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<br>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 diseases, 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 (as shown in detail in annex 1), 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 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 MDGs through the provision and use of services that are balanced geographically and distributed

[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

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).

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

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. Looking at the total economy, the growth in this sector has been made at the expense of the agriculture sector, which contributed 6 percent more to the economy in 2008 (i.e. 27 percent in 2013 versus 33 percent in 2008). 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.[11] 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 being challenges by 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.[12]

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

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

associated health care costs) and increased productivity (related to less school and working days lost through illness and reduced collection time for clean water).[13]

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.

## Social context

**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[14]). The country is home to 49 different ethnic groups with a high diversity of languages spoken, culture and traditions. Poverty is still widespread (i.e. 34 percent of the population lives below the income poverty line[15]) but is especially concentrated in the geographically disadvantaged areas (where most of the ethnic groups live).[16]

Figure 1: Incidence of poverty by village (2005) Provinces most affected are Savannakhet, Salavan, Xekong and Attapeu

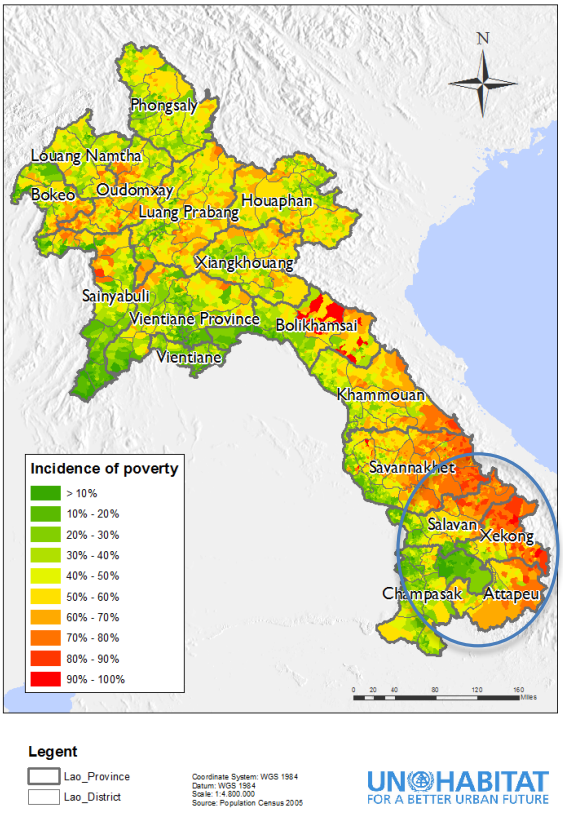
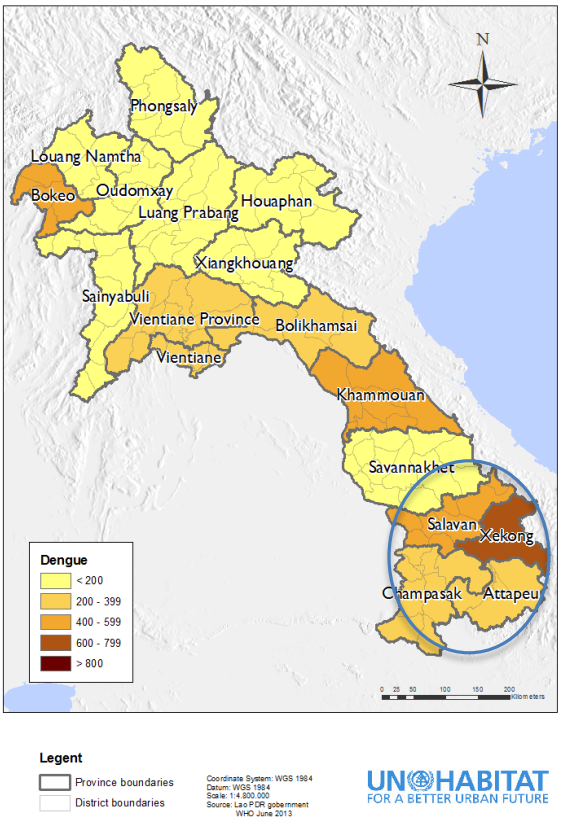


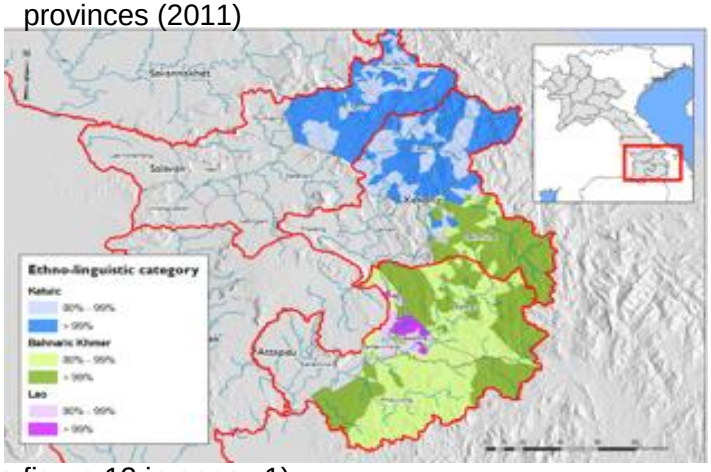

Figure 2: Number of dengue cases by province (2011). Provinces most affected are Bokeo, Xekong, Salavan and Khammouan




[13] 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
[14] World Bank Lao country profile online: http://www.worldbank.org/en/country/lao
[15] UNDP 2012 online: http://hdr.undp.org/en/content/table-6-multidimensional-poverty-index-mpi
[16] MDG progress in Lao PDR online: http://www.la.one.un.org/millennium-development-goals/mdg-progress-in-lao-pdr

As shown in figure 1 above, poverty is widespread but especially existent in the most southern 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 tendency of ethnic minority groups to stay in areas where they originally resided. 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 12 in annex 1).

Figure 3: 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 depend to a very large extent on climate sensitive resources. 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.[17] 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, incident of malaria has reduced significantly, but worrisome has been the surge in first-line drug resistant malaria outbreaks, since 2011, in the southern provinces leading to around 30 deaths annually, on average, 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 disasters that could occur, transforming villages into developed units, designing good village planning, constructing necessary basic infrastructure and providing clean water and latrines.[18]

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.[19]

[17] MDG progress in Lao PDR online: http://www.la.one.un.org/millennium-development-goals/mdg-progress-in-lao-pdr
[18] See outcome 2 of The 8th Five Year National Socio-economic Plan online: file:///Users/jorisoele/Downloads/Draft_8th_NSEDP_2016-20.pdf
[19] USAID (2013) Mekong ARCC climate change impact and adaptation study

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. Especially 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, youth, disabled people and ethnic minorities as they are impacted most severely by climate change. The country requires external support to do this.

## Environmental context

As stated by the United Nations[20] 'Lao PDR faces a challenge in balancing economic activity without sustaining further environmental damage. Forest cover in the country has declined from 49 percent in 1982 to 40 percent in 2010. This is down from some 70 percent several decades prior. When combined with further industrial activity, the decline in forest cover transformed Lao PDR from a net sequester 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 (see annex 1 for climate change figures and maps).

Figure 4: Presence of floods and droughts by province (2011). Provinces most affected are those in the south of Lao PDR.

