

# MIDTERM EVALUATION

ENHANCING THE CLIMATE AND DISASTER RESILIENCE OF THE MOST VULNERABLE RURAL AND EMERGING HUMAN SETTLEMENTS IN LAO PDR

An evaluation mission for Adaptation Fund funded project

**Client: UN-Habitat** 

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### **COLOPHON**

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# 1 INTRODUCTION

The project "Enhancing the climate and disaster resilience of the most vulnerable rural and emerging urban human settlements in Lao PDR" aims at delivering sustainable infrastructure together with capacity building in 189 villages in the provinces Sekong, Saravan and Attapeu.

The project is running from February 2017 until June 2021. The midterm evaluation is performed as planned in March 2019. This evaluation is to provide the donor, Adaptation Fund, and implementing partners with an assessment of the project so far. The objective is:

- Assess the implementation progress towards achieving the planned results
- Assess the continued relevance, effectiveness and impact of the project
- Give recommendations for the remaining continuation of the project

The evaluation considers relevance, effectiveness, efficiency and sustainability.

The most important stakeholders in this project are the government on national, provincial and district level, the Nampapa water works authority and the villagers of the 189 villages. All stakeholders have been involved in the evaluation.

Arcadis has been involved in the performance of the evaluation.



# 2 METHODOLOGY

The evaluation team consisting of:

- Bert Smolders, Shelter program manager and urban water specialist
- Bram Masseur, Process manager and Lead Auditor
- Anurat Kaeocha, Urban water specialist

The set-up of the evaluation is:

- Introduction of the project by the project team members to the evaluation team (4 March 2019). The project team members being:
  - o Dr. Avi Sarkar, Chief technical advisor
  - o Mr. Buahom Sengkhamyong, Project Team Leader
  - o Mr. Liam Fee, Consultant
  - o Mr. Juan Torres, Data analyst
  - o Mr. Phengphone Khamseansouk, Project engineer
  - Desk review of project documents, like
    - Project plan
    - o Vulnerability assessments for each province: Sekong, Saravan and Attapeu
    - o Infographics of the villages
    - Design documents of the pilot projects
- Interviews with team members like Dr. Avi Sarkar, Mr. Buahom Sengkhamyong and Mr. Liam Fee.
- Meetings with officials:
  - Director General of the department of water supply of the Ministry of Public Works and Infrastructure: Phonma Veovaranh (4 March 2019).
  - Nampapa Attapeu province director Mr. Sornsay, technicians Mr. Thepachan Chitavong and Mr. Sisawat Sivorlavong, and head of Nampapa Samoi district Sao Meena in Saravan (5 March 2019)
  - Vice provincial governor of Attapeu Mr. Thavone Phommalayloun, Vice District governor of Duccheung District, Mr. Somphone Saysouvanh, and Vice District governor of Kaleum District, Mr. Buanguen Phanlavanh (6 March 2019).
  - Stakeholder meeting, with Vice governor of Attapeu: Mr Ounla Xayasith, 3 provincial governors, 8 district governors, Nampapa representatives.
- Field visits to villages in Saravan and Attapeu provinces
  - Interviews with villagers in Lahang, among which: Mr. Amheung, head of village and Mr. Khamvieng, deputy head of village.
  - See pilot projects of gravity feed systems in Champhao and Kamesung and speak to heads of village and inhabitants.







# 3 RESULTS

### 3.1 Relevance

#### 3.1.1 Rationale of the results and its objectives

The objectives of the project have not changed. The rationale is still valid. The climate has changed in the districts where the projects are executed, and the communities are vulnerable to that, because they rely on basic water sources like open water and bore holes.

In Attapeu, the average temperature has risen by 1.35 degrees between 1984 and 2018. When you compared Attapeu's situation to the IPCC's announcement of the temperature rise between 1880 and 2100 should stay below 2 degrees, one realizes Attapeu is facing a critical situation.

The pilots have shown us and the stakeholders a new approach: business-not-as-usual. The project brings in a paradigm shift of how people traditionally approached water supply in rural areas in Laos. Additionally, the systems developed could be developed in a modular fashion in both horizontal (expansion of networks/water points) and vertical (technological augmentation) aspects.

