REQUEST FOR PROJECT/PROGRAMME FUNDING FROM THE ADAPTATION FUND

Enhancing the climate and disaster resilience of the most vulnerable rural and emerging urban human settlements in Lao PDR

Submitted by the

United Nations Human Settlements Programme (UN-Habitat)

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ADAPTATION FUND

PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

Project Category:	Regular
Country:	Lao Peoples Democratic Republic
Title of Project:	Enhancing the climate and disaster resilience of the most vulnerable rural and emerging urban human settlements in Lao PDR
Type of Implementing Entity:	MIE
Implementing Entity:	UN-Habitat
Executing Entities:[1]	Ministry of Natural Resources and Environment Ministry of Public Works and Transport
Amount of Financing Requested:	US$ 4.5 million

1. Project Background and Context

The problem

Climate change is a major challenge for reaching national development goals

Lao People's Democratic Republic (PDR) is one of the most climate vulnerable countries in the world, as shown by its 7th place ranking of countries affected by extreme weather events in 2013.[2] This is mainly due to its high dependence on climate-sensitive natural resources and its low adaptive capacity. The country has been increasingly affected by natural hazards. Floods, droughts, and storms, which often trigger secondary hazards such as landslides, fires, infestations and outbreaks of disease, cause each year loss of life and severe damage to livelihoods and infrastructure.[3] Considering the expected impacts of climate change, with wet seasons getting wetter and dry seasons getting dryer, these hazards are likely to increase in frequency and intensity. This creates a major challenge for reaching national economic and social development goals.[4]

As stated in the draft 8th Five Year National Socio-economic Plan[5], the government's main goal is to continue reducing poverty and to graduate from the Least Developed Country (LDC) Status by 2020. The government aims to accomplish this through 1) sustained, inclusive economic growth (as further discussed in the economic context section below), 2) achievement of off-track Millennium Development Goals (MDGs) through the provision and use of services that are

[1] The UN-Habitat Lao office has a strong track record of working at community levels and has successfully mobilised community participation in planning, implementation and monitoring of its project activities. Additionally UN-Habitat will work closely with village level representatives of quasi-governmental institutions like Lao Women's Union (LWU), Lao Youth Union (LYU) and Lao National Front for Construction (LNFC) besides partnering with appropriate National Non-Profit Associations (NPA) and INGOs.
[2] The Climate Risk Index for 2013: the 10 most affected countries. The Global Climate Risk Index 2015 online: https://germanwatch.org/de/download/10333.pdf
[3] Floods cause most losses in terms of both mortality and economic losses. UNISDR Global Risk Assessment 2015 and others online: http://www.preventionweb.net/countries/lao/data/
[4] Lao PDR (2014, p. V) Plan of Action for Disaster Risk Reduction and Management in Agriculture (2014—2016). Online: http://www.fao.org/3/a-at540e.pdf
[5] The 8th Five Year National Socio-economic Plan online: file:///Users/jorisoele/Downloads/Draft_8th_NSEDP_2016-20.pdf

balanced geographically and distributed equitably between social groups (as further discussed in the social context section below) and, 3) reduced effects of natural shocks as required for LDC graduation and sustainable management of natural resources exploitation (as further discussed in the environmental context section below).

Climate change projections, expected impacts and vulnerabilities

Climate change projections

According to the IPCC, climate change projections for Lao PDR include:

- Annual mean temperatures will continue to rise by 0.1-0.3°C per decade, and the number of days with temperatures above 33°C will increase;
- The number of cooler days with temperatures below 15°C will drop by two to three per year;
- The dry season will get longer;
- There will be more intense rainfall events, and more frequent and severe droughts and floods; and,
- Maximum monthly flows in the Mekong Basin will increase by 35-41%, while minimum monthly flows will drop by 17-24% by 2100, further exacerbating flood and drought risks.

Figure 1: Change (current – 2050) of average maximum daily temperature in dry season: temperatures are expected to rise in the southern provinces.

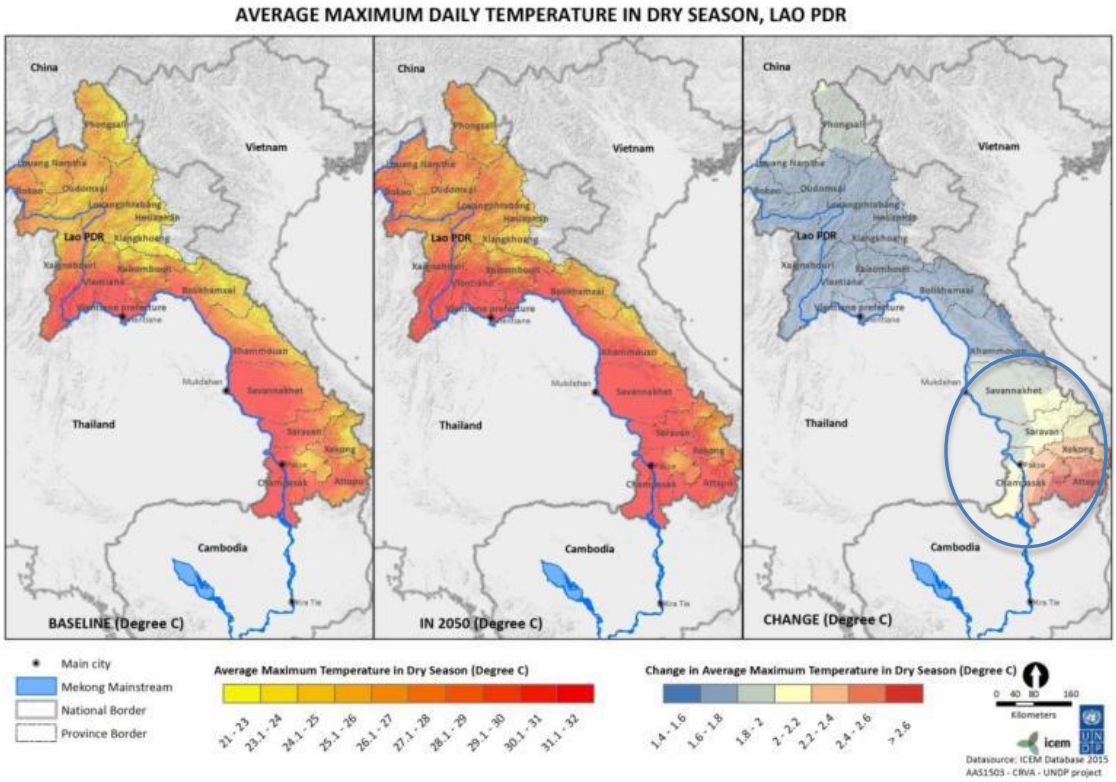


Figure 2: Change (current – 2050) in drought months: the southern provinces are expected to experience more droughts

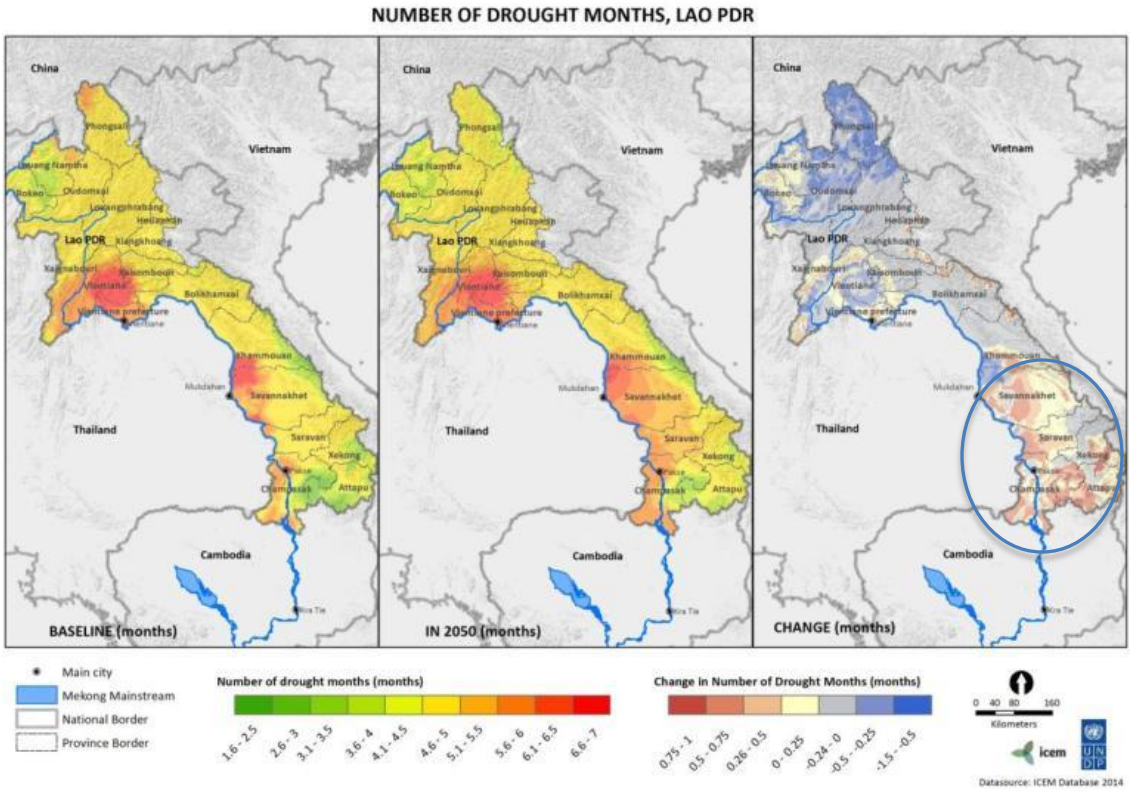
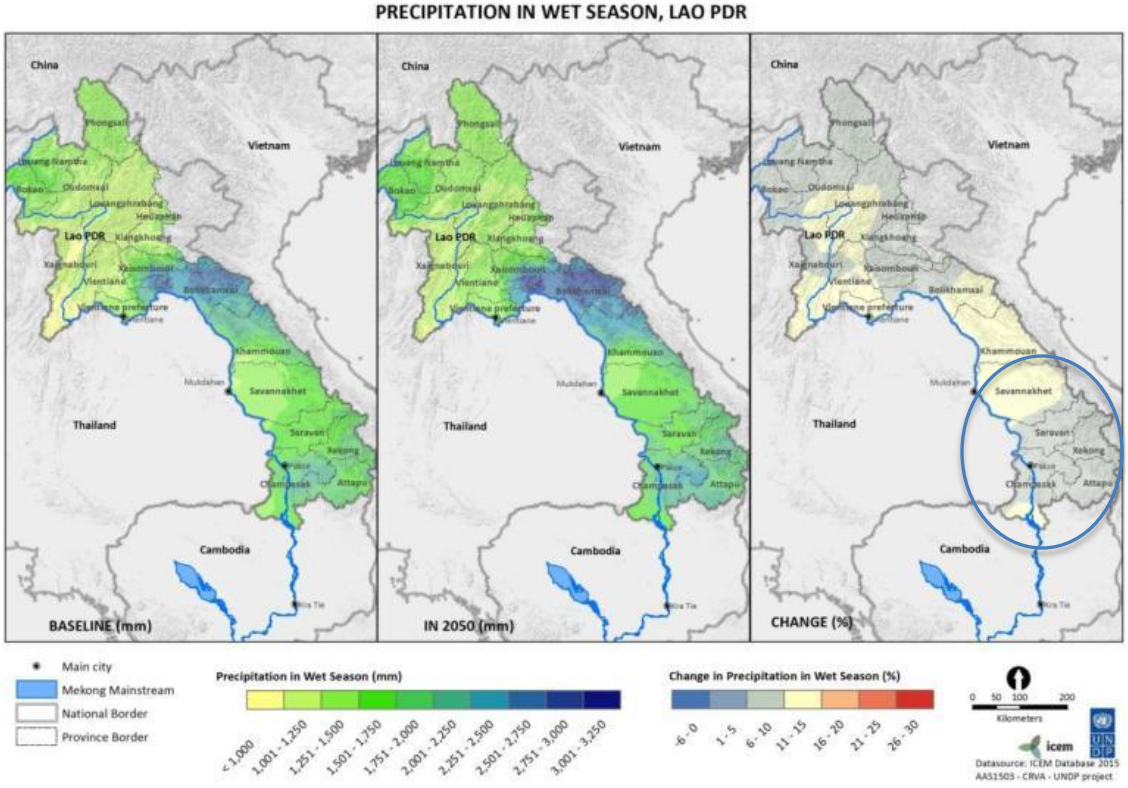


Figure 3: Change (current – 2050) in precipitation: although change in the southern provinces is relatively low, expected increase in rainfall in the north may lead to floods in the south.



Climate change projections for Lao PDR show that the southernmost provinces in particular will experience hotter temperatures, more droughts in the dry season and a slight increase in rain during the wet season. However, rainfall from the central or northern provinces leads to increased flood risks in the southern provinces.

Expected impacts

So far, population induced eco-system alterations have exacerbated climate change related droughts, floods and other related disaster risks. Since 1990 the population of Lao PDR has almost doubled. This rapid population growth is expected to continue. Given that most of the landscape is forested and mountainous, this means there is increased population pressure both on urban areas and on marginal land, much of it exposed to flooding, erosion or landslides because of proximity to rivers, deforested areas and degraded catchment areas. Related to that, floods have tended to become more severe in recent years and are expected to become even more severe in the future.[6] If nothing is done, floods droughts and other climate related hazards will have major impacts on food security, clean water availability and human safety and health in general.

Vulnerabilities

Droughts and floods will mostly impact the poorest people in the country, including many who are members of ethnic minority groups living in mountainous areas and flood plains (i.e. disaster prone areas), especially in the southernmost provinces of the country. During community consultations in the project target districts in the southern provinces, it became evident that communities are vulnerable to multiple hazards for a number of reasons: geographically, areas along the banks of the rivers and low-lying areas are at risk of flooding. Areas below mountain slopes are at risk of landslides.The quality of infrastructure and shelter is insufficient to withstand floods, winds and landslides. Damaged or destroyed infrastructure contributes to conditions in which diseases flourish and households do not have surplus resources to cope with significant losses. Longer periods of droughts make the households particularly vulnerable to access water for domestic and agricultural uses. Besides that, remoteness and langauge and cultural barriers increase vulnerability of ethnic minorities as access to markets, basic services, including health care, and information is limited.

According to local authorities in the southern provinces, there was a major flood in Attapeu in 1968 which was followed by 41 years without significant flooding before major floods in 2009, 2011 and 2013. As well as increasing in frequency, floods are becoming more unpredictable, with normally unaffected districts being flooded in Sekong, Saravane and Attapeu in 2009, 2011 and 2013. Discussions with provincial and district level authorities revealed a heightened awareness and concern with floods following the devastation caused by flooding in September 2013. The unpredictable nature of sudden hazards means that communities have been caught off guard and were inadequately prepared. For example, the 2013 floods resulted in the loss of several lives in the southern provinces. In times of drought several communities noted there are sometimes no water in boreholes and women have to travel long distances to collect water. Floods are often followed by epidemics. In Attapeu, Sekong and Sarvane there was diarrhoea following the floods in 2009. Although, initially, authorities reported no epidemics following the 2013 floods, health workers trained by INGOs have since identified an outbreak of typhoid. In the affected communities, diarrhoea and fungal skin diseases are common after floods and dengue fever is a significant problem.

[6] EcoLab (2012) Scoping Assessment of Climate Change Adaptation Priorities in the Lao PDR

To improve the resilience and adaptive capacity of populations in Lao PDR, and especially of those living in the southern provinces, it is imperative to recognize what makes a community 'climate-fit' and how to improve the resilience of 'climate-weak' populations. Geography is an important consideration; the challenges are inherently greater in places that are more exposed to disasters such as floods, droughts and landslides, and in areas with many endemic diseases. Increased population pressure, both on urban areas and on marginal land, result in people living in more disaster prone areas, such as along the banks of the rivers, in low-lying areas and below mountain slopes. However, the type, weakness and strength of a community and the services they depend on are also crucial: the resilience of poor and ethnic groups, and especially women, elderly and disabled people living in these groups. This provides the focus for this proposed project.

Economic context

Climate change is already causing economic losses but the government lacks the financial resources and technical capacity to respond.

Although Lao PDR's economy is growing rapidly[7], it is still among the Least Developed Countries in the world,[8] with one of the lowest annual incomes (i.e. GDP per capita is US$1700 and total GDP is US$11 billion).[9] This is also illustrated by its low ranking (139 out of 187) on the Human Development Index.[10] The current (2014) composition of the economy by amount of output produced bye each sector is 44 percent for construction & services, 27 percent for agriculture, 18 percent for mining, electricity, water & gas sector and 11 percent for manufacturing.[11]

As shown by the fast growth of the mining, electricity, water & gas sector (i.e. 18 percent in 2013 versus 10 percent in 2008) the government's strategy for accomplishing sustained, inclusive economic growth is mainly demonstrated through its ambition to become the 'battery' of the region, by generating electricity from its rivers and selling it to its neighboring countries. Regarding the construction and services sector (which contributed 44 percent to the economy in both 2013 and 2008), infrastructure and services coverage is limited to Vientiane and provincial capitals and is thus lacking in small and emerging towns and villages.[12] This is alarming because small and emerging towns, which provide critical economic hub functions in predominantly rural areas, grow fast but struggle significantly in providing crucial infrastructure and services for the existing and new populations.

Although plans exist to increase infrastructure and service coverage in remote areas, accomplishing progress has brought challenges due to a lack of funding combined with climate change related hazards, as demonstrated by the impacts of Typhoon Haiyan in 2013. In that year, flooding was the culprit as it severely hit the construction & services sector, with economic losses, mainly associated with destroyed infrastructure in towns and villages, being estimated at 0.83 percent of GDP.[13]

[7] World Bank Lao country profile online: http://www.worldbank.org/en/country/lao
[8] UN DESA online: http://www.un.org/en/development/desa/policy/cdp/ldc/ldc_data.shtml
[9] International Monetary Fund (2014). Report for selected countries and subjects. World economic outlook database
[10] UNDP online: http://hdr.undp.org/en/data
[11] WB (2014) Lao development report 2014. Online: https://www.worldbank.org/content/dam/Worldbank/document/EAP/lao-pdr/LDR_2014_Eng.pdf
[12] A study conducted by UN- Habitat in 2006 showed that basic services coverage in the small towns is significantly lower than the national average.
[13] The Global Climate Risk Index 2015 online: https://germanwatch.org/de/download/10333.pdf

With hazards likely to increase in frequency and intensity, a major challenge is to protect existing infrastructure and deliver new infrastructure, including for instance water resource protection and drainage systems, in a way that it will withstand future floods, droughts and storms, which often trigger secondary hazards such as outbreaks of water and vector borne diseases. Related to this, ensuring that clean water and sanitation services are climate proofed, together with the adoption of key hygiene behaviors, is crucial for delivering significant benefits to the country in terms of reduced economic and household losses (related to destroyed infrastructure), health (including a reduction in diarrhea, malnutrition and stunting and associated health care costs) and increased productivity (related to less school and working days lost through illness and reduced collection time for clean water).[14]

Although plans exist to expand infrastructure and services coverage, Lao PDR lacks the financial resources and technical capacity to do this in remote areas and in a climate sensitive way. Therefore, the country requires external support, especially for the target communities of this project.

