



ADAPTATION FUND

# PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

## PART I: PROJECT/PROGRAMME INFORMATION



*Typical houses of poor people in Laos, Source: UN-Habitat*

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; 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 7 323 750

### 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.<sup>1</sup> 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 <sup>2</sup>	3 <sup>2</sup>	17,157,2242
Typhoon Ketsana	2009	271,943 <sup>2</sup>	28 <sup>2</sup>	58,000,0002
Tropical Storms Haima and Nokten	2011	429,954 <sup>2</sup>	42 <sup>2</sup>	220,568,382 <sup>2</sup>
Flood	2013	353,966 <sup>2</sup>	25 <sup>2</sup>	280,375,000 <sup>2</sup>
Flood	2014	15,308 <sup>2</sup>	1 <sup>2</sup>	
Flood	2015	37,815 <sup>2</sup>	0 <sup>2</sup>	7,434,604 <sup>2</sup>

<sup>1</sup> World Bank, '[Recovery and Resilience in Lao PDR](#)', The World Bank, 2019

<sup>2</sup> Laos Statistics Bureau, 'Laos Country [Report](#)

Drought	2016	NA	0 <sup>2</sup>	126,200 <sup>2</sup>
Floods after Tropical Storms Son-Tinh and Bebinca	2018	616,145 <sup>3</sup>	56 (as of Oct 2018) <sup>3</sup>	147,000,000 + losses of 224,500,000 <sup>3</sup>
Floods	2019	1,000,000+ <sup>4</sup>	19 <sup>4</sup>	
Drought	2019 - 2020	67,800 <sup>4</sup>		
Floods	2020	69,764 <sup>4</sup>	2 <sup>5</sup>	

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.<sup>6</sup> 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 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<sup>7</sup>, 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.<sup>8</sup>

*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

<sup>3</sup> Government of Lao PDR, 'Post-Disaster Needs Assessment, 2018 Floods, Lao PDR', 2018

<sup>4</sup> CFE-DM, 'Lao PDR Disaster Management Reference Handbook', 2021

<sup>5</sup> AHA Centre, 'Tropical Storms "Linfa" & "Nangka" Cambodia, Lao PDR, Viet Nam: Flash Update #4', 2020

<sup>6</sup> INFORM, 'Lao PDR: INFORM Risk Country Risk Profile', 2021

<sup>7</sup> Asian Development Bank, 'Asian Development Outlook 2021: Financing a Green and Inclusive Recovery', 2021

<sup>8</sup> International Monetary Fund@, 'World Economic Outlook Database', 2021

Figure 1 Employment and Value Added by Sector: 2010–2018

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

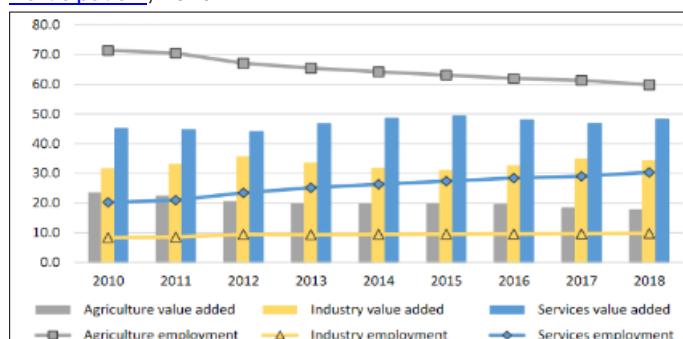
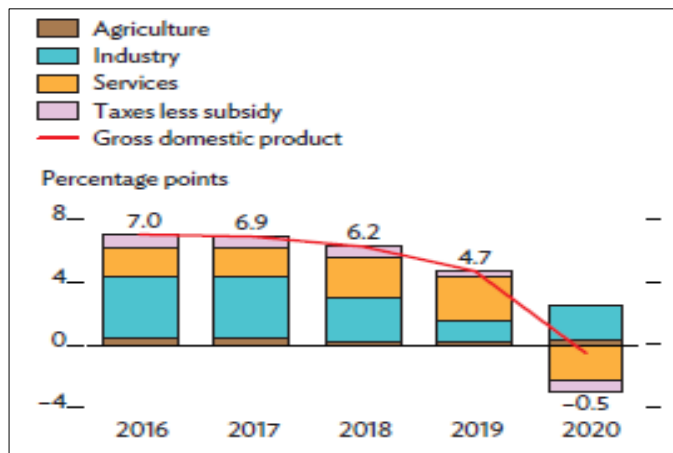


Figure 2 Sector contributions to growth.

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



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.<sup>13</sup> A lack of organised social protection leaves a large proportion of poor workers and unemployed people vulnerable to socioeconomic shocks.

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.<sup>14</sup> 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.

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.<sup>9</sup> A 2019 study found that Lao PDR's debt carrying capacity had deteriorated and its debt distress was assessed as high.<sup>10</sup> 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.<sup>11</sup>

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.<sup>12</sup> 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

<sup>9</sup> 'World Bank Open Data' (World Bank), [accessed](#) 14 June 2021

<sup>10</sup> International Development Association and International Monetary Fund, 'Lao PDR Joint World Bank-IMF Debt [Sustainability Analysis](#)', 2019

<sup>11</sup> Asian Development Bank, 'Asian Development Outlook 2021: Financing a Green and Inclusive Recovery'.

<sup>12</sup> Asian Development Bank.

<sup>13</sup> World Bank, 'COVID-19 to Impact Lao PDR Growth, Debt in 2020: [New World Bank Report](#)', 2020

<sup>14</sup> UNFPA & UN-Habitat, 'Impacts of COVID-19 in Vulnerable Settlements and Communities in Lao PDR', Position paper, 2020.

## 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.<sup>15</sup> The World Bank gives a more recent figure of 7,169,455 for the total population in 2019.<sup>15</sup> 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.<sup>16</sup>

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.<sup>17</sup> 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.<sup>18</sup> 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.<sup>19</sup>

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.<sup>20</sup> Areas of concern include early marriage and adolescent pregnancies, of which Lao PDR has had the highest rates in Asia.<sup>21</sup> 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.<sup>22</sup> 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.<sup>23</sup> 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.<sup>24</sup> 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

<sup>15</sup> Laos Statistics Bureau, 'Results of Population and Housing [Census 2015](#)' (Vientiane, 2015)

<sup>16</sup> Ministry of Agriculture and Forestry, 'Lao PDR: Northern Rural Infrastructure Development Sector Project: [Ethnic Groups Development Framework](#)', 2016

<sup>17</sup> [UNHCR, 'Lao People's Democratic Republic'](#), UNHCR, 2022.

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

<sup>19</sup> 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.

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

<sup>21</sup> Idem

<sup>22</sup> Idem

<sup>23</sup> Idem

<sup>24</sup> Idem

context, and this is a key challenge to be addressed to support sustainable development.<sup>25</sup>

## 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.<sup>26</sup> 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.<sup>27</sup>

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.

The Government of Lao PDR has recently ratified the country's 9<sup>th</sup> National Socioeconomic Development Plan (NSED) 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 inclusive, sustainable and green economic growth. Key concerns in the 9<sup>th</sup> NSED 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."<sup>28</sup> Outcome 4 of the 9<sup>th</sup> NSED targets Environmental Protection and Natural Disaster Risk Reduction.<sup>29</sup> 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.<sup>30</sup> 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

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

<sup>26</sup> UNDP, 'Human Development [Report](#) 2020: The Next Frontier—Human Development and the Anthropocene', 2020

<sup>27</sup> UNDP, '[Lao PDR: Human Development Indicators](#)', 2020

<sup>28</sup> Government of Lao PDR, 'Lao PDR 2nd Voluntary National Review: [Main Message](#)', 2021

<sup>29</sup> The 9th Five-Year National Socioeconomic Development Plan (2021-2025), Draft 5, 8 Dec 2020.

<sup>30</sup> Government of Lao PDR, 'Lao PDR 2nd Voluntary National Review: [Main Message](#)', 2021

has a renewed impetus under Our Common Agenda.<sup>31</sup> 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 8<sup>th</sup> NSEDP were linked to the Sustainable Development Goals (SDGs). An 18<sup>th</sup> 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 2<sup>nd</sup> voluntary national review (VNR) of the SDGs is underway in 2021.