The set-up of the vulnerability assessments, where enumerators visited all villages with kobo-tools and developed software was very successful. The ministry encourages other donors to use the same tools and methods. They are cost effective and very useful for the decision making plan and the action plans.

#### 3.1.2 Relationship to the SDG's

The purposes of the projects in the villages, resulted from the vulnerability assessments, are related to the SDG's 6 Clean Water and Sanitation, 3 Good health and wellbeing, 13 Climate action and 11 Sustainable cities and communities.

#### 3.1.3 Changes in result context during implementation

The village boundaries have been redrawn. This led to a new list of villages. In the changed selection of villages, the wish of local authorities to spread the villages more evenly over the three provinces was granted. The most important result of the new list of villages is that 107.000 people benefit instead of the 47.000 mentioned in the project proposal.

#### 3.1.4 Institutional and partner priorities

The related three provinces and eight districts are responsible for hundreds of villages. In our discussion with the Samoi district in the Saravan province, they mentioned that they would like to expand the project coverage from the 69 selected villages to all 200 villages in their district. On the positive side, this shows great commitment of the local authorities and the relevance of the project. However, there is a concern of how the project is perceived from the unselected villages.

#### 3.1.5 Ownership by national and local stakeholders

The national and local stakeholders are fully involved and share the same goal of UN-Habitat. The local communities are continuously involved through all stages of the project. During the vulnerability assessments, they were asked which priorities they see as measures to make them more resilient to climate change. The enumerators had a list of purposes and sub-purposes from which they could choose. This information is included in the infographics per village.



## 3.2 Effectiveness

3.2.1 Actual and expected achievement

See Annex 2

#### 3.2.2 Factors and processes affecting the achievement of results

There are two big elements in reaching the above-mentioned goals:

<u>Planning</u>: Different stakeholders understand the enormity of the project scope – especially that 189 villages will benefit from infrastructure work that will make these communities more resilient and less vulnerable. A significant exercise is on-going to ensure that work is completed with the given time frame in the 8 districts. To implement the projects more efficiently, there is a team in each district working out the preliminary design, and therefore multiple projects can be worked on parallelly.

<u>Money</u>: The total budget of the project is 4,5 million USD, provided by the Adaptation Fund. In the project plan, yearly tranches are proposed of 1 million USD in 2017 and 2018 each. This might lead to a cash flow problem especially when infrastructure work needs to be expedited.

Another concern, related to money, is the average amount that can be spent on each project. For component 3, the infrastructure construction, 2,9 million USD is available. That means on average 14.500 USD per subproject. Of course, there are cheaper and more expensive projects, but this average should be taken into account. So far, most projects have been more expensive than this average. It still concerns a small number of pilot projects and the expectation is that things can become cheaper when projects are procured in bulk.

#### 3.2.3 How appropriate and effective are the partnerships and other institutional relationships

The most important relationships in this project are with the national, provincial and district governments and with Nampapa water works. Nampapa is an effective partner, as they know the local circumstances, are capable to design and maintain the projects. UN-Habitat described the partnership in Agreements of Cooperation. So far, Nampapa has executed the projects as agreed and to satisfaction of UN-Habitat.

A positive result and sign of appreciation is that additional funding has been granted by the Nordic Climate Fund with a \$ 97.000 contribution.

#### 3.2.4 Outcomes to date on the project partners

6 pilot projects have been completed:

**Saravane Province** – One pilot of water infrastructure completed: key is the new gravity feed system with distribution network and household water tap in one village namely Lahang village of Samouay Town with number of beneficiaries 637 people.

**Sekong Province** – One pilot of water infrastructure completed: key is the new gravity feed system with slow sand filtration tank and 4 public water stand taps (2 water taps each) in one village namely Talui village of Kaleum Town with number of beneficiaries 168 people.

**Attapeu Province** - Among 4 pilots of water infrastructures were completed: key is the new water supply system established in four (4) villages namely Taoum and Phousay of Phouvong and Champao and Kemesang of Samakkhisay with small-scale water infrastructure resilient using solar pump with 4 public water stand taps (2 water taps each) and rural water supply system with distribution network and 24/7 metered household connections in 4 villages with totaling number of beneficiaries 2,694 people.

