borikhamxay	26%	22%	10%	5%
Khammouane	0%	27%	0%	0%
Champasak	5%	51%	3%	9%
Attapeu	60%	46%	46%	35%

Source: UN-Habitat - LAO PDR National Climate Change Vulnerability Assessment

3.2.Ethnicity and Poverty

… Content which can be found in the main body of the proposal has been deleted to avoid repetition …

The largest group is Lao Loum, making up 53 percent of the population in 2015. As shown in the table on the succeeding page, this group is the most expressive in at least half of the target provinces, representing in some cases more than 80% of the population. In terms of vulnerability, the Khamou group stands out in two provinces.

Another relevant aspect to be observed is the poverty level of households of each target province, since this group is even more vulnerable to the socio-economic impacts that can be generated by climate change, directly affecting their access to healthier and safer housing conditions. As can be seen in the table, it is noted that the province of Bolikhamxai has the largest number of households, however, in proportional terms, Khammouan and Attapeu stand out in relation to the percentage of families in poverty, with about 50 % in this situation.

Table 2: Ethnicity and Poverty of the target provinces

Location							
Province	Bokeo	Bolikhamxai		Khammouan	Champasak	Attapeu	Vientiane
District Capital	Pha oudom	Viengthong	Xaychamphone	Nongbok	Moonlapamok	Phouvong	Vangvieng
Ethnicity							
Ethnicity 1	Laoluom	Laoluom	Toun	Laoluom	Laoluom	Laoluom	NI
% Ethnicity 1	19%	60%	32%	82%	85%	12%	NI
# Ethnicity 1	1615	5121	612	7159	8367	887	NI
Ethnicity 2	Khamou	Khamou	Tay	Photai	Khmer	Brao	NI
% Ethnicity 2	47%	15%	12%	18%	15%	80%	NI
# Ethnicity 2	3.994	1.280	230	1.572	1.477	5.913	NI
Ethnicity 3	Mong	Mong	Phong			Jeng and Alak	NI
% Ethnicity 3	15%	25%	21%			8%	NI
# Ethnicity 3	1.275	2.134	402			591	NI
Most vulnerable Ethnic group	Khamou	Khamou	Toun, Phong	Photai	Khmer	Brao	NI
Poverty							

Number of households	2.123	5.366	283	331	1.440	1.771	NI
% of Poor households	9%	12%	35%	52%	23%	47%	NI
Number of poor Households	199	644	100	173	328	837	NI
Poverty Index	18,75	38,10	69,40	15,27	29,00	19,93	NI

Source: UN-Habitat * NI = No information available

3.3.Housing

Studies have shown that housing is the sector to suffer the second highest amount of damage in natural disasters, with only agriculture sustaining higher damage. Housing is, therefore, a key sector in building human settlements' resilience.

As indicated in the UN Habitat 2018 Laos PDR Post Disaster Needs Assessment sourced from the 4th Population Housing Census 2015, it was observed that housing systems in Laos are mostly built by the locals and dwellers themselves. More than half of the houses in the assessed Laos province uses zinc as their roofing materials. Meanwhile, for walls, wood is the most preferred option, same with the floor elements of the house, maybe because timber is also as staple raw material abundant in Laos rich due to its million hectares of forest.

According to the data collected by UN-Habitat, it is noted that in the six target provinces, the most used material on the roofs of the houses is in fact zinc, followed by Tile/CPAC/Concrete. For the floor, the most common is the use of wood, as in the rest of the country. The walls are made of wood or bamboo.

… Content which can be found in the main body of the proposal has been deleted to avoid repetition …

Table 3: Housing Characteristics in the target provinces (Source: UN-Habitat.)

… Content which can be found elsewhere in the proposal has been deleted to avoid repetition …

Related to land tenure, most Lao PDR's households do not pay rent: while 96% of households own their dwelling unit, around 2% declared not paying any kind of rent or did not report any occupancy status. The same situation is observed in all six target provinces, as shown in the Table below.

Table 4: Percent Distribution of Households According to Tenure Status of Occupied Dwelling Unit by Province

Province	Percent		
	Owned	Rented	Other*
Bokeo	95.7	1.7	2.5
Vientiane	97.9	0.7	1.3
Borikhamxay	98.2	0.6	1.2
Khammouane	97.8	0.6	1.7
Champasak	98.1	0.5	1.4
Attapeu	96.2	2.0	1.8

Source: The 4th Population and Housing Census (PHC) 2015 – Laos PDR

*Includes rent-free or employer-provided housing and non-reported cases

Another valuable information to be considered to understand how a resilient house should be built for a specific population is to listen to the population that will be benefit from the programme to identify their expectations and anxieties so that, as far as possible, they can be incorporated into retrofit or rehabilitation projects. In this context, from a questionnaire applied by UN-Habitat in the target provinces, it is noted that the greatest desire regarding the design of a house is that it be built with a concrete structure, masonry walls and a tiled roof. It is possible to infer, therefore, that from the point of view of the different groups interviewed (community, women, ethnic groups, and youth), these are some of the features that make a house resilient.

… Content which can be found elsewhere in the proposal has been deleted to avoid repetition …

All information reported in this topic is essential to understand local needs regarding housing and local characteristics related to the socio-economic context. This panorama, therefore, aims to bring to light issues that must be considered for the selection of beneficiaries, as well as for the definition of features for the assessment of the resilience of houses and later proposition of interventions for retrofitting and rehabilitation

components, taking into account the social context (poverty and ethnicity), environmental (climate change vulnerability, risk areas, use of local materials) in which the interventions will be carried out, as well as cost-effective construction practices.

4 Methodology of Selection of Beneficiaries

The proposed methodology for selecting housing beneficiaries will be based mainly on Geographical Targetting and calculated Household Vulnerability Index (VI) from identified factors of Exposure, Sensitivity, Adaptive Capacity, and Socio-Demographic Vulnerability, which will factor Climate, Poverty, and Housing Resilience.

The Shelter Team will evaluate the Vulnerability Index threshold to be considered. The individual Household VIs will be derived from data gathered from a checklist/ survey form - targetted to be answered by the household representative and respective local government unit (municipality/ province) depending on the data available and required.

Below table show number of beneficiaries per town taken from the RVA (Rapid Vulnerability Assessment) to the Concept Note for AF Laos Proposal - June 2022.

Table 6: Town-Level Direct Beneficiaries & District-Level Indirect Beneficiaries

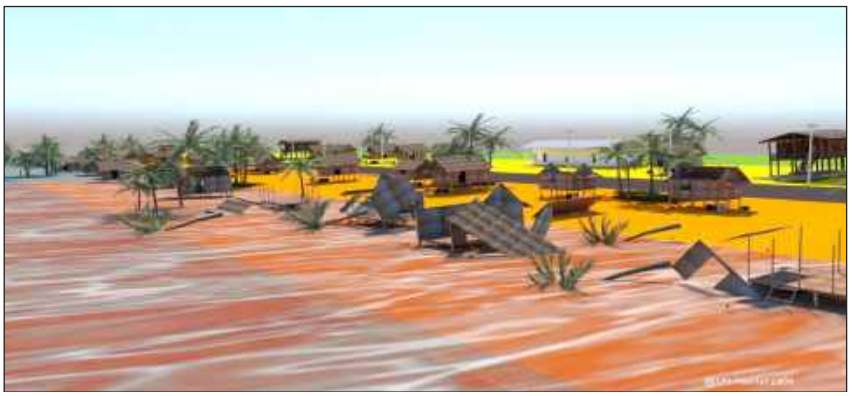
SN	Province	District	Shelter- Town level direct beneficiaries		District level - Indirect beneficiaries from Town Planning/Capacity building)	
			People	Households	Community	Government staff
1	Bokeo	**Pha Oudom**	6,498	1,048	694	174
2	Bolikhamxay	**Xaychamphone**	1,338	257	523	131
3		**Viengthong**	4,818	831	1,298	324
4	Khammouane	**Nongbok**	8,731	1,408	2,145	536
5	Attapeu	**Phouvong**	7,319	1,180	650	162
6	Champasak	**Moolapamok**	4,844	835	1,634	408
			33,548	**5,560**	**6,944**	**1,736**

Step 1: Geographical Targeting

Reconstruction Houses - Households located at Hazard 4 (as shown on map below)[104]. Target beneficiaries is **600** most vulnerable households aggregated at the 6 proposed target towns

Rehabilitation Houses - Households located at Hazards 2 and 3 (as previous map) - will benefit about **4,942** households at the 6 proposed target towns.