As conveyed in its main message, lessons learned include a need for:

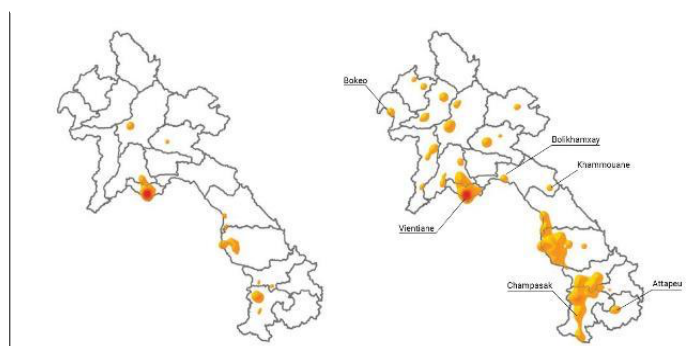
- i.greater involvement of line ministries and provincial authorities;
- ii.strengthening of administrative data systems along with enhancing institutional and statistical capacity building;
- iii.a multi-stakeholder approach which promotes collaboration and coordination across line ministries and between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

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

*Figure 3 Densely populated areas*

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



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.<sup>33</sup> 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.<sup>34</sup> 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.<sup>35</sup> In the rest of the country, wood is mostly used for walls and flooring.<sup>36</sup> In small towns, families often construct their own house to designs which differ across the provinces, depending on cultural factors and the construction materials available. 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<sup>37</sup> identifying

<sup>31</sup> United Nations, 'Our Common Agenda: Report of the Secretary-General', 2021

<sup>32</sup> Government of Lao PDR, 'Lao PDR 2nd Voluntary National Review: Main Message'.

<sup>33</sup> UN-Habitat, 'A Practical Guide for Conducting: Housing Profiles', 2011

<sup>34</sup> Government of Lao PDR, 'Post-Disaster Needs Assessment: 2018 Floods, Lao PDR', 2018

<sup>35</sup> The Climate Institute (2018). [Cooling your home but warming the planet](#)

<sup>36</sup> Government of Lao PDR, 'Post-Disaster Needs Assessment: 2018 Floods, Lao PDR', 2018

<sup>37</sup> UN-Habitat, 'World Cities Report 2016: Urbanization and Development - Emerging Futures' (Nairobi, 2016)

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.<sup>38</sup> 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.<sup>39</sup> 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 DHUP – 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.<sup>40</sup> 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.

## Environmental Context

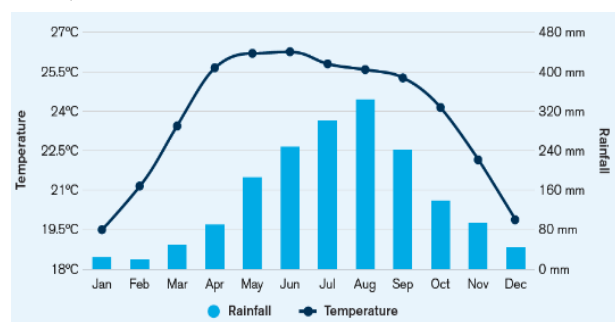
Having a wealth of natural resources on which much of the country depends, Lao PDR's development trajectory is reliant on the sustainable exploitation of its natural resources and the inclusive distribution of the benefits of their exploitation.<sup>41</sup>

Lao PDR is a landlocked country of 236,000 km<sup>2</sup> 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 contributory 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.

*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.



<sup>38</sup> Laos Statistics Bureau, 'Results of Population and Housing Census 2015'.

<sup>39</sup> Bosoni, N., Epprecht, M., & Hayward, D., 'Urbanization Processes in the Lao PDR: [Processes, Challenges and Opportunities](#),' 2018

<sup>40</sup> Epprecht et al. (2018). Urbanization processes in the Lao PDR.

<sup>41</sup> 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.

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.<sup>42</sup> Forest cover reduced from 70% of land area in 1940 to 41.5% in 2002, before increasing to 58% in 2015.<sup>43</sup> 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.”<sup>44</sup> 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.<sup>45</sup> 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 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.<sup>46</sup> 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.<sup>47</sup> 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 21<sup>st</sup> century.<sup>48</sup> 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.<sup>49</sup> Minimum and maximum temperatures are expected to rise

<sup>42</sup> Government of Lao PDR, 'Lao PDR First Biennial Update [Report](#) (Draft)', 24 July 2020

<sup>43</sup> Idem

<sup>44</sup> Ministry of Agriculture and Forestry, 'National REDD+ [Strategy](#)', 2021

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

<sup>46</sup> 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.](#)

<sup>47</sup> Government of Lao PDR, '[Second National Communication](#): Lao PDR', 2013

<sup>48</sup> World Bank Group and the Asian Development Bank, '[Climate Risk Country Profile](#): Lao PDR', 2021

<sup>49</sup> World Bank Group and the Asian Development Bank.

Figure 6 Flood-prone areas.

Source: UN-Habitat Lao

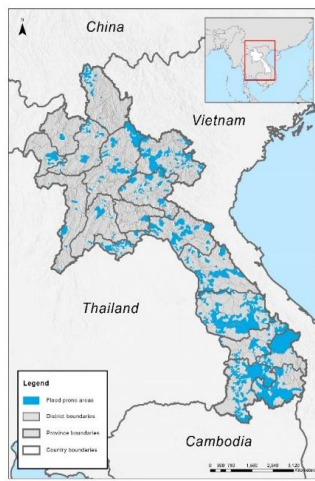
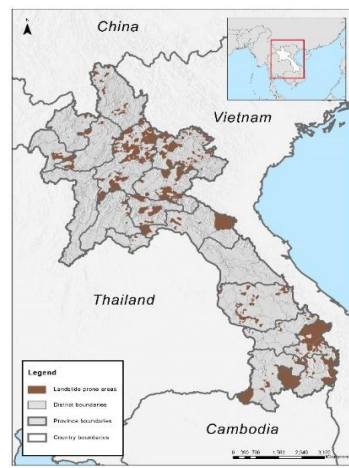


Figure 5 Landslide-prone areas.

Source: UN-Habitat Lao



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.<sup>50</sup>

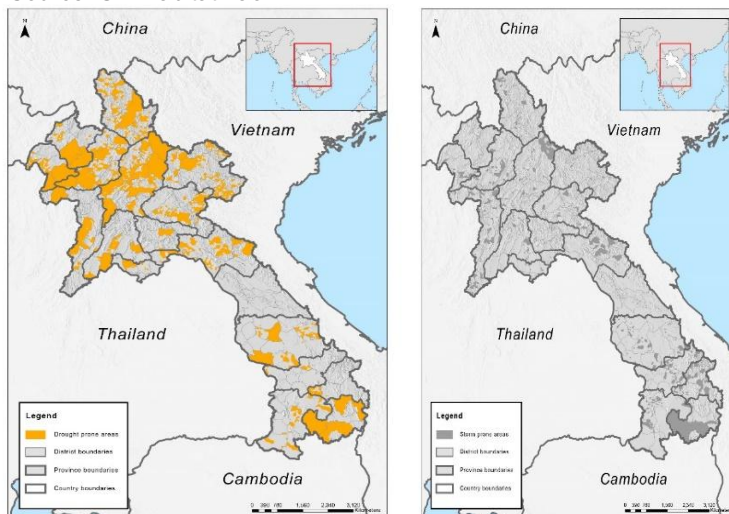
There is also projected to be an increase in precipitation, with data from 1951–2012 showing a 1.6mm increase in rainfall per decade.<sup>51</sup> Mean annual rainfall is expected to increase further in the future, with the increases more pronounced during the wet season.<sup>52</sup> World Bank data 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.<sup>53</sup> Intense and heavy rainfall has been associated with severe flooding and landslides.

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.<sup>54</sup> 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 6 and Figure 5 show areas that are prone to floods and landslides respectively.

Figure 7 Drought-prone areas (left) and Storm-prone areas (right).

Source: UN-Habitat Lao



Nationally, there are projected increases in droughts and tropical storms or cyclones, although more research is needed for detailed projections.<sup>55</sup> In recent years, drought has been experienced in Lao PDR in 2015, 2016 and 2019.<sup>56</sup> 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.<sup>57</sup> Added to heavy rainfall and droughts, Lao PDR experiences tropical storms and cyclones which are projected to increase in intensity. Figure 7 shows drought and storm-prone areas.