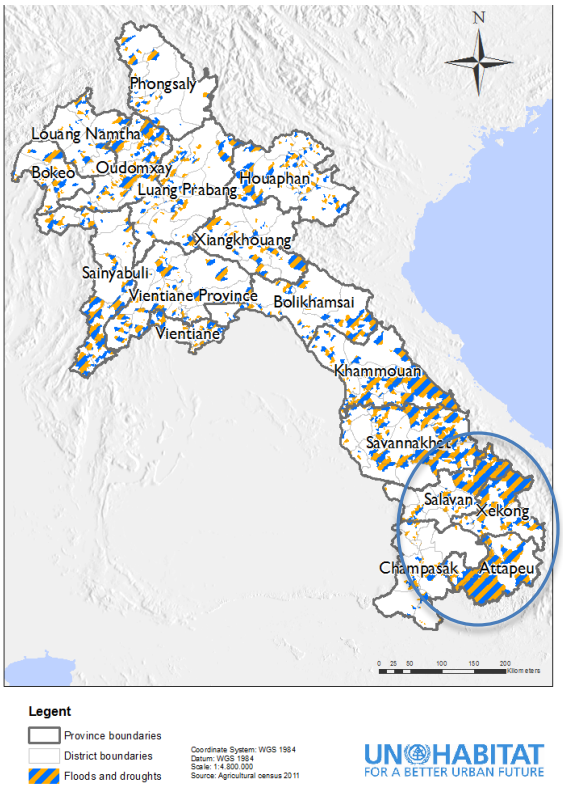
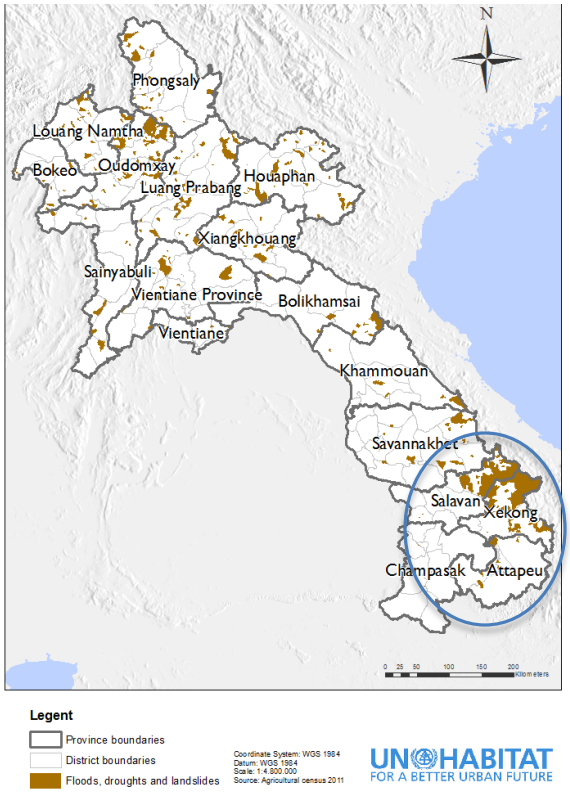



Figure 5: Presence of floods, droughts and land slides by province (2011). Provinces most affected are Salavan and Xekong




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

As shown in figures 4 and 5 above, 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.

Part of the governments' strategy to graduate from the 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[21] 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.

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.

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

## 2. Project Objectives

**Main objective:**

Enhance the climate and disaster resilience of the most vulnerable rural and emerging urban 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.

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 communities 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

   Specific needs of women, disabled people, ethnic groups and youth will be considered at all stages of the project.

## 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, and to (3) capture and disseminate lessons learned. Capacity Development provided at:<br><br>National level<br>Provincial (3) level<br>District (8) level<br>Total trainings/workshops: 6 | **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. People reached:<br><br>Nat gov: 20<br>Provincial gov: 30<br>District gov: 24<br>Village gov: 189 | **1.1.** US$250.000<br><br>(This includes funding for sustainability/exit strategy and knowledge management) |
| | **1.2.** Integrated climate change vulnerability and disaster risk reduction assessments (incl. maps) conducted/produced in target areas:<br><br>3 provincial VAs<br>8 districts VAs<br>189 settlements VAs (basic)<br>Total target areas: 200 | **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. | **1.2.** US$250.000 |
| | **1.3.** Integrated land use/water resource/infrastructure maps/plans developed and integrated in local development plans in target areas**.** Climate change vulnerabilities and disaster risks are integrated in these land use/water resource/infrastructure maps/plans. Target areas:<br><br>3 provincial<br>8 districts<br>189 settlements (basic)<br>Total target areas: 200 | **1.3.** Resilience building 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. | **1.3.** US$187.640<br><br>**Total: US$687.640** |

| | | | |
|---|---|---|---|
| **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 integrated 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.<br><br>189 at settlement level | **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. People reached:<br><br>Inhabitants of 189 target settlements | **2.1.** US$200.000<br><br>**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:<br><br>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$2,900.000<br><br>**Total: US$2.900.000** |

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|---|---|
| 6. Project/Programme Execution cost | 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) | 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 manifestations. 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 11 (and several of its targets), Make cities and human settlements inclusive, safe, resilient and sustainable as well as 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 (Quito, October 2016) the project will be informed by this framework.

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 governance framework and providing hands-on tools that will allow the national governments and local 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 governance 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[22], including a strategy to capture and disseminate lessons learned.

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.

Outputs under the integrated 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, 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.

**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 WASH related 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.

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. 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.

[22] 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.

### 3. Community level adaptation investments (hard)

This component aims at enhancing climate and disaster resilient infrastructure systems in human settlements. Depending on the results of the vulnerability assessments and the land use/water resource/infrastructure maps/plans and the subsequent local development plans, resilient water-, drainage-, and sanitation related infrastructure systems 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, component 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:

- 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 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

A combination of supplying new resilient infrastructure systems (to people who have no access yet), 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.