These give the stakeholders tangible ideas of what can be expected. All stakeholders involved with these projects tell the evaluators that they are happy with the solution. When asked what else they desire they all answer they want more. On a district level, the wish is to extend the number of villages, on a village level, the desire is to expand the capacity of the water supply or to extend the number of connected households.





Several physical infrastructures of the "**Pilot on climate resilient water infrastructure**" in Attapeu, Sekong and Saravan provinces include new small-scale water infrastructure using solar pump, new gravity feed system with slow sand filtration tank and a new 24/7 small-scale water supply with distribution network and household water meter connection in rural areas. These were the pilot projects completed in **6 villages** with total beneficiaries of **3,508 people** (see *Project sheets in Annex 1*).

#### 3.2.5 Outcomes on local collaborating partners

The project so far is being implemented with a compact project team, including a small number of consultants. The local stakeholders gained knowledge from the vulnerability assessments and action planning.

# 3.2.6 Are vulnerable groups and crosscutting issues of gender, youth, climate change and human rights integrated in the design and implementation and monitoring of the project?

Development starts with access to clean water. Vice provincial governor of Attapeu Mr. Thavone Phommalayloun stated this very clearly during the meeting in Attapeu. He saw a positive impact on decreasing poverty, higher school attendance, more food supply in villages after similar projects had been finished. Within the villages, there is the issue of deciding the public taps location and which households are connected first. The village chief is usually responsible to this. In Champao, the village chief explained how the first selection of the 20 first connected households was made. In Lahang, the inhabitants mentioned that the water provision saves them long walks to the former water source, that was mainly performed by children and women. That means that they now have an opportunity to spend time on going to school and to work and provide extra income for their families respectively.



# 3.3 Efficiency

#### 3.3.1 Action progress compared to plans, budget and overall performance

The project has an ambitious scope of benefiting the communities of 189 villages with a relatively small budget. The total number of inhabitants of the 189 villages is 107.000. This is significantly more than the 47.000 in the project proposal. That is mainly because of a change in the village structure with a redrawing of the boundaries since the census of 2015, on which the project proposal was based. During the meetings with national and provincial authorities, they mentioned that UN-Habitat is the only partner focusing on sustainable solutions in rural areas. This is why they are satisfied with the work UN-Habitat is doing with Adaptation Fund. They all requested a continuing cooperation and expansion of the scope of the project.

#### 3.3.2 Were the activities and outputs delivered in a cost-efficient manner?

The pilot projects were on average a little over the available average budget. However, with the training of local Nampapa waterworks employees and with the utilization of local communities in the construction, as mentioned above, UN-Habitat manages to deliver a significant number of small-scale infrastructure projects for a relatively limited financial support.

#### 3.3.3 Implementation efficiency

The project team is involved in all stages of the process, from vulnerability assessment, through action planning, design and construction. Project staff visit the sites regularly, know the village chiefs and check if the construction is according to the design.

### 3.4 Sustainability

#### 3.4.1 Factors affecting or likely to affect sustainability of the results

A very important factor to secure the sustainability of the infrastructure is the involvement of local communities. By their contribution to the construction, they merit the infrastructure and know how to maintain it. To increase the sustainability, a fee for connection and use of the water measured by a meter can be adopted. This raises awareness and the money can be spent on maintenance of the system in return.

#### 3.4.2 Established networks among institutions

The partnership with Nampapa waterworks, that has been formally written down in aforementioned Agreements of Cooperation, is very valuable for both parties. UN-Habitat has access to local knowledge and resources for design and construction. Nampapa waterworks gains design knowledge and of course financial support from UN-Habitat.

#### 3.4.3 From built capacities to building capacity

The project is training the Namapa waterworks staff to make preliminary design. This way, knowledge and experience are transferred to and utilized by local partners and consultants.

#### 3.4.4 Using new knowledge to build up confidence

The vulnerability assessments have delivered a lot of useful knowledge. The involvement of the local communities, deciding with them about the chosen solutions instead of choosing for them, ensures that the solution is relevant to them, so that they have a higher sense of responsibility for the good use and maintenance of the systems.