Social context

Figure 4: Incidence of poverty by village (2005) Provinces most affected are Savannakhet, Salavan, Xekong and Attapeu

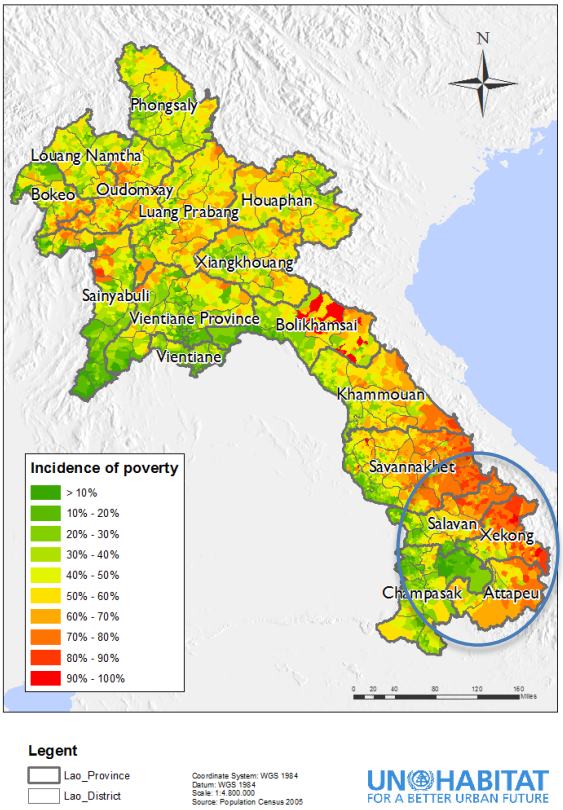
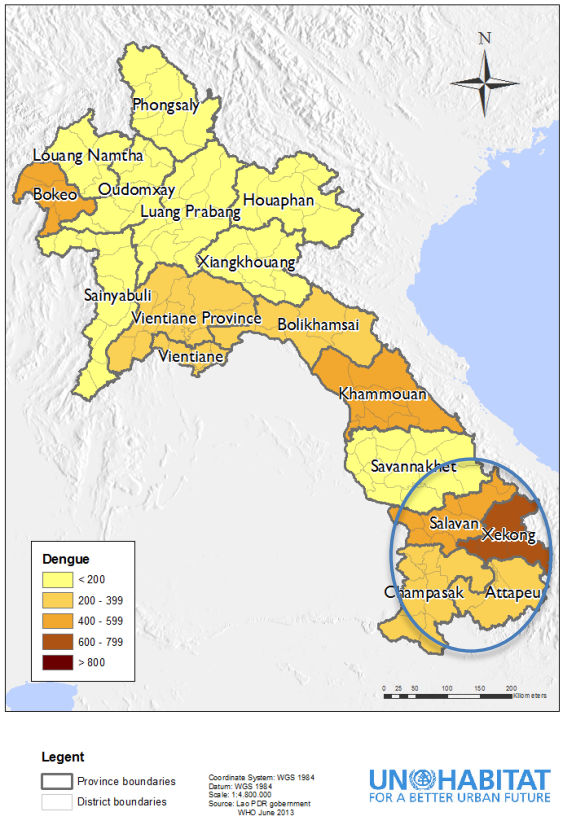


Figure 5: Number of dengue cases by province (2011). Provinces most affected are Bokeo, Xekong, Salavan and Khammouan

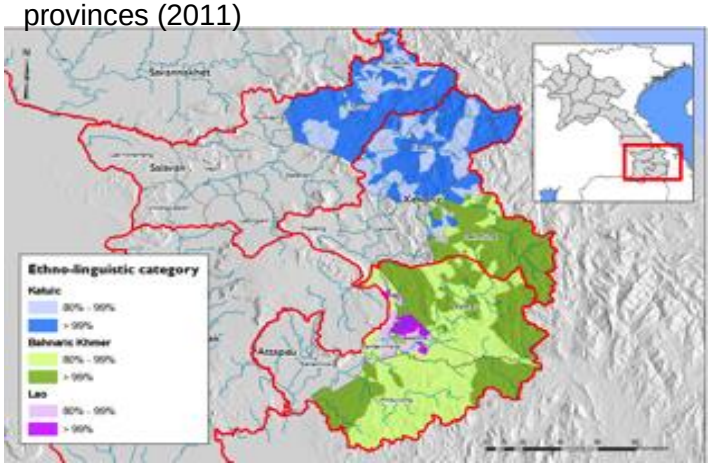


[14] According to the World Bank, poor water, sanitation and hygiene alone impose a cost on the country equivalent to 5.6 percent of GDP annually: WB (2014) Water Supply and Sanitation in Lao PDR. Online: http://www.wsp.org/sites/wsp.org/files/publications/WSP-LaoPDR-WSS-Turning-Finance-into-Service-for-the-Future.pdf

Climate change will most severely hit the poorest areas of the country. The government however, lacks the financial resources and technical capacity to reach these people.
Lao PDR is divided into 17 provinces, which are made up of 142 districts and 11390 villages. The population is estimated at around 6.7 million (2014[15]). The country is home to 49 different ethnic groups with a high diversity of languages spoken, culture and traditions. Poverty is still widespread, with 34 per cent of the population living below the income poverty line[16]. Poverty is especially concentrated in areas with high concentrations of ethnic minority groups.[17]

As shown in figure 4 above, poverty is widespread but especially existent in the southernmost provinces of Lao PDR. Prevailing poverty is related to the lack of access (i.e. not being reached by the government) to basic services and impacts of hazards and diseases, which in turn are related to remoteness (i.e. areas difficult to access) and the disconnectedness of ethnic minority groups. Related to the lack of access to basic services and the regular occurrence of floods are the outbreaks of dengue fever (see figure 2) and acute bloody diarrheal disease (see figure 11 in annex 1).

Figure 6: Ethno-linguistic category in target provinces (2011)



Although progress has been made with regard to achieving MDG targets (which provide a key reference for the 8th Five Year National Socio-economic Plan), tailored approaches are required. Looking at MDG 1: eradicating extreme poverty and hunger; interventions focused on the poorest groups are needed to achieve targets. MDG 3, promote gender equality and empower women, is critical in the context of access to water and sanitation and the goal is threatened by climate change as women's traditional livelihoods and tasks (e.g. collection of drinking water) depend to a very large extent on climate sensitive resources (e.g. water). As for MDG 4: reduced child mortality and MDG 5: improved maternal health, more efforts are desired in infrastructure and service delivery, especially in small and emerging towns, where rural migrants settle, often informally and without access to basic services.[18] Regarding MDG 6: combatting HIV/AIDS, malaria and other diseases, outbreaks of dengue and other diseases in the south threaten progress being made in the rest of the country. Nationwide, the incidence of malaria has reduced significantly, but there has been the surge in first-line drug resistant malaria outbreaks in the southern provinces leading to around 30 deaths annually, on average since 2011, in the 4 southern provinces.

The government's strategy for achieving off-track MDGs (through the provision and use of services that are balanced geographically and distributed equitably between social groups) include proposed activities such as coping with climate/weather changes and reducing the damages caused by natural hazards that could occur, transforming villages into developed units, designing good village planning, constructing necessary basic infrastructure and providing clean water and latrines.[19]

[15] World Bank Lao country profile online: http://www.worldbank.org/en/country/lao
[16] UNDP 2012 online: http://hdr.undp.org/en/content/table-6-multidimensional-poverty-index-mpi
[17] MDG progress in Lao PDR online: http://www.la.one.un.org/millennium-development-goals/mdg-progress-in-lao-pdr
[18] MDG progress in Lao PDR online: http://www.la.one.un.org/millennium-development-goals/mdg-progress-in-lao-pdr
[19] See outcome 2 of The 8th Five Year National Socio-economic Plan online:

The expected impacts of climate change where hazards are likely to increase in frequency and intensity, challenge poverty reduction and health targets, mainly because poor communities live in high-risk areas and already lack access to basic services. Especially floods, which are projected to increase with climate change and deforestation, create conditions for the spread of water- and vector-borne disease, restricted access to clean water and food, inundation of unsafe sanitation facilities, and isolation from health services. Notwithstanding advances in WASH over recent years, the aforementioned issues cause death and have long-lasting impacts on poverty and food security if approaches to deliver these services are not sensitive to the impacts of climate change and related hazards.[20]

Although plans exist to expand and improve basic infrastructure and services in the country, Lao PDR lacks the financial resources and technical capacity to do this in towns and villages in remote areas and in a climate sensitive way. In particular, the impacts of floods on basic services need to be addressed in order for poor communities, to escape poverty and reduce disease related mortality, malnutrition, stunting and associated health care and productivity loss related costs. An approach to establish this should focus on the needs of women, elderly, disabled people and ethnic minorities as they are impacted most severely by climate change. The country requires external support to do this.

Through the community consultations it became evident that women and girls are especially vulnerable to climate change. Loss and damage due to flooding, droughts and landslides have implications for water and food security. To cope with the burdens, women walk longer (up to three hours a day) to collect water or firewood. Besides that, several incidences have been reported of girls dropping out of schools and of community members, especially women, looking for temeporary work abroad as a way to cope with the impacts of floods, droughts and landslides.

Environmental context

As stated by the United Nations[21] 'Lao PDR faces a challenge in balancing economic activity without sustaining further environmental damage. Forest cover in the country has declined from 49 per cent in 1982 to 40 per cent in 2010. This is down from some 70 per cent several decades prior. When combined with further industrial activity, the decline in forest cover transformed Lao PDR from a net sequesterer of CO2 in 1990 to a net emitter in 2000.' With Lao PDR's economy also accelerating because of increased demand for its metals and wood, deforestation remains a challenge, also because of the increased risks of flooding. Climate change will exacerbate this risk and that of other hazards with wet seasons expected to get wetter and dry seasons drier.

As shown in Figures 7 and 8 below, the southern provinces are most affected by floods, droughts and landslides. The landslides mostly occur in the remote mountain areas. Altogether, the provinces of Saravan, Xekong and Attapeu have been selected because they score high on poverty and ethnic minority groups in combination with the regular occurrence of hazards and diseases. Ethnic groups are especially vulnerable to climate change because of their low adaptive capacity, which is related to low income, remoteness/lack of government support and limited learning from other communities because of cultural/language barriers.

file:///Users/jorisoele/Downloads/Draft_8th_NSEDP_2016-20.pdf

[20] USAID (2013) Mekong ARCC climate change impact and adaptation study

[21] MDG progress in Lao PDR online: http://www.la.one.un.org/millennium-development-goals/mdg-progress-in-lao-pdr

Figure 7: Presence of floods and droughts by province (2011). Provinces most affected are those in the south of Lao PDR.

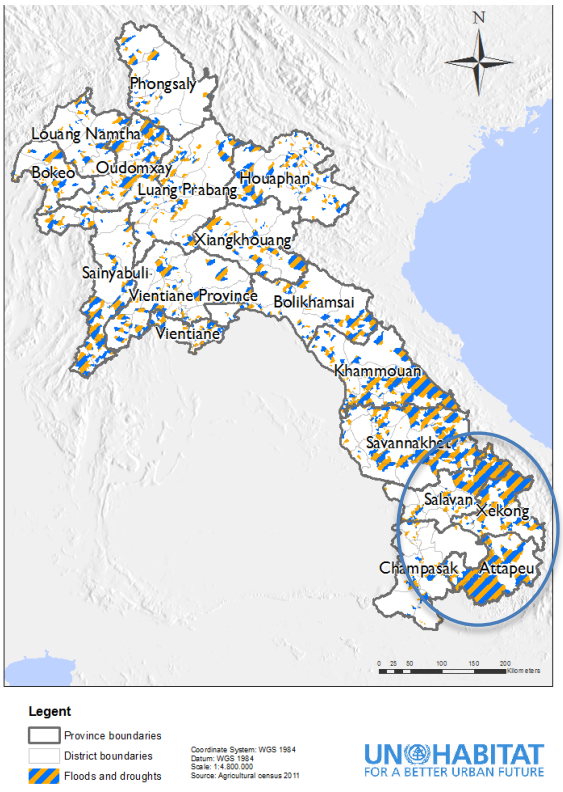
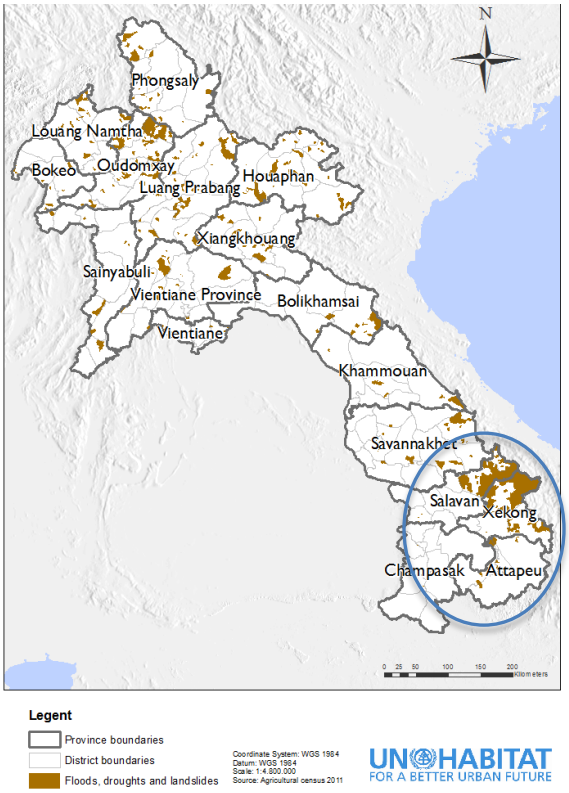


Figure 8: Presence of floods, droughts and landslides by province (2011). Provinces most affected are Salavan and Xekong



Part of the governments' strategy to graduate from LDC status and to reduce poverty is to reduce effects of natural shocks and sustainable management of natural resources exploitation. To accomplish this, the government focuses on three components: 1) environmental protection and sustainable natural resources management, 2) preparedness for natural disasters and risk mitigation and 3) reduced instability of agricultural production. Some of the proposed activities[22] to achieve results under these components include: developing a plan for sustainable use and management of natural resources (i.e. land and water), develop plans for urban and rural development with good environmental preservation, comprehensively manage water resources, develop relevant policies and legal instruments that can manage disasters and adaptation to climate change and harmonize and link policies on water resources protection and management, food security, energy security and the development of clean and safe cities and improve policy application and legislation on natural resource use and management.

Although the government has the intention to execute aforementioned activities, it lacks the budget and technical capacity to actually do so. With a governance framework (i.e. plans, policies and legislation) for the sustainable and climate sensitive use and management of natural resources (i.e. land and water) more or less absent at the both the national and local level, developing these is urgently needed to enable the government respond to future threats of climate change and related hazards.

[22] See outcome 3 of The 8th Five Year National Socio-economic Plan online: file:///Users/jorisoele/Downloads/Draft_8th_NSEDP_2016-20.pdf

To summarize above background and context section; the government of Lao PDR, with its limited financial resources and technical capacity, requires external support to protect existing infrastructure from negative climate change impacts and to deliver new basic infrastructure and services in a climate sensitive way that respond to both rural and urban needs at the same time. This is particularly critical in the rapidly urbanizing small towns because climate change related losses, both in terms of economic losses and loss of lives, can be related to poor urban planning, inadequate infrastructure delivery and high densities. To enable the government to do this, also in the long run, the existing governance framework (i.e. plans, policies and legislation) needs to be further strengthened, especially focused on filling the main gaps: the current lack of tools to plan and manage land, water and infrastructure in a way that climate risks are reduced and in a way that linkages are made between rural and urban development.

2. Project Objectives

Main objective:

The project's main objective is to enhance the climate and disaster resilience of the most vulnerable rural and emerging urban human settlements in Southern Lao PDR by increasing sustainable access to basic infrastructure systems and services, emphasizing resilience to storms, floods, droughts, landslides and disease outbreaks.

To accomplish this, firstly the technical capacity of the government (national and local) in combination with establishing an enabling governance framework is required. Secondly, at the community level, inhabitants need to be enabled to plan for resilience, construct and maintain basic resilient infrastructure systems and to improve hygiene standards. This is mirrored in specific objectives 1 and 2 below. The 3rd specific objective below comprises the concrete part of adaptation measures: constructing climate and disaster resilient infrastructure systems in human settlements and strengthen the resilience of existing infrastructure systems.

Specific objectives (also 'project components' in the following table):

1. Develop institutional capacities of the national government and local authorities to increase the resilience of human settlements and infrastructure systems;
2. Enable communities to improve their well-being/health conditions by developing local capacities and resilience strategies for their settlements and infrastructure systems;
3. Enhance climate and disaster resilient infrastructure systems in human settlements

3. Project Components and Financing:

Table 1: Project components and financing

Project/Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (US$)
1. Institutional level strengthening to reduce vulnerability in human settlements (soft)	**1.1.** Capacity development support provided to national government and local authorities to increase the resilience of human settlements and infrastructure systems, entailing to (1) execute the other components, (2) establish an enabling governance framework for executing, sustaining and up-scaling the project Output 1.1.1: Project tool comprising of assessment and planning approach, resilient infrastructure, and technical standards, environmental and social safeguards and community action planning. Output 1.1.2: Project team induction/training Output 1.1.3: National Induction Workshop (national and provincial participants) Output 1.1.4: National training of facilitators workshop (national and provincial participants) Output 1.1.5: Four district level workshops in support of project roll out (provincial and district-level participants) National level – 20 pax Provincial (3) level – 30 pax District (8) level – 24 pax	**1.1.** Increased awareness on resilience of human settlements and infrastructure systems as a result of enhanced institutional capacity in 1) executing the other project components 2) a governance framework for executing, sustaining and up-scaling the project.	**1.1.** US$250,000
	1.2. Integrated climate change vulnerability and disaster risk reduction assessments (incl. maps) conducted/produced in target areas: Output 1.2.1 Series of Vulnerability assessments 3 provincial VAs 8 districts VAs 189 settlements VAs (basic included in district VAs)	**1.2.** National government and local authorities are aware of climate vulnerabilities and have the baseline to implement measures to increase the resilience of human settlements and infrastructure systems as a result of climate change, climate change vulnerability and disaster risk assessments.	**1.2.** US$250,000
	1.3. Integrated land use/water	**1.3.** Resilience building	**1.3.** US$187,640

	resource/infrastructure maps/plans developed and aligned with local development plans in target areas. Climate change vulnerabilities and disaster risks are aligned with these land use/water resource/infrastructure maps/plans. Target areas: Output 1.3.1 Series of plans and maps 3 provincial 8 districts 189 settlements (basic included in district maps/plan)	measures implemented by national government and local authorities as a result of local development plans that incorporate climate change and disaster risk sensitive land use/water resource/infrastructure maps/plans.	
	1.4. Knowledge Management, Advocacy and Monitoring. Project activities and results are captured and disseminated through appropriate information for the beneficiaries, partners and stakeholders and the public in general. Output 1.4.1: Leaflets for beneficiaries Output 1.4.2: Promotion of activities and results on the web including social media. Output 1.4.3: Popular project reports	1.4 Project implementation fully transparent. All stakeholders are informed of products and results and have access to these for replication.	1.4. US$ 100,000 **Total: US$787,640**

2. Building capacity at the human settlement and community level for climate resilience (soft)	**2.1.** Trainings and community action planning workshops provided to communities/households for the development of community resilience plans and to plan, construct and maintain climate and disaster resilient water-, drainage-, sanitation-, and health related infrastructure systems and to improve hygiene standards. Utilizing the tools and facilitators developed under 1.1. 189 at settlement level (clustered as appropriate) Meaningful participation of ethnic minorities, women, youth, elderly and people with disabilities and other people with vulnerability to be ensured.	**2.1**. Community capacity to plan, construct and maintain resilient water-, drainage-, sanitation-, and health related infrastructure systems and to apply improved hygiene standards strengthened. People reached:	**2.1.** US$200,000 **Total: US$200,000**

3. Community level adaptation investments' (hard)	**3.1.** Climate and disaster resilient water-, drainage-, sanitation- and health related infrastructure systems established in target areas: Output 3.1: Based on the community action planning process (component 2), community infrastructure projects will be implemented. Depending on the project (size, complexity etc.) the project will either be led by the community or a government entity. In either case, community and government entities (and other stakeholders as appropriate) will closely collaborate. 8100 household in 189 settlements	**3.1.** 47,000 people have access to storm, flood, landslide-, drought- and disease resilient water, drainage, sanitation and health related infrastructure systems.	**3.1.** US$2,800,000 **Total: US$2,800,000**

6. Project/Programme Execution cost (incl. US$50,000 for M&E)	US$359,825
7. Total Project/Programme Cost	US$4,147,465
8. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable) (including US$ 10,000 evaluation levy)	US$352,534
Amount of Financing Requested	US$4.5 million

4. Projected Calendar

Table 2: Milestones and expected dates

Milestones	**Expected Dates**
Start of Project/Programme Implementation	06-2016
Mid-term Review (if planned)	06-2018
Project/Programme Closing	06-2020
Terminal Evaluation	07-2020

PART II: PROJECT / PROGRAMME JUSTIFICATION

A. The project components

In order to achieve its project objective, "To enhance the climate and disaster resilience of the most vulnerable human settlements in Southern Laos by increasing sustainable access to basic infrastructure systems and services, emphasizing resilience to storms, floods, droughts, landslides and disease outbreaks", the project combines a number of horizontally and vertically interrelated policy, planning and capacity development initiatives and has at its core the delivery of resilient infrastructure and services in the project target settlements in Southern Lao PDR. These settlements are characterized by the exposure to multiple climate hazards and their local impacts. Climate sensitivity is underpinned by urbanization dynamics and population growth, a host of underlying vulnerabilities (poverty, limited access to basic services such as WASH and health, high percentage of ethnic minorities, gender inequalities, weather dependent livelihoods) and limited adaptive capacity at household, community and governance level.