## B. Economic, social and environmental benefits

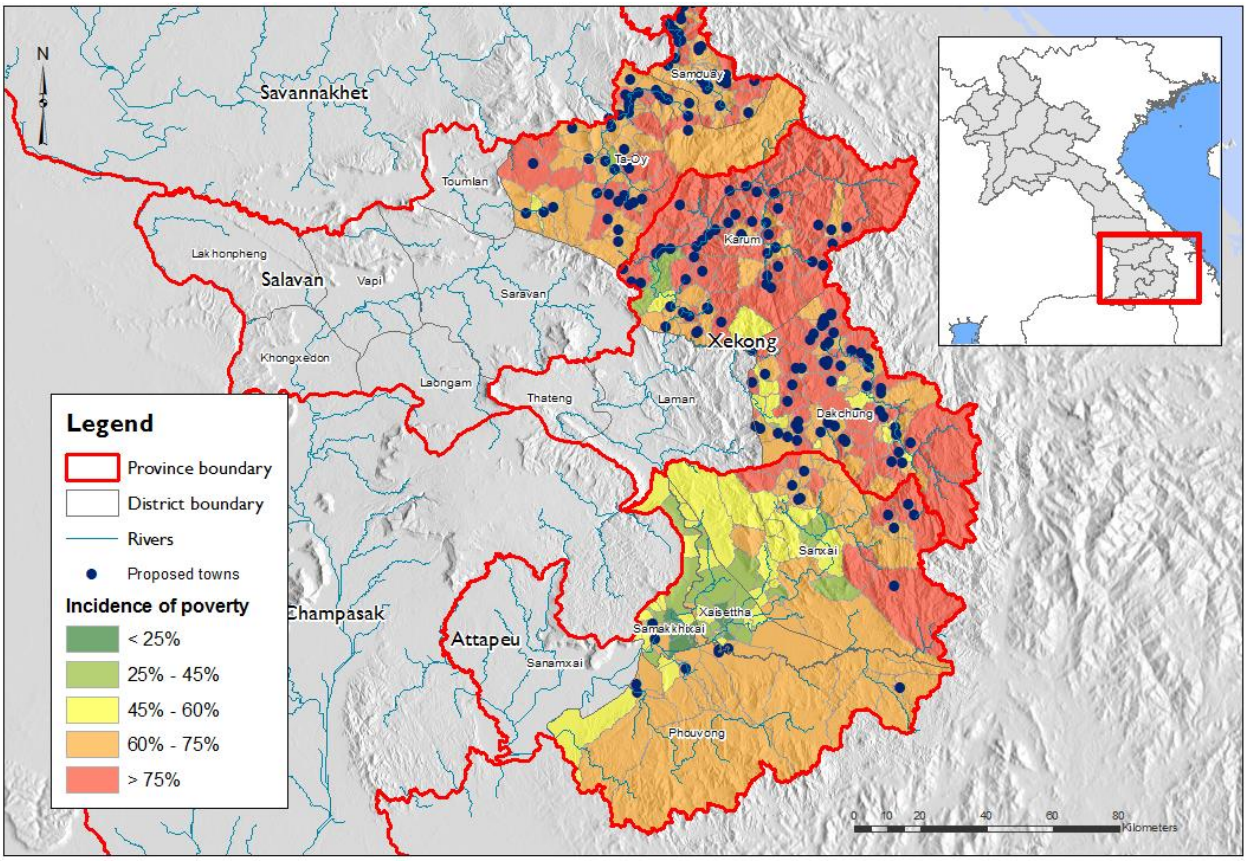



Figure 6: Target towns in target provinces. Many of the towns consist of villages that are merging and/or developing into emerging towns (thus the number is lower than the official number of 189 settlements – see table 3). Selection criteria: at least 60 percent of people living in poverty; affected by floods, affected by droughts; affected by landslides; affected by climate related diseases; high percentage of ethnic minorities; no or limited access to basic services.

Table 3: target settlements

| Province | District | Total settlements | Settlements prioritized | Population |
|---|---|---|---|---|
| Attapeu | Phouvong | 25 | 6 | 3.342 |
| | Samakkhixay | 43 | 2 | 725 |
| | Sanxai | 58 | 9 | 1.629 |
| | Xaysetha | 31 | 1 | 838 |
| Sekong | Dakcheung | 94 | 52 | 11.294 |
| | Kaleum | 61 | 49 | 9.685 |
| Saravane | Samuoi | 58 | 32 | 5.963 |
| | Ta oi | 56 | 38 | 13.953 |
| **Total** | | **426** | **189** | **47.429** |

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

As described in the background/context section, universal access to water-, 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. Besides that, natural resources (especially water sources) critical for communities will be identified and strategies developed to ensure sustainable access. In order to establish this, all phases of the project will be inclusive and will specifically involve women, disabled people, ethnic groups and youth as main informants.

A comprehensive plan detailing how the project meets the Environmental and Social Policy of the Adaptation Fund will be developed at the full proposal stage.

## C. Cost effectiveness

Poor water, sanitation and hygiene alone impose a cost on the country equivalent to 5.6 percent of GDP annually.[23] With this project aiming to secure access to 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 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 not acting (business as usual) will lead to constantly incremental costs in time associated with health care costs, low productivity and losses due to storms, floods, landslides and droughts.

Regarding concrete adaptation costs, US$2.9m 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 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$887.640 soft component that supports planning and capacity building to ensure that these benefits are sustained and replication potential exists.

As for the technical costs, part of the project is to provide access to household level resilient water and sanitation infrastructure to the poorest people in Lao PDR (baseline is no access to water and sanitation with MDG/SDG standard). With a decade of water supply experience in

[23] 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

Lao PDR, UN-Habitat has managed to decrease the cost of clean water supply per person to US$50, which is 5 times more affordable than ADB standards in Lao PDR. Although resilient water supply infrastructure systems are more expensive (approximately US$70 per person[24]) than systems with only MDG/SDG water standards, they are expected to last much longer (thus are more sustainable) because they will still be accessible during and after floods, storms and droughts. The same accounts for resilient sanitation units, which cost approximately US$27 per person[25] versus US$22 per person for units that are not resilient to floods, storms, landslides and droughts.

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. This model of implementation will thus ensure synergy-maximisation.

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

This project is consistent with national socio-economic priorities,[26] national climate change priorities,[27] and national disaster risk management priorities.[28]

The 8th Five-year national socio-economic plan can be regarded as the leading plan. 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 (2009). Besides climate change and disaster management, the project is also consistent with sectoral plans and strategies related to water and sanitation,[29] water management[30] and land use planning and management.[31]

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

Table 4: Aanalysis 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 (colored 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.

[24] U$400 per climate and disaster resilient water supply unit (water point from piped water) serving 1 household (5.8 people). Cost for not climate and disaster resilient sanitation facility is US$290 per water point (MDG/SDG standards);
[25] U$160 per climate and disaster resilient sanitation unit serving 1 household (5.8 people), which is US$27 per person. Cost for not climate and disaster resilient sanitation unit is US$130 per unit (MDG/SDG standards).
[26] The eighth Five Year National Socio-economic Plan (2016-2020) with a Vision to 2030 (2015)
[27] 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);
[28] The national disaster management plan (2011)
[29] Water Supply and Sanitation Strategy for Emerging Towns (2013-2020) (2012)
[30] National Indicative Plan (NIP) (2011-2015) for implementation of the IWRM-based basin development strategy (2012)
[31] PLUP (Participatory Land Use Planning Policy)

| Measure | 8th Five Year National Socio-economic Plan | National Strategy on Climate Change | Climate change action plan 2013-2020 | National Adaptation Programme of action | National Disaster Management Plan |
|---|---|---|---|---|---|
| ❑ Providing sustainable access to safe water and improved sanitation | x | x | x | x | |
| ❑ Develop plans, policies, laws to manage natural resources and improve capacity (incl. land/water) | 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 waste and waste water | x | x | x | | |
| ❑ 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 |
| ❑ Downscaling climate and hydrological models to a watershed level | | x | | | |
| ❑ Climate-proofing the most vulnerable existing infrastructure to protect the current assets | | 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 | | | |
| ❑ 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