#### 3.4.5 Implementing capacity of the cooperation partners to take the activities forward

After the completion of the project, that will benefit 189 villages in Sekong, Saravane and Attapeu, the staff of Nampapa waterworks and the local authorities are trained to expand similar solutions to other villages in these provinces. The only problem is that they lack the financial means to continue by themselves. In the meeting with Vice provincial governor of Attapeu as well as with Director General of the department of water supply of the Ministry of Public Works and Infrastructure, they mentioned that they have a budget of performing two similar projects with the yearly budget they get from the national government. This makes them very dependent on aid money and as such very vulnerable for continuation of donor support.



# 4 **RECOMMENDATIONS**

Having observed the progress of the project, we see that the project is well on its way and contributing in an effective and relevant way to the needs of the local communities. To improve the process, the efficiency and sustainability, the evaluation team has some recommendations. These are split up between recommendations for the UN-Habitat project team and recommendations in a wider sense to leverage the results in a bigger context.

# 4.1 Role and Responsibility of all involved stakeholders must be clearly defined

The commitment and involvement of all the important stakeholders is very high in this project. High representatives of the Ministry of Public Works and Infrastructure, the provinces, the districts and Nampapa water works all agree that the project is relevant and effective. They all cooperate and are satisfied with the results. They should however take a more active role and take their responsibilities for their inhabitants, not leaning on UN-Habitat.

## 4.2 Raising people awareness for climate change and its effect

The project aims at reducing the vulnerability of villages in the southern provinces of Lao PDR to climate change. However, it is obviously better to prevent the climate change in the first place. Deforestation contributes to climate change. The evaporation brings temperatures down. And prevents flood after heavy rains by holding the water in the soil.

With growing populations, this might mean that the traditional way of living with slash and burn has to be abandoned or adjusted. We have also experienced undesirable air quality because of the many fires in the southern provinces.

## 4.3 Promote eco-tourism

The southern provinces of Lao PDR are still very pristine and unexplored. There are great opportunities for eco-tourism. Water is the basic need for many developments, among which tourism. After this project has been implemented, there is a chance to develop infrastructure for sustainable tourism. This can provide the villages with an additional income, that can help them to develop further.



# Annex 1 Spreadsheet result tracker

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## Annex 2 Progress

The project is halfway its planned duration. The original planning is shown below with the red line marking the current date, end of Q1 2019. As planned, component 1 was finished. The transfer of the funds started in 21<sup>st</sup> June 2017. The end date of the project is thus set to 20<sup>th</sup> June 2021.

The most important part of component 1 are the vulnerability assessments, that were performed for each village in the three provinces. The outcomes are described in three reports. They contain important information for the other components of the project. The results are informative and it should be investigated if there are opportunities to use them more broadly, for example to show the effects of deforestation on climate change. A more attractive and more easily accessible way to the results between the report and the poster should be made, for example a 10 page folder.

Component 2 and 3 are well underway. Slightly deviant from the planning, the project team has concluded that these components go hand in hand. Training of the communities is only sensible when infrastructure has been completed.

Component 4 is a constant activity throughout the project for management costs and involvement of the stakeholders. The Nampapa water works have been trained by the project to independently make 3D and 2D designs and to set up Bills of Quantities and schedules.

There are two years left until completion of the project. As said before, for 34 projects, the preliminary design has been finished, 6 of which including BoQ's and schedules. The plan is to finish 98 villages by the end of 2019 and 126 by the end of Q1 2020.

The division of the next 34 projects, divided over the provinces (see Annex 3 for the list of villages):