By providing a comprehensive approach which strengthens national and local government capacities, policies and legal frameworks, enhances community capacities and facilitates processes that respond to current and future needs and provides a strong mix of soft and hard interventions it is anticipated that local resilience at the household, community and human settlements level is sustainably strengthened.

Whilst the planned interventions are strongly rooted in national and local priorities the reshaped global development and climate change agenda provides further guidance. In particular, Sustainable Development Goal (SDG) 11 (and several of its targets); Make cities and human settlements inclusive, safe, resilient and sustainable, and Goal 6 (and its targets), Ensure availability and sustainable management of water and sanitation for all will be addressed by the project. As the New Urban Agenda is emerging as the expected outcome of the Third United Nations Conference on Housing and Sustainable Urban Development (Habitat III, in Quito, October 2016) the project will be informed by this framework.

The specific needs of women, disabled people, ethnic groups and youth will be considered at all stages of the project. UN-Habitat has prior experience of successfully working in diverse multi-ethnic settings in Lao PDR. This is achieved through engaging representatives, including women, elderly, youth and disabled people, of communities from different ethnic groups in community and stakeholder consultations. This is done through a community-based approach and people's process – where community groups are formed so that community involvement is in all stage of project implementation: participate in planning, implementing, procuring, monitoring of project activities (see link to video and document in footnote[23]). To ensure that prioritised interventions contribute to actual climate change adaptation, tools such as 'Planning for climate change[24] can be used (in a tailored way). Besides, UN-Habitat engages village representatives of quasi-governmental institutions like the Lao National Front for Construction (mostly ethnic representation), Lao Women's Union (women representation) and Lao Youth Union (youth representation).

[23] The people's process in video: https://youtu.be/9kaM1sqW4LI and document: http://unhabitat.lk/wp-content/uploads/2015/01/sProcess.pdf

[24] Planning for climate change tool online: http://unhabitat.org/books/planning-for-climate-change-a-strategic-values-based-approach-for-urban-planners-cities-and-climate-change-initiative/

The project will align and thereby strengthen the government's '3-build' or 'Samsang' process of decentralisation, whereby the local government institutions will play a key role in planning, developing and implementing the community infrastructures in close consultation with the communities and other stakeholders. The national government will be involved in coordinating and monitoring with UN-Habitat as well as in dissemination of project outputs to other non-participating provinces.

The project is built around three interrelated components, which highlight the importance of intuitional capacity, local capacity and ownership and tangible action.

1. **Institutional level strengthening to reduce vulnerability in human settlements (soft)**

This component aims at building a project framework and providing hands-on tools that will allow the national governments and provincial and district authorities to identify and implement measures to increase the climate and disaster resilience of human settlements and infrastructure systems.

Capacity development support, including trainings/workshops, will be provided at the national, provincial and district level to establish this enabling project framework and to develop/provide hands-on tools. During the trainings/workshops, barriers and opportunities for increasing the resilience of human settlements and infrastructure systems (by reviewing relevant planning practices, policies, legislation and finance) will be identified. This will also entail identifying opportunities for livelihood/ economic development planning support and for sustaining and up-scaling the project[25], including a strategy to capture and disseminate lessons learned.

Under Component 1.1, Capacity development support is provided with regards to key project components aiming primarily at national government partners (such as the Water Utility and the Ministry of Public Works) and local authorities (at the provincial and district level). Initial workshops will position the project and further clarify the roles of partners. Further training will be provided on the key components, which are to ensure that the project is successful such as the vulnerability assessment and spatial planning approach, resilient infrastructure, technical standards, environmental and social safeguards and community action planning.

Simple tools will be developed to support the workshops and to provide further guidance for the roll out to the community level and to provide guidance for policy.

Key outputs and activities:

Output 1.1.1: Project tool comprising of assessment and planning approach, resilient infrastructure, and technical standards, environmental and social safeguards and community action planning.

Activities include: review of existing tools, capacity / needs assessment, tool development in the Lao language.

Output 1.1.2: Staff Trained

Activities include: In depth discussion on tool and the underlying processes, with particular emphasis on vulnerabilities, resilience, national standards and compliance, environmental and

[25] Options to sustain and up-scale the project, may include funding a technical specialist in the MoNRE to conduct vulnerability assessments and develop land use/water resource/infrastructure maps/plans, also after termination of the project.

social safeguards and compliance, project monitoring and community mobilization and action planning,

Output 1.1.3: National Induction Workshop (national and provincial participants)

Activities include: induction and set up of project governance structure

Output 1.1.4: National training of facilitators workshop (national and provincial government participants and other key stakeholders)

Training on vulnerabilities, resilience, national standards and compliance, environmental and social safeguards and compliance, project monitoring and community mobilization and action planning.

Output 1.1.5: Four district level workshops in support of project roll out (provincial and district-level participants)

Activities as above.

The aim of components 1.2 and 1.3 is to identify and implement measures to increase the climate and disaster resilience of human settlements and infrastructure systems (leading to a priority list of actions) the national government and local authorities (with target villages and technical support) will:

1. Conduct integrated vulnerability assessments to identify climate change vulnerabilities and disaster risks in 3 provinces, 8 districts and 189 settlements (basic);
2. Develop integrated land use/water resource/infrastructure maps/plans in 3 provinces, 8 districts and 189 settlements (basic) in which the climate change vulnerabilities and disaster risks are identified; and
3. Align these land use/water resource/infrastructure maps/plans with national land use plans and water management plans and into local development plans at the provincial level (3) and district level (8), which will inform action plans to address identified vulnerabilities and risks.
4. Receive targeted capacity development support including, but not limited to, training workshops and on-the-job mentoring of national and local government officials to ensure roll-out of activities and full appreciation of objectives, components and processes of the project and in support of local and national policy review.

Output 1.2.1 encompasses a series of Vulnerability assessments

Activities will include: Based on existing assessments and utilizing existing tools which will not stop at assessing the climate hazards and their immediate impacts but will bring out the particular climate sensitivities and existing adaptive capacities (including UN-Habitat's tool *Planning for Climate Change*[26]) vulnerabilities will be assessed at the provincial level (3) and at the district level (8) the latter will include specific assessments at the community level.

Output 1.3.1 Series of plans and maps

Activities that contribute to the development of land use/water resource/infrastructure maps/plans may include risk maps of flood plains and areas at risk of droughts, landslides and dengue (and other diseases) and related to this: appropriate watershed management options,

[26] Planning for Climate Change guide and tool (http://unhabitat.org/books/planning-for-climate-change-a-strategic-values-based-approach-for-urban-planners-cities-and-climate-change-initiative/
http://unhabitat.org/books/planning-for-climate-change-toolkit/)

water use and safety plan (i.e. water distribution), preparedness and post hazards recovery processes, possibly supported with adjusted policy and regulations (including for land use) that recognize emerging climate change vulnerabilities and disaster risks. At the province and district level, plans may also include monitoring system on land-use, water use and flood control measures.

Component 1.4 Knowledge Management, Advocacy and Monitoring will ensure transparent project implementation targeting primarily local stakeholders but also stakeholders internationally. Specific project products will be made available, knowledge will be captured and disseminated.

Output 1.4.1: Leaflets (or posters) for beneficiaries

Activities, key project processes will be explained in a simple fashion aiming at the beneficiaries

Output 1.4.2: Promotion of activities and results on the web including social media.

Setup of a dedicated webpage to disseminate key project outcomes (tools, workshops, assessments, plans).

Output 1.4.3: Popular project reports

Collection of key project information for project reporting with a particular emphasis on national partners and beneficiaries.

The capacity of the government will be increased through training workshops and on-the-job mentoring of national and local government officials (for conducting vulnerability assessments (VAs), developing plans and by providing capacity building support to communities (i.e. cascading down the acquired knowledge). The capacity will be sustained by anchoring it directly with key government staff and through tools developed, knowledge generation and dissemination

2. Building capacity at the human settlement and community level capacities for climate resilience (soft)

Facilitating local action planning, bringing together local authorities and communities, will provide a comprehensive resilience framework. Prioritization and alignment with the water and health related vulnerability focus of the project will also take place under this component.

Further, this component aims to promote induction and adoption of change in community relations with using water resource, drainage, sanitation and health related infrastructure systems.

To build the capacity of communities to climate resilience, trainings/workshops will be provided at the community level to develop capacities to plan, construct and maintain climate and disaster resilient water resource-, drainage, sanitation and health related infrastructure systems and how to reduce risks to climate change related water and vector borne diseases through technical improvements and applying hygiene standards. The capacity will be sustained through the development of guidelines to plan, construct and maintain small-scale climate and disaster resilient infrastructure systems and through community agreements for executing component 3. This will not only increase technical skills but also project management capability (such as financial literacy, negotiation skills).

Based on the outcomes of the vulnerability assessments and the basic land use/water resource/infrastructure development maps/plans, community-level criteria-based prioritization exercises will identify the priority projects below. The prioritization will be done through a community-based approach, which UN-Habitat has been applying in the Asia Pacific Region for nearly 20 years, termed the People's Process[27] and using climate change planning tools. This will ensure that the prioritized projects contribute to local climate change adaptation while being appropriate for the community.

In sum, activities under component 2 include:

Activity 2.1.1: Organise training workshops for 189 settlements/communities (clustered) to train comunity members to plan, construct and maintain climate and disaster resilient water, drainage, sanitation, and health related infrastructure systems and to improve hygiene standards.

Activity 2.1.2: Organise community-level criteria-based prioritization workshops in 189 settlements/communities (clustered) to identify appropriate adaptation interventions, using information from the vulnerability assessments.

Activity 2.1.3: Develop community guidelines to plan, construct and maintain climate and disaster resilient infrastructure systems (budget under component 1.1.)

3. Community level adaptation investments (hard)

This component aims at enhancing climate and disaster resilient infrastructure systems in human settlements. As described above, the results of the vulnerability assessments and the land use/water resource/infrastructure maps/plans and the subsequent local development plans, community action plans will be developed which are likely to result in resilient water-, drainage-, and sanitation related infrastructure systems etc., which will be constructed in the most vulnerable/at risk settlements. Besides that, critical existing infrastructure (such as water supply systems, health clinics) most at risk will be made more resilient to climate-related disasters. Where prioritized, climate and disaster resilience of schools and other community infrastructure may be supported.

In other words, Components 1 and 2 will allow local authorities, communities and households to identify the areas and infrastructure systems most vulnerable to climate change (i.e. floods, storms, landslides droughts and diseases), prioritize measures to protect existing infrastructure and plan, construct and maintain appropriate new infrastructure systems on safe locations and/or with technical standards that will protect the infrastructure from aforementioned climate change impacts.

A list of possible types of interventions, which is the results from a multi-stakeholder consultation in the target areas (in which UN-Habitat took part; see discussion below), can be found below. Interventions will be prioritised by the community based on local vulnerabilities and opportunities identified.

- ❑ Watershed management (where feasible), with measures to protect water resources;

[27] Tools and processes for the "People's Process" are for example explained here: http://unhabitat.lk/wp-content/uploads/2015/01/PeoplesProcess.pdf
http://unhabitat.org.ph/category/knowledge-hub/
http://www.bd.undp.org/content/bangladesh /en/home/operations/projects/poverty_reduction/urban-partnerships-for-poverty-reduction--uppr-.html

- Building (where feasible) small-scale community-based water infrastructure, using spring/surface or underground water sources;
- Building (where feasible) water intake with a dam to reserve water source for usage during the dry season;
- Building (where feasible) gravity feed systems with the protection of water sources;
- Building (where feasible) an irrigation system with slide gate to regulate water;
- Building (where feasible) rain water harvesting with roof or underground catchments to collect rain water for using during dry season;
- Using (where feasible) solar energy to pump water in agricultural production.
- Improve (where feasible) and build WASH facilities with Building Back Better (BBB) principles;
- Building (where feasible) Small-scale community-based waste-water treatment systems to be reuse the treated water in agricultural production, and
- Provide technical assistance and guidance towards Building Back Better (BBB) principles related to shelter and WASH infrastructures
- In support of community resilience improve (where feasible) prioritized community infrastructure such as schools, roads or drainage.

A combination of supplying new resilient infrastructure systems (to people who have do not have access), and protecting the most critical existing infrastructure from storms, floods, landslides, droughts and disease outbreaks will reduce health issues (and related costs) of the poorest communities in Lao PDR. The design of the infrastructure will be holistic, meaning that it will look at Building Back Better principles (to protect it from climate change related hazards) but also to use resources efficiently, reduce breeding of mosquitos and risks of infected water and consider specific needs of women, disabled people and ethnic groups. As also mentioned under Component 2, the prioritization of projects will be done by using planning for climate change tools combined with a community-based approach and the People's Process. This will ensure that the prioritized projects contribute to local climate change adaptation while being appropriate for the community. Depending on the complexity of the construction for projects, community members will be involved (e.g. for simple digging and masonry work, semi-skilled and skilled labour from the communities will be recruited and further capacitated).

Activities under Output 3.1 include:

Activity 3.1.1: Implementation of the community action plans in partnership between communities, local and national governments. Communities will directly engage in the construction through community agreements and government agencies and other stakeholders will provide engineering, monitoring (for technical, social and environmental compliance).

B. Economic, social and environmental benefits

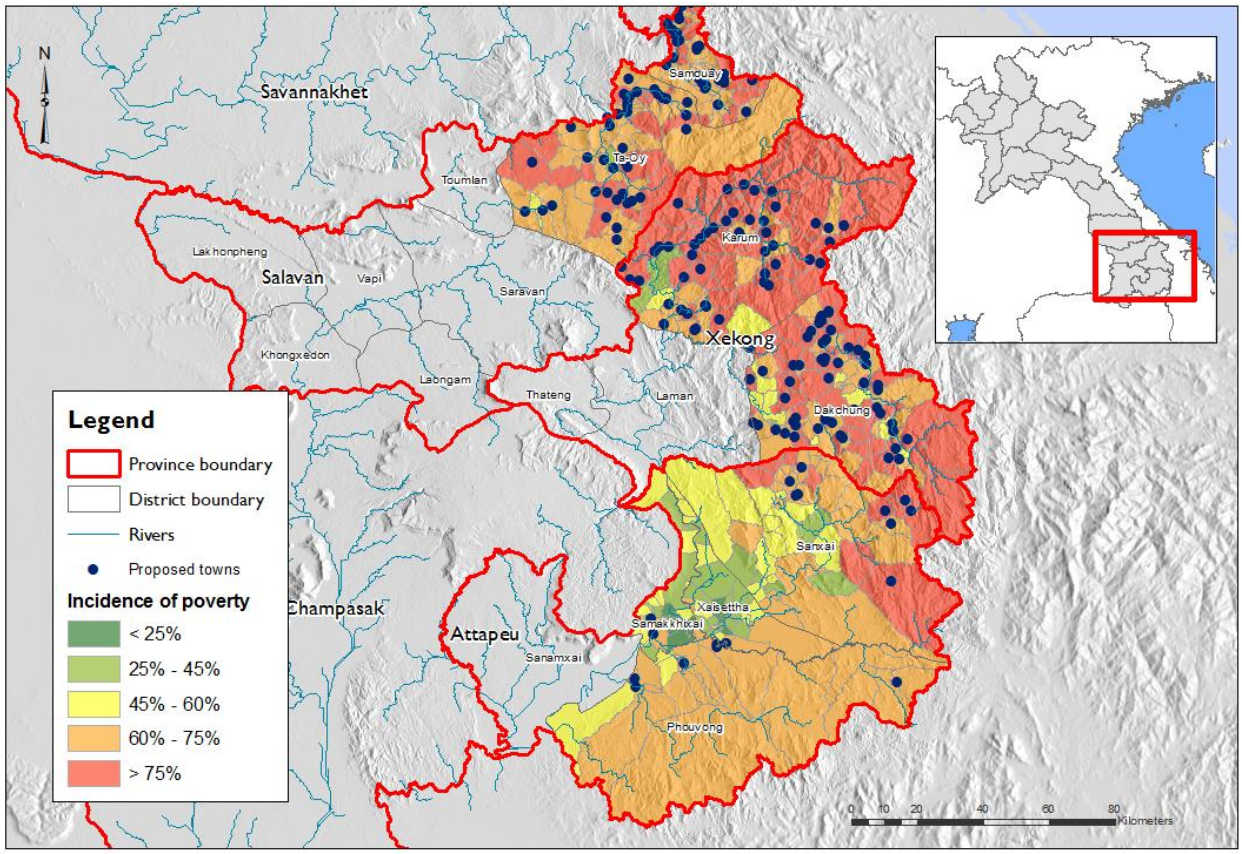


Figure 9: Target towns in target provinces. Many of the towns consist of villages that are merging and/or developing into emerging towns (thus the number is lower than the official number of 189 settlements – see table 2).

Table 2: Target settlements

Province	District	Main ethnic groups	Local hazards	Total settlements	Priority Settlements	Population
Attapeu	Phouvong	Blao, Sadang, Lao Tai	Floods and droughts	25	6	3,342
	Samakkhixay	Blao, Sadang, Lao Tai	Floods and droughts	43	2	725
	Sanxai	Blao, Lao Tai, Alak, Tahan	Floods, droughts and landslides	58	9	1,629
	Xaysetha	Blao, Lao Tai, Alak, Tahan	Floods and droughts	31	1	838
Sekong	Dakcheung	Lao Tai, Katu, Trieng, Krieng	Floods, droughts and landslides	94	52	11,294
	Kaleum	Lao Tai, Katu,	Floods, droughts and	61	49	9,685

		Trieng, Krieng	landslides			
Saravane	Samuoi	Lao Tai, Pako, Kanay, Kado	Floods, droughts and landslides	58	32	5,963
	Ta oi	Lao Tai, Katang, Pako, Kanay	Floods, droughts and landslides	56	38	13,953
Total				**426**	**189**	**47,429**

Note: Many of the villages are merging and/or are developing into emerging towns.

The primary beneficiaries of the targeted intervention are 47,000 people (of which 24,000 women and girls) in 189 settlements. In these settlements, at least 60 per cent of the population lives in poverty. The settlements are affected by floods, droughts, landslides and climate related diseases. No or limited basic services exist in these settlements. Moreover, the population consist of a high percentage of ethnic minorities. The main ethnic groups per district are mentioned in table 2 above. These ethnic groups are especially vulnerable to climate change because they are among the poorest of the country, lack access to basic infrastructure, services, including healthcare and information (due to remoteness and langauge and cultural barriers) and are exposed to multiple climate change related hazards.

As discussed in the project background and context section, universal access to water, irrigation, sanitation and health related infrastructure is crucial for reducing poverty, health issues (and related mortality) and economic losses in Lao PDR. This project will increase access to safe water, drainage, sanitation, and health related infrastructure in the poorest and most vulnerable settlements in Lao PDR, also in a changing climate (with increased occurrence of floods, storms, landslides, droughts and diseases).

Infrastructure will be planned, constructed and maintained in a way that it is resilient to the aforementioned climate change and disaster impacts. Infrastructure (especially water supply and sanitation units) will also be designed in a way that it is accessible and safe for women and people with disabilities and sensitive to local cultural norms. Water for the facilities will be used efficiently and, if possible, stored for home gardening/agriculture and/or for the dry season.

The spatial/land use/water resource/infrastructure maps/plans at the provincial, district and settlement level, in which climate change vulnerabilities and disaster risks will be identified, will include an analysis and strategy to ensure equal access to infrastructure considering marginalized and vulnerable groups, indigenous peoples and gender. For instance, UN-Habitat will engage representatives of communities from different ethnic groups in community and stakeholder consultations and will engage village representatives of quasi-governmental institutions like Lao National Front for Construction (mostly ethnic representation), Lao Women's Union (women representation) and Lao Youth Union (youth representation). Besides that, natural resources (especially water sources) critical for communities will be identified and strategies developed to ensure sustainable access.

The project will have a range of interlinked economic, social, environmental benefits. Below table will provide the specific benefits that the project will provide, from an economic, environmental and social standpoint.

Table 3: Overview of settlement/community level economic, social and environmental benefits of AF intervention compared to no intervention (baseline).