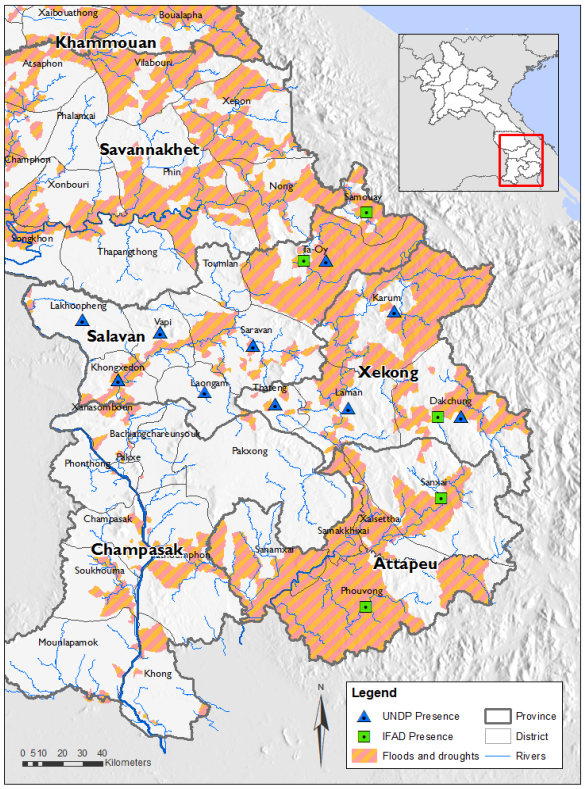
The project complies with national technical standards and assessment methods related to poverty (percentage of village/district being poor based on national data), water quality (national quality standards) and UXO identification methods. Reference to technical standards - related to environmental assessments, land use planning, water management and building codes/constructing of (resilient) infrastructure - are difficult to make as standards are not always clear. However, as for land use planning, a Participatory Land Use Planning (PLUP) tool, which has been used in Lao PDR, will be applied. As for water supply and sanitation, the project follows MDG/SDG technical standards for improving water supply and sanitation. Regarding Environmental impact assessments, this project will consider recommendations being made in an Environmental Impact Assessment for the Mekong River, which will be published by the Mekong River Commission in 2016 as part of their Flood Management and mitigation program.

Table 5: Aspects of the project to be assessed for [or 'to be further developed'] in compliance with the components of the environmental and social policy of the Adaptation Fund.

| Components (of environmental and social policy) | Tool | Timing |
|---|---|---|
| *Marginalized and Vulnerable Groups (disabled; youth)* | National data; locally obtained data/vulnerability assessment, UN-Habitat's Youth and Human Rights marker and related tools as well as environmental and social safeguards. | Before project and in depth during project |
| *Gender Equity and Women's Empowerment* | National data/ Lao national commission on status of women; locally obtained data/ vulnerability assessment, UN-Habitat's gender marker and related tools as well as environmental and social safeguards. | Before project and in depth during project |
| *Indigenous Peoples* | National data; locally obtained data/ vulnerability assessment; UN-Habitat's Human Rights marker and related tools as well as environmental and social safeguards. | Before project and in depth during project |
| *Protection of Natural Habitats* | National data; MRC EIA; vulnerability assessment | Before project and in depth during project |
| *Climate Change* | IPCC reports; vulnerability assessment | Before project and in depth during project |
| *Public Health* | National data; locally obtained data/vulnerability assessment | Before project and in depth during project |
| ***Other components*** | | |
| *Poverty* | National data; locally obtained data/vulnerability assessment | Before project and in depth during project |
| *Water quality* | National standards | Before project and in depth during project |
| *Water and sanitation* | MDG/SDG standards combined with Building Back Better principles | Before project and in depth during project |
| *UXO* | National identification methods | Before project and during project |

## F. Other funding sources

Figure 7: UNDP and IFAD presence at district level in Saravane, Xekong and Attapeu




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.

UNDP and IFAD/UN-Habitat operate in the same provinces as the target provinces for this project. Their focus is on local governance (UNDP) for rural resilient infrastructure development (UNDP and IFAD/UN-Habitat). The figure on the right shows coverage of UNDP and IFAD/UN-Habitat.

This project will build on lessons learned from all three agencies. Although there is no overlap on the village level, there is overlap on the district level. As UNDP is conducting vulnerability assessments in their target districts, this allows UN-Habitat to use information from their assessments for producing provincial level assessments. Besides that UN-Habitat will analyse adaptation measures as proposed by UNDP and IFAD as options for suitably replicating in an urban/emerging towns context, A thorough analysis of how to ensure complementarity will be conducted at the full proposal stage.

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

## G. Capturing and disseminating lessons learned

The project contemplates developing a sequence of knowledge management mechanisms and dissemination of lessons learned from a local to national and 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.

At the national level, other vulnerable regions in Lao PDR will be able to draw from lessons gained through this project. Information will be consolidated in videos and national guidelines 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 central level for countrywide dissemination.

Also 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 learnt from this project. .

## 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 decentralisation 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 16 and 26 November 2015. The table below provides an overview of stakeholders consulted related to components of the environmental and social policy.

Table 6: Environmental and social policy components and stakeholders consulted related to the components.

| Checklist of environmental and social principles | Actors consulted |
|---|---|
| *Access and Equity* | UNICEF; OXFAM; CARE; Health Poverty Action |
| *Marginalized and Vulnerable Groups* | OXFAM; CARE; Health Poverty Action |
| *Gender Equity and Women's Empowerment* | UN WOMEN; UNICEF; OXFAM; |
| *Indigenous Peoples* | IFAD; OXFAM; CARE; Health Poverty Action |
| *Protection of Natural Habitats* | Ministry of Narural Resources and Environment; Mekong River Commission; UNEP; Mekong River Commission |
| *Climate Change* | Ministry of Narural Resources and Environment; Ministry of Labor and Social Welfare Building; UNDP; UNEP; Mekong River Commission; ADB |
| *Public Health* | UNICEF; OXFAM; CARE; Health Poverty Action |

## 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.

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).

As for component 3 (concrete adaptation activities to enhance resilient infrastructure systems in rural and emerging urban human settlements), the amount requested (US$2,9 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).

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

| Components | Baseline (without AF) | Additional (with AF) |
|---|---|---|
| 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. |
| **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 |
| **1.3.** Resilience building | National government and local | Local development plans |

| | | |
|---|---|---|
| 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. | authorities will not be able to respond to climate change impacts because local development plans do not include specific action plans (and allocated budgets) to reduce these impacts | incorporate climate change and disaster risk sensitive land use/water resource/infrastructure maps/plans, allowing National government and local authorities to respond to climate change impacts |
| 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. |
| 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. |

## J. Sustainability of the project

**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

The vulnerability assessment that will be conducted during the project (which will be participatory) will not only analyse and identify specific climate change vulnerabilities and disaster risks but also possible environmental and social impacts and risks of the project itself. Although the project does not foresee any negative effects on access and equity, marginalized and vulnerable groups, women, indigenous peoples, natural habitats and public health, the involvement of relevant groups, commissions and NGO's in all phases of the project, will make sure impacts of proposed activities will not be negative.

Table 8: 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 | (1) |
| Marginalized and Vulnerable Groups | x | (1) |
| Human Rights | x | |
| Gender Equity and Women's Empowerment | x | (1) |
| Core Labour Rights | x | |
| Indigenous Peoples | x | (1) |
| Involuntary Resettlement | x | |
| Protection of Natural Habitats | x | (1) |
| Conservation of Biological Diversity | x | |
| Climate Change | x | (1) |
| Pollution Prevention and Resource Efficiency | x | |
| Public Health | x | (1) |
| Physical and Cultural Heritage | x | |
| Lands and Soil Conservation | x | |

(1) Based on the initial assessment and consultation process as well as existing UN-Habitat safeguards and experiences in project implementation by UN-Habitat in Lao PDR, it is generally assumed that the principles will be met. The project will embark on comprehensive vulnerability cum baseline assessments that will further highlight exposure and sensitivity to climate change in the context of underlying vulnerabilities. This and the subsequent action planning provide the opportunity to further assess potential impacts and risks and to remedy these. The project will further develop disaggregated data on vulnerability and monitor these. Full community participation in planning and implementation will further ensure the safeguard of environmental and social principles.