Figure 14: Hazard Level (3d View)



[104] The hazard maps have been deleted from annexes to avoid repetition but can be seen as Figures 12-17 in the main body of the proposal

Figure 15: Hazard Level (3d View)

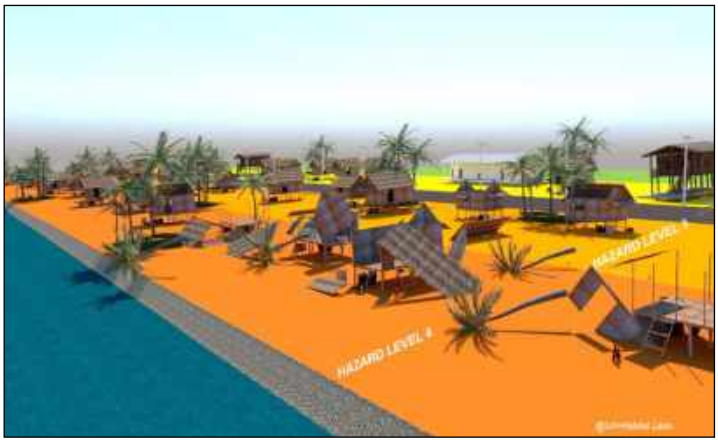
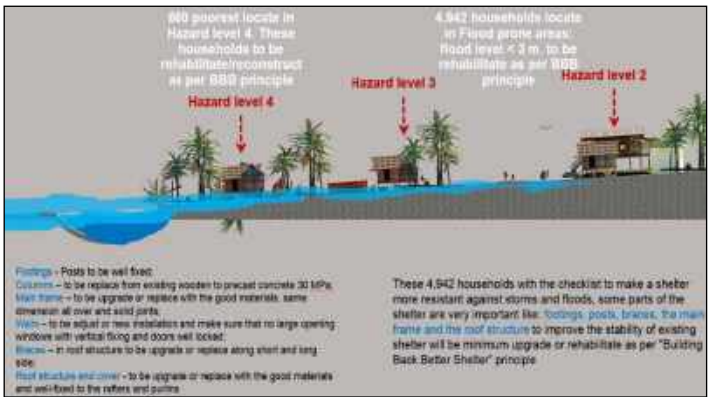


Figure 16: Hazard Level (Cross Section View)



Step 2: Surveying of Households

The UN Habitat/ Shelter Team, in coordination and support of respective local government units will survey households where a representative will answer a single sheet form/ checklist. The questionnaire aims to collect household data in terms of different vulnerability factors and indicators experienced during flooding incidents. Some data will be provided by the municipal/ provincial local government units, as will be indicated on the form.

Table 7: Vulnerability Index Matrix

Vulnerability Component	Factor	Indicator	Unit	Data Type
Exposure	Rates of Precipitation	What is the average annual rainfall in the area?	centi-meters	c/o Municipality
	Speed of onset of flooding	Number of hours before the flood waters rise (from onset of rain)	hours	c/o household
	Duration of flooding	How long 'til the flood waters subside in the house?	hours	c/o household
	Depth of flood	How deep is the flood water inside the house?	meters	c/o household
Sensitivity	Age of the house	How old is the house?	years	c/o household
	Housing Tenure	Is the house owned, rented, employer-provided, etc.?		c/o household
	History of house vs climate threats or past disasters	Was the house previously affected by flood or other climate disasters?		c/o household
	Housing Condition	Is the house made of makeshift materials, dilapidated, or generally identified to be in poor condition?		c/o household
	History of house renovations/ additions/ improvements	Was the house previously improved or renovated to fortify capacity in face of climate threats?		c/o household

Vulnerability Component	Factor	Indicator	Unit	Data Type
	Layout & Design	Is the layout of the house symmetrical - ensuring greater stability?		c/o household
	Elevation of house and/ or provision for second floor level	Is the house built on stilts or has provisions for 2nd floor?		c/o household
	Foundation	Is the house built on stable and solid foundation?		c/o household
	Roofing	Is the roof structure properly built/ connected to the main structure?		c/o household
	Walls	Are the walls provided with proper framing/ fastened to columns/ lintel beams?		c/o household
	Water	Does the household have a supply of clean water?		c/o household
	Sewer	Does the household have own septic tank and/ or organized sewer tapped to the locality's sewer system?		c/o household
	Electricity	Does the household have electric power supply?		c/o household
Adaptive Capacity	Location and proximity to coordination and evacuation centers	How near is your house to evacuation/ coordination centers?	kilometer	c/o household
	Presence of municipal sewerage systems	Are there systemized sewer systems in the locality which ensure proper drainage of rain/ flood water away from houses and communities?		c/o Municipality
	Disaster Risk Management Plans	Are there current Disaster Risk Management Plans pertaining to awareness, preparation, evacuation, access to emergency facilities, and funds?		c/o Municipality
Adaptive Capacity (cont.)	In-place early warning signal systems	Are there current warning signals to notify people on threats of floods, flash floods, and increasing water levels?		c/o Municipality
Socio-Demographic Vulnerability	Population - HH Size	How many members are there in the household?		c/o household
	Family Structure - Single Parents	Is the family headed by a single parent only?		c/o household
	Age - Old People	Are there members of the household with age 60 and above?		c/o household
	Age - Very Young People	Are there members of the household with age 5 years and below?		c/o household
	Ethnicity	Is any member of the household belonging to the identified most vulnerable ethnic groups: *Khamou*, *Toun*, *Phong*, *Photai*, *Khmer*, *Brao*?		c/o household
	Gender Female as Head of HH	Is the HH headed by a woman?		c/o household
	Gender Female-to- Male Ratio	Is the number of female HH members greater than that of the males?		c/o household
	Poverty - Income	Is the household earning below poverty level threshold?		c/o household Baseline Data c/o Municipality
	Social Dependence	Are there any member/s who are differently abled and are totally dependent on social services?		c/o household

Step 3: Calculation of HH Vulnerability Index

Each option selected in the form has a corresponding NV (Normal Value), with 5 indicating high vulnerability,

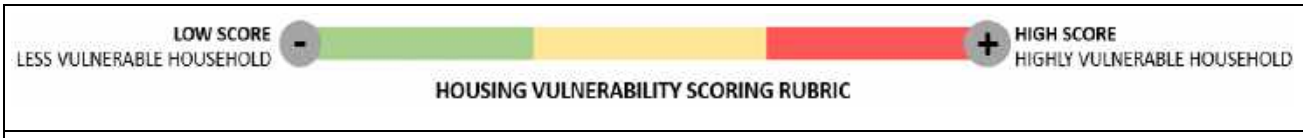
and 1 being the low vulnerability. Each household then, will generate a Vulnerability Score at the end of the survey.

Step 4: Analysis of individual HH VIs and final selection of beneficiaries

Final selection of programme beneficiaries will be based on identified geographical target areas and number of beneficiaries, as shown on Step 1.

5Housing Metrics - Scoring Rubric

Below is the proposed Housing Metrics Scoring Rubric to be used by the Shelter Team in surveying households in the target areas of Lao.



A. Exposure

Rates of Precipitation - What is the average annual rainfall in the area?

☐ *TBC* *NV 1.0*	☐ *TBC* *NV 2.0*	☐ *TBC* *NV 3.0*	☐ *TBC* *NV 4.0*	☐ *TBC* *NV 5.0*

Speed of Onset - Number of hours before the flood waters rise from onset of rain.