Type of benefits	Baseline	With/after the project
Economic benefits	Regular floods, droughts and landslides result in livelihood and economic	Protect existing infrastructure, delivering new resilient infrastructure, such as secured water supply and management (e.g water storage and irrigation) will

	and household losses Regular droughts and floods challenge access to safe water and cause disease outbreaks. In dry seasons, women often need to walk 1-3 hours to collect water. During floods, open defecation practices lead to disease outbreaks. Non-irrigated water leads to increased mosquito breeding, which in turn lead to increased dengue and malaria occurrences. Lacking knowledge about climate related risks (e.g. floods, landslide, health) and resilient construction methods result in limited autonomous adaptation measures. Women, elderly, disabled people and ethnic groups are especially vulnerable to climate change because of dependence on climate related services (e.g. water and food), diseases, limited access to health care and information and remoteness Natural resources are not used and managed in a sustainable way.	enhance food security and improve business and economic conditions, which in turn, will reduce poverty Increased productivity and production and recuced health care costs benefits through improved access to safe water sources, increased hygiene and reduction of waterborne diseases Increased resilience of natural livelihood capital, such as land and water, will improve the coping mechanisms of the most vulnerable people in the target area and reduce human and material losses during extreme weather events.
Social benefits		Health benefits through improved access to safe water sources, resilient sanitation facilitations, reduction of waterborne diseases and improved hygiene standards. Resilient as well as gender, elderly, disabled people and ethnic costums sensitive water infrastructure interventions improve food and water safety and security. Increased risk awareness, improved knowledge on climate change impacts and resilient infrastructure construction and maintenance enhances capabilities to undertake autonomous adaptation actions. A planning approach sensitive to marginalized and vulnerable groups, indigenous peoples and gender will ensure equal access to resilient infrastructure.
Environmental benefits		The development of environmental sensitive and resilient land use, water resource, infrastructure and community plans will increase the sustainable use of natural resources and improve ecosystem resilience.

C. Cost effectiveness

Cost effectiveness because of costs avoided

Poor water, sanitation and hygiene alone impose a cost on the country equivalent to 5.6 percent of GDP annually.[28] With this project aiming to secure access to resilient water resources and increase access to sanitation, together with communities' adoption of key hygiene behaviors, community/household costs can be significantly reduced, both in terms of reduced health care costs (with reduced diarrhea, malnutrition and stunting) and increased productivity (reduced collection time for water, less school and working days lost through illness). Besides that, economic and household losses associated with destroyed infrastructure due to regularly

[28] WB (2014) Water Supply and Sanitation in Lao PDR. Online: http://www.wsp.org/sites/wsp.org/files/publications/WSP-LaoPDR-WSS-Turning-Finance-into-Service-for-the-Future.pdf

recurring storms, floods and landslides will be reduced. Moreover, stored water and improved/climate and disaster proofed drainage systems will reduce losses associated with agricultural losses due to droughts. This implies that taking no action (business as usual) will lead to incrementally increasing costs in time associated with health care costs, low productivity and losses due to storms, floods, landslides and droughts.

Regarding concrete adaptation costs, US$2.8m will be allocated to the poorest settlements focusing on the most vulnerable communities in 189 settlements to construct infrastructure that will make them more resilient, especially to floods and droughts. UN-Habitat's cost effective designs (see Annex 2) enable a greater number of people to benefit. The hard component is backed up by the US$987,640 soft component that supports planning and capacity building to ensure that these benefits are sustained and replication potential exists.

Cost effectiveness in project operations

Traditionally UN-Habitat in Lao PDR has shown high cost-effectiveness in project operations[29] UN-Habitat's cost efficiency stems from the fact that technical assistance, capacity building and designs are done mostly in-house, because UN-Habitat cuts out the middlemen (e.g. consultancy firms), because UN-Habitat works directly with local government partners (thereby building their capacity as well as reducing costs) and lastly and most importantly, because of strong community involvement which helps reducing costs significantly. This is relevant to all components of the project.

Cost effectiveness through community contributions

The project will be implemented in close partnership with communities and local government institutions. This model of partnership will allow significant cost reduction as communities and local partners will provide significant in-kind and in-cash support. For example, communities provide in-kind contributions by helping in digging and other excavation works and as well as in basic mason/carpentry works. Further community members are contracted and trained to provide semi-killed and skilled services. This is in particularly relevant for Component 3 where communities will be directly engage in the construction through community agreements and government agencies and other stakeholders will provide engineering and monitoring (for technical, social and environmental compliance).

Cost effectiveness of technical options

Traditionally UN-Habitat projects have shown high technical cost-effectiveness – for example basic services projects related to water supply and sanitation are often delivered at a mere 30 per cent of costs when compared to similar projects implemented by IFIs. A project example is UN-Habitat's MEK WATSAN project in Lao PDR, Cambodia and Viet Nam. The evaluation report[30] showed that UN-Habitat was able to deliver very competitively priced basic services to communities. As for resilient design of basic infrastructure, the initial costs are estimated to be around 30-50 per cent higher than non-resilient design. However, the infrastructure is expected to last at least twice as long (thus is more sustainable and cost effective) as non-resilient designed infrastructure because it will still be accessible during and after every flood, storm and drought. As for the costs per infrastructure type, this will vary significantly depending on the location of such an intervention (i.e. remoteness, size, terrain, etc.) This is particularly relevant to Component 3 of the project, as US$2.8m will be invested in resilient infrastructure.

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

[29] See also the MEK-WATSAN evaluation report above.

[30] UN-Habitat (2013) External End Evaluation of the MEK-WATSAN Roll-Out Phase 1. *Prepared by:* Mr. Geoff Mills Ms Hien Nguyen Thi Ms Saykham Thammanosouth Ms Somoline Sorn

This project is consistent with national socio-economic priorities,[31] national climate change priorities,[32] and national disaster risk management priorities.[33]

The 8th Five-year National Socio-economic Plan can be regarded as the leading national development strategy. As for climate change, the National Climate Change Action Plan 2013-2020 (2013) can be seen as most relevant as it builds on the National Strategy on Climate Change of Lao PDR (2010) and the National Adaptation Programme of Action (NAPA) (2009). In late 2015. Lao PDR submitted its Intended Nationally Determined Contribution (2015) (INDC), which is in line with the National Climate Change Action Plan. The INDC identified 5 key sectors: 1) agriculture, 2) forestry & land use, 3) water resources, 4) transport & urban development and 5) public health. The focus of projects and programmes under the last three sectors are especially relevant for this project (see Annex 4 for more details). Besides climate change and disaster management, the project is also consistent with sectoral plans and strategies related to water and sanitation,[34] water management[35] and land use planning and management.[36] Regarding the consistency of the project with any sub-national/local/settlements levels, the project aligns with the provincial and district's 5-year socio-economic development plans

For an overview of priority measures of above plans and strategies see Annex 4: Analysis (relevance) of national strategic priorities.

Table 4: Analysis of national socio-economic, climate change and disaster management priorities. The table shows overlap measures among national plans and strategies. As these are national priority measures (coloured in red), this project also focuses on (but not limits itself to) these priority measures. Early warning systems are not covered in this project because large ADB and UNEP projects already focus on this.

Measure	**8th Five Year National Socio-economic Plan**	**National Strategy on Climate Change**	**Climate change action plan 2013-2020**	**National Adaptation Programme of action**	Intended Nationally Determined Contribution	**National Disaster Management Plan**
❑ Providing sustainable access to safe water and improved sanitation	**x**	**x**	**x**	**x**	**x**	
❑ Develop plans, policies, laws to manage natural resources and improve capacity (incl. land/water)	**x**		**x**	**x**	**x**	**x**
❑ Develop plans for urban and rural development with good environmental preservation	**x**	**x**	**x**			
❑ Harmonize and link policies on water resources, food security, energy security and clean and safe city	**x**					
❑ Promote 4R waste management and manage toxic	**x**	**x**	**x**			

[31] The eighth Five Year National Socio-economic Plan (2016-2020) with a Vision to 2030 (2015)
[32] The National Intended Nationally Determined Contribution (2015); The National climate change action plan 2013-2020 (2013);The National Strategy on Climate Change of Lao PDR (2010); The national Adaptation programme of action (2009);
[33] The national disaster management plan (2011)
[34] Water Supply and Sanitation Strategy for Emerging Towns (2013-2020) (2012)
[35] National Indicative Plan (NIP) (2011-2015) for implementation of the IWRM-based basin development strategy (2012)
[36] PLUP (Participatory Land Use Planning Policy)

waste and waste water						
❑ Establish comprehensive early warning system	x	x	x	x		x
❑ Developing climate change scenarios for the river basins/Mapping of flood-prone areas/risk areas	x	x	x	x	x	x
❑ Downscaling climate and hydrological models to a watershed level		x				
❑ Climate-proofing the most vulnerable (urban) existing infrastructure to protect the current assets		x	x	x	x	x
❑ Building storm surge barriers for wastewater treatment plants and landfills; Public health sector	x	x	x			
❑ Incorporating current climate change concerns into ongoing health programmes and measures		x			x	
❑ Study, design and build multi-use reservoirs in drought prone areas			x	x		
❑ Conservation and development of major watersheds			x	x		
❑ Build and improve flood protection barriers to protect existing irrigation systems			x	x		
❑ Expand epidemic disease diagnostic laboratories local levels to provide disease epidemic information			x	x		
❑ Prevention and treatment of water borne diseases			x	x		
❑ Promote appropriate structural and non-structural mitigation measures into national building codes						x
❑ Flood management: develop a comprehensive flood management strategy and specific flood management plans for priority areas			x			
❑ Drought management: assess drought risk and impacts, existing policies and programs; incorporate drought mitigation into priority river basin and sub-basin plans;			x			

E. Compliance with relevant national technical standards

All project activities are in compliance with existing rules, regulations, standards and procedures endorsed by the government, as shown in the table below. In addition, compliance with tools are discussed below.

Table 5: Project compliance with relevant rules, regulation, standards, procedures and tools to project activities

Activities	Relevant rules, regulations, standards and procedures	Compliance
Climate change vulnerability and disaster risk reduction assessments	**UN-Habitat Vulnerability assessment** The UN-Habitat 'Planning for climate change toolkit can be accessed online here: http://unhabitat.org/books/planning-for-climate-change-toolkit/ Examples of vulnerability	Lao PDR does not have a standard procedure for conducting vulnerability assessments. The project will conduct vulnerability assessments in compliance with processes and procedures described in the UN-Habitat 'Planning for Climate Change' toolkit.

	assessment can be accessed online here: http://unhabitat.org/series/climate-change-vulnerability-assessments/ A video of a vulnerability assessment in Sihanoukville, Cambodia, can be viewed online here: https://www.youtube.com/watch?v=vAoorDDRkoY	
Development of land use maps/plans	**Lao PDR Urban Planning Law** Reference is made to Law No.: 03-99/NA, dated 1999 **Participatory Land Use Planning (PLUP)** **Planning for climate change guidelines**	The project will develop land use maps/plans in compliance with the Lao PDR Urban planning law. UN-Habitat will cooperate closely with the Department of Land Management Authority (DLMA) of MoNRE to develop land use maps/plans. To ensure full community participation, the project will apply Participatory Land Use Planning (PLUP) principles and procedures, which are in line with the planning for climate change guidelines.
Development of water resource maps/plans	**Lao PDR Water and Resource Law** Reference is made to Law No.: 02-99/NA, dated 1996	The project will develop water resource maps/plans in compliance with the Lao PDR Water and Resource Law. UN-Habitat will cooperate closely with the Department of Water Resource and Environment Administration (DWREA) of MoNRE to develop land use maps/plans.
Local development plans and settlement/community planning	Government's '3-build' or 'Samsang' process of decentralisation Provincial and district socio-economic development plans (which are in line with the National 5-year socio-economic development plan; Community-based planning and people's process Community planning tools can be accessed online here: http://unhabitat.lk/wp-content/uploads/2015/01/PeoplesProcess.pdf http://unhabitat.org.ph/category/k	The project will align and thereby strengthen the government's '3-build' or 'Samsang' process of decentralisation, whereby the local government institutions will play a key role in planning, developing and implementing the community infrastructures in close consultation with the communities and other stakeholders. The project will integrate the 'information' from the vulnerability assessments in compliance with procedures to update/review local social-economic development plans. Community-based planning will take place in compliance with the people's process principles and the tools below, if applicable.

	nowledge-hub/ http://www.bd.undp.org/content/bangladesh/en/home/operations/projects/poverty_reduction/urban-partnerships-for-poverty-reduction--uppr-.html	
Development of infrastructure development maps/plans and small-scale/ community Infrastructure investments projects and activities. These include water supply systems and sanitation (see also below), irrigation systems, solar pumps, water harvesting systems, small dams, waste-water treatment systems	**Lao PDR Construction Law** Reference is made to Law No.: 159/LPDR, dated 2009 **Lao PDR Building Codes and Building Control** Reference is made to Rule No. 01-13/MPWT, dated 2013 **Building Back Better Principles Guideline for Shelter and Sanitation** Reference is made to Technical guideline, disseminated by MPWT 2012 **The Lao National Unexploded Ordnance Programme** Reference is made to IMAS – International Mine Action Standards and UXO Lao, which adopted SOPs – Standard Operating Procdures **Lao PDR Initial Environmental Examination (IEE) and Environmental and Social Impact Assessment (ESIA**) Reference is made to Article 21 of the Law on Environmental Protection (Amended) No. 29/NA, dated 18 December 2012;	The project will develop infrastructure development maps/plans and small-scale/ community Infrastructure investments projects and activities in compliance with Lao PDR Construction Law, the Lao Building Codes and Building Control, unexploded ordenance clearance standards and the Lao PDR Initial Environmental Examination (IEE) and Environmental and Social Impact Assessment (ESIA). UN-Habitat will apply Building Back Better Principles to infrastructure development where possible. UN-Habitat will submit a list of investment Projects and Activities to MoNRE as the reference for the screening process to determine which level of the Environmental Impact Assessment the Project Owner should conduct. Investment Projects and Activities that are anticipated to cause insignificant or minimal environmental and social impacts are required to conduct an Initial Environmental Examination (category: Group 1[37] as per the ESIA) An Environmental and Social Impact assessment is only required for projects that are anticipated to cause significant or major environmental and social Impacts (category: Group 2[38] as per the ESIA) UN-Habitat anticipates that only investments in small-scale (community-level) infrastructure will be made. Therefore, the project will fall under category group 1 or in none of the categories listed in the Ministerial instructions on Initial Environmental Examination.

[37] According to Ministry of Natural Resources and the Environment Ministerial Instruction on Environment and Social Impact Assessment of the Investment Projects and Activities (No.8030/MONRE), Group 1 is defined as "Investment Projects and Activities that are anticipated to cause the insignificant or minimal environmental and social impacts; therefore, generally required to conduct an Environmental and Social Impact Assessment;

[38] According to the above Ministerial Instruction, Group 2 is defined as Investment Projects and Activities that are anticipated to cause the significant or major environmental and social impacts; therefore, generally required to conduct an Environmental and Social Impact Assessment.

	Reference is made to the Government Decree on the Establishment and Function of the Ministry of Natural Resources and Environment No. 435/PM, dated 28 November 2011.	After the screening process, if the Investment Projects and Activities are categorized as Group 1, UN-Habitat will prepare an IEE Report in strict compliance with the process and conditions specified in the Ministerial Instruction on Initial Environmental Examination of the Investment Projects and Activities, the relevant technical guidelines and the relevant laws and regulations. In case the Investment Projects and Activities are not categorized in any group in the List of Investment Projects and Activities, the Provincial Department of Natural Resources and Environment shall apply a separate criterion to the relevant information as specified in the investment application to conduct further screening which level of the Environmental Impact Assessment such Investment Projects and Activities shall conduct or the Environmental Impact Assessment is not needed at al
Water supply	**Lao PDR Water Supply Law** Reference is made to Law No.: 04/NA, dated 2009 **National Standard on Quality management for drinking water and household water supply** Reference is made to Decision No. 1371/MoH, dated 2005 **MDG/SDG technical standards for water supply**	The project will supply water in compliance with the water supply law, the National Standard on Quality management for drinking water and household water supply and MDG/SDG technical standards for water supply. Building Back Better Principles will be applied where possible. UN-Habitat follows the SDG technical standards for water supply, which are more strict (piped water versus water pumps) than the national standards. Water tariffs will be applied to ensure sustainability of the system. The community always co-decided how high the tariff will be.
Sanitation systems	**Lao PDR Hygiene Law** Reference is made to Law No.: 08/NA, dated 2004 **MDG/SDG technical standards**	The project will construct sanitation facilities in compliance with the Lao PDR Hygiene law and MDG/SDG technical standards for sanitation Building Back Better Principles will be applied where possible. UN-Habitat follows the SDG technical standards for sanitation, which are more strict than the national standards.

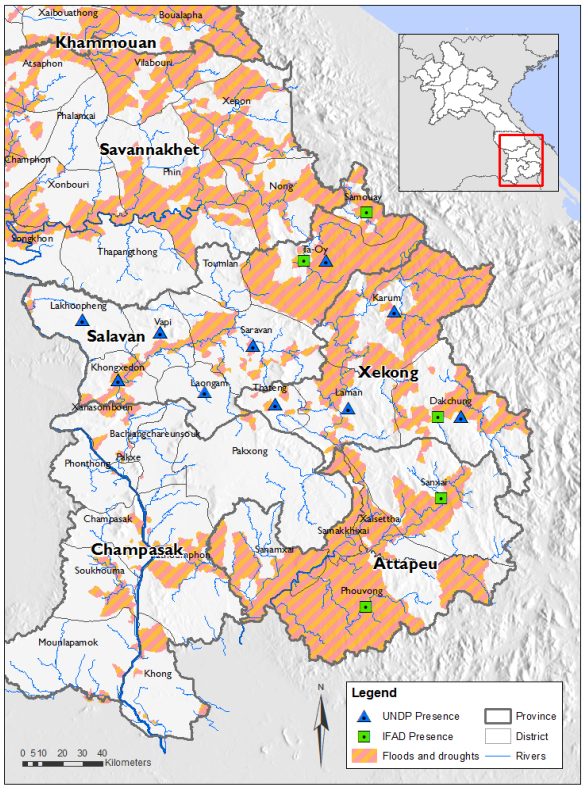
For the full proposal an Environmental and Social Management Plan/Strategy will be developed to ensure compliance of project interventions with national standards and with the environmental and social principles as outlined in the Environmental and Social Policy. Further information is provided in Section K.

The Mekong River Commission (MRC) is in the process of developing a transboundary environmental impact assessment (TbEIA) procedure for assessing proposed activities with potential transboundary environmental impacts in the Lower Mekong Basin. Outputs will be best practices and guidelines to support members to adapt their national Environmental Impact Assessment (EIA) legislation. The MRC regomendations are expected to affect Lao in its flood management plan. However, recommendations have not been published yet. UN-Habitat will monitor the impact of MRC recommandations on Lao PDR legislation.

F. Other funding sources

National government and local authorities will support the project through in-kind contributions and ongoing infrastructure initiatives will be adjusted to align with the project.

Figure 10: UNDP and IFAD presence at district level in Saravane, Xekong and Attapeu



This concept has been developed based on in-depth consultations with UNDP and IFAD. The relationship is that of complementarity. Firstly, care has been taken that there are no overlaps of the target settlements. Secondly, UNDP focus is restricted to the village level, focusing on rural small scale infrastructure and ecosystem based adaptation, while UN-Habitat, besides focusing on entirely different settlements, will additionally focus on components 1.2 and 1.3 (vulnearbility assessments, plan development and integration into exisiting plans), which will feed into UNDP's work. IFAD will also gain from the work done under components 1.2 and 1.3, and will complement with its work on enhancing agricultural productivity. Thirdly, both UN-Habitat and IFAD will benefit from UNDP's on-going work on revisions of guidelines undertaken for EIA and Initial Environmental Examination (IEE) with Department of Environment and Social Impact Assessment (DESIA), MoNRE. Besides, UN-Habitat will use the recently developed Public Involvement Guidelines (PIG), in sync with EIA and IEE. The PIG has been developed by UNDP in partnership with DESIA. In short, the three agencies will share tools and maximise synergy.

For an overview of relevant projects in the same provinces see Annex 3.

G. Capturing and disseminating lessons learned

A dedicated output (1.4) addresses knowledge management. Whilst this provides the cornerstone for capturing and disseminating lessons learned, other project components directly contribute to knowledge management mechanisms and dissemination of lessons learned from local to national and to international levels.

At the local level, a participatory approach (involving communities, local authorities and students) will lead to increased local knowledge on planning, constructing and maintaining resilient infrastructure. Project demonstration sites will contribute, from the start and in an ongoing way, to sharing lessons and training through local disseminators and tools and guidelines. The project will also use a participatory monitoring process, which will enable the beneficiary communities under Component 3 to work directly with the project's M&E officer, to highlight issues in delivery and to strengthen adaptation benefits, including in replication and sustaining the project's gains.