Specifically, all of the environmental and social safeguards will be thoroughly assessed (i) at the detailed project design, (ii) during the vulnerability / baseline assessments (Component I) and (iii) when communities bring forward specific (Component 3) small infrastructure projects for

investment.The compliance will be ensured/monitored through community action planning and the establishment of grievance processes. In addition the project management will ensure separate monitoring and reporting on compliance.

## 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**[32] *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,

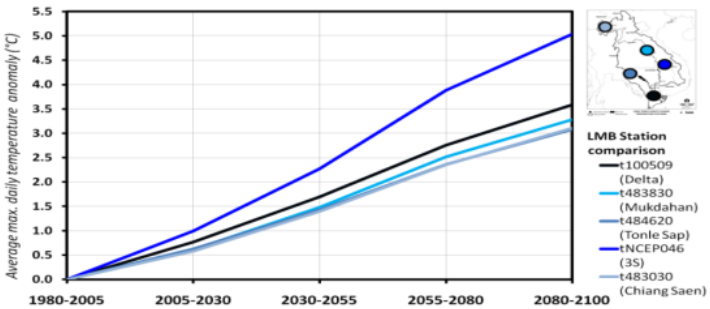
Mr.Syamphone SENGCHANDALA
Director of Legislation and Coordination Division
National Focal Point for Adaptation Fund of Lao PDR

**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. | |
|  <br>*Rafael Tuts*<br>*Coordinator, Urban Planning and Design Branch, UN-Habitat* | |
| Date: January 11th, 2016 | Tel. and email: +254 20 7623726<br>raf.tuts@unhabitat.org |
| Project Contact Person: Bernhard Barth | |
| Tel. And Email: (81-92) 724-7121/ bernhard.barth@unhabitat.org | |

# Changes in basin temperature

- **In the LMB, temperatures are increasing faster than the global average**
  - Global 2100: > 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




# 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

Figure 8:

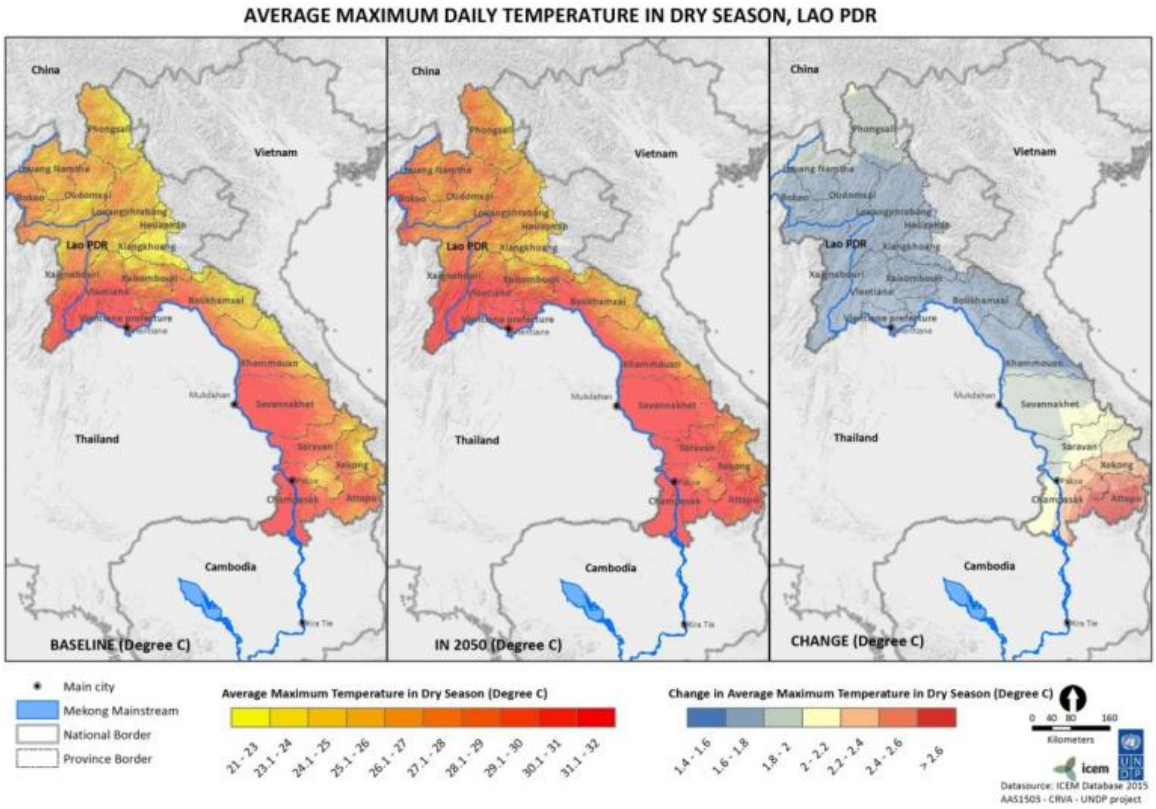



Figure 9:

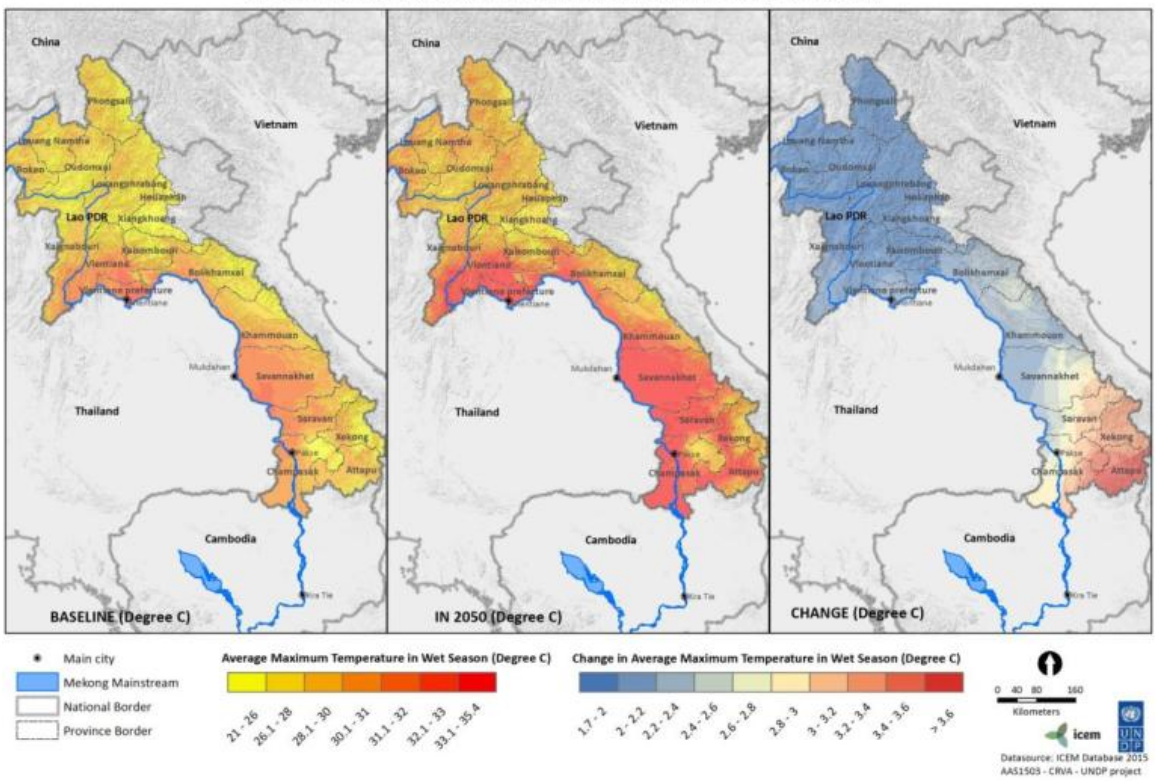


Figure 10:

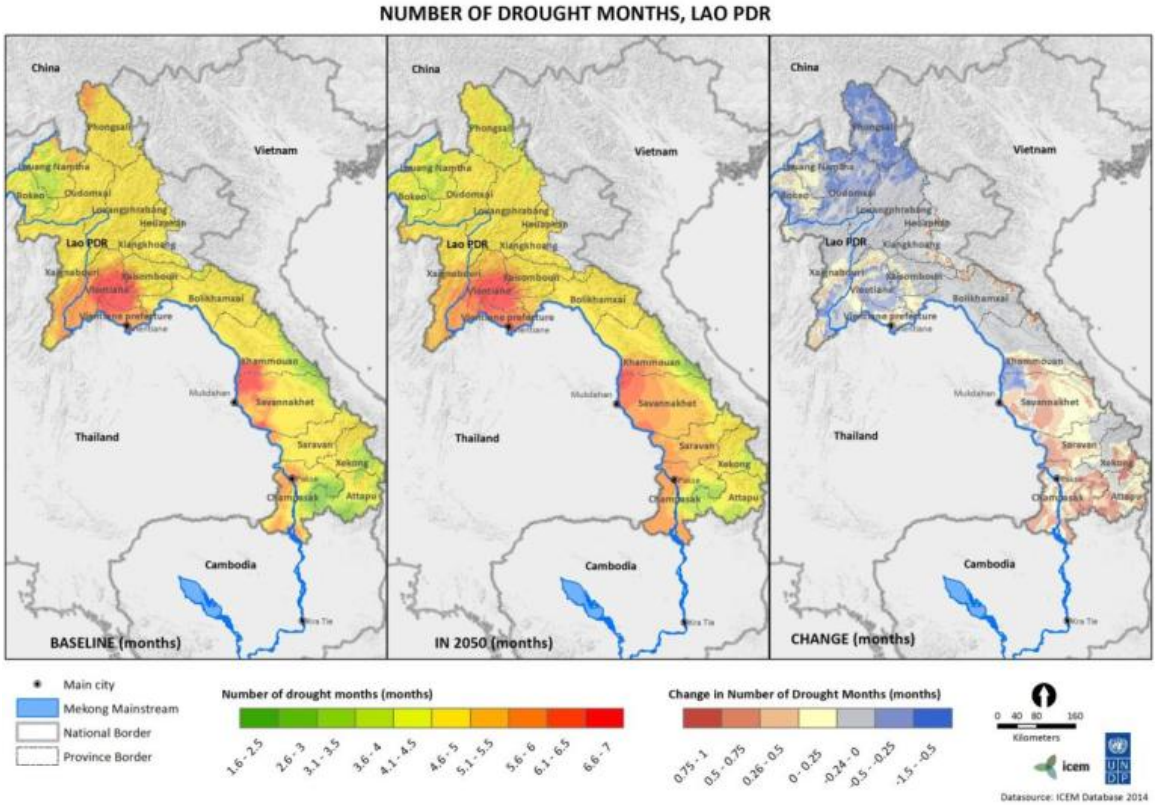



Figure 11:

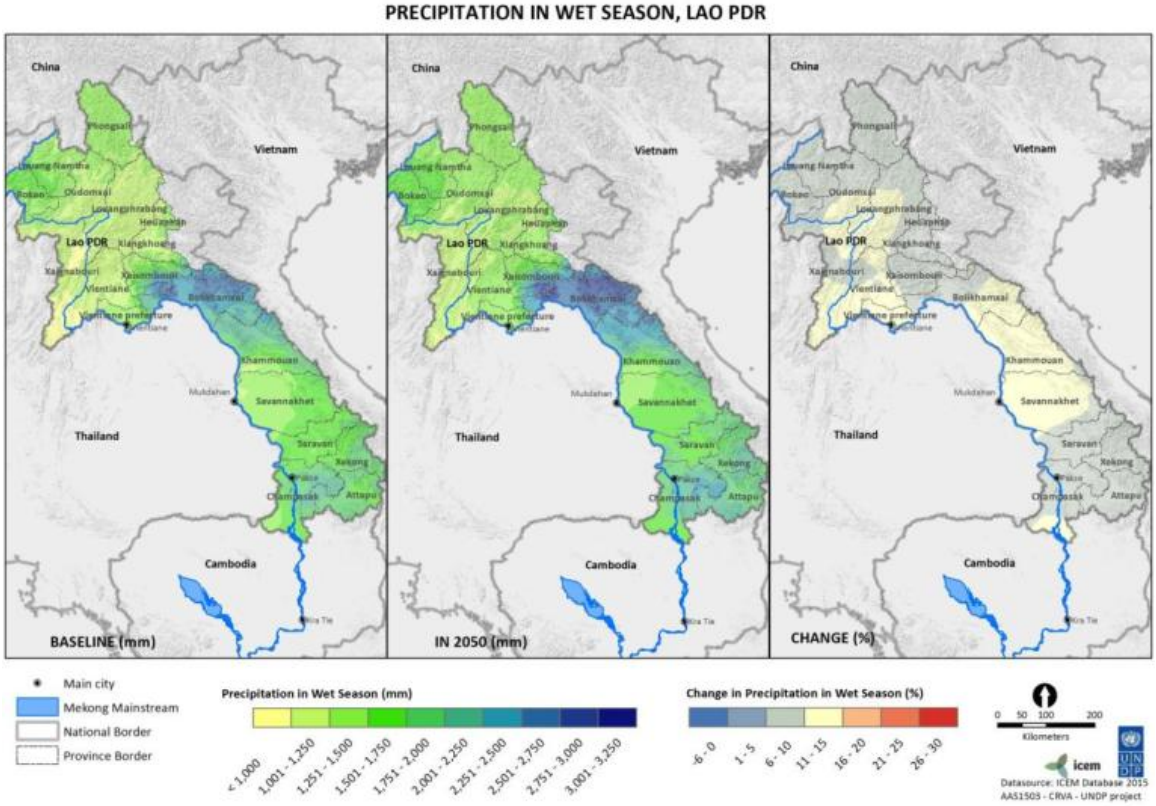


Figure 12: trend of acute bloody diarrhea disease in Lao PDR (related to unsafe water). Sekong province crores highest, followed by Saravane and Attapeu.