- 1. 10 in Saravane
- 2. 10 in Sekong
- 3. 14 in Attapeu



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# Annex 3 List of villages

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SN	Village code	Province	District	Village name	Population	Status
1	1402002	Saravane	Ta oi District	B. Talunglalao	827	Engineering suvey & Preleminary Design - Completed
						Engineering suvey & Preleminary
2	1402031	Saravane	Ta oi District	B. kamouan	370	Design - Completed Engineering suvey & Preleminary
3	1402034	Saravane	Ta oi District	B. Pitian	271	Design - Completed
4	1402035	Saravane	Ta oi District	B. Bongnam	553	Engineering suvey & Preleminary Design - Completed
5	1402045	Saravane	Ta oi District		655	Engineering suvey & Preleminary Design - Completed
5	1402043	Saravane	Ta oi District	B. Chorlavieng B. Adone	691	Details Design with BoQ - Completed
5	1402014	Salavalle		D. Auone	091	Engineering suvey & Preleminary
6	1408017	Saravane	Samuoi District	B. Samouay	139	Design - Completed
7	1408031	Saravane	Samuoi District	Ajing-Dele	734	Engineering suvey & Preleminary Design - Completed
8	1408037	Saravane	Samuoi District	B. Lavaneua	148	Engineering suvey & Preleminary Design - Completed
9	1408044	Saravane	Samuoi District	B. Lahang	637	Construction Completed (Pilot)
3	1400044	Galavalle	Gamuer District	D. Lanang	037	Engineering suvey & Preleminary
10	1408045	Saravane	Samuoi District	B. Tangko	707	Design - Completed
11	1408046	Saravane	Samuoi District	B. Phina	294	Engineering suvey & Preleminary Design - Completed
12	1502004	Sekong	Kaleum District	B. Parkxai	224	Engineering suvey & Preleminary Design - Completed
12	1302004	Sekong	Raleum District	D. Taikkai	224	Engineering suvey & Preleminary
13	1502015	Sekong	Kaleum District	B. Ching	271	Design - Completed
14	1502016	Sekong	Kaleum District	B. Songkhone	528	Engineering suvey & Preleminary Design - Completed
15	1502017	Sekong	Kaleum District	B. Chalork	336	Engineering suvey & Preleminary Design - Completed
15	1302017	Sekong	Naleum District	B. Chalork	330	Engineering suvey & Preleminary
16	1502018	Sekong	Kaleum District	B. Loeui (Doeui)	323	Design - Completed
17	1502043	Sekong	Kaleum District	B. Talui	178	Construction Completed (Pilot)
18	1503017	Sekong	Dakcheung District	B. Dark trerb	690	Engineering suvey & Preleminary Design - Completed
				2.24		Engineering suvey & Preleminary
19	1503021	Sekong	Dakcheung District	B. Lienglouang	500	Design - Completed
20	1503060	Sekong	Dakcheung District	B. Darkxeng	364	Engineering suvey & Preleminary Design - Completed
21	1503086	Sekong	Dakcheung District	B. Darden	538	Details Design with BoQ - Completed
22	1701019	Attonou	Xaysetha District	B. Hadsaty	1607	Engineering suvey & Preleminary Design - Completed
	1701019	Attapeu	Aayseina District	B. Hausaly B.	1607	Engineering suvey & Preleminary
23	1701036	Attapeu	Xaysetha District	Phaosamphanmixai	1382	Design - Completed
24	1701037	Attapeu	Xaysetha District	B. Yaioudom	3078	Engineering suvey & Preleminary Design - Completed
25	1702018	Attapeu	Samakkhixay District	B. Champhao	983	Construction Completed (Pilot)
26	1702019	Attapeu	Samakkhixay District	B. Kamesung	886	Construction Completed (Pilot)
27	1702020	Attapeu	Samakkhixay District	B. Tamaleua	946	Engineering suvey & Preleminary Design - Completed
			Landidania y Diotriot	2.1.4.10000	0.10	Engineering suvey & Preleminary
28	1702021	Attapeu	Samakkhixay District	Hom	2598	Design - Completed