At the national level, other vulnerable regions in Lao PDR will be able to draw from lessons learned through this project. Information will be consolidated in reports and the tools and guidelines will be for developing resilient (and gender, disabled and ethnic minorities sensitive) infrastructure (also by using land use/water resource and infrastructure maps/planning). A direct linkage will be established, through the partnering departments of the various line ministries at the district and provincial levels, with the ministries at the national level facilitating countrywide dissemination.

As part of the sustainability/exit strategy, the project will develop participatory monitoring processes, which will trigger institutional learning processes, participation, knowledge exchange and replication and scale-up of good practices.

At the international level, other climate change related projects, especially related to human settlement, resilient infrastructure and land and water management, may benefit from this project. The Knowledge Centre on Cities and Climate Change (in short: K4C http://www.citiesandclimatechange.org/) provides a knowledge management platform for Climate Change and Human Settlements interventions. It is proposed to use this platform (as well as UN-Habitat websites) to disseminate the lessons learned from this project.

Table 6: Knowledge management components, learning objectives & indicators and outputs

Components	**Learning objectives and indicators**	**Knowledge Products**
Output 1.1 – National Capacity Building	National, provincial and district officials' capacities strengthened to plan and implement community-level adaptation projects. Number of government officials trained Number of government officials that apply their knowledge at the community level.	Project tool / guidelines comprising of assessment and planning approach, resilient infrastructure, and technical standards, environmental and social safeguards and community action planning.
Output 1.2 – Vulnerability Assessments	Understanding of climate change hazards and socio-economic vulnerabilities enhanced. Number of government officials who actively participate in assessments.	Climate Change Vulnerability Assessments: 3 Provincial Assessments 8 District Assessments
1.3. Integrated land use/water resource/infrastructure maps/plans developed	Decision making tools will improve local planning Number of local plans reflecting climate change adaptation / resilience	Provincial and District Maps
1.4 Knowledge Management, Advocacy and	Project activities and results are captured and disseminated through appropriate information for the beneficiaries, partners and	Leaflets for beneficiaries Promotion of activities and results on the web including

Monitoring.	stakeholders and the public in general. Making project implantation more transparent, ensuring that lessons learned are captured and made accessible.	social media. Popular project reports Video if demand exists from national partners
2.1 Community Capacity Building and Action Planning	Community to better understand climate change, to develop adaptation options and to agree on action.	Community guidelines, community action plans, documentation of action planning.
3.1 Climate resilient community infrastructure	The development of resilience enhancing community projects may inspire other communities. Technologies will be made available for replication.	Designs of infrastructure Community monitoring processes (communities ensuring that infrastructure meets their needs and is fully compliant with set standards) Demonstration sites

The integrated knowledge management approach as demonstrated in Table 6 will result in tools, guidelines, trained officials, demonstration sites. In particular, the close collaboration with key stakeholders at national and provincial levels, the documentation and production of guidelines will ensure the sustainability of the approach.

H. The consultation process

In Lao PDR, the UN-Habitat has a robust portfolio of projects focusing on provision of basic services to the poor through community-based interventions as well as issues related to disaster response, climate change, renewable energy, land management and decentralization of basic services.

UN-Habitat has supported the preparation of integrated urban planning and institution building for local authorities and introduced community participation models for in-situ upgrading. UN-Habitat is working closely with the Ministry of Public Works and Transport, Ministry of Health, Ministry of Planning and Investment and Ministry of Agriculture and Forestry and its departments at the provincial and district levels on community-based water supply and sanitation issues in urban, peri-urban, emerging urban towns and rural areas across Lao PDR.

UN-Habitat is also partnering with several multilateral partners, focusing on climate change issues, and in the process conducting assessments to improve existing water and sanitation infrastructures, schools, medical dispensaries and community resilience through design/structural improvements of shelters of the poor and vulnerable households. Climate change vulnerability assessments of settlements have been conducted through the lenses of exposure, sensitivity and adaptive capacity to change to plan and design climate change adaptive interventions.

A preparation/fact finding mission for the development of this concept took place in Lao PDR between 16th and 26th November 2015. The table below provides an overview of stakeholders consulted related to components of the environmental and social policy. For an overview of consultation objectives, outcomes and conclusions, see Annex 5.

Table 7: Stakeholder consulted and checklist of Environmental and social policy components related to the stakeholders.

STAKEHOLDERS	Checklist of environmental and social principles
Ministry of Natural resources and Environment	*Protection of Natural Habitats* *Climate Change*
Ministry of Labour and social welfare	*Protection of Natural Habitats* *Climate Change*
Mekong River Commission	*Protection of Natural Habitats* *Climate Change*
UNDP	*Climate Change*
UNICEF	*Access and Equity;* *Gender Equity and Women's Empowerment* *Public Health*
UN WOMEN	*Gender Equity and Women's Empowerment*
UNEP	*Protection of Natural Habitats* *Climate Change*
IFAD	*Indigenous Peoples*
ADB	*Climate Change*
OXFAM	*Access and Equity;* *Marginalized and Vulnerable Groups;* *Gender Equity and Women's Empowerment;* *Indigenous Peoples* *Public Health*
CARE	*Access and Equity;* *Marginalized and Vulnerable Groups* *Indigenous Peoples* *Public Health*
Health Poverty Action	*Access and Equity;* *Marginalized and Vulnerable Groups* *Indigenous Peoples* *Public Health*

A field visit was also conducted by UN-Habitat staff and consultants in October 2015. This field visit identified the particular high degree of vulnerability and identified priority needs to build the resileince of communities. The visit included interviews with provincial and district authorities and mass organisations. Several target settlements were visited in all 3 provinces and community consultations were organised. Finally a regional consultation was held in Attapeu, which involved representatives from selected communities, provincial and district officials to review the findings of the consultation process and finalise options for small scale infrastructure interventions, capacity building and training needs.

The list of possible interventions, and in particular the hard interventions, indicated in this proposal are based on these consolations. Further consultations to re-confirm the focus of the project, and to enable communities to define the adaptation options that best suit them will take place during full proposal development stage. The current hard options include:

- Watershed management (where feasible) with measures to protect water resources;
- Building (where feasible) small-scale community-based water infrastructure, using spring/surface or underground water sources;
- Building (where feasible) water intake with a dam to reserve water source for usage during the dry season;

- Building (where feasible) gravity feed systems with the protection of water sources;
- Building (where feasible) an irrigation system with slide gate to regulate water;
- Building (where feasible) rain water harvesting with roof or underground catchments to collect rain water for using during dry season;
- Using (where feasible) solar energy to pump water in agricultural production.
- Improve (where feasible) and build WASH facilities with Building Back Better (BBB) principles;
- Building (where feasible) Small-scale community-based waste-water treatment systems to be reuse the treated water in agricultural production, and
- Provide technical assistance and guidance towards Building Back Better (BBB) principles related to shelter and WASH infrastructures
- In support of community resilience improve (where feasible) prioritized community infrastructure such as schools, roads or drainage.

I. Justification for funding requested

The project strongly addresses climate resilience of the most vulnerable communities in a region of Lao PDR where numerous underlying vulnerabilities predispose communities to climate vulnerability. Comparing the project cost and benefits to a business as usual scenario, the community/public costs that are currently being borne as a result of health care costs, low productivity and losses due to storms, floods, landslides and droughts and future costs of climate change are well in excess of the amount of the proposed project. UN-Habitat is well placed to execute the proposed project based in its human settlements related climate change work in the Asia-Pacific Region and its strong presence in Lao PDR with a history of strong partnerships with national and sub-national government agencies, a wide range of other stakeholders and most importantly communities with vulnerabilities.

Regarding components 1 & 2 (Activities to reduce institutional and community-level vulnerability), intervention costs are needed to effectively execute component 3 and to ensure sustainability of the project and scaling-up potential at the national (enabling planning and governance framework) and community level (to plan, construct and maintain resilient settlements and infrastructure systems).

The alternative adaptation scenario to Component 1 would be to partner with government agencies such as the Water Utility under the Ministry of Public Works but without any capacity building activities; including developing a tool, staff training, a national inception workshop, training of facilitators and local workshops. Under such a scenario, there is an increased risk that capacity in government, in terms of skills, guidelines/resources and time, would be sufficiently limited that it would risk the successful implementation of the project. This is especially true at the provincial/local level, where provincial government departments have critical shortages of human resources – even where there are guidelines and directives in place at the national level.

The alternative adaptation scenario for Component 2 relates to the alternative scenario for Component 3 (see below). In this case, the alternative would be to not train communities, but rather to see them as passive beneficiaries, who are the end users of the small-scale water infrastructure that would be designed and constructed by external engineering contractors.

While the adaptation benefits in this scenario (described below) would be similar, the socio-economic benefits would be fewer and the environmental and social risks (and thus requirement for mitigation measures) would be higher, which would also use project funds and reduce the number of beneficiary villages.

In the alternative adaptation scenario for Component 2, the process of planning, constructing and maintaining climate and disaster resilient water, drainage, sanitation, and health related infrastructure systems and to improve hygiene standards would be done either by UN-Habitat directly, or by an external planning firm or organisation, or by the engineering contractor themselves. Under this alternative scenario, community engagement would be limited to limited consultation workshops, rather than an engagement process, whereby the communities themselves implement the interventions. In the alternative scenario, there would be a greater chance of selecting small scale infrastructure adaptation options that are not in line with local needs and as such create greater potential for mal-adaptation. In relation to output 2.1.3 any guideline development would relate to a third party contractor. This would result in reduced replicability and sustainability, because under the proposed scenario, the guidelines would be replicable both for future works in the target community and for other communities in Laos (and potentially in other countries, with modification). In the alternative scenario, however, there would be no ownership of the implementation guidelines, and while they would result in satisfactory implementation, their replicability would be reduced, as they would relate to a specific contractor who may not be employed in the future.

As for Component 3 (concrete adaptation activities to enhance resilient infrastructure systems in rural and emerging urban human settlements), the amount requested (US$2,8 million) is needed to implement interventions in 100 percent of the vulnerable settlements in the provinces of Saravane, Sekong and Attapeu that are extremely poor (>60 percent of the settlements lives in extreme poverty) in combination with a high percentage of ethnic minorities, no or limited access to basic services, and regular occurrences floods, droughts, landslides and climate related diseases. Although depended on the vulnerability assessments and community priorities, the project aims at providing new resilient water, drainage and sanitation related infrastructure to 20,000 people and climate and disaster proofing of existing infrastructure or implement other appropriate measures mentioned under Part II – A, benefitting another 27,000 people (thus 47,000 people in total).

The approach used under the proposed scenario, where possible, will be community agreements. As described above, under the alternative adaptation scenario, the small-scale infrastructure options identified under Component 3 would not be implemented by communities themselves, but would be implemented by external contractors. Therefore, rather than being a community-driven, small scale infrastructure approach, the alternative adaptation scenario for Component 3 would be a large-scale, infrastructure, contractor-led, community as beneficiary scenario. In this case, the community's engagement in identifying and implementing the infrastructure is greatly reduced, resulting in a greater chance of mal-adaptation under the alternative scenario, because inappropriate infrastructure options may be chosen, and because the communities have a reduced stake in their implementation. In addition, under the proposed scenario, community agreements would mean that a number of social and economic co-benefits occur. In the proposed scenario, communities can be paid for their labour, meaning that there is an employment/livelihood component, while also developing the skills (as a result of Component 2) to be able to operate and conduct basic maintenance of the small-scale infrastructure. Finally, the alternative adaptation scenario, the cost of implementing the adaptation measures under Component 3 would be much greater, meaning that the project would reach fewer settlements and as such the number of beneficiaries would be greatly reduced.

The alternative adaptation scenario would also create a greater level of environmental and social risk. The proposed adaptation scenario involves community agreements, meaning that the communities own the process and have additional incentives to reduce the chance of negative environmental and social impacts that will damage them. In the alternative adaptation scenario, the construction of larger scale infrastructure results in a greater chance of negative environmental and social impacts. Considering the risk categories in the Adaptation Fund's Environmental and Social Policy, the alternative adaptation scenario contains greater risk in terms of climate change, as large infrastructure installation is likely to result in emissions, land and soil conservation and protection of biodiversity are also likely to be affected, due to much larger scale excavation and plant required. There are also equity of access/gender/vulnerable groups considerations because under the alternative adaptation scenario it would be harder to implement measures to ensure equality of access.

A short overview of impact of AF funding compared to no funding (baseline) related to the project components is provided in the table below:

Table 8: Overview of impact of AF funding compared to no funding (baseline) related to the project components.

Components	**Baseline (without AF)**	**Additional (with AF)**	**Adaptation Alternative**
Outcome 1.1. Increased resilience of human settlements and infrastructure systems as a result of enhanced institutional capacity in 1) executing the other components 2) a governance framework for executing, sustaining and up-scaling the project and 3) lessons learned captured and disseminated.	Planning practices, policies & legislation and budgets don't support the national government and local authorities to implement measures to reduce climate change impacts (floods, droughts, landslides, diseases) to human settlements and infrastructure systems	National government and local authorities have a supporting planning and governance framework in place to implement measures to reduce climate change impacts (floods, droughts, landslides, diseases) to human settlements and infrastructure systems, also after project termination.	Replication and scale-up is much more time-consuming and resource intensive, because local tools/guidelines and skills have not been generated, and external contractors can not necessarily be re-engaged
1.2. National government and local authorities enabled to implement measures to increase the resilience of human settlements and infrastructure systems as a result of climate change climate change vulnerability and disaster risk assessments.	National government and local authorities don't have the tools to analyze and identify climate change vulnerabilities and disaster risks at the local level	National government and local authorities will have used tools to identify climate change vulnerabilities and disaster risks at the local level	National government and local authorities implement adaptation measures, but do so using existing knowledge, tools and guidelines, and without the information provided by vulnerability assessments
1.3. Resilience building measures implemented by national government and local authorities	National government and local authorities will not be able to respond to climate change impacts because local	Local development plans incorporate climate change and disaster risk sensitive land use/water resource/infrastructure	Resilience building measures are implemented, but without the capacity building activities, and

as a result of local development plans that incorporate climate change and disaster risk sensitive land use/water resource/infrastructure maps/plans.	development plans do not include specific action plans (and allocated budgets) to reduce these impacts	maps/plans, allowing national government and local authorities to respond to climate change impacts	with communities as receiving beneficiaries, rather than as active stakeholders
2.1. Community/household capacity to plan, construct and maintain resilient water, drainage, sanitation, and health related infrastructure systems and to apply improved hygiene standards strengthened.	Communities/households are not able to plan, construct and maintain resilient water-, drainage-, sanitation-, and health related infrastructure systems to reduce climate change impacts and to use improved hygiene standards to avoid climate related diseases.	Communities/households are able to respond to climate change impacts by planning, constructing and maintaining resilient water, drainage, sanitation, and health related infrastructure systems and to use improved hygiene standards.	Linked to Output 3 Habitat or engineering contractor planned interventions, resulting in lower level of ownership for communities and fewer co-benefits, such as employment
3.1. 47,000 people have access to storm-, flood-, landslide-, drought- and disease resilient water-, drainage-, sanitation- and health related infrastructure systems.	The poorest and most vulnerable people in Lao PDR will continue to suffer (health issues/mortality; costs caused by health issues and loss of assets) due to climate change impacts, also negatively affecting national development goals.	The wellbeing/health/safety of the poorest and most vulnerable people in Lao PDR will be improved, also positively contributing to national development goals.	Large-scale, infrastructure, contractor-led, community as beneficiary scenario, which would lead to adaptation benefits for fewer people with the same project cost. Greater chance of negative social and environmental impacts.

J. Sustainability of the project

The project aims to achieve a long-lasting impact through a number of measures. The project brings together key stakeholders from ministries at the national level and the respective counterpart departments at the provincial level (e.g. public works, health) and the water utility. Key staff will be trained in sustainable technologies, and where needed in technical standards and environmental and social safeguard measures. The officials will support the community driven process (through facilitation and technical support). Tools will be provided and localized as part of the project. The emphasis on technical training, knowledge generation and dissemination is hence a key component of achieving sustainability. The codification of technology, processes and the engagement at the policy and planning level will further strengthen the sustainability.

Infrastructure sustainability, i.e. durability and maintenance, will be directly and indirectly promoted through the strong engagement of communities. Communities will be actively engaged in the prioritization and design of infrastructures, ensuring that these are appropriate and truly needed. Secondly, communities will be engaged in the construction and are jointly responsible for monitoring the construction process and the compliance with technical standards. Thirdly, the community groups that will be set up or strengthened in the process will be responsible for maintaining some of the infrastructure (and will have the capacity to maintain most of it given their training and direct engagement in its construction). Fourth, communities

are expected to be much more closely engaged with utilities and the provincial Departments of Public Works and hence have more access to request repairs which are beyond the capacities of the communities themselves. Formal arrangements with the responsible government agencies will also be sought in order to ensure long-term infrastructure maintenance.

The project will seek to establish a pro-poor tariff water water supplied by infrastructure constructed/restored under the project. This is formed as an agreement between the community and the local water utility. Prior to establishing a tariff, a 'willingness to pay' study is carried out, which establishes how much communities are able to pay. Such a tariff increses the incentive for communities to maintain their facilities while generating a revenue stream that can be used for operation and maintenance.

UN-Habitat has been working closely with the local governments and utilities to set up pro-poor water tariff in other small towns. The lower pro-poor water tariff is possible due to cost-effectiveness of the project, or in other words that the project investment costs are substantially lower compared to similar infrastructure work carried out by other actors. For example, in Attapeu, UN-Habitat has established a water supply system in Sanxay district, with a pro-poor tariff of 1,700 Lao Kip per cubic metre of water. The same water utility in the neighbouring town of Samakhixay has a tariff of 4,000 Lao Kip per cubic metre. UN-Habitat set tariff is thus over 2.3 times lower. Similarly in one of the central provinces, in Vilabouly town, UN-Habitat's project has set up a tariff of 1,400 Lao Kip per cubic metre while the water utility in another neighbouring town has a tariff of 2,800 Lao Kip per cubic metre, which is twice the tariff set by UN-Habitat. The pro-poor tariff helps the poor families to access water supply and at the same time the tariff structure is such that it can cover the requisite operations and maintenance expenditures.

Institutional and social sustainability
The project will pave the way for the national government and local authorities to sustain and up-scale the project to other provinces and districts through the enabling governance framework, processes and tools provided. This framework may include adapting relevant policies, legislation, planning practices and budget streams so that identifying and implementing resilience measures are made possible at the national and local level. UN-Habitat will implement the project in partnership with communities and public utilities to ensure that project outputs are well anchored within the institutional framework of the local governments.

Environmental Sustainability
The integration of land use/water resource/infrastructure maps/plans (that include climate change vulnerabilities and disaster risks) into local development plans will allow national and local governments to allocate budgets for implementing resilience-building measures, also to sustain and/or upscale the project in other provinces/districts and to protect water resources and other natural resources.

Financial sustainability
On the community/household scale, resilient infrastructure will be maintained in partnership with the local public utilities and communities/households. This will ensure that after the project, using appropriate pro-poor tariffs the established systems are maintained.

Technical sustainability
The project will be implemented in partnership with communities and public utilities. Capacity building of the communities and local government institutions through trainings for planning, construction and maintenance will ensure technical sustainability. Moreover, strategic partnership with local public utilities will ensure that the infrastructures established are well

maintained.

K. Environmental and social impacts and risks

Table 9: Overview of the environmental and social impacts and risks identified as being relevant to the project.

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law	X	
Access and Equity		X
Marginalized and Vulnerable Groups		X
Human Rights		X
Gender Equity and Women's Empowerment		X
Core Labour Rights		X
Indigenous Peoples		X
Involuntary Resettlement	x	
Protection of Natural Habitats		X
Conservation of Biological Diversity		X
Climate Change	x	
Pollution Prevention and Resource Efficiency		X
Public Health		X
Physical and Cultural Heritage	X	
Lands and Soil Conservation		X

Whilst at this stage potential impacts and risks can be addressed within the project implementation, i.e. pre-project in-depth analysis may not be required, the project will take a precautionary approach as captured in Table 9 above.

The proposed project seeks to fully align with the Adaptation Fund's Environmental and Social Policy (ESP). Outlined below is a brief description of the initial analysis that has been carried out to evaluate environmental and social impacts of the project, and areas where steps will be taken and where further assessment is needed. This section also proposes a management system that will be fully elaborated when the proposed project prepares a full proposal.