☐ Duration>5hr. *NV 1.0*	☐ 4<Duration<5hr. *NV 2.0*	☐ 3<Duration<4hr. *NV 3.0*	☐ 1<Duration<2hr *NV 4.0*	☐ Less than 1hr *NV 5.0*

Duration of flooding - How long 'til the flood waters subside inside the house?

☐ Less than 1hr *NV 1.0*	☐ 1<Duration<2hr. *NV 2.0*	☐ 2<Duration<3hr. *NV 3.0*	☐ 3<Duration<4hr. *NV 4.0*	☐ 4 hr. & above *NV 5.0*

Depth of flood - How deep is the flood water inside the house?

☐ Less than 1ft. *NV 1.0*	☐ 1 <Flood Ht.<2ft. *NV 2.0*	☐ 2<Flood Ht.<3ft. *NV 3.0*	☐ 3<Flood Ht.<4ft. *NV 4.0*	☐ 4 ft. and above *NV 5.0*

B. Sensitivity

Age - How old is the house?

☐ Less than 1yr. *NV 1.0*	☐ 1 < Age < 2yr. *NV 2.0*	☐ 2 < Age < 3yr. *NV 3.0*	☐ 3 < Age < 4yr. *NV 4.0*	☐ 4 yr. & above *NV 5.0*

Tenure - Is the house owned, rented, employer-provided, etc.?

☐ Owned *NV 1.0*	☐ Rented/ Not Owned *NV 5.0*

History of house vs climate threats or past disasters - Was the house previously affected by flood or climate disasters?

☐ No *NV 1.0*	☐ Yes *NV 5.0*

Housing Condition - Is the house made of makeshift materials, dilapidated, or generally identified to be in poor condition?

☐ No *NV 1.0*	☐ Yes *NV 5.0*

History of house renovations/ improvements - Was the house previously improved to fortify capacity in face of climate threats?

☐ Yes *NV 1.0*	☐ No *NV 5.0*

Layout & Design - Is the layout of the house simple and symmetrical ensuring greater stability to the building?

☐ Yes *NV 1.0*	☐ No *NV 5.0*

Elevation - Is the house built on stilts/ elevated/ has provision for 2nd floor?

☐ Yes	☐ No

NV 1.0 NV 5.0

Foundation - Is the house built on stable and solid foundation, and is the foundation deep enough?

☐ Yes (NV 1.0) ☐ No (NV 5.0)

Roofing - Is the roof structure properly built/ connected to the main structure?

☐ Yes (NV 1.0) ☐ No (NV 5.0)

Walls - Are the walls provided with proper framing/ fastened to columns/ lintel beams?

☐ Yes (NV 1.0) ☐ No (NV 5.0)

Water - Does the household have a supply of clean water?

☐ Yes (NV 1.0) ☐ No (NV 5.0)

Sewer - Does the household have own septic tank and/ or organized sewer tapped to the locality's sewer system?

☐ Yes (NV 1.0) ☐ No (NV 5.0)

Electricity - Does the household have electric power supply?

☐ Yes (NV 1.0) ☐ No (NV 5.0)

C. Adaptive Capacity

Location and proximity to support facilities - How near is your house to coordination/ evacuation center?

☐ Distance<1km. (NV 1.0) ☐ Distance>1km. (NV 5.0)

Local Sewerage Systems - Are there systemized sewer systems which ensure proper drainage of rain/ flood waters?

☐ Yes (NV 1.0) ☐ No (NV 5.0)

DRRM - Are there current plans on awareness, preparation, evacuation, access to facilities, and funds?

☐ Yes (NV 1.0) ☐ No (NV 5.0)

In-place early warning signal - Are there current warning signals to notify people on threats of floods/ increasing water?

☐ Yes (NV 1.0) ☐ No (NV 5.0)

D. Socio-Demographic Vulnerability

Population (HH Size) - How many members are there in the household?

☐ 1-2 (NV 1.0) ☐ 2-3 (NV 2.0) ☐ 5-6 (NV 3.0) ☐ 7-8 (NV 4.0) ☐ 9 and above (NV 5.0)

Family Structure - Is the family headed by a single parent only?

☐ No (NV 1.0) ☐ Yes (NV 5.0)

Age (Old People) - Are there members of the household with age 60 and above?

☐ No (NV 1.0) ☐ Yes (NV 5.0)

Age (Very Young People) - Are there members of the household with age 5 years and below?

☐ No (NV 1.0) ☐ Yes (NV 5.0)

Ethnicity - Is any member of the household belonging to the identified most vulnerable ethnic groups: Khamou, Toun, Phong, Photai, Khmer, Brao?

☐ No (NV 1.0) ☐ Yes (NV 5.0)

Gender (Female as Head of HH) - Is the HH headed by a woman?

☐ No *NV 1.0* ☐ Yes *NV 5.0*

Gender (Female-to-Male Ratio) - Is the number of female HH members greater than that of the males?

☐ No *NV 1.0* ☐ Yes *NV 5.0*

Poverty - Is the household earning below poverty level threshold?

☐ No *NV 1.0* ☐ Yes *NV 5.0*

Social Dependence - Are there any member/s who are differently abled and are totally dependent on social services?

☐ No *NV 1.0* ☐ Yes *NV 5.0*

☐ No. of ticked Option 1 Boxes * NV 1.0	☐ No. of ticked Option 2 Boxes * NV 2.0	☐ No. of ticked Option 3 Boxes * NV 3.0	☐ No. of ticked Option 4 Boxes * NV 4.0	☐ No. of ticked Option 5 Boxes * NV 5.0

☐ **TOTAL HOUSEHOLD VULNERABILITY SCORE**

6Interventions for Reconstruction & Rehabilitation

Considering the characteristics that make a house resilient, it is possible to define different levels of interventions, which can be robust, depending on the vulnerability of the house. Within the scope of this study, two types of intervention are evaluated to promote the improvement of selected houses through the HH Vulnerability Index:

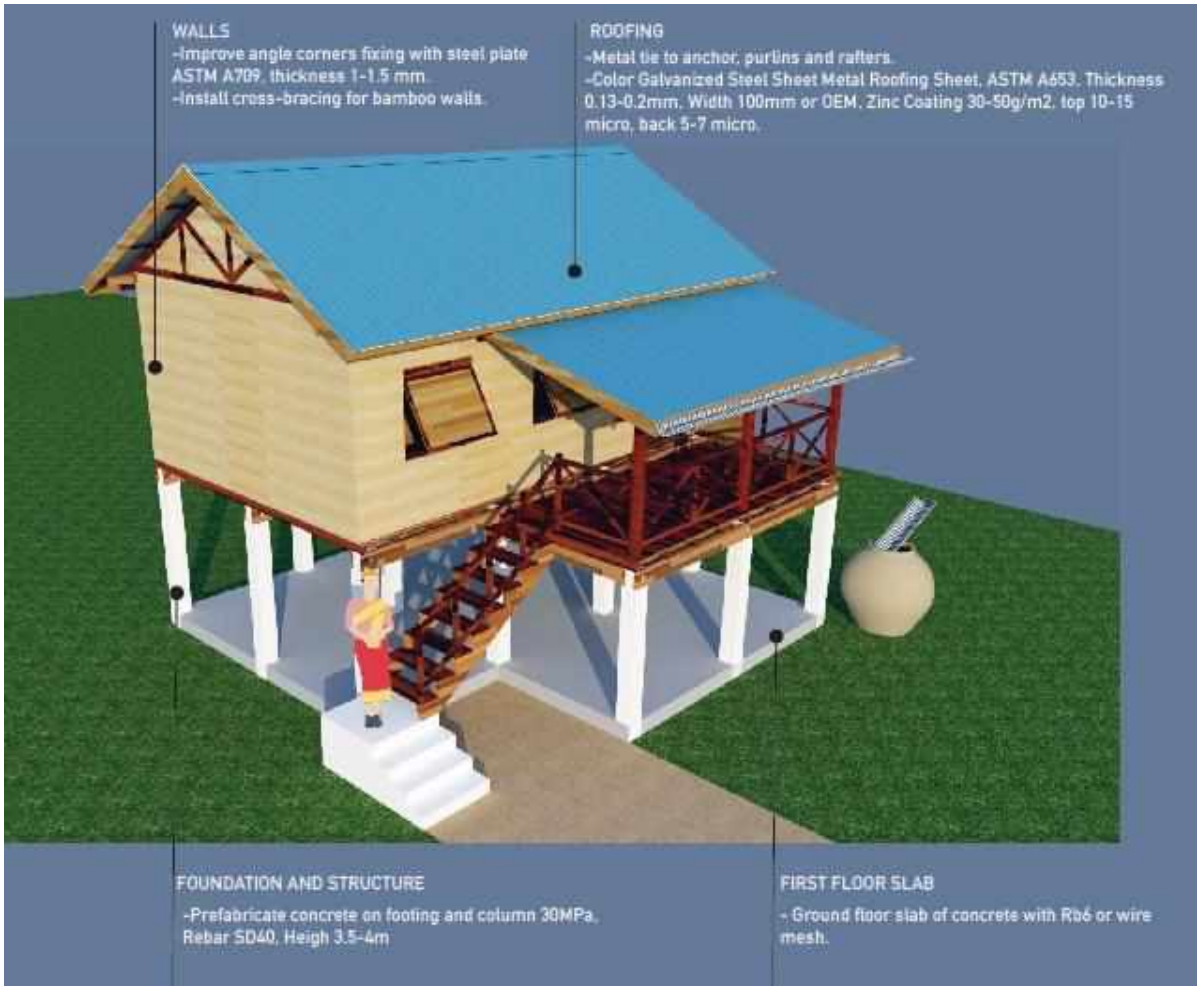
- **Reconstruction**, refers to extensive rehabilitation processes, including significant changes in rehabilitating structural systems, to ensure existing houses are more disaster resilient. This output will focus on houses in extremely poor condition, by for example, replacing precarious stilts using sustainable construction material, changing floors systems, replacing the main frame with improved materials, and introducing bracing elements to improve structural stability and flexibility to adapt to shocks.
- **Rehabilitation**, is not aimed at reinforcing structural systems (supporting structures). This output will target houses in relatively better condition, requiring lesser adjustments, for example, undertaking upgrade works such as cross bracing, roof upgrading, or upgrading facades to protect from heat, improve natural ventilation, and increase resilience to extreme weather.

Based on the indicators proposed to compose the HH Vulnerability Index and the answers of the housing survey, possible interventions that can be adopted in each typology are listed below.

A) General Interventions

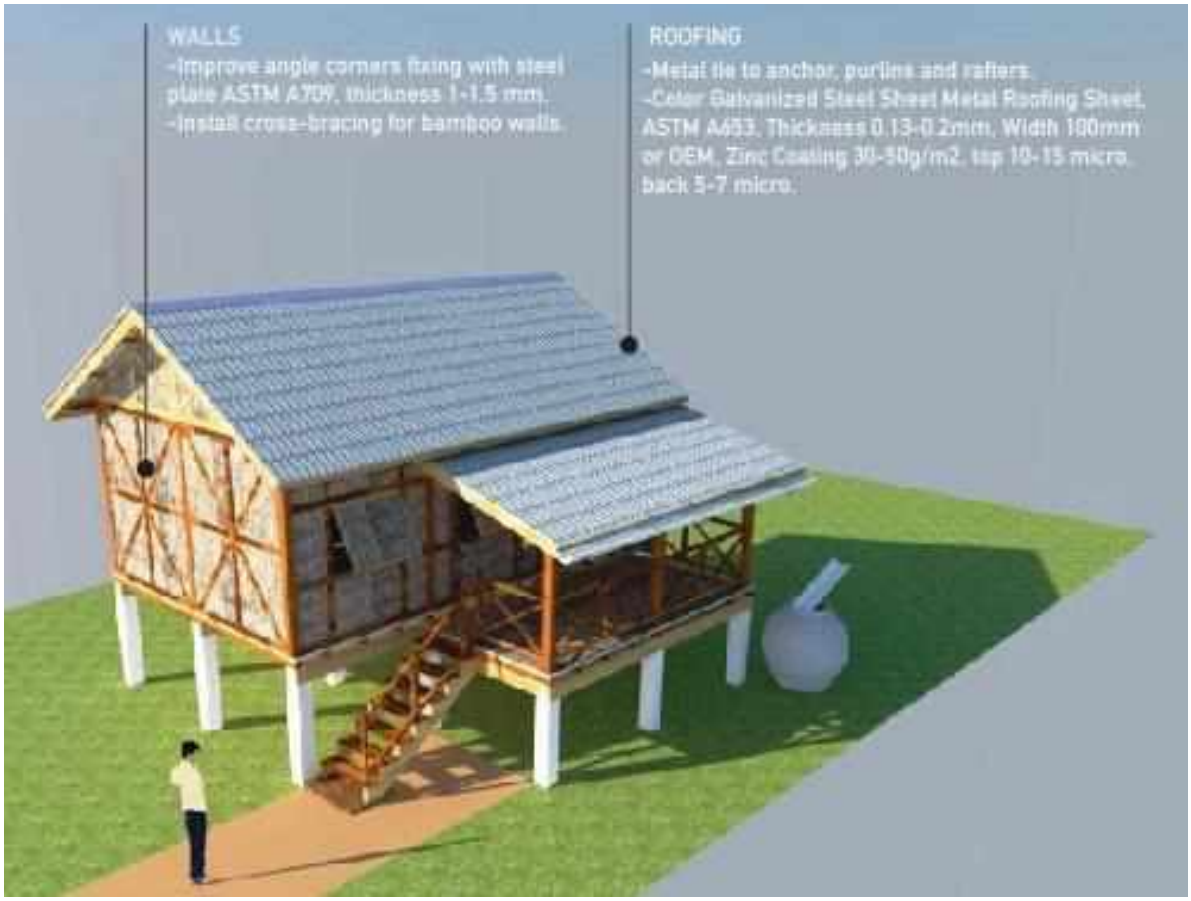
- Traditional building materials and culturally acceptable forms and techniques are the foundation for rehabilitation and retrofitting and, if it is possible, must be improved, not replaced;
- Preferably, use local materials,
- Adopt materials that are climate resilient. For floor materials: concrete, latex, ceramics, clay, terrazzo, vinyl, rubber sheets, tiles, etc. For walls, housing envelopes, and ceiling: bricks, metal, concrete, stones, steel, and reinforced concrete are the best options to be considered,
- Build the houses on geologically stable ground to reduce the requirement for engineered foundations, and
- Involve families during the intervention process, communicating about the processes and changes to be adopted.
- Incorporate in particularly the needs of women in the retrofit or rehabilitation process of houses;

B) Reconstruction



Domain	No.	Criteria	Check	Action
Foundation and Structure	1	The house is built on stable and solid foundation with sufficient depth		Prefabricate concrete on footing and column 30 MPa, Rebar SD40, Heigh 3.5-4m
Roofing	2	The roof structure is properly built and connected to the main housing structure/frame		Metal tie to anchor, purlins and rafters
	3	The roof covers are built with water-resistant materials		Color Galvanized Steel Sheet Metal Roofing Sheet, ASTM A653, Thickness 0.13-0.2, Width 100mm or OEM, Since Coating 30-50g/m2, top 10-15 micro, back 5-7 micro, surface Galvanized, Aluzinc, color coating.
	4	The roof covers are well fixed to the rafters and purlins		
	5	The roof allows rainwater harvesting		
Walls	6	The walls are built with water-resistant materials wood or bamboo		• Improve three angle corners fixing with steel plate ASTM A709, thickness 1-1.5 mm for wooden walls • Install cross-bracing for bamboo walls
	7	The walls are provided with proper framing (stiffeners, lintel beams)		
Flooring	8	The floors are built of concrete slab		• Ground floor slab of concrete with Rb6 or wire mesh