						Initiative by ARCADIS with UN Habitat
29	1704005	Attapeu	Sanxay District	B. Dakhiat	1597	Details Design with BoQ - Completed
30	1704031	Attapeu	Sanxay District	B. Vungsay	1526	Details Design with BoQ - Completed
31	1704060	Attapeu	Sanxay District	B. Tathkoom	463	Engineering suvey & Preleminary Design - Completed
32	1704061	Attapeu	Sanxay District	B. Pheerkeo	458	Details Design with BoQ - Completed
33	1704062	Attapeu	Sanxay District	B. Phouxai	1020	Details Design with BoQ - Completed
34	1705005	Attapeu	Phouvong District	B. Vongsay	895	Engineering suvey & Preleminary Design - Completed
35	1705012	Attapeu	Phouvong District	B. Kaouan (Taoum)	510	Construction Completed (Pilot)
36	1705014	Attapeu	Phouvong District	B. Vonglakone	526	Engineering suvey & Preleminary Design - Completed
37	1705024	Attapeu	Phouvong District	B. Phousay	315	Construction Completed (Pilot)
38	1705026	Attapeu	Phouvong District	B. Vungkhan	1972	Details Design with BoQ - Completed
39	1705027	Attapeu	Phouvong District	B. Khamvongsa	1364	Details Design with BoQ - Completed
40	1705027007	Attapeu	Phouvong District	B. Makkieng	613	Details Design with BoQ - Completed



# **Annex 4 Project sheets**

All infographics of the villages are easily found with their village code through this link: <u>http://af-189villages.info/</u>



























































































































































