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.<sup>58</sup> The last 30 years has seen a significant decrease in rainfall in Attapeu, with

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

<sup>51</sup> Government of Lao PDR, 'Post-Disaster Needs Assessment, 2018 Floods, Lao PDR'.

<sup>52</sup> World Bank Group, 'Lao PDR', [Knowledge portal, Climate Change Knowledge Portal](#), 2021

<sup>53</sup> Idem

<sup>54</sup> INFORM, 'Lao PDR: INFORM Risk Country Risk Profile'.

<sup>55</sup> World Bank Group and the Asian Development Bank, 'Climate Risk Country Profile: Lao PDR', 2021

<sup>56</sup> 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

<sup>57</sup> Sutton, William R., Jitendra P. Srivastava, Mark Rosegrant, and Jawoo Koo, and Ricky Robertson.

<sup>58</sup> UN-Habitat, 'Climate Change Vulnerability Assessment: Attapeu Province', 2019.

annual rainfall ranging from 1,196 millimetres in 2010, to 3,265 in 1996. Figure 10 shows the high variability in rainfall in Attapeu, with an overall downward trajectory. The variation has resulted in both extreme flooding and also droughts.

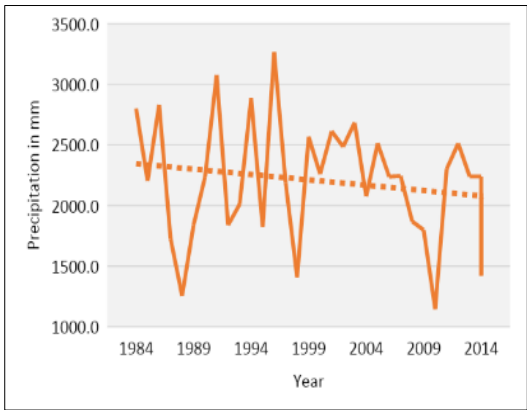


Figure 9 Average annual rainfall in Attapeu Province.

Source: UN-Habitat CCVA

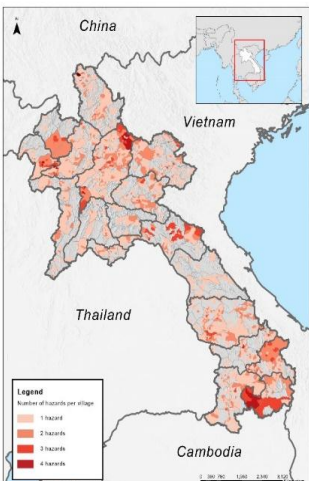


Figure 8 Number of hazards per village. Source: UN-Habitat CCVA

Figure 8 shows the number of hazards that a village is exposed to. The four identified hazards are floods, 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<sup>59</sup>. 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,<sup>60</sup> 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.<sup>61</sup> 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.<sup>62</sup> 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 10 shows houses which were damaged in floods caused by Tropical Storm Koguma in June 2021.

Figure 10 Flood-damaged houses. Source: June 2021 Floods in Lao PDR: Inputs to Simplified Post-Disaster Needs Assessment Housing and Settlements & WASH. UN-Habitat, 2021



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

<sup>59</sup> UN-Habitat, ‘Lao PDR National Climate Change Vulnerability Assessment: Preliminary Results’, 2020.  
<sup>60</sup> World Bank Group and the Asian Development Bank, ‘Climate Risk Country Profile: Lao PDR’.  
<sup>61</sup> Government of Lao PDR, ‘Post-Disaster Needs Assessment, 2018 Floods, Lao PDR’.  
<sup>62</sup> The World Bank Group and the Asian and Development Bank., ‘Climate Risk Country Profile: Lao PDR’, 2021

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.<sup>63</sup> 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.<sup>64</sup> Since rice is the staple food on which many households depend, changes such as this will have a significant impact on food security.

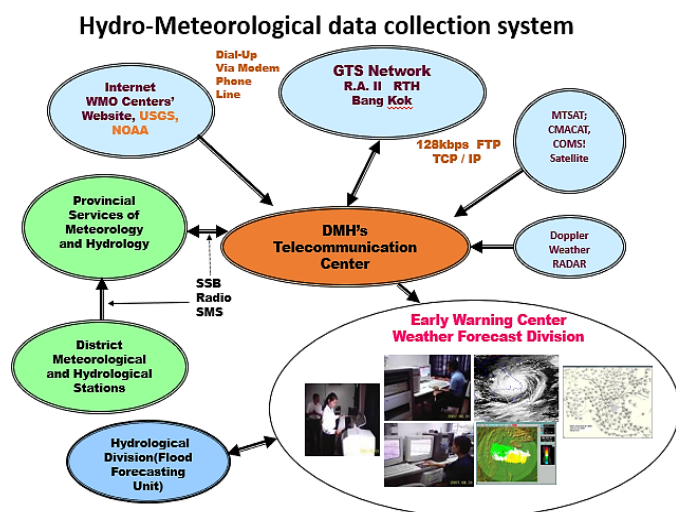
### Climate Change Institutional Setup

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.

Figure 11 Hydro-Meteorological Data Collection System



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.

<sup>63</sup> The World Bank Group and the Asian and Development Bank.

<sup>64</sup> 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.

The DMH is also still developing its capacity throughout the country. 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, with a limited budget, the required number of 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), is not completed, leaving some communities with limited information on climate (change) risks, particularly floods, to inform the early warning system. Figure 11 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.

### 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, has conducted an analysis, with resulting data shown in Figure 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.

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

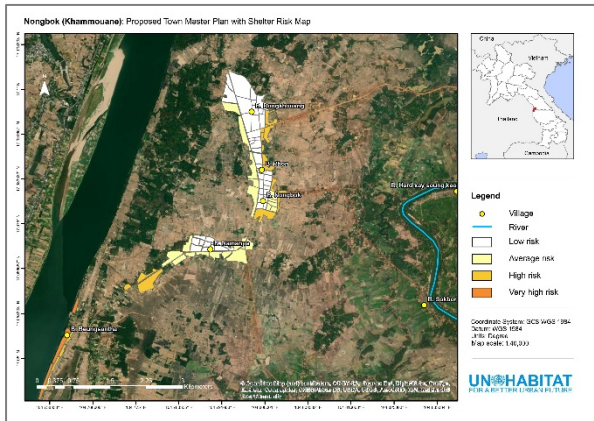


Figure 14 Xaychamphone (Bolikhamsay) Proposed Town Master Plan showing hazard levels.

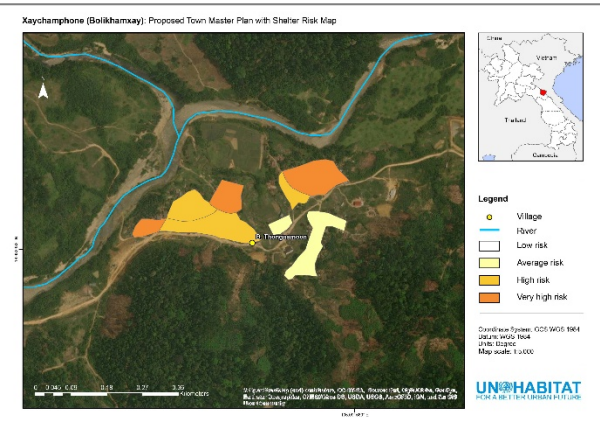


Figure 15 Moonlapamok (Champasak) Proposed Town Master Plan showing hazard levels. Source: UN-Habitat

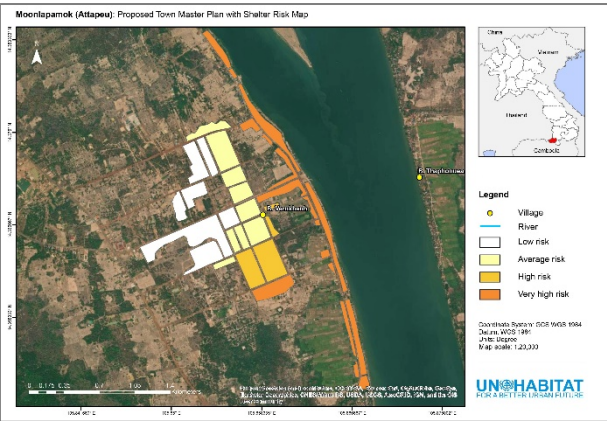


Figure 12 Pha Oudom (Bokeo) Proposed Town Master Plan showing hazard levels. Source: UN-Habitat