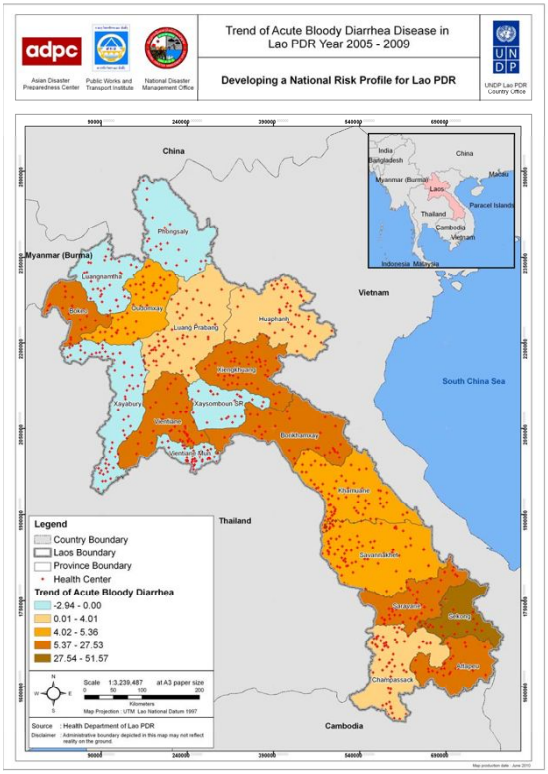



Figure 13: UXO distribution in Lao PDR Saravan, Sekong and Attapeu provinces all crore high.

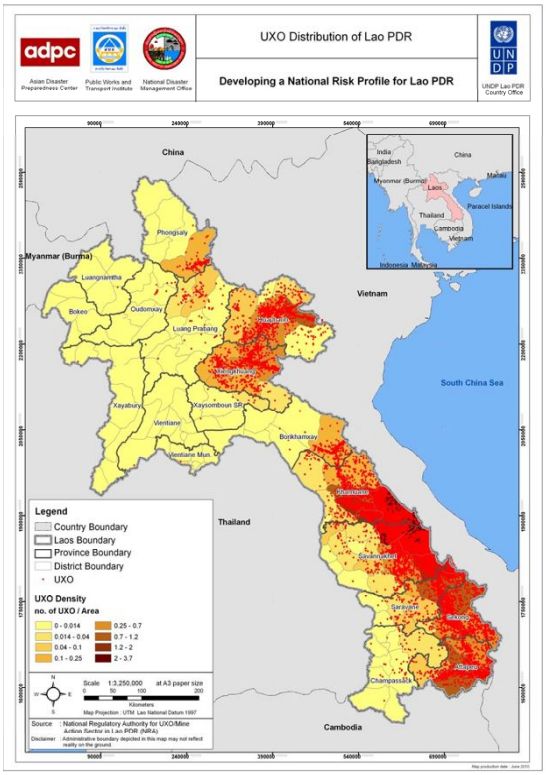
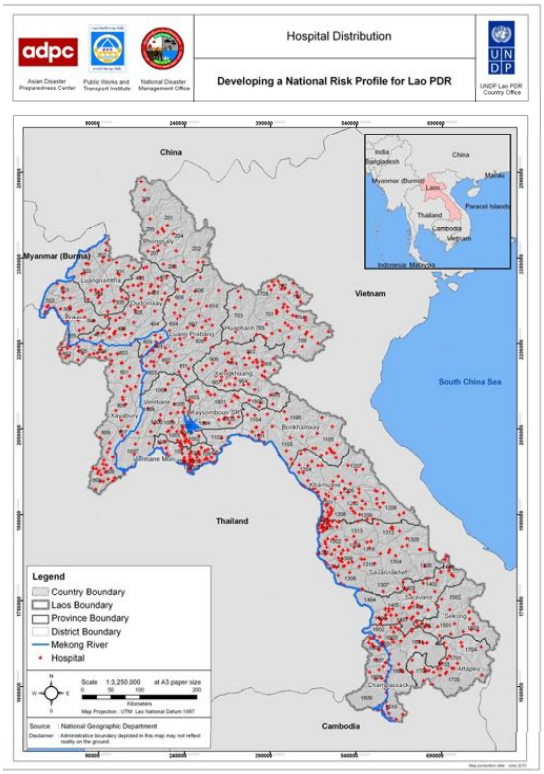
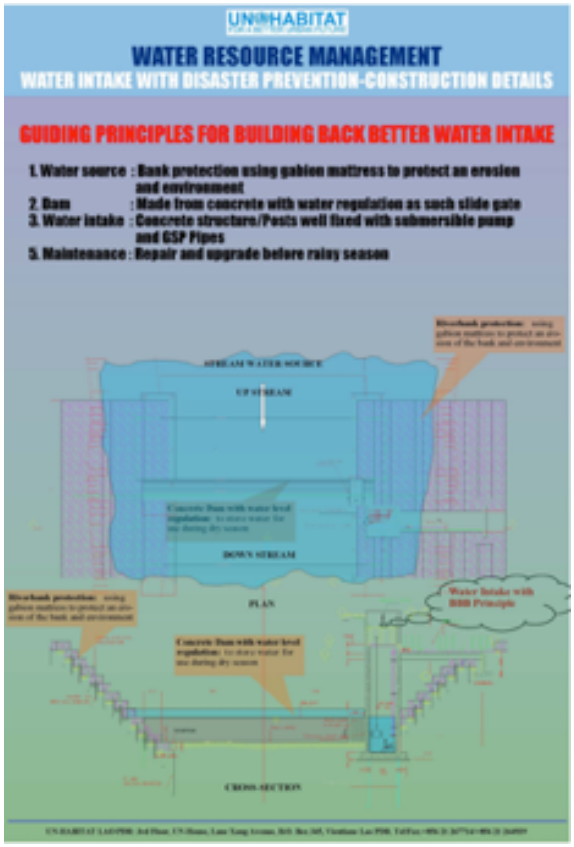
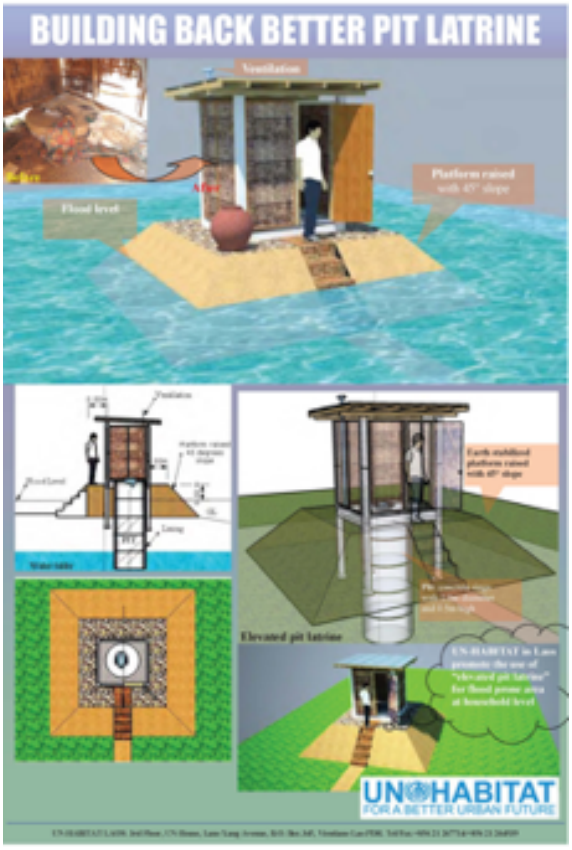