Activities under Component 1 (Institutional level strengthening to reduce vulnerability in human settlements) and Component 2 Building capacity at the human settlement and community level capacities for climate resilience are both soft activities. According to the Adaptation Fund's Environmental and Social Policy, "Those projects/programmes with no adverse environmental or social impacts should be categorized as Category C"[39]. No environmental and social impacts, whether direct, indirect, transboundary or cumulative are envisaged to arrive as a result of any of the soft activities under Components 1 and 2. Despite this, however, steps will be taken to ensure that no environmental or social impacts can occur.

[39] Adaptation Fund Environmental and Social Policy, paragraph 28, Page 8

The activities under Component 3 are 'hard' activities, and as such some activities have to potential, without and environmental and social safeguarding system, including mitigation measures, create negative environmental and social impacts. However, in our assessment, none of the activities proposed could be considered to be in Category A of the Adaptation Fund's impact classification, and as such, the activities in the Table below are likely to fit into Category B. This is because this project proposes hard activities that are numerous, but small scale and very localized, and managed by communities where possible, who have a stake in avoiding environmental and social impacts. This means that the potential for direct impacts is small and localized, that there can be few indirect impacts, and that transboundary impacts are highly unlikely. Given this, cumulative impacts are also unlikely. Further information is provided below Table 10.

Table 10: Component 3, Classified as Category B, Preliminary and Detailed Environmental and Social Risk and Safeguards Analysis

Proposed Activities	**Relevant ESP Principles**	**Impact – direct, indirect, transboundary, cumulative**	**Potential Risks**	**Types of safeguard measures[40]**
Watershed management (where feasible) with measures to protect water resources	Compliance with the law	N/A	None foreseen	The project will work with the relevant authorities in Laos to ensure that no legal issues arise, and that any watershed management activities are undertaken according to the laws and policies of the government of Lao PDR
	Access and equity, marginalized groups, gender equality and women's empowerment, indigenous peoples	D, I	While this is considered unlikely at this stage, there is a possibility that changes to watershed management could result in decreased access for women, marginalized groups, youth or indigenous peoples	The nature of watershed management will be identified during the activity development in the full proposal stage, and will form a key pillar of any resultant environmental and social management assessment and resultant plan
	Core labour rights	D	Exclusion issues (See above), mistreatment of workers	UN-Habitat's community agreements are designed to be in-line with ILO conventions and safeguard basic rights (such as prevention of

[40] All measures will be re-confirmed during the initial assessment

				child labour, equal benefits for men and women, etc). It will be for the project team to monitor the effective implementation of community agreements, and communities will be trained/made aware of rights and expectations. A confidential grievance mechanism will be established.
	Involuntary resettlement	N/A	No resettlement issues (voluntary or involuntary) are foreseen in this project	Tenure security is part of UN-Habitat's core mandate[41]. The project will work with the relevant authorities in Laos to ensure that resettlement does not become an issue in the project
	Climate change	N/A	This project is inherently an adaptation project and as such no maladaptation is foreseen. The project will not provide or install infrastructure or appliances that result in increased emissions	
	Pollution prevention and resource efficiency	N/A	No pollution or resource use issues are foreseen under this activity category, as no construction, infrastructure, appliances or raw materials are involved	This will be re-confirmed during the environmental and social impact assessment

[41] Adequate Housing and Secure Tenure are part of the Agency's core mandate, and thus are a core part of the agency's work. This is enshrined in the Habitat Agenda - http://unhabitat.org/wp-content/uploads/2014/07/The-Habitat-Agenda-Goals-and-Principles-Commitments-and-the-Global-Plan-of-Action-2003.pdf, particularly paragraphs 11, 15 (specifically on the right of women to adequate housing and security of tenure), 19, 24, 25, 31, 33, 35, 37, 39-41, 48, 50, 51, 53, 58, and 60-79

	Public health	N/A	No public health issues are foreseen, and improving public health is a secondary impact area of this project	
	Physical and cultural heritage	N/A	No physical or cultural heritage impacts are foreseen	This will be reviewed, especially when consultations with beneficiaries are taking place. This will ensure that there are no 'intangible heritage' considerations
	Lands and soil conservation	D, T	Watershed management could have the unintended consequence of negatively impacting plant and wildlife that depends on the watershed for nutrition.	The environmental and social impact assessment will identify the ecosystem considerations. Designing the project in a way that enhances rather than damages ecosystems (and the biological diversity they support) is a key principle of the project's formulation
	Compliance with the law	N/A	No legal compliance issues are foreseen	However, in establishing a project agreement with the government of Laos, provisions will be established to ensure that the project complies with all national and local laws
Building (where feasible) small-scale community-based water infrastructure, using spring/surface or underground	Access and equity, marginalized groups, gender equality and women's empowerment	D	Exclusion of some potentially marginalized groups (such as women, children and youth, the elderly, indigenous people) from the resultant water	Quotas for diversity in community agreements, ongoing monitoring by the project team and a grievance mechanism

water sources; Building (where feasible) water intake with a dam to reserve water source for usage during the dry season; Building (where feasible) gravity feed systems with the protection of water sources; Building (where feasible) an irrigation system with slide gate to regulate water; Building (where feasible) rain water harvesting with roof or underground catchments to collect rain water for using during dry season; Using (where feasible) solar energy to pump water in agricultural production. Improve (where feasible)and WASH facilities with Building Back Better (BBB) principles; Building (where feasible) Small-scale community-			supply	
	Core labour rights	D	Exclusion issues (See above), mistreatment of workers	UN-Habitat's community agreements are designed to be in-line with ILO conventions and safeguard basic rights (such as prevention of child labour, equal benefits for men and women, etc). It will be for the project team to monitor the effective implementation of community agreements, and communities will be trained/made aware of rights and expectations. A confidential grievance mechanism will be established.
	Indigenous peoples	D	Potential for exclusion of some indigenous peoples, both from construction, and resulting benefits	Please see 'marginalized groups' row
	Involuntary resettlement	N/A	No resettlement issues (voluntary or involuntary) are foreseen in this project	Tenure security is part of UN-Habitat's core mandate. The project will work with the relevant authorities in Laos to ensure that resettlement does not become an issue in the project
	Protection of natural habitats and conservation of biological diversity	D, I, T	While damage to natural habitats and threats to biological diversity are unlikely, there is a small possibility that the construction work undertaken and the resultant improved water supply for communities may have downstream impacts (affecting water availability	This area, including the direct, indirect and transboundary impacts of enhanced water supply will be investigated in an environmental impact assessment at full proposal/inception

based waste-water treatment systems to be reuse the treated water in agricultural production			elsewhere, for example)	
	Climate change	N/A	This project is inherently an adaptation project and as such no maladaptation is foreseen. The project will not provide or install infrastructure or appliances that result in increased emissions	
	Pollution prevention and resource efficiency	D	The construction undertaken in this activity will likely result in the generation of some waste (both solid waste and compostable materials)	The project will work with the local authorities and beneficiary communities at the outset of the project to design and implement a plan to minimize waste generation and to dispose of waste effectively, utilizing '3R' principles. The project management team will monitor during implementation
	Public health	D	Improved public health is a secondary benefit of the project. However, there is a small possibility that the water infrastructure installed by the project may damage public health	The environmental impact assessment will identify potential negative health impacts and will identify appropriate mitigation measures, which may, include, for example, filtration and treatment systems at the household level.
	Physical and cultural heritage	N/A	No negative impacts to physical and cultural heritage are envisaged	The implementation through community
	Lands and soil conservation	D	Please see protection of natural habitats and conservation of biological diversity row	

Provide technical assistance and guidance towards Building Back Better (BBB) principles related to shelter and WASH infrastructures	N/A		This is a soft intervention and has therefore been placed in Category C according to the Adaptation Fund's Environmental and Social Management Policy	Please see above for activities under Components 1 and 2 of the project

A thorough environmental and social impact assessment will be undertaken during full proposal stage, before submission to the Adaptation Fund. This assessment will identify the environmental and social impacts (direct, indirect, transboundary and cumulative) and will also develop a safeguards implementation plan, outlining roles and responsibilities, budgetary requirements (if needed) and the timeline required to implement safeguarding actions. The environmental and social impact assessment will consider all activities proposed by the project, event those that, at this stage, are considered 'soft' activities and have been placed in risk level Category C. At this stage, the activities listed in bullet points below have been clustered together, as similar types and levels of environmental and social impacts (and thus safeguarding measures) are foreseen. However, these will be revisited during the full proposal development stage, when activities are detailed out further and when further information will be provided about the nature and extent of the environmental and social impact assessment that will be undertaken.

- Building (where feasible) small-scale community based water infrastructure, using spring/surface or underground water sources;
- Building (where feasible) water intake with a dam to reserve water source for usage during the dry season
- Building (where feasible) gravity feed systems with the protection of water sources
- Building (where feasible) an irrigation system with slide gate to regulate water
- Building (where feasible) rainwater harvesting with roof or underground catchments to collect rain water for using during the dry season
- Using (where feasible) solar energy to pump water in agricultural production
- Improve (where feasible) WASH facilities with building back better (BBB) principles
- Building (where feasible) small-scale community-based waste water treatment systems to reuse the treated water in agricultural production

Part 2 – Management system

In order to mitigate negative environmental and social impacts, and as a result of the environmental and social impact assessment that will be carried out at the full proposal development stage, and environmental and social management plan will be developed and submitted to the Adaptation Fund, in agreement with the government of Lao PDR. Once the project has been accepted, the environmental and social management plan will be reviewed and re-consulted at the inception of the project.

The overall responsibility for compliance with the environmental and social management plan would be the project's Chief Technical Adviser, and regular monitoring would be undertaken by the project's M&E officer. In accordance with the Adaptation Fund's Environmental and Social Policy, annual narrative reports submitted to the Adaptation Fund will report on the status of the environmental and social plan, including actions taken to mitigate environmental and social risk and where any corrective actions have been taken.

Stakeholder engagement is vital to the effective functioning of the plan, and beneficiaries and other local and national stakeholders, including government, will be consulted when undertaking the environmental and social impact assessment and the resultant plan is being formulated. The consultations will ensure diversity, including women, youth, the elderly and people from indigenous groups to discuss the potential environmental and social impacts of the project and

the proposed mitigation measures. The final environmental and social impact assessment and management plan will be publicly available through UN-Habitat's website and will be translated into the Lao language. A grievance mechanism will also be identified as part of the plan. This will allow any affected stakeholder to raise concerns, anonymously if they wish, to the project management team. Modalities for raising grievances will include a written and email address on the project's website and a confidential telephone number.

UN-Habitat has pioneered the use of community agreements through what is known as the People's Process. Community agreements will be used in this proposed project as a means of implementing many activities, especially under Component 3. Under the process of developing agreements with communities, communities themselves own the process of building, installing and operating small scale infrastructure, where possible, and as such are incentivized to minimize environmental and social impacts. The relationship between community agreements and environmental and social safeguarding measures will be explored further in the environmental and social plan. However, we can anticipate that sensitization and training will take place as part of the community agreement process to enable communities to work in a way that reduces impact on their environment, in line with the Adaptation Fund's Environmental and Social Policy.

PART III: IMPLEMENTATION ARRANGEMENTS

Note: the following section (Part III) will be completed at a later stage of the project formulation and approval process.

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

A. Record of endorsement on behalf of the government[42] *Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:*

Mr. Syamphone Sengchandala, Director of Legislation and coordination Division and National Focal Point for Adaptation Fund of Lao PDR, Ministry of Natural Resources and Environment	Date*: 30 December 2015*

[6.] Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

Lao People's Democratic Republic
Peace Independence Democracy Unity Prosperity

Ministry of Natural Resources and Environment (MONRE)
Department of Disaster Management and Climate Change (DDMCC)

Vientiane Capital, 30 December 2015

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

Subject: Endorsement for 'Enhancing the climate and disaster resilience of the most vulnerable rural and emerging urban human settlements in Lao PDR'.

Dear Sir or Madam

In my capacity as designated authority for the Adaptation Fund in Lao PDR, I confirm that the above national project/programme 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/programme proposal with support from the Adaptation Fund. If approved, the project/programme will be implemented by the United Nations Human Settlements Programme (UN-Habitat) and executed jointly by the Ministry of Natural Resources and Environment (MoNRE) and the Ministry of Public Works and Transport (MPWT).

Sincerely,

Mr.Syamphone SENGCHANDALA
Director of Legislation and Coordination Division
National Focal Point for Adaptation Fund of Lao PDR

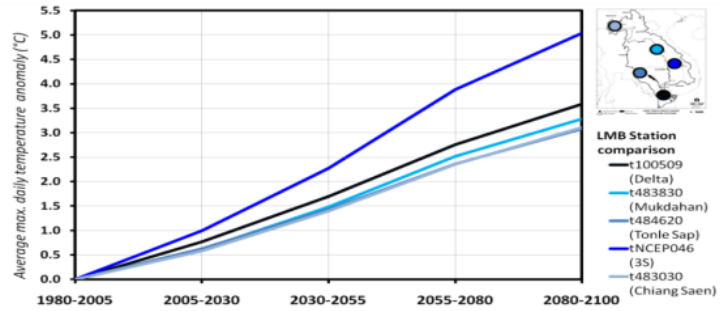
B. Implementing Entity Certification *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (The eighth Five Year National Socio-economic Plan (2016-2020) with a Vision to 2030 (2015); The National Intended Nationally Determined Contribution (2015); The National climate change action plan 2013-2020 (2013); The National Strategy on Climate Change of Lao PDR (2010); The national Adaptation programme of action (2009); The national disaster management plan (2011)) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
 *Rafael Tuts* *Coordinator, Urban Planning and Design Branch, UN-Habitat*	
Date: January 11th, 2016	Tel. and email: +254 20 7623726 raf.tuts@unhabitat.org
Project Contact Person: Bernhard Barth	
Tel. And Email: (81-92) 724-7121/ bernhard.barth@unhabitat.org	

ANNEX 1: climate change vulnerability and disaster risk (maps) of Lao PDR

Changes in basin temperature

- **In the LMB, temperatures are increasing faster than the global average**
  - Global 2100: 2-3°C
  - LMB 2100: 3-5°C
  - LMB 2°C: exceeded before 2030-2050
- **Increases in temperature will result in fundamental shifts in the temperature regime,**
  - experiencing warmer temperatures never reached under baseline conditions
  - Greater variability
- **Areas of greatest change:**
  - 3S catchments
  - Mekong Delta of Vietnam and Cambodia



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Changes in basin rainfall

- **Annual precipitation is projected to increase by 3-18% (35-365mm) throughout the basin**
- Mostly due to increases in wet season rainfall
  - Central/Northern Annamites: 18% (365mm)
  - Northern Lao PDR/Thailand: 14% (175mm)
  - Cambodian floodplain/Khorat Plateau: 3-10%
  - Vietnam Delta: 5-8%
- **For the southern parts of the basin increased seasonal variability in rainfall**
  - wetter wet season, drier dry season

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Figure 11: Trend of acute bloody diarrhea disease in Lao PDR (related to unsafe water). Sekong province crores highest, followed by Saravane and Attapeu.

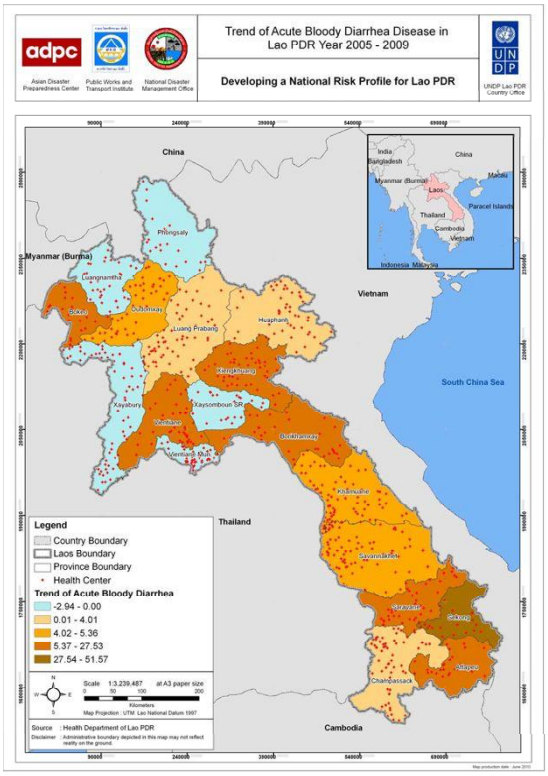


Figure 12: UXO distribution in Lao PDR Saravan, Sekong and Attapeu provinces all crore high.

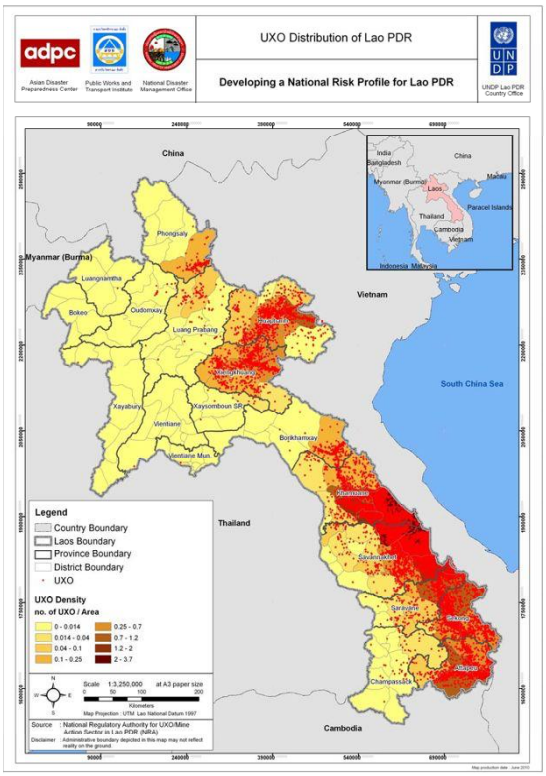
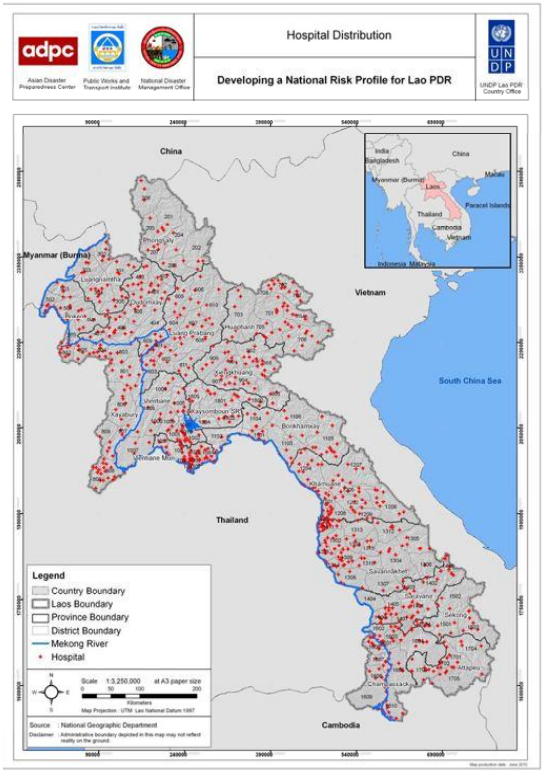
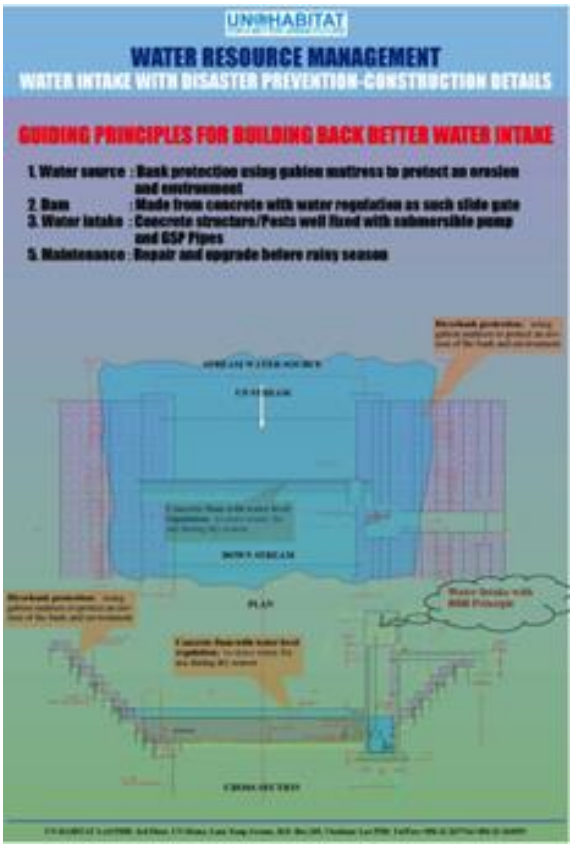
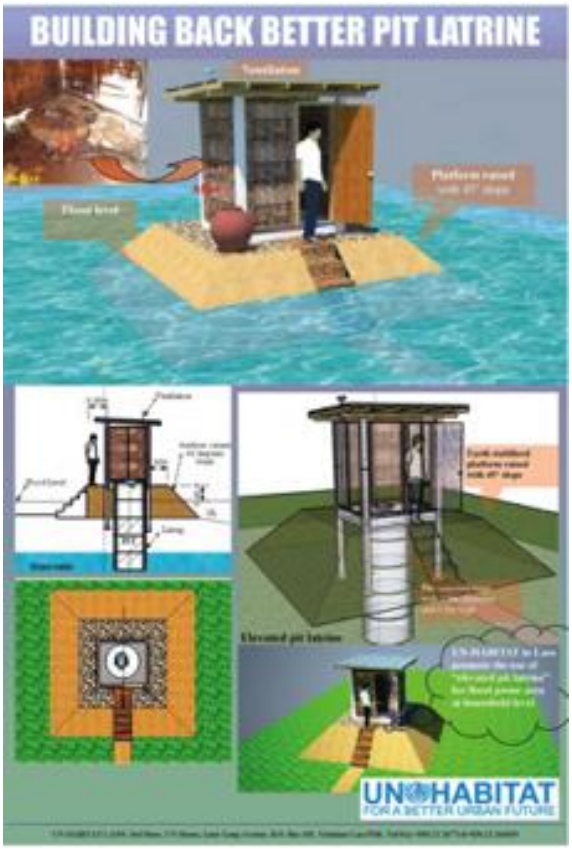