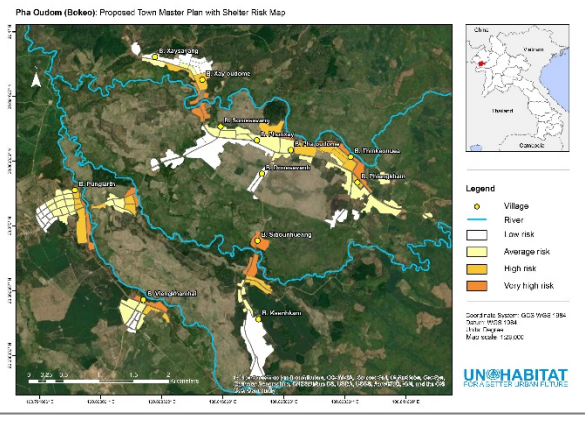


Figure 17 Viengthong (Bolikhamxay) Proposed Town Plan showing hazard levels. Source: UN-Habitat

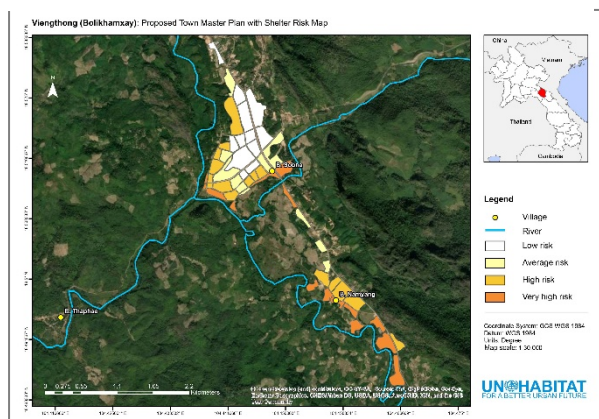
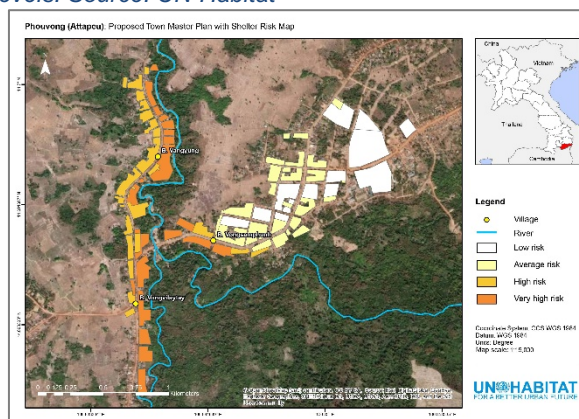


Figure 16 Phouvong (Attapeu) Proposed Town Plan showing hazard levels. Source: UN-Habitat



### Project / Programme Objectives:

The main objective of the project is to build climate resilience in vulnerable, poor communities in six provinces in Lao PDR through improving provincial adaptation capacity, 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.<sup>65</sup> 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 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

Figure 18 Multidimensional nature of the project



<sup>65</sup> Detailed information about the baseline early warning systems and gaps will be provided during the full proposal development phase

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, two designs have 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 Table 4. 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 based on 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 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 and consultation reports are available on request. A summary of the outcomes 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%	23%	12%	8%	
Average household members	5.5	6.3	6.8	5.4	5.4	5.1	
Increase of population rate	2.3%	2.5%	2.5%	2.5%	1.8%	2.3%	
Expected population in 5 Years	9,307	5,451	1,514	9,637	10,572	8,095	
Expected population in 10 Years	10,428	6,167	1713	10,904	11,559	9,070	
Ethnicity							
Ethnicity 1	Laoluom	Laoluom	Toun	Laoluom	Laoluom	Laoluom	
% 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%	52%	23%	N/A	
Number of poor Households	199	163	100	173	328	837	0
Poverty Index	18.75	38.10	69.40	15.27	29.00	19.93	12.16
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%	
<b>Housing</b>							
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 ype	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			2 (Pha Oudom & Paktha)
Vientiane		1	1				2 (Meuen & Vang Vieng)
Bolikhamxay	2	2	1	1		1 (Xaychamphone)	1 (Viengthong)
Khammouane	1	1	1		1	1 (Khounkham)	1 (Nongbok)
Champasak	1	1	1		1	1 ( Moonlapamok)	1 (Paksong)
Attapeu	1	1	1		1		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*

*Outcome 8: Support the development and diffusion of innovative adaptation practices, tools and technologies*

### **Component 3: Strengthening community awareness and mainstreaming adaptation into policy 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/ Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (US\$)
1. Increasing adaptive capacity of communities and provincial institutions to develop and sustain 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.	915 060
	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 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.	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.	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 Demonstration resilient 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	4 793 690
	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. The Natural Resources and Environment sector has a physical presence in the district, enabling improved climate change adaptation coordination and activities.	
	2.4.1. 3 new meteorological and hydrological stations constructed in 3 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 into policy 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. Strategy on Housing, Land and Property (HPL) – this can also include a HPL mapping to better understand the land and property-related context ( <a href="https://www.sheltercluster.org/hlp">https://www.sheltercluster.org/hlp</a> ).	3.2. 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 (technical document) that can feed the Shelter Cluster community of practice ( <a href="https://www.sheltercluster.org/global/communities-practice">https://www.sheltercluster.org/global/communities-practice</a> ) and contribute to the “promoting safer building” initiative ( <a href="https://www.sheltercluster.org/working-group/promoting-safer-building">https://www.sheltercluster.org/working-group/promoting-safer-building</a> ) 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	
	3.4.5. 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			6 108 750
5. Project/Programme Execution cost			641 250
6. Total Project/Programme Cost			6 750 000
7. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)			573 750
<b>Amount of Financing Requested</b>			<b>7 323 750</b>

*Table 7 Projected Calendar*

Milestones	Expected Dates
Start of Project/Programme Implementation	August 2023
Mid-term Review (if planned)	August 2025
Project/Programme Closing	August 2027
Terminal Evaluation	July - August 2027

## PART II: PROJECT / PROGRAMME JUSTIFICATION

### A. 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 government authorities such as Provincial or District Natural Resources and Environment Offices. 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 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.
- 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 system.
- 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 not only provide resilient shelter for selected householders but will also demonstrate resilience in house construction to the communities in which they reside, with 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., women 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 Building Back Better (BBB) and other principles which will be innovations in the target districts.

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 the concerns and needs of women and ethnic groups, children, youth, older persons, persons with disabilities, IDPs and returning migrants are considered. 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 3 new meteorological and hydrological stations in 3 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 two house designs which are suitable for demonstration houses in the target towns. One of the designs is for houses which are raised up off the ground on pillars, while the other design is for houses which are closer to the ground. The designs take into account gender and cultural preferences and traditions, available materials, and also the Government's development objectives. Demonstration houses will be constructed according to the most appropriate design for local conditions, with homeowners, including women, and government officials involved in the decision making.

With regard to improvements to houses, reconstruction, supporting 600 houses, 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 (wire-bracing, improved distribution of structural weight).

On the contrary, rehabilitating houses, supporting 4,942 houses, 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.

UN-Habitat has developed a screening checklist to ascertain the resilience needs of the selected houses – see Figure 20. Screening results will determine the precise improvements to be made to each house. A detailed joint study with ARCADIS is planned to finalize the details of the improvements for the two types of intervention, as well as the details of the checklist which will be used to assess houses. The finalized details will be incorporated into the full project proposal. 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.