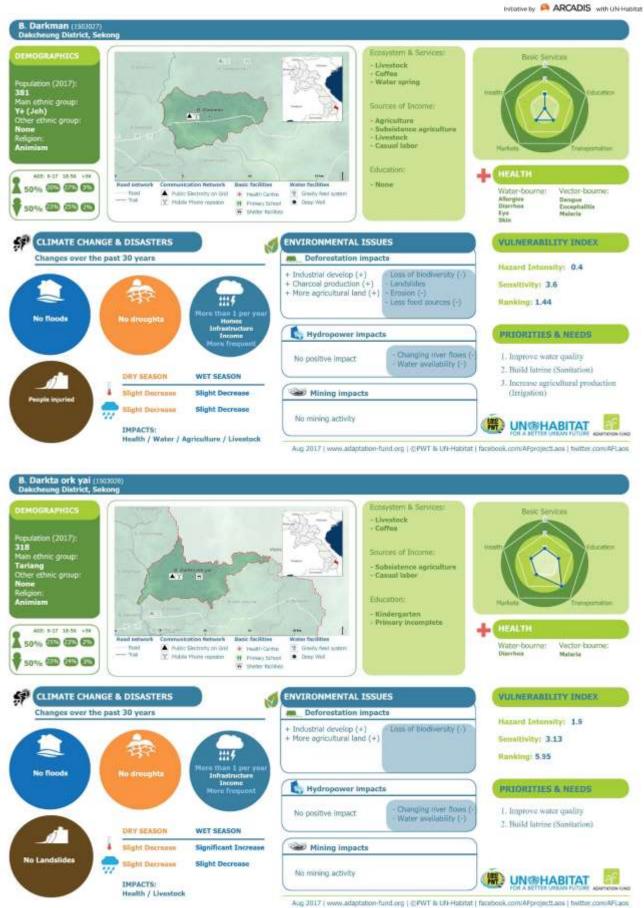




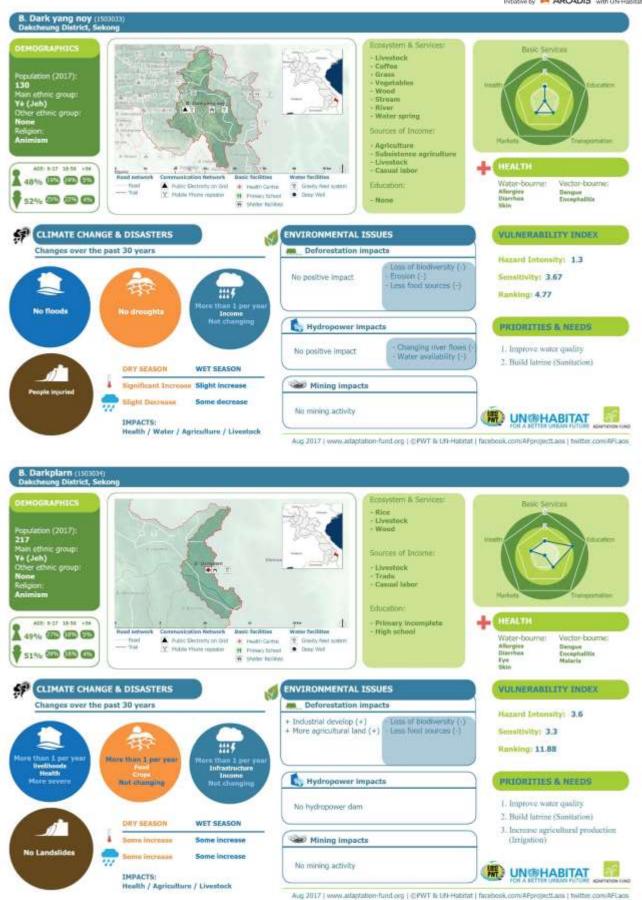








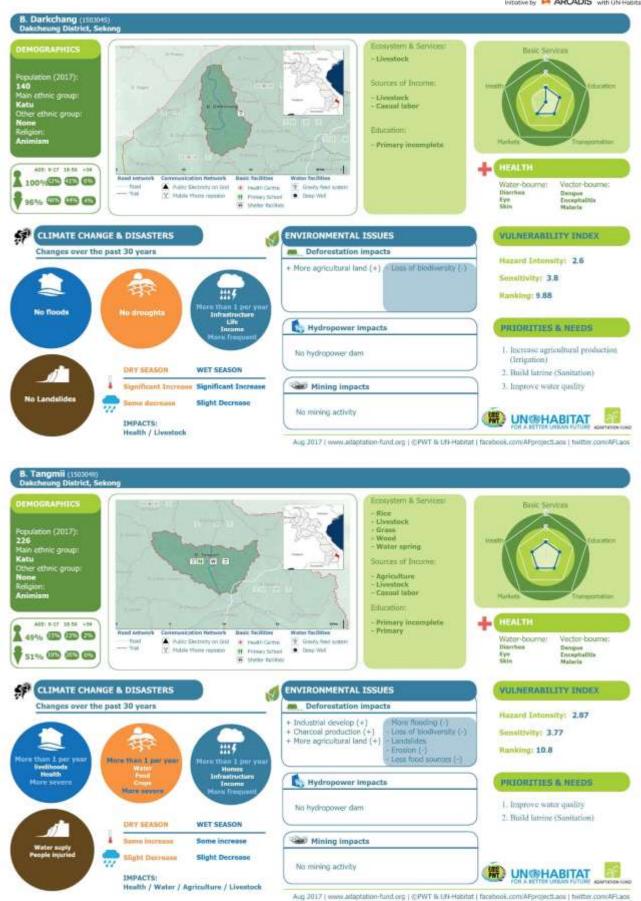




