Figure 14: Hospitals in Lao PDR



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)[33] | 2015 - | Saravane<br>Sekong<br>Attapeu |
| UNDP | Effective governance for small scale rural infra and disaster preparedness in a changing climate (incl. Vas)[34] | 2014 - 2017 | Saravane<br>Sekong |
| UN-Habitat | Water supply and sanitation projects | 2009-2017 | Saravane<br>Sekong<br>Attapeu |

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

| Implementer | Project | Timeline |
|---|---|---|
| ADB | Water Supply and Sanitation Sector[35] | 2013 - 2022 |
| | Strengthening resilience to CC in health sector[36] | 2015 - 2018 |
| World Bank | Mainstreaming disaster and climate risk management in investment decisions[37] | 2011 - 2016 |
| | Building Resilience to Natural Hazards[38] | 2013 - 2016 |
| UN-Habitat | Water Governance<br>Mekong Region Water and Sanitation Initiative (MEK-WATSAN)<br>Water for Asian Cities (WAC) | 2014 – 2017<br>2009 – 2017<br><br>2009 - 2017 |

[33] Link to project document: http://www.ifad.org/climate/asap/
[34] Link to project document: http://www.la.undp.org/content/lao_pdr/en/home/operations/projects/environment_and_energy/LDCF2.html
[35] Link to project document: http://www.adb.org/projects/45301-002/main
[36] Link to project document: http://www.adb.org/projects/47143-001/main
[37] Link to project document: http://www.worldbank.org/projects/P129182/lao-pdr-mainstreaming-disaster-climate-risk-management-investment-decisions?lang=en
[38] 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[39]
    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

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

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 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 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**<br>• 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**<br>❑ Strengthen the national focal point for effective participation in UNFCCC and other international climate change processes;<br>❑ Promote and coordinate external partnerships;<br>❑ Strengthen and Technical Working Group on Climate Change;<br>• Establish and strengthen monitoring and reporting on climate change activities | High | MONRE |
| **1.3** | **Climate Change Strategy and Action Plan**<br>• Develop long-term National Adaptation Planning<br>• Develop national policy for low carbon and green growth; | High | MONRE and other relevant ministries |

| | | | |
|---|---|---|---|
| | 1. Prepare and update policies, strategies and implementation plans on climate change in selected agencies;<br>2. Mainstream climate change into sector policies, strategies and development plans | | |
| **1.4** | **Raising Public Awareness on Climate Change**<br>❑ Raise awareness on management and promotion of climate change activities | Medium | MONRE and other relevant ministries |
| **1.5** | **Strengthen Climate Change Finance**<br>• Strengthen fiscal systems, access to and management of international assistance, long-term investment and finance planning;<br>• 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**<br>3. Strengthen information gathering, modeling and vulnerability assessment for climate change in priority river basins in Lao PDR;<br>4. Develop and implement a reliable early warning flood reporting and disseminating service | High | MONRE |
| **2.3.2** | **Flood Management**<br>• Develop a comprehensive flood management strategy and specific flood management plans for priority areas;<br>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**<br>• Assess drought risk and impacts, existing policies and programs; incorporate drought mitigation into priority river basin and sub-basin plans;<br>• Survey groundwater sources in drought prone areas; develop plans for recharge and sustainable use of groundwater;<br>• 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**<br>• Strengthen the protection of watersheds to safeguards and moderate downstream flow during periods of high and low precipitation;<br>• Study and promote the conservation of wetlands as part | High | MoNRE |

| | | | |
|---|---|---|---|
| | of a climate-resilient ecosystem approach | | |
| **2.3.5** | **Increasing Water Resource Infrastructure Resilience to Climate Change**<br>❑ 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;<br>❑ Design and build multi-use reservoirs in drought prone areas;<br>❑ 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**<br>❑ Increase awareness and technical capacity of technical staff regarding climate change and appropriate water resource management technology;<br>❑ Strengthen capacity of government staff on water resources in coordination with other stakeholders;<br>❑ 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**<br>6. Study, develop and implement design and operational standards for all sizes of reservoirs and hydropower facilities to reduce climate change impacts, including public safety and downstream discharge impacts;<br>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 | High | NEM and other relevant ministries |

❑ Industry

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

| | |
|---|---|
| | greenhouse gas quantities emitted from industrial plants |

- ❑ Transport and urban development

| No. | Project Focus | Priority | Responsible Ministry |
|---|---|---|---|
| **2.6.1** | **Increasing the Resilience of Urban Development to Climate Change**<br>11. Conduct climate risk audits for key infrastructure services;<br>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;<br>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;<br>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**<br>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;<br>16. Increase community awareness and participation in addressing climate related risks to water supply and sanitation systems | High | MPH and other relevant |
| **2.7.2** | **Improving Public Health Services for Climate Change Adaptation**<br>• Improve disease monitoring and reporting;<br>• Improve the treatment of water and vector borne disease and other climate-related health impacts;<br>• Strengthen nutrition and prepare to respond to nutrition emergencies, including food security, emergency food aid and nutritional surveillance;<br>• Strengthen disaster preparedness and recovery, including maintenance of public health services;<br>• Strengthen health education and communication, promote individual action to reduce the vulnerability to climate change;<br>• Improve and develop the systematic drinking water management and sustainable sanitation in participation by the community in the drought and flood areas;<br>• Inspect and improve the standards of drinking water and | High | MPH and other relevant |

| | |
|---|---|
| | water supply;<br>• Strengthen the central and local laboratories to analyze diseases on time in the drought and flood areas |

**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**<br>17. Promote public transportation;<br>18. Promote clean energy transport and low-carbon transport;<br>19. Promote the use of alternate energy operated motor vehicles ( e.g. use the motorcycles and walking in the city to attract tourists);<br>20. Reduction of GHG emissions from the solid waste sector in Lao PDR through applying the 3Rs (reduces, reuse and recycle);<br>21. Improve the solid waste collection services for full coverage of big cities;<br>22. Building recycling facilities in order to reduce the amount of wastes to be disposed in landfills;<br>23. Promoting environmental green urban development;<br>24. Construct and improve the landfill to absorb the methane;<br>25. Seeking the opportunities under the CDM, establish Bilateral Offset Credit Mechanism (BOCM); promote nationally appropriate mitigation actions (NAMAs) | High | MPWT, MONRE and other relevant ministries |

**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.[40]

Components:

- ❑ Ensure that disaster risk reduction is a national and a local priority
  - o Formulate policies and legislation in support of disaster risk reduction;
  - o Creation and strengthening of a national disaster risk reduction coordination mechanism or a National Disaster Risk Reduction Platform;
  - o Integration of disaster risk reduction into national development policies and planning; and
  - o Allocate appropriate resources for DRR at the national, provincial and community levels.
- ❑ Strengthen sub-national and community-based disaster risk management
  - o Decentralize responsibilities and resources for disaster risk reduction;
  - o Promote implementation of community-based disaster risk reduction programs; and
  - o 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:
  - o Conduct national and local risk assessments on a periodic basis to ensure that timely response mechanisms are developed;
  - o Establish and maintain a disaster management information system;

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

- 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**

**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 targetand realize the Water Supply and Sanitation Sector Vision thefollowing 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 áreas.
- 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 utilisation 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.