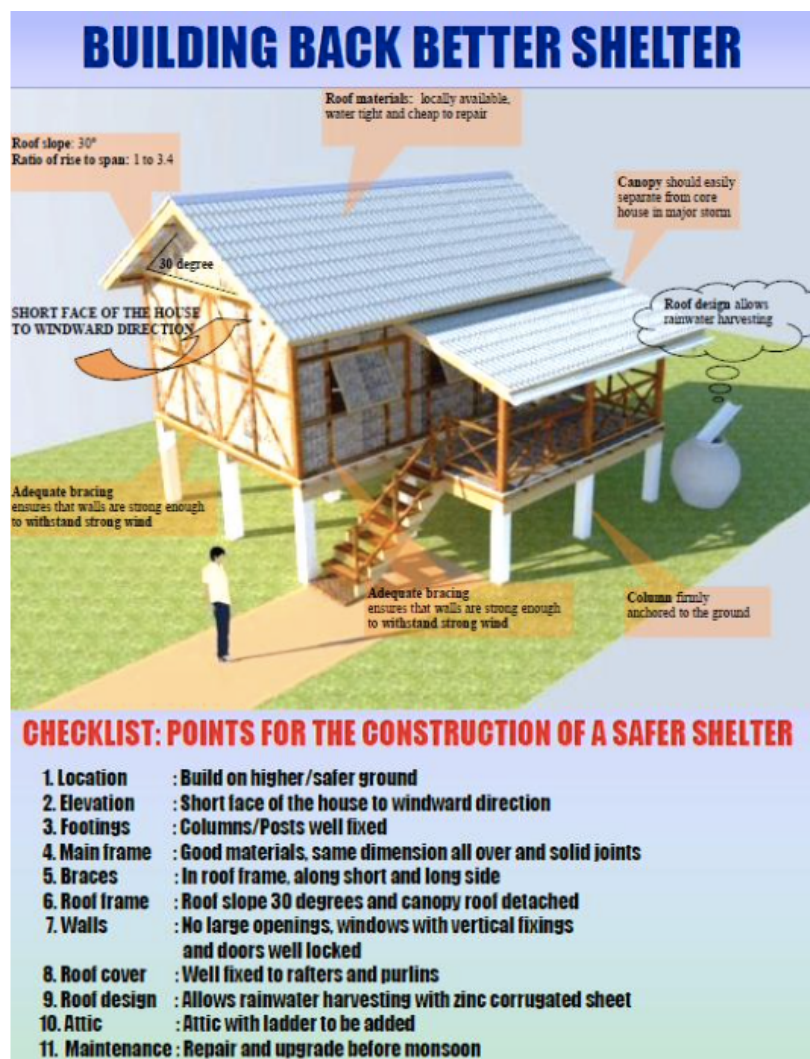
Steps are:

1. Target locations are those most risk-prone as identified from the Climate and Risk Vulnerability Assessments.
2. Poor households (including informal ones) in the target locations will be selected. Among poor households, female-headed households will be prioritized and ethnic groups households will be represented equally (in line with percentage in the community).

3. Poor and female-headed and ethnic groups households' houses will be assessed using the checklist designed for the purpose. The checklist will be expanded to also included a 'women and girls needs / safety' / resilience point.
4. The process to identify and agree upon project beneficiaries will be based on steps 1-3 and will include representation of women, youth, ethnic and vulnerable groups in assessments, planning and decision-making on 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 any start of constructions and everyone is in consent with the planned activities.
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.

The vulnerability assessment will provide data on the locations in each town which are most at risk of climate-related hazards. Considerations of poverty and risk will be analysed with baseline housing data to select the housing beneficiaries. 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.

Figure 20 Screening checklist for resilient houses



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.

Figure 21 Location map of 6 provincial Coordination Centres doubling as DONRE offices. Source: UN-Habitat



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.

The final activity of Component 2 is the improvement of meteorological and hydrological stations to enable accurate data to be fed into the hydro-meteorological data collection system. This will in turn enable 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. Accordingly, new meteorological and hydrology stations will be provided in three of the target provinces in locations where there are no yet stations but where they are required

according to the Government's networks yet. In six of the target provinces, existing stations will be upgraded with new equipment so that there are stations capable of providing accurate data. For this activity, coordination is underway with DCC to gather and analyse data following a climate services value chain approach. An elaboration following this approach will be provided at the full proposal stage. However, an initial assessment of the gaps and needs of the climate services value chain is provided in Table 8. More details will be provided during the full proposal preparation phase.

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

Climate services value chain	Capacity gaps and Investment needs
<b>1. Data to be collected / analysed</b>	<p>Currently there are 51 meteorological stations and 86 hydrology stations in Laos. In some areas, there is a gap of weather, climate and hazard incidents data / information and continuous update of related data / info at local level. In the target areas, 3 stations are missing; 9 other stations require equipment for upgrading to provide required data.</p> <p>Data to be collected / analysed through new / upgraded stations</p> <ul style="list-style-type: none"> <li>- River flow and river level data</li> <li>- Rain Gauge-Tipping Bucket</li> <li>- Wind Speed and Direction Sensor-Ultra Sonic</li> <li>- Air Temperature and Humidity Sensor</li> <li>- Radiation Shield</li> <li>- Barometric Pressure Sensor</li> <li>- Global Radiation Sensor</li> <li>- Lightning Detection System</li> <li>- Cloud Base Height Sensor</li> <li>- Soil Temperature Sensor-Standard depth for measurement of 0, 5,10,20,50 and 100 cm below the ground surface</li> <li>- Soil Moisture Sensor-standard depths for measurements of 0-2, 5, 10, 20, 50 and 100 cm below the ground</li> </ul>
<b>2. Modelling for prediction</b>	This will be done by the Ministry of Natural Resources and Environment. There will be forecasts and warnings.

	Capacity gaps: Data sharing system between stations and national data center need to be modernized; training of national staff; modernization of system No investment needed (as supported by other projects)
<b>3. Model interpretation and forecast production</b>	There is a gap of forecasting weather, climate and hazards incidents and impacts (especially floods) at the local level and who may at risk. With info provided under point 1 this can be done.  Capacity gap: stations and information forecasting as mentioned above; trainings at local level Investment need: stations and trainings
<b>4. Dissemination of products and services for users</b>	Methods of communication: TV, radio, social media and cell broadcasting to flags and sirens.  Capacity gap: It needs to be verified which communication methods are in place at the local scale and which not. This will be done during the full proposal preparation phase  Investment need: depends on outcome above
<b>5. Understanding and use of forecasts</b>	Capacity gap: There are some gaps between forecasting weather, climate and hazard info / warnings and required actions for assets and people  Investment need: identify what actions are required after forecast / warnings: DDR plans to be developed (as per proposed)

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 into policy 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. Strategy on Housing, Land and Property (HLP) – this can also include HLP mapping to better understand the land and property-related context (<https://www.sheltercluster.org/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 (technical document) that can feed the Shelter Cluster community of practice (<https://www.sheltercluster.org/global/communities-practice>) and contribute to the “promoting safer building” initiative (<https://www.sheltercluster.org/working-group/promoting-safer-building>)
- 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

\*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 policy-making. 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.

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. 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.

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	>10 %	
	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			<b>206 606</b>

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 staff have 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 design and 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 bed roomed 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.

**Implementation Modality**

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

*Figure 22 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. 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 9<sup>th</sup> National Socioeconomic Development Plan. Relevant links to the 9<sup>th</sup> 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 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 <u>Urban planning</u> : 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 <u>Climate change adaptation</u> : 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	Output 4: Developed urban and special economic zone to become a production, investment, trade and tourism base to enable regional and international integration

engagement in the regional and international cooperation and integration	<u>Urban infrastructure</u> : 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 7 <sup>th</sup> 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.	
<b>National Adaptation Programme of Action (NAPA) (2010)</b>	
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	
<b>Climate Change Action Plan 2013-2020</b>	
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	
<b>Nationally Determined Contribution (NDC) 2020</b>	
<u>Long-term</u> : Increase the resilience of urban development and infrastructure to climate change <u>2025 Shorter Term Target</u> : Transport and Urban Development: Develop sectoral adaptation strategy and action plan including results-based management framework	
<b>10 years Strategic Plan for Urban Development (2016-2025)</b>	
<u>Overviews</u> 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. <u>General Achievement Targets</u> 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. <u>Specific Achievement Targets</u> <u>Urban Planning</u> : 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. <u>Urban Housing</u> : 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. <u>Capacity Strengthening for Urban Development</u> 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. <u>Working Plan 3: Urban Housing Development</u> Review national policy, improve quality of accommodation, sanitation and security Develop quality control system to monitor construction/structure quality	
<b>The Law on Meteorology and Hydrology (2017)</b>	
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;	
<b>Natural Resources and Environment Strategy, 10 Years 2016-2025</b>	
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. Although all relevant rules, regulations and standards have been identified, including steps / procedures to comply per proposed component, including any risks screening and impact assessments and related approvals required by Lao PDR law, this will be verified and further detailed during the development of the fully-developed proposal.