Figure 13: Hospitals in Lao PDR



ANNEX 2: examples of resilient water supply and sanitation infrastructure





ANNEX 3: OVERVIEW OF RELEVANT PROJECTS IN TARGET PROVINCES OF SARAVANE, SEKONG AND ATTAPEU

Table 9: overview of relevant projects in the same target provinces

Implementer	Project	Timeline	Location
IFAD	Adaptation for Smallholder Agriculture Programme (ASAP)[43]	2015 -	Saravane Sekong Attapeu
UNDP	Effective governance for small scale rural infra and disaster preparedness in a changing climate (incl. Vas)[44]	2014 - 2017	Saravane Sekong
UN-Habitat	Water supply and sanitation projects	2009-2017	Saravane Sekong Attapeu

Table 10: overview of relevant projects focused on governance and capacity building

Implementer	Project	Timeline
ADB	Water Supply and Sanitation Sector[45]	2013 - 2022
	Strengthening resilience to CC in health sector[46]	2015 - 2018
World Bank	Mainstreaming disaster and climate risk management in investment decisions[47]	2011 - 2016
	Building Resilience to Natural Hazards[48]	2013 - 2016
UN-Habitat	Water Governance Mekong Region Water and Sanitation Initiative (MEK-WATSAN) Water for Asian Cities (WAC)	2014 – 2017 2009 – 2017 2009 - 2017

[43] Link to project document: http://www.ifad.org/climate/asap/
[44] Link to project document: http://www.la.undp.org/content/lao_pdr/en/home/operations/projects/environment_and_energy/LDCF2.html
[45] Link to project document: http://www.adb.org/projects/45301-002/main
[46] Link to project document: http://www.adb.org/projects/47143-001/main
[47] Link to project document: http://www.worldbank.org/projects/P129182/lao-pdr-mainstreaming-disaster-climate-risk-management-investment-decisions?lang=en
[48] Link to project document: http://www.worldbank.org/projects/P144268?lang=en

ANNEX 4: ANALYSIS (RELEVANCE) OF NATIONAL STRATEGIC PRIORITIES

National socio-economic priorities

The eighth Five Year National Socio-economic Plan (2016-2020) with a Vision to 2030 (2015)

Goal:

1. Continued poverty reduction, graduation from Least Developed Country Status

Outcomes, indicators and outputs:

2. **Outcome 1:** Sustained, inclusive economic growth with economic vulnerability (EVI) reduced to levels required for LDC graduation and consolidated financial, legal and human resources to support growth
    a. Output 1 – Sustained and Inclusive Economic Growth
    b. Output 2 – Macro-economic Stability
    c. Output 3 – Integrated Development Planning and Budgeting
    d. Output 4 – Balanced Regional and Local Development
        i. Possible relevant activities: promote agriculture - forestry; industry; commerce, services & tourism; and basic infrastructure development in the South of Laos.
    e. Output 5 – Improved Public /Private Labor Force Capacity
    f. Output 6 – Local Entrepreneurs Are Competitive in Domestic and Global Markets
    g. Output 7 – Regional and International Cooperation and Integration

3. **Outcome 2:** Human resources development achieved to LDC graduation criteria level and achievement of off-track MDGs through the provision and use of services that are balanced geographically and distributed equitably between social groups.
    a. Output 1- Improved Living Standards through Poverty Reduction
        i. Possible relevant activities: transforming villages into developed units; construct necessary basic infrastructure; allocate residential housing and design good village planning; supply water; and prepare to cope with climate/weather changes and reduce the damages caused by natural disasters that could occur.
    b. Output 2 – Food Security Ensured and Incidence of Malnutrition Reduced
    c. Output 3 – Access to High Quality Education
    d. Output 4 – Access to High Quality Health Care and Preventative Medicine
        i. Possible relevant activities: none
        ii. Possible relevant targets: 90 % of population use clean water and 80 % of population use latrine[49]
    e. Output 5 – Enhanced Social Welfare
    f. Output 6 – Protection of Traditions and Culture
    g. Output 7 – Political Stability, Order, Justice, Gender Equality

4. **Outcome 3:** Reduced effects of natural shocks as required for LDC graduation and sustainable management of natural resources exploitation.
    - Output 1 – Environmental Protection and Sustainable Natural Resources Management
        - Possible relevant activities: develop a plan for sustainable use and management of natural resources (incl. land and water); develop plans for urban and rural development with good environmental preservation; comprehensively manage water resources
        - Possible relevant implementation policies and legal instruments: harmonize and

[49] See page 118 for details - The eighth Five Year National Socio-economic Plan (2016-2020) with a Vision to 2030 (2015)

link policies on water resources protection and management, food security, energy security and the development of clean and safe city; improve policy application and legislation on natural resource use and management; promote eco-tourism places.

- Output 2 – Preparedness for Natural Disasters and Risk Mitigation
  - Possible relevant activities: establish mechanism to manage, monitor and evaluate impacts of water, air and pollution; promote 4R waste management; manage toxic waste and waste water; establish comprehensive early warning system; implement policy that can manage disasters and adaptation to climate change; improve legislation on use and management of nature resources, regulations on informing the communities in natural disaster risk areas.
- Output 3 – Reduced Instability of Agricultural Production
- Cross-cutting: gender equality, juvenile and youth; effectiveness public governance

National Climate change priorities

The Indented National Determined Contribution (2015)

Focus of Adaptation Projects in Key Sectors

Sector	Focus of projects and programmes
1. Agriculture	❑ Promote Climate Resilience in Farming Systems and Agriculture Infrastructure ❑ Promote Appropriate Technologies for Climate Change Adaptation
2. Forestry and land use change	❑ Promote Climate Resilience in Forestry Production and Forest Ecosystems ❑ Promote Technical Capacity in the Forestry Sector for Managing Forest for Climate Change Adaptation
3 Water resources	❑ Strengthening Water Resource Information Systems for Climate ❑ Change Adaption ❑ Managing Watersheds and Wetlands for Climate Change Resilience ❑ Increasing Water Resource Infrastructure Resilience to Climate Change ❑ Promotion of Climate Change Capacity in the Water Resource Sector
4. Transport and urban development	❑ Increasing the Resilience of Urban Development and Infrastructure to Climate Change
5. Public health	❑ Increasing the Resilience of Public Health Infrastructure and Water Supply System to Climate Change ❑ Improving Public Health Services for Climate Change Adaptation and Coping with Climate Change Induced Impacts.

The National Strategy on Climate Change of Lao PDR (2010)

Vision:

- ❑ To secure a future where the Lao PDR is capable of mitigating and adapting to changing climatic conditions in a way that promotes sustainable economic development, reduces poverty, protects public health and safety, enhances the quality of Lao PDR's natural environment, and advances the quality of life for all Lao people.

Goals:

- ❑ Reinforce Sustainable Development Goals of the Lao PDR, including measures to achieve low-

carbon economic growth;

- ❑ Increase resilience of key sectors of the national economy and natural resources to climate change and its impacts;
- ❑ Improve public awareness and understanding of various stakeholders about climate change, vulnerabilities and impacts, GHG emission sources and their relative contributions

Relevant adaptation options – water:

- ❑ Developing climate change scenarios for the river basins;
- ❑ Developing reliable early warning systems;
- ❑ Downscaling climate and hydrological models to a watershed level;
- ❑ Integrating climate change measures into current risk management strategies and planning processes

Relevant adaptation options – urban development:

- ❑ Developing climate proofed urban environmental development plans;
- ❑ Formulation of climate proofing to the climate change policy and action plan;
- ❑ Conducting climate change risk audits for each of the key infrastructure services, to identify climate vulnerability;
- ❑ Climate-proofing the most vulnerable existing infrastructure to protect the current assets;
- ❑ Building storm surge barriers for wastewater treatment plants and landfills;
- ❑ Developing new design criteria for infrastructure that reflect non-stationary hydrologic processes;

Relevant adaptation options – public health:

- Providing access to safe water and improved sanitation;
- Incorporating current climate change concerns into ongoing programmes and measures;
- Raising the public awareness;
- Strengthening existing capacity and applying new approaches to examining the risks associated with a changing climate and increased climate variability.

Climate change action plan 2013-2020

Purpose:

- Guide central and local government agencies as well as mass organizations, the private sector and other groups to play their parts in addressing climate change mitigation and adaptation in a sustainable manner.

Vision and goals

- Same as climate change strategy

Key initiatives:

- Strengthening institutional and human resource capacities on climate change;
- Enhancement of adaptive capability for coping with climate change;
- Climate change mitigation through the reduction of greenhouse gas emission;
- Strengthening education and raising public awareness on climate change.

Projects and activities:

Key Initiative 1: Strengthening Institutions, Legislations, Human Resource Capacity and Finance on Climate Change

No.	Projects Focus	Priority	Responsible Ministry
1.1	**Establish and Strengthen Technical Capacity for Planning and Implementing Climate Change Activities** • Establish and strengthen organizational arrangements and technical capacity for research, data collection and data dissemination, planning and implementing on climate change	High	MONRE and other relevant ministries
1.2	**National Management and Coordination on Climate Change** ❑ Strengthen the national focal point for effective participation in UNFCCC and other international climate change processes; ❑ Promote and coordinate external partnerships; ❑ Strengthen and Technical Working Group on Climate Change; • Establish and strengthen monitoring and reporting on climate change activities	High	MONRE
1.3	**Climate Change Strategy and Action Plan** • Develop long-term National Adaptation Planning • Develop national policy for low carbon and green growth; 1. Prepare and update policies, strategies and implementation plans on climate change in selected agencies; 2. Mainstream climate change into sector policies, strategies and development plans	High	MONRE and other relevant ministries
1.4	**Raising Public Awareness on Climate Change** ❑ Raise awareness on management and promotion of climate change activities	Medium	MONRE and other relevant ministries
1.5	**Strengthen Climate Change Finance** • Strengthen fiscal systems, access to and management of international assistance, long-term investment and finance planning; • Strengthen provisions for participation in voluntary carbon markets, CDM, Bilateral Credit Offset Credit Mechanism (BOCM), etc in appropriate sectors	High	MoF, MONRE and other relevant ministries

Key Initiative 2: Climate Change Adaptation

- ❑ Agriculture sector
- ❑ Forestry and land use change
- ❑ Water resources

No.	Project Focus	Priority	Responsible Ministry
2.3.1	**Strengthening Water Resource Information Systems for Climate Change** 3. Strengthen information gathering, modeling and vulnerability assessment for climate change in priority river basins in Lao PDR; 4. Develop and implement a reliable early warning flood	High	MONRE

	reporting and disseminating service		
2.3.2	**Flood Management** • Develop a comprehensive flood management strategy and specific flood management plans for priority areas; 5. Develop flood risk maps and promote land use planning to minimize vulnerable investment in flood prone areas	High	MONRE
2.3.3	**Drought Management** • Assess drought risk and impacts, existing policies and programs; incorporate drought mitigation into priority river basin and sub-basin plans; • Survey groundwater sources in drought prone areas; develop plans for recharge and sustainable use of groundwater; • Study and manage water quality impacts on rivers, groundwater and aquatic ecosystems during low flow / drought periods; ensure wastewater and pollution discharge does not threaten vital water quality for communities and natural ecosystems	Medium	MoNRE and other relevant ministries
2.3.4	**Managing Watersheds and Wetlands for Climate Change Resilience** • Strengthen the protection of watersheds to safeguards and moderate downstream flow during periods of high and low precipitation; • Study and promote the conservation of wetlands as part of a climate-resilient ecosystem approach	High	MoNRE
2.3.5	**Increasing Water Resource Infrastructure Resilience to Climate Change** ❑ Develop and strengthen standards and procedures to ensure the safety of dams and other water resource infrastructure; prepare investment plans for upgrading and safeguarding water resource infrastructure; ❑ Design and build multi-use reservoirs in drought prone areas; ❑ Construct, rehabilitate dikes and river bank protection and irrigation systems to enhance climate resilience	High	MoNRE and other relevant ministries
2.3.6	**Promotion of Climate Change Capacity in the Water Resource Sector** ❑ Increase awareness and technical capacity of technical staff regarding climate change and appropriate water resource management technology; ❑ Strengthen capacity of government staff on water resources in coordination with other stakeholders; ❑ Study and waste water treatment in affecting to surface, ground water and ecosystems	High	MoNRE and other relevant ministries

❑ Energy and transport

No.	Project Focus	Priority	Responsible Ministry
2.4.1	**Increasing the Resilience of Energy and Transportation Infrastructure** 6. Study, develop and implement design and	High	NEM and other relevant ministries

	operational standards for all sizes of reservoirs and hydropower facilities to reduce climate change impacts, including public safety and downstream discharge impacts; 7. Study, develop and implement design and operational standards for other renewable energy facilities to reduce climate change impacts e.g. solar cell, wind energy, biogas, energy efficient stoves for fuel demand and others		

- ❑ Industry

No.	Project Focus	Priority	Responsible Ministry
2.5.1	**Increasing the Resilience of the Industrial Sector to Climate Change** 8. Study, develop and implement design / maintenance standards for industrial facilities (manufacturing and processing, mining, commercial facilities, etc) to reduce climate change impacts; 9. Ensure land use planning and provision of public services for industry (water supply, transportation, etc) take climate change impacts into account; 10. Build capacity for technical staff in the industrial sector in order to be able to monitor and analyze greenhouse gas quantities emitted from industrial plants	High	MIC and other relevant ministries

- ❑ Transport and urban development

No.	Project Focus	Priority	Responsible Ministry
2.6.1	**Increasing the Resilience of Urban Development to Climate Change** 11. Conduct climate risk audits for key infrastructure services; 12. Ensure flood protection and drainage design for urban infrastructure (roads, drains, flood protection works, water and wastewater facilities, landfills, hospitals, other public buildings) are adequate for climate change conditions; 13. Ensure that urban water supply systems have adequate design and operational standards for climate change impacts, including access to low flows in water sources, water treatment capability and flood protection; 14. Build storm surge / flood protection works for urban infrastructure	High	MPWT

- ❑ Public health

No.	Project Focus	Priority	Responsible Ministry
2.7.1	**Increasing the Resilience of Rural Water Supply Systems to Climate Change**	High	MPH and other relevant

	15. Promote climate resilience of rural water supply systems through conservation of watersheds, protection of groundwater sources, protection of water quality and improved design of water and sanitation systems to reduce climate impacts; 16. Increase community awareness and participation in addressing climate related risks to water supply and sanitation systems		
2.7.2	**Improving Public Health Services for Climate Change Adaptation** • Improve disease monitoring and reporting; • Improve the treatment of water and vector borne disease and other climate-related health impacts; • Strengthen nutrition and prepare to respond to nutrition emergencies, including food security, emergency food aid and nutritional surveillance; • Strengthen disaster preparedness and recovery, including maintenance of public health services; • Strengthen health education and communication, promote individual action to reduce the vulnerability to climate change; • Improve and develop the systematic drinking water management and sustainable sanitation in participation by the community in the drought and flood areas; • Inspect and improve the standards of drinking water and water supply; • Strengthen the central and local laboratories to analyze diseases on time in the drought and flood areas	High	MPH and other relevant

Key Initiative 3: Climate Change Mitigation through Reduction of Greenhouse Gas Emission

- ❑ Transport and Urban Development

No.	Project Focus	Priority	Responsible Ministry
3.5.1	**Promote Carbon Management through Urban Development** 17. Promote public transportation; 18. Promote clean energy transport and low-carbon transport; 19. Promote the use of alternate energy operated motor vehicles (e.g. use the motorcycles and walking in the city to attract tourists); 20. Reduction of GHG emissions from the solid waste sector in Lao PDR through applying the 3Rs (reduces, reuse and recycle); 21. Improve the solid waste collection services for full coverage of big cities; 22. Building recycling facilities in order to reduce the amount of wastes to be disposed in landfills; 23. Promoting environmental green urban development; 24. Construct and improve the landfill to absorb the methane;	High	MPWT, MONRE and other relevant ministries

25. Seeking the opportunities under the CDM, establish Bilateral Offset Credit Mechanism (BOCM); promote nationally appropriate mitigation actions (NAMAs)

National Adaptation Programme of action (2009)

Urgent needs (forestry, agriculture, water, public health)

Water

Priority one:

- ❑ Awareness raising on water and water resource management (US$0,1 million)
- ❑ Mapping of flood-prone areas (US$0,65 million - Vientiane Capital, Vientiane, Borikhamxay, Khammouane, Savannakhet, Saravane, Attapeu and Champasack Provinces)
- ❑ Establish an early warning system for floodprone areas, and improve and expand meteorology and hydrology networks and weather monitoring systems (US$2,2 million - Luang Namtha, Khammouane, Savannakhet and Attapeu Provinces)
- ❑ Strengthen institutional and human resource capacities related to water and water resource management (US$0,2 milion)
- ❑ Survey underground water sources in drought prone areas (US$2,1 million);
- ❑ Study, design and build multi-use reservoirs in drought prone areas (US$2.35 million - along the road No. 9 corridor of Savannakhet Province

Priority two:

- ❑ Conservation and development of major watersheds;
- ❑ Build and improve flood protection barriers to protect existing irrigation systems;
- ❑ Improve and protect navigation channels and navigation signs;
- ❑ Repair/rehabilitate infrastructure and utilities damaged by floods in agricultural areas.

Public Health

Priority one:

- ❑ Improve systems for the sustainable use of drinking water and sanitation with community participation in flood and drought prone areas (US$0,44 million)
- ❑ Improve knowledge and skills of engineers who design and build water and sanitation systems (US$0,3 million)

priority two:

- ❑ Raise public awareness on sanitation in flood prone areas;
- ❑ Improve and standardise the quality of drinking water;
- ❑ Expand epidemic disease diagnostic laboratories at regional and provincial levels to provide disease epidemic information in a timely fashion to flood and drought affected areas;
- ❑ Prevention and treatment of water borne diseases;
- ❑ Develop a timely and accurate reporting system for epidemic diseases;
- ❑ Improve the capacity of the epidemic disease surveillance system.