C) Rehabilitation



Domain	No.	Criteria	Check	Action
Roofing	1	The roof structure is properly built and connected to the main housing structure/frame		Metal tie to anchor, purlins and rafters
	2	The roof covers are built with water-resistant materials		Galvanized Steel Sheet Metal Roofing Sheet ASTM A653M, Thickness 0.13-0.2mm, Width 100mm or OEM, Zinc Coating 30-50g/m2, top 10-15 micro, back 5-7 micro, surface Galvanized, Aluzinc, color coating.
	3	The roof covers are well fixed to the rafters and purlins		
	4	The roof allows rainwater harvesting		
Walls	6	The walls have appropriate reinforcements		• Improve three angle corners fixing with steel plate ASTM A709, thickness 1-1.5 mm for wooden walls • Install cross-bracing for bamboo walls

7. Features of a Resilient House

It is understood that the context of Resilience in the housing sector refers to the state of sensitivity/ susceptibility to certain threat, deriving mainly from characteristics inherent to the architectural design and situation of the building at the time of its occurrence, which may compromise your ability to resist and adapt. Thus, vulnerability is understood as the fragilities of the built environment and the community to face the existing threats that imply the loss of quality of life. Listed below are key features of a Resilient Housing System.

Location
- The house is not located in a flood hazard area/ near floodplain, creeks, riverine tributaries, and other water bodies
- The house is not located near a dam, levee, or other water defense structures whose failure or malfunction could result to flooding

Layout & Design
- The layout of the house is simple and symmetrical (rectangular and square shapes), ensuring greater stability to the building
- There is an adequate ventilation and lighting in all rooms
- Improvements and reconstructions are done to improve capacity in face of climate threats
- There is a safe space above the recorded maximum flooding level (maybe an attic)

Foundation
- The house is built on stable and solid foundation and the foundation is deep enough
- The house is elevated from the ground level or built on stilts

Roofing
- The roof structure is properly built and connected to the main housing structure/ frame
- The roof allows rainwater harvesting
- The roof covers are well fixed to the rafters and purlins

Flooring
- The house is elevated from the highest recorded flood level

Walls
- The house is built using framed structures with reinforced concrete columns
- The walls are provided with proper framing (stiffeners, lintel beams)
- The wall openings/ apertures are stiffened with sill beams

Utilities and Facilities
- The house is in an area with systemized stormwater and sewer systems which are adequate, regularly checked, and well-maintained
- The house is in an area where there is garbage collection/ mechanism for proper waste disposal

Capability
- The house is in the proximity of evacuation centers
- The house is in an area where there are Disaster Risk Reduction Management Plans in place

Annex 8: Gender Action Plan (GAP)

Introduction/Background

Context and background information regarding the gender situation in Laos can be found in the following sections of this document:

- Part I, Section "Project/Programme Background and Context", specifically the paragraphs under title "Social Context".
- Part II, Section K, specifically the paragraphs under title "Gender Assessment and Integration".
- Annex 6 "ESIA and ESMP", in particular Table 5 "ESMP".

Gender related risks and challenges in the context of this project

The specific challenges that women are facing within the context of climate change and within the scope of this project, have already been described in other sections of this proposal and will not be repeated here. The main ones are Section K of Part II, specifically the paragraphs under title "Gender Assessment and Integration" and table 16 "ESP possible risks and proposed mitigation measures". Also to mention is Annex 6 "ESIA and ESMP", in particular the risk/impact screening sheets pertaining to the three components.

Influence of the Gender Assessment on Project Design

Measures that will be put in place by the project to address gender related challenges have been described in various parts of this proposal. The following section summarizes the most important ones:

- The Lao Women's Union (LWU) will be a strategic partner of the project and will be heavily involved at all stages of the project life cycle. The partnership will be mutually beneficial: The project will greatly benefit from the LWU's involvement in meetings (as coordinator, facilitator or contributor) and in turn members of the LWU will benefit from the project's capacity building activities and from a strengthened role in policy making and planning in the housing and urban planning sector.
- The LWU will have a permanent seat in the PMC, ensuring that a representative of women's interests will always participate in the highest management body of the project.
- Quotas for female participation will be introduced for trainings and workshops.
- Targets for female participation will be set for meetings/consultations, awareness raising events, monitoring missions, etc.
- The beneficiary selection process has been designed to prioritize women, poor and other vulnerable groups.
- Women will be engaged in project-related labour whenever possible and appropriate
- Women of all ages and backgrounds will be included in project-related decision making (assessment, planning and implementation).
- Women's access to land, housing, assets will be improved by providing land titles to women and men.
- Specific gender training tailored to this project will be provided to all people concerned with project oversight or execution.
- Templates and checklists will be produced that help monitor and enforce gender-related policies in project activities. For example, templates will help ensuring that data collected is gender disaggregated where needed.

The Gender Action Plan assigns these measures (amongst others) to individual projects outputs and includes specific indicators, targets and responsibilities.

Purpose of the Gender Action Plan (GAP)

The overall goal of the gender action plan described in this Annex is two-fold: At the institutional level, the project aims at maximizing female participation in capacity building for climate adaptation and ultimately increasing women's influence on integrating climate-adaptation into policies and plans in the housing and urban development sector. At the community level, the project aims at reducing the adverse impacts of climate change on people's lives and assets, while at the same time minimizing or eliminating the disproportionate effects on women and girls.

Use of the GAP

As described in section C and D of Part II, the GAP will form an integral part of the monitoring framework and progress towards achieving the gender specific targets will be monitored throughout the project implementation. Formal reporting to the PMC and other stakeholders will occur together with the ESMP reporting.

Gender-related Management Responsibilities

UN-Habitat as the Implementing Entity will have the explicit overall responsibility of ensuring that the project is in full compliance with the Gender Policy of the Adaptation Fund. The Project Execution Unit, which is the main manager of day-to-day activities at the provincial and district levels, will be responsible implementing the gender policies at the lowest operational level. At the highest operational level, it is the responsibility of the team leader (of the project team) to ensure compliance with the Gender Policy of the Adaptation Fund, while the PMC will provide oversight and guidance.

Gender Focal Points

Each organizational entity involved in the project, including the Project Team, is required to nominate a Gender Focal Point. For instance, MoNRE and MPWT will nominate focal points at the national, provincial, and district levels. The Gender Focal Point from the Project Team will compile the contact information of all other focal points and create a list/network of gender focal points.

The responsibility of Gender Focal Points is to advocate for women's interests in meetings or discussions related to the project and to review documents to ensure that women's perspectives are considered. Gender Focal Points may or may not be members of the Lao Women's Union and may possess varying levels of expertise in this area.

Female participation in trainings, workshops, meetings or other events

One of the key challenges for this project will be to achieve a positive gender ratio for women's participation in trainings, workshops, meetings and other events. This is because there is a lower percentage of women employed in technical and managerial positions in the DPWT, like in other male-dominated sectors. An aim of the project is to increase the percentage of women gaining further skills and qualifications in the public works and transport sector. To this end, quotas will be introduced for the number of women in trainings or workshops. A quota of 30% will be presented to the PMC at the initiation workshop. If approved, it will mean that 30% of available seats are reserved for female participant, and that if the quota cannot be achieved, a written justification is to be provided before re-allocating any of those seats. The effectiveness of such a quota will be continuously monitored and adjustments to the quota will be proposed to the PMC if deemed necessary.

GAP budget

Budget allocations have not been included in the GAP as most of the actions described in this plan can either be implemented at no additional cost or respective cost is already integrated in the concerned activity's budget.