Table 11 provides an overview (during the concept note phase) 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 laws:

- Environmental Protection Law (Revised Version), No. 29/NA (2012)
- Decree on Environmental Impact Assessment, No. 112/PM (2010)
- Environmental Impact Assessment Guidelines

In the Environmental impacts assessment guidelines (use link), there is a list of projects subject to EIA (see appendix 1 in the guidelines). As per this list, none of the proposed project activities require an EIA by national law. However an ESMP is required. The Ministry of Natural Resources and Environment confirmed an approved ESMP as part of the full proposal will suffice. Initial Environmental Examinations are not needed except for the public buildings and the evacuation centres. Local authorities, in coordination with PONRE and DONRE will collect information before any construction to ensure social safeguard. 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.

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. Regarding the Coordination Centres, sites have already been obtained in alignment with land and environmental laws and regulations.

*Table 11 Relevant rules, regulations, standards and procedures*

Project component	Relevant rules, regulations, standards and procedures	Compliance, procedures and authorizing offices
1	<p>Related to master planning and building codes and guidelines</p> <ul style="list-style-type: none"> <li>- Lao PDR Land Law (amended), No. 70 /NA, dated 21 June, 2019.</li> <li>- Decree on Sam Sang, No. 9/PMO, dated 2012, related to district and provincial regulations, in conjunction with the Department of Planning and Investment;</li> <li>- Lao PDR Urban Planning Law, No.: 327/P, dated 2017</li> <li>- Lao PDR Decree on Climate Change, No. 321/PMO, dated 18 September, 2019</li> <li>- Law on Disaster Risk Management, No. 262/NA, dated 05 Aug 2019</li> </ul>	<p>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</p> <p>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.</p> <p>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.</p> <p>DRR will be a central element in the master plans and the master plans will comply with the law.</p>
2	<p>Related to building construction and land use or construction</p> <ul style="list-style-type: none"> <li>- Environmental Protection Law (Revised Version), No. 29/NA (2012)</li> <li>- Decree on Environmental Impact Assessment, No. 112/PM (2010)</li> <li>- Environmental Impact Assessment Guidelines</li> <li>- Lao PDR Land Law(amended), No. 70 /NA, dated 21 June 2019;</li> </ul>	<p>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</p> <p>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</p>

	<ul style="list-style-type: none"> <li>- Lao PDR Construction Law. No. 159/LPDR, dated 2009 and Decision on Construction Management, 2019</li> <li>- Law on Disaster Risk Management, No. 262/NA, dated 05 Aug 2019</li> <li>- 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;</li> <li>- Law No. 08/NA on National Heritage, dated 9 December 2005.</li> <li>- Lao PDR Law on Meteorology and Hydrology, No. 36/NA, dated 13 November, 2017 with article 47 concerning early warning systems</li> <li>- Agreement on Management of Meteorological and Hydrological Stations, No. 6748/MONRE, dated 12 December 2019</li> </ul>	<p>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.</p> <p>Since some target districts are at risk from Unexploded Ordnance, 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.</p> <p>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.</p> <p>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.</p>
3	<p>Related to knowledge production and sharing</p> <p>N/A</p>	N/A

More details on relevant rules, regulations, standards and procedures for proposed project activities (for each component or output), including process to comply and authorizing offices, will be provided during the full proposal development phase.

#### 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))<sup>66</sup>

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

<sup>66</sup> 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)

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).

*Table 12 Projects in urban or climate change sectors*

Implementing Agency	Project, Funding Amount, Donor and Timeline (All funding amounts in USD)	Focus/project description	Geography and complementarity
ADB	<a href="#">Flood and Drought Mitigation and Management Project</a> <i>Concept cleared in Oct 2020. Fact finding in Sept 2021.</i>	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
	<a href="#">Sustainable Rural Infrastructure and Watershed Management Sector Project</a> Grants: ADB \$5,000,000 EU \$4.460,000 Loan: ADB \$40 million <i>Signed Oct 2019 Close Sept 2027</i>	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 .
	<a href="#">Greater Mekong Subregion East-West Economic Corridor Towns Development Project</a> Grants: \$14,868,000 Loan: \$26,600,000 <i>Jan 2013 – Dec 2021</i>	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	<a href="#">Lao PDR Southeast Asia Disaster Risk Management Project</a> \$31,000,000 <i>July 2017 – Dec 2024</i>	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	<a href="#">Building resilience of urban populations with ecosystem-based solutions in Lao PDR</a> Green Climate Fund \$11,500,000 <i>June 2020 – June 2025</i>	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 application in	No geographical overlap  The UNEP project focuses on flood control. UN-Habitat will use lessons from the project as active participant to the project.

		master planning processes, iterative planning and applications at the local level, as well as linking spatial planning with the planning of investments.	
	<a href="#">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</a>	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.
	<a href="#">Building the capacity of the Lao PDR government to advance the National Adaptation Planning process.</a> 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	<a href="#">Building climate and disaster resilience capacities of vulnerable small towns in Lao PDR</a> 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.
	<a href="#">Climate and Disaster Resilience in emerging human settlements project</a> 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 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.	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 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)	<a href="#">Reinforcing the capacities of meteorological and hydrological services and enhancing the early warning systems in Cambodia and Lao People's Democratic Republic</a> (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.	<p>No geographical overlap</p> <p>This project includes knowledge, capacity building, monitoring, and evaluation processes at the national and regional level; it does not include any infrastructure development component</p> <p>The proposed project will complement the 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.</p>
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## 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.

UN-Habitat will also support international shelter networks. An example is through the sharing of a technical shelter response profile with the Shelter Cluster community of practice. This may also contribute to the "promoting safer building" initiative.

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)	In addition to the following dates, discussions have been held throughout 2021 and communication is ongoing. 25/03/21 01/06/21 16/07/21 08/10/21 21/10/21	<ul style="list-style-type: none"> <li>Confirm focal point support .</li> <li>Confirm DCC's agreement to be an executing entity for the project</li> <li>Establish target areas</li> <li>Ensure harmonisation with other ongoing adaptation activities and with policy alignment</li> <li>Establish project scope and clarify objective</li> <li>Clarify scope, ensure harmonisation with MONRE goals and with other interventions</li> </ul>	<ul style="list-style-type: none"> <li>MONRE has agreed to support the project formulation</li> <li>DCC agreed to be an executing entity</li> <li>The target areas named in this concept note were agreed upon</li> <li>Information was exchanged on existing and planned initiatives in the target area</li> <li>It was established that the project would meet urgent institutional and systemic needs in order to build resilience in a holistic manner</li> </ul>	As designated authority, MONRE has approved the project.
Minister of Natural Resources and Environment	08/10/21			
Ministry of Public Works and Transport (MPWT), Department of Housing and Urban Planning (DHUP)	In addition to the following dates, discussions have been held throughout 2021 and communication is ongoing.  24/03/21 02/06/21 23/07/21 21/10/21	<ul style="list-style-type: none"> <li>Confirm MPWT's agreement to be an executing entity for the project</li> <li>Establish target areas</li> <li>Ensure harmonisation with other ongoing adaptation and urban planning activities and with policy alignment</li> <li>Establish project scope and clarify objectives</li> </ul>	<ul style="list-style-type: none"> <li>MPWT agreed to be an executing entity</li> <li>The target areas named in this concept note were agreed upon</li> <li>Information was exchanged on existing and planned urban planning and climate change initiatives in the target area</li> <li>The needs in the target provinces were clarified and the urban planning, and housing construction and rehabilitation components of the project were</li> </ul>	