Disaster management priorities

National Disaster Management Plan (2012–2015)

Strategic objectives:

- ❑ Safeguard sustainable development and reduce the impacts and damages caused by natural and man-made disasters;
- ❑ Shift from relief to mitigation of disaster impacts to community, society and the economy and preparedness before a disaster strikes with emphasis on hazards such as floods, drought,

landslide and fire;

- Ensure that disaster management is a joint responsibility of both the Government and the people through building community capacity; and
- Promote sustainable protection of the environment and the country's natural wealth, such as forests, land and water resources.[50]

Components:

- Ensure that disaster risk reduction is a national and a local priority
  - Formulate policies and legislation in support of disaster risk reduction;
  - Creation and strengthening of a national disaster risk reduction coordination mechanism or a National Disaster Risk Reduction Platform;
  - Integration of disaster risk reduction into national development policies and planning; and
  - Allocate appropriate resources for DRR at the national, provincial and community levels.
- Strengthen sub-national and community-based disaster risk management
  - Decentralize responsibilities and resources for disaster risk reduction;
  - Promote implementation of community-based disaster risk reduction programs; and
  - Development of a National Disaster Management Plan that supports activities at the provincial, district and village levels.
- Identify, assess and monitor hazard risks and enhance early warning:
  - Conduct national and local risk assessments on a periodic basis to ensure that timely response mechanisms are developed;
  - Establish and maintain a disaster management information system;
  - Develop and maintain a multi-hazard early warning system;
  - Collaborate with international and regional disaster risk reduction stakeholders and
  - Establish and operationalize Emergency Operations Centers at national and sub-national levels.
- Use knowledge innovation and education to build a culture of safety and resilience:
  - Establish mechanisms for information exchange and networking;
  - Promote disaster risk management education and training;
  - Promote gender and cultural sensitivity training as integral component of disaster risk management;
  - Undertake disaster risk reduction management technical and scientific research; and
  - Promote public awareness of hazards, risks and mitigation strategies.
- Mainstreaming disaster risk reduction strategies into policies and programs of relevant government ministries:
  - Promote food security to enhance community resilience;
  - Integrate disaster risk reduction and response preparedness planning into all sectors of relevant government ministries;
  - Promote appropriate structural and non-structural mitigation measures into national building codes and
  - Develop innovative financial instruments for addressing disaster risks.
- Strengthen disaster preparedness for effective response at all levels:
  - Strengthen national and sub-national capacity for preparedness and response;
  - Develop coordinated regional operational mechanisms for emergencies exceeding national coping capacities;
  - Prepare and periodically update disaster preparedness and contingency planning; and
  - Establishment of emergency funds at national and local levels

National water management priorities

Lao PDR (2012) National Indicative Plan (NIP) (2011-2015) for implementation of the IWRM-based basin development strategy

[50] Lao PDR (2011, p 22) National Disaster Management Plan 2012-2015

Goals:

- To promote effective water resources management (and natural resource management in general) to help Lao PDR meet its national socio-economic development goals by 2015; and
- To contribute to the national objectives of sustainable development of water and natural resources in the Mekong River Basin and to ensure effective transboundary cooperation with Member Countries.

Objectives:

- To provide a mechanism for Lao PDR to address the main challenges and opportunities in water resource development and management by 2015;
- Ensure transboundary issues are addressed in a collaborative manner with concerned Member Countries;
- To promote development of the agriculture and fisheries sectors to ensure food security for the local population;
- To ensure sustainable development of the hydropower sector;
- To develop effective management and monitoring systems for overall water use and to protect water quality;
- To improve navigation in the Mekong waterway throughout the country;
- To apply the IWRM based approach into river basin management in the country by establishing RBCs in the Nam Ngum, Nam Theun- Kading, Xe Bang Fay-Xe Bang Hieng, Nam Ou, and Sekong Rivers by 2015;
- To establish an effective Early Warning system and disaster risk management plan at the national, provincial, district and village level; and
- To strengthen coordination, monitoring and evaluation systems for water resource management at the national, provincial, district and village level.

Focus Areas:

- Sustainable agriculture and fisheries development for food security and poverty reduction;
- Energy and sustainable hydropower development;
- Natural resource management, particularly water resources management;
- Climate change adaptation and mitigation;
- Data and information management, and filling knowledge gaps (research and development); and
- Human resource development for natural resources management and environmental monitoring and evaluation.

Priority projects of the Climate change adaptation and mitigation component:

- Greater Mekong Sub-region: Flood and Drought Management and Mitigation Project

Suggested objectives:

- Enhance regional data and knowledge for the management of floods and droughts
- Upgrade or develop water management infrastructure
- Prepare communities to manage disasters such as flood and drought and adapt to climate change The Project will improve flood and drought risk management on over 20,000 ha and reduce the vulnerability to floods of over 61,500 people

Outputs

- **Enhanced Regional Data, Information, and Knowledge Base for the Management of Flood and Droughts:**
  The project will assist the government of Lao PDR to strengthen its national flood and drought forecasting capacities

- **Upgraded Water Management Infrastructure:**
  The project will support: (i) rehabilitation of flood control embankments, associated water control structures, and access roads; (ii) rehabilitation of drainage canals, including increasing flow capacity and improving water control infrastructure; and (iii) rehabilitation and extension of canals, water control structures and irrigation distribution networks. Specifically, in Lao PDR, the subprojects include the Vientiane Flood Protection Embankment and the Irrigation Development Subproject in Vientiane Capital

- **Enhanced Capacity of Community Based Disaster Risk Management:**
  Community based disaster risk management (CBDRM) forms an important strategy for enhancing the impact of the structural investments supported by the Project. In each of the communities where infrastructure development is undertaken, CBDRM actions will be implemented to ensure that communities are able to obtain the full benefit from the improved water control infrastructure and improved flood warnings. Community–driven flood and drought risk reduction measures will be implemented based on participatory local level disaster risk reduction and management plans

- **Effective Project Implementation**
  The project will support the executing agencies to undertake overall project oversight and strengthen the project planning, implementation and management capacities of implementing agencies

Water Supply and Sanitation Strategy for Emerging Towns (2013-2020) (2012)

Vision

- *"Safe, reliable and accessible water supply and sanitation for all"*

Overall target

- Consolidate the national efforts to materialize and speed up the declared Party's policy and Government Plan that foresees at least67% of the urban population having access to safe water supply in 2015, and an increase in access respectively by 80% in 2020 and 90% in 2030.

Specific objectives

To meet the overall target and realize the Water Supply and Sanitation Sector Vision the following ten goals must be substantially met. The associated objectives and sub- objectives (not included) as prepared by DHUP are relevant to emerging towns.

- Review institutional framework, policy enforcement and regulations on water supply and sanitation works.
- Improve sector institution and management.
- Improve the efficiency of water supply business regulatory system.
- Develop water supply and sanitation in conjunction with urban development.
- Expand water supply and sanitation services to small towns in rural areas.
- Improve capacity for water supply enterprises by enhancing customer satisfaction, and providing efficient and sustainable services.
- Promote and increase the ratio of the private sector involvement in the development and provision of water supply and sanitation services.
- Improve the qualification and numbers of professional staff in line with the need of the sector.
- Ensure a gender balance for the water supply and sanitation sector.
- Promote the development and utilization of appropriate technologies and techniques.

- **Goal 1: Legislation and Policy Reform as applied to emerging towns**

- ❑ Identify vulnerable, marginalized and excluded groups and those who lack access to water supply and sanitation and develop specific programmes to ensure their non-discriminatory and effective access to water supply and sanitation;
- ❑ Empower local authorities to organize the planning and provision of water supply and sanitation services in consultation with all relevant stakeholders including women, young people, marginalized groups, civil society and the public sector;
- ❑ Inform all stakeholders about national policies and international norms, standards and conventions related to the delivery of and access to water supply and sanitation. Make records and information publicly aware; and
- ❑ Study the profiles of informal and low income settlements and conduct social and economic surveys on the situation of the poor, their aspirations and their priorities with a view to identifying potential beneficiaries of pro-poor policies;

❑ **Goal 2: Capacity building as applied to emerging towns**

1. Undertake needs assessment for staffing requirements in water and sanitation to ensure local authorities have adequate staffing levels at all levels with appropriate technical expertise;
2. Develop coasted training plans for central, provincial and district levels; and
3. Provide adequate training opportunities, support remuneration plans and develop career opportunities for local government employees in order to enable local authorities to reach a high quality performance in the provision of water supply and sanitation;

❑ **Goal 3: Monitoring of performance of the emerging towns sector performance.**

- Establish indicators for the monitoring and evaluation of water supply and sanitation service delivery at the national, provincial and district levels;
- Create an accountability framework for the delivery of basic services that includes an effective regulatory system and penalties for non-compliance by service providers – consider the role of WASRO;
- Monitor service providers' and local authorities' management performance as a basis for technical assistance, capacity-building or corrective action; and
- Develop an anti-corruption legal framework and take strict and timely action to tackle corruption cases, including criminal penalties where necessary.

ANNEX 5: OVERVIEW OF CONSULTATION OBJECTIVES, OUTCOMES AND CONCLUSIONS OF THE PREPARATION/FACT FINDING MISSION

a. Ministry of Labor and Social Welfare Building (disaster management office)

Objectives:

- ❑ Understand disaster risk reduction and climate change
- ❑ Check issues related to climate change (as part of AF Environmental and social policy)

Outcomes:

- ❑ Ultimate responsibility for disaster risk reduction and climate change lies with the Ministry of Natural Resources and Environment. This Ministry (MoNRE) has been established in 2011 by merging the Water Resource and Environment Administration (WREA) with departments of the National Land Management Authority (NLMA) in 2011. The main institutional challenge is mandate confusion/lack of coordination between department for climate change, disaster risk reduction, land use management and natural resources/water management, of which land use management and water management are the weakest.
- ❑ Attapeu is low lying province. Result: high flood level and evacuation often needed
- ❑ Saravane and Sekong have mountains: flood levels less high but landslides possible.
- ❑ Sekong has lot of mining activities which influence water resource availability

Conclusion:

- ❑ Coordination between climate change, disaster risk reduction, land use management and natural resources/water management needs to be improved and departments of land use management and water management need capacity strengthening.
- ❑ Consider impact of mining of water resource availability in target provinces

b. Ministry of Natural Resources and Environment

Objectives:

- ❑ Understand ministerial priorities regarding climate change, disaster risk reduction, land use management and water management.
- ❑ Check issues related to climate change and protection of natural habitats (as part of AF Environmental and social policy)
- ❑ Receive feedback on pre-concept note proposal and decide on approach and planning for endorsement process.

Outcomes:

- ❑ Green light on pre-concept note and little comments
- ❑ Agreement on approach and planning for endorsement process
- ❑ Departments don't coordinate
- ❑ Capacity to collect and interpret data related to land management, water management and infrastructure is lacking

Conclusion:

- ❑ Water management could be the entry point for addressing land use management issues and climate change and disaster risk reduction. Land use management would be more effective but is a bit sensitive. Possibly pay a technical expert during and after project to coordinate between departments and deliver outputs for plans and vulnerability assessments.

c. Mekong River Commission (climate change and adaptation initiative)

Objectives:

- Understand water management and climate change issues in target provinces
- Check issues related to climate change and protection of natural habitats (as part of AF Environmental and social policy)

Outcomes:

- Little detailed info available for target provinces. However, an impact assessment of dams and climate change (under the flood management and mitigation program) to be published in 2016 could provide info.
- The Commission is piloting adaptation measures at the district level - flood resilient rice shows positive results
- Dams could potentially provide water (through drainage) to agriculture in all southern provinces. However, government is not successful to negotiate with owners of these dams to use the water.
- The Commission is willing to review the concept proposal.

Conclusion:

- Consider impacts of dams on floods, droughts, etc. Check the impact assessment in 2016
- Consider having the MRC review the concept after submission (before the writing the full proposal).

d. UNDP

Objectives:

- Check possible overlap in target areas
- Identify useful info from UNDP project for this project
- Check issues related to climate change (as part of AF Environmental and social policy

Outcomes:

- The project 'Effective governance for small-scale rural infrastructure and disaster preparedness in a changing climate' has overlap in 2 provinces and proposes interventions relevant for this project. ICEM is conducting VA's on district level and water management lessons/proposed activities will be integrated in district level development plans. UNCDF provides budgets for implementing proposed hard interventions at district and village level.

Conclusion:

- UN-H office lo liaise with UNDP office to avoid overlap at village level
- Consider focusing on larger villages/towns to distinguish approach and to 'reach' more people
- Focus on land use management to distinguish approach
- Conduct VA's at provincial level to distinguish approach
- Consider using ICEM VA's at district level to build provincial level VA's and to avoid costs

e. UN WOMEN

Objectives:

- ❑ Collect info on how to integrate Gender Equity and Women's Empowerment in (the design of) the project
- ❑ Check issues related to Gender Equity and Women's Empowerment (as part of AF Environmental and social policy)

Outcomes:

- ❑ Proposed to use women as the prime informants/experts for project design and during project (as they are often responsible for managing households (and water, food, wood, etc.)
- ❑ Consider that many communities can be resistant to new water and sanitation facilities.
- ❑ Proposed to partner with:
  - Lao Women's Union (women committee in every community)
  - Lao National Commission on Status of Women (in every ministry)

Conclusion:

- ❑ Use women (and youth and disabled people) as main informants for project design and execution
- ❑ Plan every step of the project together with above groups.
- ❑ Partner with Lao National commission on status of women in MoNRE

f. UNICEF

Objectives:

- ❑ Check possible issues related to Gender Equity and Women's Empowerment, Access and Equity and public health (as part of AF Environmental and social policy)
- ❑ Collect info about UNICEFs approach

Outcomes:

- ❑ UNICEF uses gender and disabled people approach for water and sanitation (in schools
- ❑ Water levels are going down in the south of Lao due to rubber tree/coffee plantations (which deplete underground water resources.
- ❑ Hygiene education (in schools) is effective: snowball effect to households
- ❑ Dengue can be reduced by:
  - using covers in latrines
  - Drill surface where stagnant water
  - Use vegetation to divert people from mosquito's
- ❑ UNICEF is willing to review the concept proposal.

Conclusion:

- ❑ Consider/analyse appropriateness of above solutions for this project
- ❑ Consider having UNICEF review the concept after submission (before the writing the full proposal).

g. IFAD

Objectives:

- ❑ Check possible overlap in target areas
- ❑ Identify useful info from IFAD project for this project
- ❑ Check issues related to Indigenous people (as part of AF Environmental and social policy)

Outcomes:

- ❑ The project 'Adaptation for Smallholder Agriculture Programme (ASAP) has overlap in 3 provinces and proposes interventions relevant for this project. IFAD suggests to focus on hygiene campaigns and link drainage/grey water to livelihood diversification (e.g. fishponds, home gardening).
- ❑ The project document of above project includes info on vulnerabilities of indigenous people in target areas.

Conclusion:

- ❑ Consider/analyse appropriateness of above solutions for this project
- ❑ Ensure UN-H has a distinguished approach
- ❑ Use IFAD info on vulnerabilities of indigenous people in target areas.

h. ADB

Objectives:

- ❑ Check possible overlap in target areas
- ❑ Identify useful info from ADB project for this project
- ❑ Check issues related to climate change (as part of AF Environmental and social policy

Outcomes:

- ❑ ADB works on improving national EWS in ministries
- ❑ ADB works on WASH is small towns but no overlap with our target areas
- ❑ Community identified WASH related priorities: 1) water supply, 2) electricity, 3) irrigation
- ❑ ADB provides technical support to MoNRE on CC sensitive water supply (CCTA7905) Main issues: water management does not work; land planning does not work (no enforcement and no knowledge, especially at the local level; Health ministry does not work effectively Suggestion: allocate funding to different departments in MoNRE to make them work (together)

Conclusion:

- ❑ Identify what ADB CC sensitive water supply pilot systems work
- ❑ Focus on water and land management and consider allocating funding to various departments in MoNRE

i. OXFAM

Objectives:

- ❑ Check possible issues related to Access and Equity, Marginalized and Vulnerable Groups, Gender Equity and Women's Empowerment, Indigenous Peoples and public health (as part of AF Environmental and social policy)
- ❑ Collect info about target areas related to above issues

Outcomes:

- ❑ Oxfam promotes gender equality by having women as heads of saving groups
- ❑ Oxfam works on improving EWS at all levels – currently it can take a week for info from national level to arrive at village level.
- ❑ Gender issue related to latrines: safety at night
- ❑ Sustainability issue for water supply facilities: lack of ownership – ensure ownership by paying 20 % through labour;

- Link between drought and wet season: how to efficiently safe water from river in tanks?

- Issues related to disabled people during floods: something to move them; person responsible for them
- Food problems are often related to lack of diversification

Conclusion:
- Create ownership over facilities/project by paying in labour and by paying small fees
- Latrine design: ensure safety for women at night
- Analyse water storage options
- Consider promoting livelihood diversification: fish ponds; home gardening, etc.
- Analyse effectiveness of EWS in villages

j. CARE

Objectives:
- Check possible issues related to Access and Equity, Marginalized and Vulnerable Groups, Indigenous Peoples and public health (as part of AF Environmental and social policy)
- Collect info about target areas related to above issues

Outcomes:
- CARE works in Sekong on food and livelihood issues. Challenge: explosions
- Water issues: collection time (up to 6 hours/day)
- Women heads of income and nutrition groups (coffee and livelihood diversification)
- Cooperation: Lao disabled people association (but not reliable) WFP: labor for food
- CARE works on CC capacity development tools in other provinces. Important: farmers cannot rely on calendar anymore

Conclusion:
- Ensure good assessment of explosives.
- Analyse where people need to travel long distances for clean water
- Explore option to work with Lao disabled people association

k. HPA

Objectives:
- Check possible issues related to Access and Equity, Marginalized and Vulnerable Groups, Indigenous Peoples and public health (as part of AF Environmental and social policy)
- Collect info about target areas related to above issues

Outcomes:
- HPA works on nutrition by looking at water, sanitation and health care
- Impact of interventions can impact routine of the poorest negatively
- Malaria program in Sekong and Attapeu – Saravane highest. Approach: finish malaria pills; use nets; set-up medical posts in villages.
- Malaria follows the migrant workers that working in logging and mining
- Dengue approach: prevention related to water and CLTs
- Hygiene approach: hand washing works, especially in schools. Important to change behaviour and then demand will rise

- Suggestion to check what FINNmap has done on mapping land
- HPA is willing to review the concept proposal.

Conclusion:

- Hygiene approach: focus on hand washing in schools
- Dengue prevention: reduce 'open' water and increase CLTs
- Consider having HPA review the concept after submission (before the writing the full proposal) and explore options for cooperation

Conclusions/key decisions:

- Coordination between climate change, disaster risk reduction, land use planning/management and natural resources/water management needs to be improved and departments of land use planning/management and water management need capacity strengthening. Water management could be the entry point for addressing land use management issues and climate change and disaster risk reduction
- Use women (and youth and disabled people) as main informants for project design and execution and plan every step of the project, including toilet design, together with above groups; partner with Lao National commission on status of women in MoNRE; Explore option to work with Lao disabled people association
- Analyse options of duplicating resilient infrastructure systems as used by what ADB, IFAD and UNDP.
- Analyse effectiveness of EWS in villages; Ensure good assessment of explosives
- Analyse water storage options and how long people need to travel for clean water
- Create ownership over facilities/project by paying in labour and by paying small fees
- Hygiene approach: focus on hand washing in schools
- Dengue prevention: reduce 'open' water and increase CLTs
- Consider focusing on larger villages/towns to distinguish approach and to 'reach' more people
- Consider impact of mining, logging and dams on water resource availability and flooding in target provinces
- Consider promoting livelihood diversification: fish ponds, home gardening
- Consider the MRC, UNICEF and HPA review to review the concept after submission (before the writing the full proposal).

I. Consultations with local stakeholder, in particular communities

A field visit was conducted by UN-Habitat staff and consultants in October 2015. This field visit identified the particular high degree of vulnerability and identified priority needs to build the resileince of communities. The visit included interviews with provincial and district authorities and mass organisations. Several target settlements were visited in all 3 provinces and community consultations were organised. Finally a regional consultation was held in Attapeu, which involved representatives from selected communities, provincial and district officials to review the findings of the consultation process and finalise options for small scale infrastructure interventions, capacity building and training needs.

The list of possible interventions indicated in this proposal are based on these consolations, they include:

- Watershed management (where feasible) with measures to protect water resources;

- ❑ Building (where feasible) small-scale community-based water infrastructure, using spring/surface or underground water sources;
- ❑ Building (where feasible) water intake with a dam to reserve water source for usage during the dry season;
- ❑ Building (where feasible) gravity feed systems with the protection of water sources;
- ❑ Building (where feasible) an irrigation system with slide gate to regulate water;
- ❑ Building (where feasible) rain water harvesting with roof or underground catchments to collect rain water for using during dry season;
- ❑ Using (where feasible) solar energy to pump water in agricultural production.
- ❑ Improve (where feasible) and build WASH facilities with Building Back Better (BBB) principles;
- ❑ Building (where feasible) Small-scale community-based waste-water treatment systems to be reuse the treated water in agricultural production, and
- ❑ Provide technical assistance and guidance towards Building Back Better (BBB) principles related to shelter and WASH infrastructures
- ❑ In support of community resilience improve (where feasible) prioritized community infrastructure such as schools, roads or drainage.