Table 1: Gender Action Plan (GAP)

Project Output	Activity (Gender Action)	Indicator/Target	Responsible
COMPONENT 1			
Output 1.1.1. Capacity assessments conducted on integrating climate change into urban plans for seven district capitals	a. Involve a gender expert, at least during the preparation of the capacity assessment, but preferably also during the implementation. b. Ensure that the capacity assessment factors in differentiated needs of men and women as well as gender related differences in knowledge and practices.	Capacity assessment report contains gender differentiated findings and recommendations.	MoNRE
Output 1.2.1. Risk and vulnerability assessments conducted or updated in seven district capitals	The conduct/updating of vulnerability assessments will present a learning opportunity for government staff working in urban planning, disaster management or similar sectors. Selected people from concerned government offices, in particular women, should be given the opportunity to follow the VA and learn from these activities.	Number of women with knowledge about Vulnerability Assessments.	MoNRE
Output 1.3.1. Training provided to provincial and district staff, as well as national government staff on mainstreaming climate adaptation into urban planning, including adaptive measures in spatial planning and land-use; and on resilient housing construction.	a. When producing new or reviewing existing training material, ensure that gender aspects and the needs of vulnerable groups are adequately covered. This is to occur with the involvement of gender experts or focus groups. b. Ensure adequate female participation in training activities by establishing a quota. c. Provide to the trainees the contact details of a gender focal point. d. Maintain gender disaggregated attendance records for all training activities.	• Number of consultations with gender experts (Target: >= 1) • Training material includes a gender component • Percentage of female training partici-pants (Target: 30%) • Gender focal point contact details disseminated	MoNRE
Output 1.4.1. Seven town level master plans developed to guide the integration of climate change adaptation into socially inclusive housing construction, spatial planning and land-use, ensuring sustainability of the houses constructed and rehabilitated under this project as well as further development interventions, and influencing policy changes from the national level.	a. Ensure adequate female participation for all consultations. Whenever consultations take place, the following principles should be applied: i. <u>For community-level consultations:</u> Attendance of a representative of the Lao Women's Union and at least 50% female participants. ii. <u>For consultations with GOL institutions or other stakeholder groups:</u> Attendance of the entity's gender focal point (if any) and 30% female participation or >= the staff gender ratio of the consulted entities. b. Include a dedicated agenda item on "Gender" for all consultations. e. Maintain gender disaggregated attendance records for all consultations.	• Percentage of female participation in consultation events (Target for community-level consultations: 50%; Target for consultations with GOL institutions or other stakeholder groups: 30%, at least >= staff gender ratio at institution consulted) • Percentage of meetings with an agenda item "Gender" (Target: 100%)	MPWT UN-Habitat
Output 1.5.1. Training provided for DMH staff on operation of meteorological and hydrological stations, and on climate information communication and early warning systems, including development of an app for local weather information and early warnings, and technical assistance in establishing a Meteorology and Hydrology Sub Sector Working Group (SSWG) or similar body...	a. Ensure adequate female participation in training activities by establishing a quota. b. Maintain gender disaggregated attendance records for all training activities.	• Percentage of female training participants (Target: 30%)	MoNRE/ DMH
Output 1.6.1. Building guidelines developed which integrate climate change resilience	a. Ensure that building guidelines integrate resilience measures that are responsive to the special needs of women and of other vulnerable groups such as children, elderly people or ethnic minorities.	• Number of Consultation with gender experts (Target: >=1)	MPWT

Project Output	Activity (Gender Action)	Indicator/Target	Responsible
	b. Prior to developing the guidelines, consult with a gender focus group to ensure adequate coverage of gender aspects.	• Needs of women and vulnerable groups are covered in guidelines.	
Output 1.7.1. Training provided for district officials on managing community evacuation centres.	a. Encourage local authorities to appoint or recruit women for the management of the community evacuation centres. b. Review existing training material to ensure that gender aspects and the needs of vulnerable groups are adequately covered. This is to occur with the involvement of gender experts or focus groups. c. Maintain gender disaggregated attendance records for all training activities. Note: All people involved in the management of the evacuation centres will be attending training, hence no gender target for attendance is needed.	• Percentage of women appointed/recruited and trained on managing the newly constructed evacuation centres (Target: 50%) • Number of consultations with gender experts (Target: >= 1)	DPWT
Output 1.8.1. Training of trainers to build capacity in local carpenters and masons in climate-resilient construction practices, and community-level trainings.	Sensitize carpenters and masons to be aware and supportive of the special needs of women and other vulnerable groups. a. Include a gender component in the training curriculum. b. Prior to developing the training material, consult with a gender focal point or focus group to ensure appropriate coverage of gender aspects. c. Provide to the trainees the contact details of a gender focal point. d. Provide templates to trainers for gender disaggregated reporting of training results.	• Number of consultations with gender experts (Target: >= 1) • Training material includes gender component • Gender focal point contact details disseminated • Reporting template distributed	MPWT
COMPONENT 2			
Output 2.1.1. 6 Demonstration resilient houses constructed. **Output 2.1.2.** 600 existing houses (for 3,000 people) reconstructed to increase resilience to climate change impacts. **Output 2.1.3.** 4,942 existing houses rehabilitated to increase resilience to climate change impacts. **Output 2.2.1.** Two community evacuation centres constructed as a safe place for people to shelter in the event of extreme flooding. **Output 2.2.2.** Four existing community evacuation centres assessed, and necessary improvements made, including provision of WASH facilities **Output 2.3.1.** Six Coordination Centres for Adaptation and DRR (doubling as DONRE Offices) constructed over six provinces, serving	Implement construction, reconstruction or rehabilitation works in such a way as to address, whenever possible, the needs of women, children and other vulnerable groups of society. a. Train people responsible for the planning of construction works and conducting of needs assessments on methods for identifying special needs of women and other vulnerable groups. b. During the construction planning & preparation phase, identify and document the needs of women and other vulnerable groups, and assess the extent to which they can be addressed with construction, reconstruction or rehabilitation works. For the planning of Community Evacuation Centres this should include discussions with representatives of concerned communities, incl. those of the Women's Union, Youth Union and Ethnic groups. c. Throughout the implementation of construction activities, involve as many members of the beneficiary households as possible, both male and female, especially with regards to decision making. d. In selecting beneficiaries for housing construction, reconstruction or rehabilitation, poor and female-headed households are to be given highest priority. e. For beneficiaries that do not have a valid land title for their property, assistance will be provided to obtain land tenure. In doing so, it is to be ensured that land titles are issued to both women and men. f. Record beneficiary numbers, disaggregated by gender and ethnicity. g. Document experiences and lessons learned regarding to the needs of vulnerable groups for future knowledge management.	• Number of people trained on identifying special needs of vulnerable groups and how to address them during construction. • Checklist or questionnaire for identifying & documenting the needs of vulnerable groups is available. • Percentage of Female-headed beneficiary households (Target: >= 10%) • Percentage of new land titles issued to both women and men • Number of best practices related to gender responsiveness documented (Target: >=1 per province per year).	MPWT