		<ul style="list-style-type: none"> <li>Understanding current technical standards, rules, and regulations</li> </ul>	<ul style="list-style-type: none"> <li>planned to meet the needs.</li> <li>The project aligns with DHUP regulations and standards.</li> </ul>	
Provincial and District authorities	Vientiane Province: 30/03/21 Bokeo: 01/4/21 Bolikhamxay: 5/4/21, 6/4/21 Khammouane: 7/4/21 Attapeu: 8/4/21 Champasak: 9/4/21	<ul style="list-style-type: none"> <li>Select target towns and clarify specific scope in each town.</li> <li>Understand the current extent of climate change adaptation in the target towns and relevant local plans and aspirations.</li> <li>Collect data on housing typology</li> </ul>	<ul style="list-style-type: none"> <li>Towns were selected and activities were selected from those decided upon by DHUP, to meet the needs in each town.</li> <li>Understanding was gained, and shown in rapid assessment results.</li> </ul>	Detailed results of rapid vulnerability assessment are available on request
Communities in the target towns	Vientiane Province: 30/3/21 Bokeo: 1/4/21 Bolikhamxay: 5/4/21, 6/4/21 Khammouane: 7/4/21 Attapeu: 8/4/21 Champasak: 9/4/21	<ul style="list-style-type: none"> <li>Gain understanding of local experience of climate change and decision-making processes.</li> <li>Understand local needs regarding housing.</li> <li>Ascertain community buy-in and concerns regarding the proposed project</li> </ul>	<ul style="list-style-type: none"> <li>Floods identified as main hazard risk</li> <li>Houses have generally weak construction and are often located in risk areas</li> <li>Houses needs to be improved to withstand floods and storms</li> <li>Concerns women and ethnic groups: limited participation and decision-making power</li> </ul>	Detailed results of rapid vulnerability assessment are available on request
Victoria Dart Gender specialist UNFPA - Lao	Zoom call 11/07/2022	<ul style="list-style-type: none"> <li>Understand how legal framework support women and how not? Where strong and where weak?</li> <li>Identify any specific cultural / religious habits / practices, especially within ethnic groups</li> <li>Understand gender division of labour and gender-based power structures</li> <li>Understand Differentiated impacts of climate change (floods, storms) on men and women</li> </ul>	<ul style="list-style-type: none"> <li>Legal framework and women representation at national level is relatively good.</li> <li>At local level, issues are limited representant, safety risks, early marriage, women more in informal sector, especially under ethnic groups</li> <li>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</li> </ul>	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
Lao Women's Union – representatives from project target districts	Zoom call 15/07/2022	<ul style="list-style-type: none"> <li>Understand differentiated capacities of women and men to do adopt to impacts (floods, storms)</li> <li>Opportunities for promoting women as agents of change</li> <li>Any possible concerns of women when constructing resilient houses, evacuation centres, disaster risk reduction planning?</li> </ul>	<ul style="list-style-type: none"> <li>Gender-related laws / responsibilities at national level improved</li> <li>All ethnic groups in target areas free to practice according to traditions</li> <li>Small portion of Mong and Khamou may not be able to communicate in Lao</li> <li>Equally between men and women at local level improved</li> <li>Women can have own titles</li> <li>In Mong some inequalities still present</li> <li>Gender specific impacts: psychological and physical burden on women because of high burden</li> </ul>	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

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 will be held in order to refine this concept note into a fully developed proposal. Feedback from local consultations is given in the results of the rapid vulnerability assessment.

## 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 of AF funding compared to the scenario in which there is no AF funding.

*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 twelve 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.	Communities will not receive early warning of threatening events, since the system is not geared up to receive data from their district.
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.
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.

#### 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 centers 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 centers 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 23).

During the full proposal development phase, details of operation and maintenance needs and responsibilities per project output will be provided

## 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 will be developed and shared as part of the fully-developed proposal.

The project foresees that no further assessments are required during the implementation of the project. However, some further assessments are required during the full proposal development phase. An ESMP is being developed to manage any potential risks and impacts identified with mitigation measures. This 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 will nevertheless be 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.

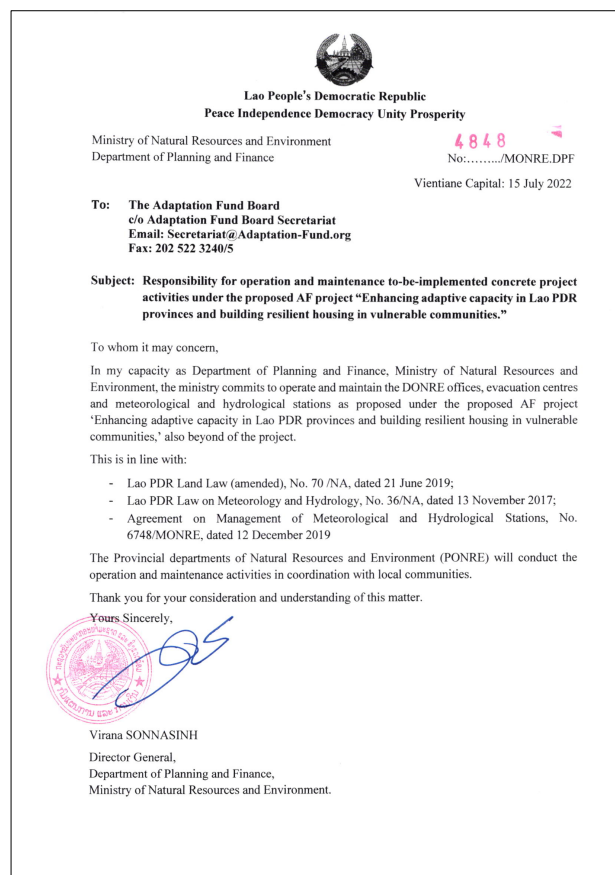
Component 2 of the project involves construction activities. These physical works are not considered to pose "significant adverse environmental or social impacts"<sup>67</sup> because they are very small-scale and mostly on locations where buildings already exist. The proposed construction is in built-up 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.

The project has been reviewed to identify environmental and social impacts and risks. However, a more in-depth screening will be conducted at the full proposal stage, when a more detailed risk and impact assessment, and Environmental and Social Management plan will be prepared. This 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

Figure 23 Letter MONRE - commitment to operate and maintain



<sup>67</sup> Adaptation Fund., page 3, paragraph 8.

adaptation—happen because women are already structurally disadvantaged by entrenched gender inequality, direct and indirect discrimination, and social and economic disadvantage.<sup>68</sup>

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.'<sup>69</sup>

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,<sup>70</sup> 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<sup>71</sup>:

- 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.

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.<sup>72</sup>
- 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

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<sup>68</sup> ADB (2022) [Women's resilience in the lao people's democratic republic](#)

<sup>69</sup> Idem

<sup>70</sup> WB and ADB (2012) [Country Gender Assessment for LAO PDR](#)

<sup>71</sup> idem

<sup>72</sup> ADB (2022) [Women's resilience in the lao people's democratic republic](#)

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.
- 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. Finally, local institutions and Ministries involved will also be responsible for ensuring women staff are well represented to achieve gender targets set.

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. However, some further assessments are required during the full proposal development phase.

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.

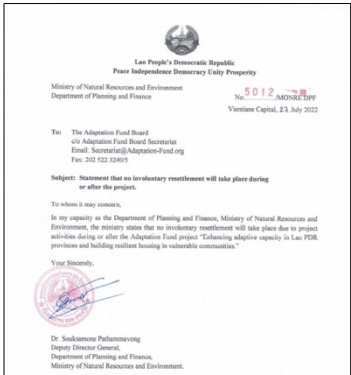
*Table 15 Checklist of environmental and social principles*

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*

	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 complying with all applicable domestic and international laws.	<p>The project and all its stakeholders will comply with domestic and international laws, including the following national regulations:</p> <ol style="list-style-type: none"> <li>1. Environmental Protection Law (EPL) 2012.</li> <li>2. Environmental Impact Assessment Decree of 2010.</li> <li>3. Law on Land 2003.</li> <li>4. Law on Water and Water Resources 1996.</li> <li>5. Labour Law 2013.</li> <li>6. Law on National Heritage 2005.</li> <li>7. Law on Urban Plans; and</li> <li>8. Law on Investment Promotion.</li> </ol> <p>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.</p> <p>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</p>
Access and Equity	Inequitable access to participate in project decision making. Inequitable process for selecting beneficiaries.	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.
Marginalised and Vulnerable Groups	Marginalised groups excluded from implementation process and project benefits	<p>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.</p> <p>The People's Process, as shown in Figure 22 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.</p> <p>Below provides a quick / rough overview of the characteristics of the main vulnerable and</p>