Project Output	Activity (Gender Action)	Indicator/Target	Responsible
as a base for climate change adaptation coordination.			
Output 2.4.1. Six new meteorological and hydrological stations constructed in 6 provinces	None (related training activities are covered under Output 1.5.1.)		DMH
Output 2.4.2. Nine existing meteorological and hydrological stations upgraded in six provinces	None (related training activities are covered under Output 1.5.1.)		DMH
COMPONENT 3			
Output 3.1.1. Project activities and results are captured and disseminated through dissemination workshop.	For trainings and workshops, the key dimensions to cover from a gender perspective are content and participation. a. When identifying training/workshop participants, ensure adequate female participation in line with established quotas. b. Ensure that gender aspects have been considered in all information material/knowledge products. c. During the training, provide contact details of a gender focal point. d. Maintain gender disaggregated attendance records for all training activities.	• Knowledge products include gender dimension • Percentage of women participating in workshops (Target: 30% or >= staff gender ratio at participating organizations) •	Project Team MPWT MoNRE
Output 3.2.1. Strategy developed as guidance document for policy development on the integration of climate change adaptation measures in the housing sector. **Output 3.2.2.** Strategy developed on Housing, Land and Property (HPL). **Output 3.3.1.** IEC materials produced for target communities.	a. Consultations with gender experts or focus groups should be held prior to and after the production of draft policies, plans or other information products. This is in addition to consultations with other subject experts. b. Documents/IEC materials that speak to the broader community will require additional consultations, including with representatives from other vulnerable groups such as ethnic groups or youth union. Community-level consultations should target a female participation rate of 50%. c. Records are to be maintained for all consultations held, with numbers of participants disaggregated by gender. d. Assess the most appropriate communication channels for the dissemination of information products, keeping in mind that they may be different for women and men.	• Records of consultations show inclusion of gender experts (Target: 100%). • Percentage of policy documents, plans or information products that incorporate a gender-responsive approach (Target: 100%). • Percentage of women participating in community-level consultations (Target: 50%) • Percentage of women participating in consultations with GOL offices/institutions or other stakeholder groups (Target: 30% or >= staff gender ratio at organizations consulted)	MPWT
Output 3.3.2. Community awareness raising activities conducted.	a. Collect baseline data on awareness and knowledge levels among men and women (preferably prior to CA activities, otherwise during events). b. Tailor the format, scheduling and leadership of activities to allow for equal participation of men and women in awareness raising activities. c. Chose suitable locations for CA activities that minimize travel and maximizes participation from all groups of society. d. Ensure gender-balance in teams of event organizers/facilitators. This helps increasing comfort	• Gender responsive community awareness baseline data available • Estimated female participation in CA activities (Target: 50%). • Gender ratio in teams organizing/facilitating CA activities (Target: 50%)	MoNRE MPWT

Project Output	Activity (Gender Action)	Indicator/Target	Responsible
	of women and girls participating in CA activities. e. Monitor the participation of women in the activities on an ongoing basis and adjust the outreach strategy as needed.		
Output 3.4.1. Shelter response profile to inform the IASC shelter cluster. **Output 3.4.2.** Manual on managing community evacuation Centres. **Output 3.4.3.** Technical manual on construction practices for climate-resilient housing for carpenters. **Output 3.4.4.** Training guidelines produced on resilient shelter construction and adaptive measures in spatial planning and land-use for Subnational DHUP staff.	a. Consultations with gender experts or focus groups should be held prior to and after the production of draft policies, plans or other information products. This is in addition to consultations with other subject experts. b. Documents/IEC materials that speak to the broader community will require additional consultations, including with representatives from other vulnerable groups such as ethnic groups or youth union. Community-level consultations should target a female participation rate of 50%. c. Records are to be maintained for all consultations held, with numbers of participants disaggregated by gender. d. Assess the most appropriate communication channels for the dissemination of information products, keeping in mind that they may be different for women and men.	• Records of consultations show inclusion of gender experts (Target: 100%). • Percentage of policy documents, plans or information products that incorporate a gender-responsive approach (Target: 100%). • Percentage of women participating in community-level consultations (Target: 50%) • Percentage of women participating in consultations with GOL offices/institutions or other stakeholder groups (Target: 30% or >= staff gender ratio at organizations consulted)	MPWT
Output 3.5.1. School teachers trained to sensitize and educate students on climate change issues including relevant KM materials published	a. When identifying training/workshop participants, ensure adequate female participation in line with established quotas. b. Ensure that gender aspects have been considered in all information material/knowledge products. c. During the training, provide contact details of a gender focal point. d. Maintain gender disaggregated attendance records for all training activities	• Training material is gender-responsive • Percentage of women participating in trainings (Target: 50%)	MoNRE MoH
PROJECT MANAGEMENT/MONITORING & EVALUATION			
Gender is mainstreamed into Project Organization and Management	a. Advocate for women in leadership roles in project execution (PMC, Project Team and local executing entities). b. Pro-actively encourage executing entities and partners at national, provincial, district and communal levels to include women in their project teams. c. Nominate and train one person from the project team to act as the gender focal point. d. Offer a training block on gender mainstreaming (with an emphasis on data collection, participation strategies, and gender in the context of climate resilience building) during the project inception workshop or as a stand-alone training during the first operational quarter of the project. e. Establish a gender-responsive grievance mechanism. f. Review draft project reports or draft project outputs (e.g. strategies, plans or information material) to ensure appropriate coverage of the gender dimension as part of the technical and editorial review process. The reviews should follow a standard checklist. g. Review plans/requests for monitoring missions to ensure adequate female participation and, if appropriate, appointment of a gender focal point for the mission.	• Gender ratio in project team, executing partners and monitoring bodies (Target: >=30% female) • Project gender focal point nominated and trained. • Gender training component developed and delivered. • Gender-responsive grievance mechanism developed. • Availability of a checklist to guide the review of project related draft reports, policy documents and technical documents from a gender perspective. • Percentage of draft project reports that follow a gender-responsive approach (Target: 100%).	UN-Habitat, MoNRE, MPWT

Annex 9: Resource Efficiency and Waste Management Plan

1. Objective

The objective of Resource Efficiency and Waste Management Planning is to:

a. Minimize the amount of surplus or waste materials through efficient design/planning.
b. Save money and resources by re-using material or collecting rebates.
c. Prevent or minimize the impacts of construction and waste materials on the environment.
d. Keep construction sites organized.
e. Learn from previous experiences and promote good practices by continuously improving Waste Management Plans and by sharing lessons learned and good practices within the project.

2. General Principles for Waste Management

1. Minimise the amount of waste generated as part of the project
2. Maximise the amount of material which is sent for reuse, recycling or reprocessing
3. Minimise the amount of material sent to landfill.

3. Principles for the Sourcing of Construction Materials

1. Use environment friendly and recycled or re-used products whenever possible and practical.
2. Avoid unnecessary packaging by reviewing the supplier's packaging requirements.
3. Procure in bulk whenever possible, to negotiate lower prices and reduce the number of deliveries.
4. Create internal controls to ensure the correct ordering of materials.
5. Ensure deliveries are correct and undamaged before accepting them on site.

4. Principles for the Preservation and Protection of Biodiversity and Soil

1. Identify areas that contain (or potentially contain) significant biodiversity or habitats for protected plants or animal species. Inventorize, document and collect photo material.
2. Identify measures to preserve those areas during construction (plan around, fence off, etc.).
3. If areas cannot be preserved, identify measures to restore them after construction.
4. If preservation or restauration is deemed not feasible or practical, identify the next steps in consultation with the project coordinator and with UN-Habitat.

5. Responsibility

The construction contractor is responsible for the protection of natural resources and for the efficient management of construction resources. This includes the creation of Waste Management Plans and monitoring their implementation. The Project Coordinator will manage the Waste Management Plans at the project level.

6. Planning Steps

1. For reconstruction and rehabilitation works: Assess what structures and materials of the house will be replaced/removed and what types and quantities of waste material this will generate.
2. For the construction of new buildings/houses: Assess the construction plan and try to anticipate the types and quantities of waste materials that will be generated. Assess the potential for reduction of waste materials through improvements to construction plans/designs.
3. Assess the potential for re-use of materials. For material that can potentially be re-used on other project sites, central material collection points are to be created.
4. Assess the potential for recycling of materials. If necessary, conduct a local survey to identify collectors of recyclable materials.
5. Assess the need for use of land-fills. Research local waste disposal options/facilities and transportation options while keeping in mind the ESP principles of the Adaptation Fund.
6. Assess the surroundings of the construction site to areas of significant biodiversity. E.g. identify water ways and habitats for plants or animals that need protecting (see section 4 above).
7. Produce a layout for the creation of on-site waste collection areas. This is to be done in consultation with concerned landowners/property managers.
8. Assess the potential emission of greenhouse gases and identify measures to avoid or reduce them (use of renewable energy, reduce number of deliveries, dump instead of burn, share transportation, etc.)

The attached template (Waste Management Plan) should be used to document the planning steps 1 to 5.

7. Implementation Steps

- Instruct the workers on techniques for efficient use of materials and avoidance of damages.
- Instruct workers regarding waste management and assign on-site responsibilities.
- Oversee the implementation of the waste management plan. Assess the effectiveness of waste management during routine site visits and inspections.
- Conducting a final check/evaluation after completion of all construction activities and before leaving the site. Has all waste material been removed? Have any negative effects from waste management been rectified?

The checklist below be helpful in conducting on-site compliance checks.

Implementation Checklist

#	Check	Yes	No	Comment
1	Have workers been instructed on - Environmental protection, - Efficient use of materials - On-site waste management procedures?			
2	Has a site-responsible person been appointed?			
3	Have waste segregation/collection areas been prepared?			
4	Have waste collection areas been adequately labelled?			
5	Is waste/material segregated properly?			
6	Has recycling been maximized and disposal by landfill been minimized?			
7	Is waste/material stored safely (e.g. to avoid injuries, spills, etc.)			
8	For off-site disposal, are all the waste destination details been defined?			
9	For reconstruction and rehabilitation work sites: Has agreement been obtained from house owners for the disposal of materials?			

Waste Management Plan (Template)

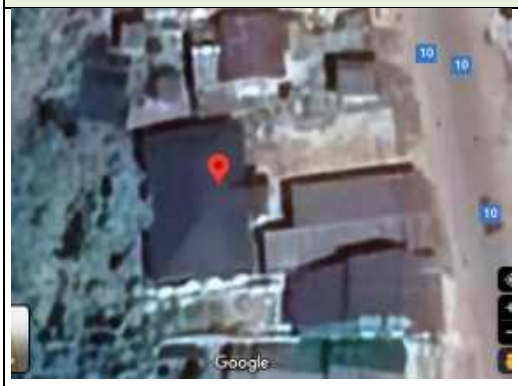
This template is to be completed by the entity contracted for the implementation of construction works.

Waste and/or Recyclable Materials	**Destination**		
	Reuse and Recycling		**Disposal**
	On-site (How will materials be reused and/or recycled on-site?)	**Off-site** (Specify the locati-on.recycling facility)	Specify the location/ landfill site/disposal method
Timber			
Wood waste			
Ferrous metals (e.g. iron, steel)			
Nonferrous metal (e.g. copper wiring)			
Concrete			
Roofing tiles			
Ceramic tiles			
Gravel			
Gypsum board			
Paint, hazardous liquids			
Plumbing fixtures and fittings/PVC			
Stone			
Asphalt			
Glass			
Sand/fill			
Topsoil			
Green waste			
Plastics			
Co-mingled recyclables from workers (e.g. paper, cans, glass, plastic bottles, card-board)			
General waste / Mixed waste from workers (e.g. food packaging, non-recyclable plastics)			

Annex 10: Sites Identified for Construction

DoNRE Office, Bokeo, Paktha	https://goo.gl/maps/W4Kzw45XKgftB3gD7 Coordinates: 20.106692, 100.598545
	 
DoNRE Office, Vientiane, Meun	https://goo.gl/maps/2uE5TKuUuuTRcr3R9 Coordinates: 18.265122, 101.955744
	 
DoNRE Offixe, Bolikhamxay, Xaychamphone	https://goo.gl/maps/rfuPoVA49WSQ9TEn8 Coordinates: 18.580599, 104.988334
	 
DoNRE Office, Khammouane, Khounkham Distr., Khounkham Tai	https://goo.gl/maps/1FkJCb8MmAeJCms18 Coordinates: 18.195610, 104.516593
	 
DoNRE Office, Champasak, Paksong	https://goo.gl/maps/EoKmwa12GtWwETv78

	Coordinates: 15.183955, 106.213203
	 
DoNRE Office, Attapeu, Samakkhixay	https://goo.gl/maps/nKkMj8NCpfEkXpoz5 Coordinates: 14.819992, 106.824814
	 
New DMH Station, Champasak Prov., Champasak District, Vatthad Village	https://maps.google.com/?q=14.8691686,105.8723583 Coordinates: 14.8691686, 105.8723583
	 
New DMH Station, Khammouane Prov., Khounkham Distr., Khounkham Tai	https://goo.gl/maps/1FkJCb8MmAeJCms18 (same as DoNRE office) Coordinates: 18.19520362, 104.5166003
	 

New DMH Station, Bolikhamxay Prov., Xaichamphone Distr., Namone	https://goo.gl/maps/rfuPoVA49WSQ9TEn8 (same as DoNRE office) Coordinates: 18.580546, 104.988610
	
New DMH Station, Vientiane Prov., Keooudom district.	https://goo.gl/maps/2hvmMEVkivHGopPu6?coh=178571&entry=tt Coordinates: 18.518518, 102.506935
	
New DMH Station, Bokeo Prov., Paktha district.	https://goo.gl/maps/gRhZhxEJh4wkVYDE7?coh=178571&entry=tt Coordinates: 20.102707, 100.595556
	
New DMH Station, Attapue Prov., Xansai district.	https://goo.gl/maps/F9MsbrUwLfbKWP5M9?coh=178571&entry=tt Coordinates: 14.917644, 107.059608
	

Lao People's Democratic Republic
Peace Independence Democracy Unity Prosperity

Ministry of Public Works and Transport
Department of Housing and Urban Planning

No. 481 /DHUP
Vientiane Capital, September 14, 2023

Adaptation Fund Board Secretariat
1818 H Street NW
Washington DC 20433
USA

Dear Mr. Ollikainen,

Subject: Request for a DPS of 9.5% for the Project: Enhancing adaptive capacity in Lao PDR provinces, and building resilient housing in vulnerable communities (AF AF00000295).

I am writing on behalf of the EE/DHUP (Ministry of Public Works and Transport) to express our strong support for the request to allocate the full Direct Project Support (DPS) of 9.5% to UN-Habitat for the management support of the above-mentioned project.

We understand that the Adaptation Fund Board Secretariat requires: "A justification for a special circumstance for why [UN-Habitat] cannot limit the DPS to 1.5%", which could then be forwarded to the Board for decision.

We believe that our unique circumstances and the complexities associated with the Lao PDR project warrant an exemption from this limit, as detailed below:

The project primarily focuses on building resilience in climate change-impacted communities through shelter interventions. In the development context, the Government partnered with UN-Habitat in a housing project in the south of Lao PDR. The project implemented in one province was challenging, especially considering the limited execution capacity at the provincial level. The current project will be implemented in seven provinces, and we foresee a great need for external technical advisory support through UN-Habitat, which has such an experience.

Please refer to my earlier letter on this matter, dated 28 August 2023, to Mr. Raf Tuts, UN-Habitat, where I emphasized that all project activities will be carried out by our government partner Executing Entities (EEs), both at the national and provincial levels. We are deeply committed to this project, but considering the scale and diversity of its execution across multiple provinces necessitate external technical support to complement our in-kind contribution effectively.

Given these considerations, we firmly support the overall proposal and hence make this request for a special circumstance exemption from the 1.5% limit on DPS. We have closely worked with UN-Habitat on the project design and the project and believe that the full 9.5% DPS is absolutely essential for the successful execution and long-term sustainability of this type of project. 9.5% DPS will enable us to access the project management and technical expertise required to navigate the complexities inherent in such a comprehensive shelter-focused initiative.

We greatly appreciate the Adaptation Fund's understanding of our unique circumstances and willingness to consider this request favorably. We look forward to working collaboratively with the Fund and UN-Habitat to ensure the successful implementation of the Lao PDR project.

Please feel free to reach out if you require any additional information or documentation to support our request. We are fully committed to this project's success and the realization of its benefits for our people.

Thank you for your attention to this matter.

Yours sincerely,

Dr Viengnam Douangphachanh
Director General
Department of Housing and Urban Planning (DHUP)
Ministry of Public Works and Transport
Tel: +356 21412282