		marginalized groups, the possible adverse project impacts / risks and mitigation needs			
		<b>Groups</b>	<b>Characteristics</b>	<b>Possible adverse impact of the project</b>	<b>Risk mitigation needs / measures</b>
		Women	See gender assessment text above	Potential inequitable participation and access to benefits	- 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
		Youth	Around 30% of population; sometimes limited authority / involvement due to hierarchy		- 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.
		Ethnic groups	Many ethnic groups with different traditions (sometimes with limited opportunities for women and language barriers; most groups are relatively poor and poorly informed	Potential inequitable participation and access to benefits; potential non-appropriate housing design	- See principle 7. Free, Prior, Informed Consent (FPIC) will be applied, including written consent on activities
		People with disabilities	+ 3% of population. Physical barriers that could potentially prevent people with disabilities and elderly to participate in the decision-making process.		- Inclusive spaces have to be considered at all stages in order to ensure the full participation of people with disabilities
		Elderly			
Human Rights	Human rights breaches can arise over denial of access to decision making and project benefits	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.			
Gender Equity and Women's Empowerment	Local cultures block women's voices or exclude them from decision making. Women are not well represented in local government authorities.	See gender assessment above and section on Access and Equity and Marginalised and Vulnerable Groups			
Core Labour Rights	Labour rights may not be respected in project contracts  ILO conventions and protocols currently not ratified:  Fundamental: C087; C098; C105; P029)  Governance: C081; C122; C129  Technical: most, incl. C169	The project follows local and international regulations considering labour rights, including the ILO core labor standards. Looking at the conventions and protocols not ratified, the project will be particularly attentive to any involuntary labour, non-organization, inspection and potential involvement of children and ethnic groups.			
		The IE will therefore mitigate adverse risks by:			
		Potential risk / impact	Mitigation		
		Non-involvement Local Employment, women, ethnic groups	<ul style="list-style-type: none"><li>• Include standard clause in MoU / all contracts mentioning that local employment, women, ethnic groups, etc. will be equally represented / selected for employment</li><li>• Work with local community on verification / inspection of local workers where feasible</li></ul>		
		Non-Local Procurement	<ul style="list-style-type: none"><li>• Measures to maximise local procurement</li><li>• Work with local community on verification of local suppliers where feasible</li></ul>		
		Non-compliance Worker Rights	<ul style="list-style-type: none"><li>• Include standard clause in MoU / all contracts:<ul style="list-style-type: none"><li>○ HR policy aligned with local law and ILO Core Conventions</li><li>○ Worker Grievance Mechanism will be established</li></ul></li></ul>		

		<ul style="list-style-type: none"> <li>○ Enforce minimum age expectations (according to ILO) and Government minimum age)</li> <li>○ Measures to ensure Contractor adopts project HR Policy standards (either contractually or through monitoring)</li> <li>○ Ensure all employees are provided with a written employment contract before start of works</li> <li>○ Provide details of the transport arrangements for all workers to and from their accommodation (dedicated or in the local community)</li> <li>○ Refer to Occupational Health and Safety Procedures</li> </ul>
	Limited Facilities	<ul style="list-style-type: none"> <li>• 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</li> <li>• All worker facilities and accommodation will be cleaned, maintained and centrally managed</li> </ul>
	Limited awareness	<ul style="list-style-type: none"> <li>• Awareness raising of executing entities on above and share guidelines if required.</li> </ul>
Indigenous Peoples	Non-integration of ethnic groups' needs, cultural considerations and possible concerns	<p>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.</p> <p>Also see section on Access and Equity and Marginalised and Vulnerable Groups</p>
Involuntary Resettlements	Involuntary resettlements	<p>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 (photos will be provided during the full proposal preparation phase). 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 involuntary resettlement will take place due to any project activities. That lands are not in use will again verified during the full proposal development phase with photos of the sites.</p> 
Protection of Natural Habitats	<p>Natural Habitats may be impacted by project activities</p> <p>Convention on Wetlands (Ramsar, Iran, 1971) in Lao PDR: beung kiat ngong wetlands xe champhone wetlands</p> <p>UNESCO Man and the Biosphere Programme in Lao PDR: none</p>	<p>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.</p> <p>In this respect, the IE and local partners will ensure construction sites are 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 IE will ensure the following:</p> <ul style="list-style-type: none"> <li>• Using sustainable resources for building and reconstruction and rehabilitation activities;</li> <li>• Ensuring construction integrates local ecosystems into design.</li> <li>• Incorporating protection of habitats and ecosystems into action planning.</li> <li>• Developing town plans that include environmental concerns, promote the use of EbA, and bring back nature at the centre.</li> </ul> <p>The proposed construction sites are not in, or close to, any natural habitats recognized by Ramsar or UNESCO.</p>
Conservation of Biological Diversity	<p>Destruction or damage to biodiversity</p> <p>Potential loss of biological diversity due</p>	<p>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.</p>

	to construction  Potential introduction of invasive species.	<p>In this respect:</p> <ul style="list-style-type: none"> <li>Construction sites will be carefully chosen in concertation with local entities and communities and considering the absence of significant biodiversity.</li> <li>If for implementation purposes the IE needs to bring commodities or materials, the IE will be particularly attentive at not introducing invasive species.</li> <li>All activities must be developed and implemented to limit impact on local biodiversity, and ideally contribute to the enrichment of the biological diversity.</li> </ul> <p>In relation to above, any potential threat to biodiversity as recognized by the IUCN Red List of Threatened Species, will be identified during the full proposal and mitigation measures proposed, if needed.</p>
Climate Change	Building materials and project implementation may emit greenhouse gases	<p>The project will ensure that it will not result in any significant or unjustified increase in greenhouse gas emissions or other drivers of climate change. As such, project implementation will involve developing a project-based management tool that will determine and monitor GHG emissions which may result from its supported activities and results. The project-based GHG management tool to be used will provide basic information and calculations of (1) baseline emissions, (2) emission factors, and (3) potential net change of GHG emissions caused by the project. Its calculation and methodology will reference the 2006 IPCC Guidelines for Greenhouse Gas Inventory, the GHG Protocol, and other references used by the Laos PDR government to ensure consistency with the government's GHG Monitoring, Reporting, and Verification systems and process.</p> <p>With the above established and mainstreamed into the project implementation scheme, GHG emissions from adaptation activities related to building materials, residential energy use, land use, waste, etc. can be monitored, managed, and maintained to remain at a nominal rate of increase</p>
Pollution Prevention and Resource Efficiency	Local resources availability may be adversely affected by the project; Use of unsustainable building materials; Soil contamination due to chemical products resulting from construction works	<p>To avoid the listed potential risks, the IE envisages the following:</p> <ul style="list-style-type: none"> <li>Use locally and sustainable sourced materials.</li> <li>Incorporating local knowledge.</li> <li>Integrate communities and marginalised groups at every step of the project</li> </ul> <p>In addition, a resources efficiency plan will be developed to maximize the use of local resources and limit impacts on resources availability. The plan will apply to all project activities and will include waste management.</p> <p>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.</p>
Public Health	Badly planned towns could lead to excessive waste, inaccessibility of social services	<p>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. Initial screening has considered that further analysis of public health will be required. The ESIA and the ESMP will include public health analysis.</p>
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)	<p>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.</p>
Lands and Soil Conservation	Negative impact on fragile soils	<p>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.</p>


## 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
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### 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: 3rd January 2022


To: The Adaptation Fund Board  
c/o Adaptation Fund Board Secretariat  
Email: afbsec@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 above 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, 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 the Adaptation Fund of Lao PDR.

### B. Implementing Entity certification

#### Implementation Entity certification

<p>I certify that this proposal has been prepared in accordance with guidelines by the Adaptation Fund, and prevailing National Development and Adaptation Plans in Lao PDR, including the 9<sup>th</sup> National Socioeconomic Development Plan, National Adaptation Programme of Action, the Strategy on Climate Change of the Lao PDR, the 2021 NDC of Lao PDR and other sector strategies and plans, and subjected to the approval by the Adaptation Fund Board, commit to implementing the 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 programme.</p>
<p><b>Rafael Tuts</b> Director, Global Solutions Division   Officer-in-Charge, Office of the Deputy Executive Director   United Nations Human Settlements Programme Tel +254 20 7623726   Cell +254 713 601 278   Email raf.tuts@un.org</p>
<p>Signature: </p>
<p>Implementing Entity Coordinator</p>
<p>Date: 5 August 2022</p>
<p>Project Contact Person:</p> <p>Bernhard Barth, Subprogramme Coordinator (a.i.) Climate Change and Urban Environment United Nations Human Settlements Programme (UN-Habitat)   Global Solutions Division   Programme Development Branch Tel: +81927247121 Email Bernhard.Barth@un.org</p>