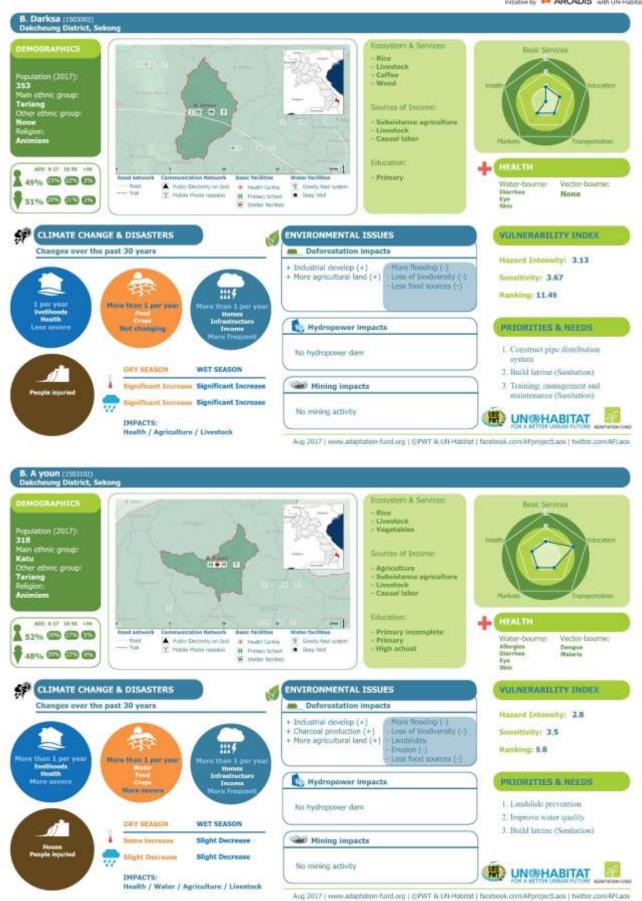








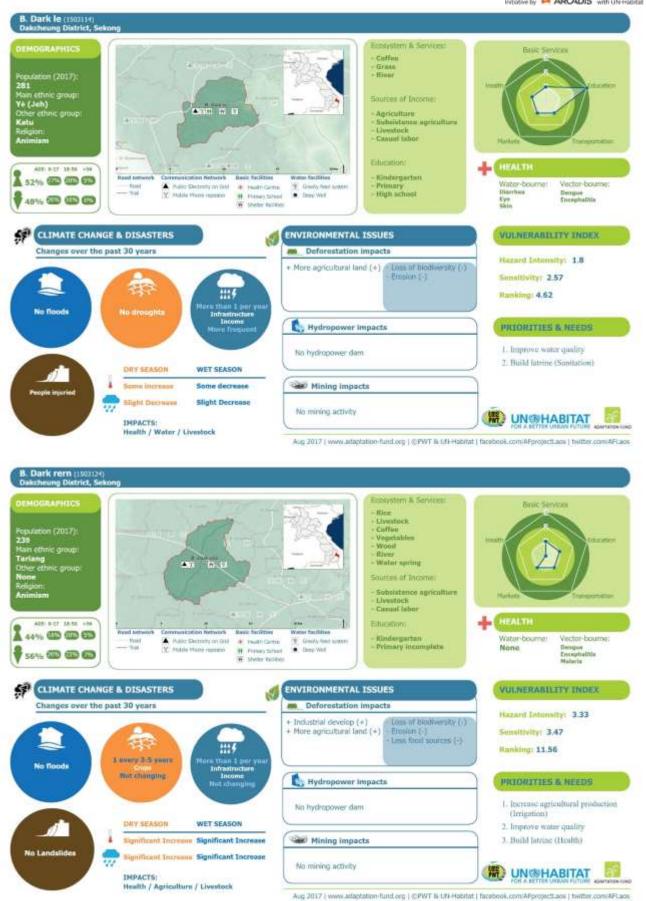








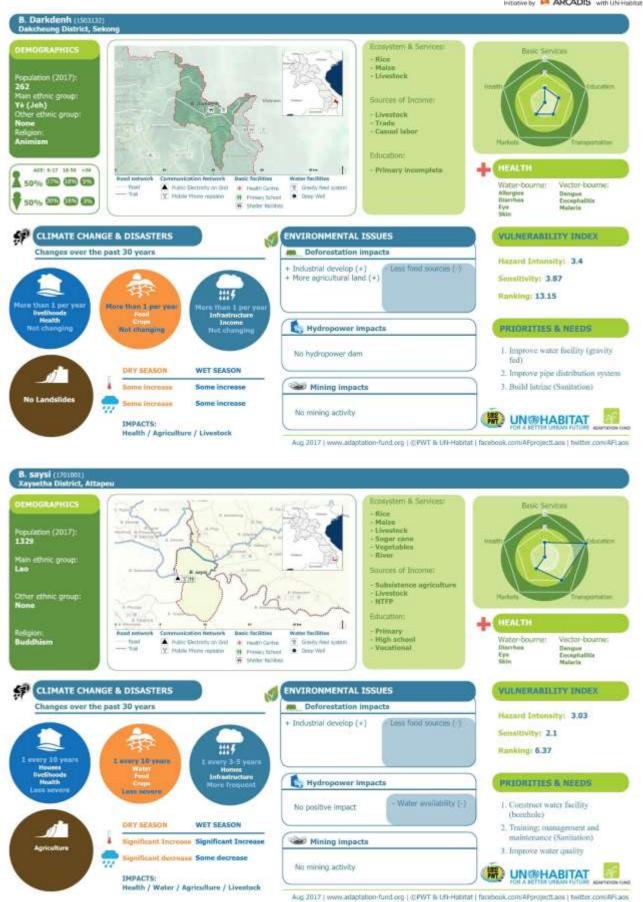








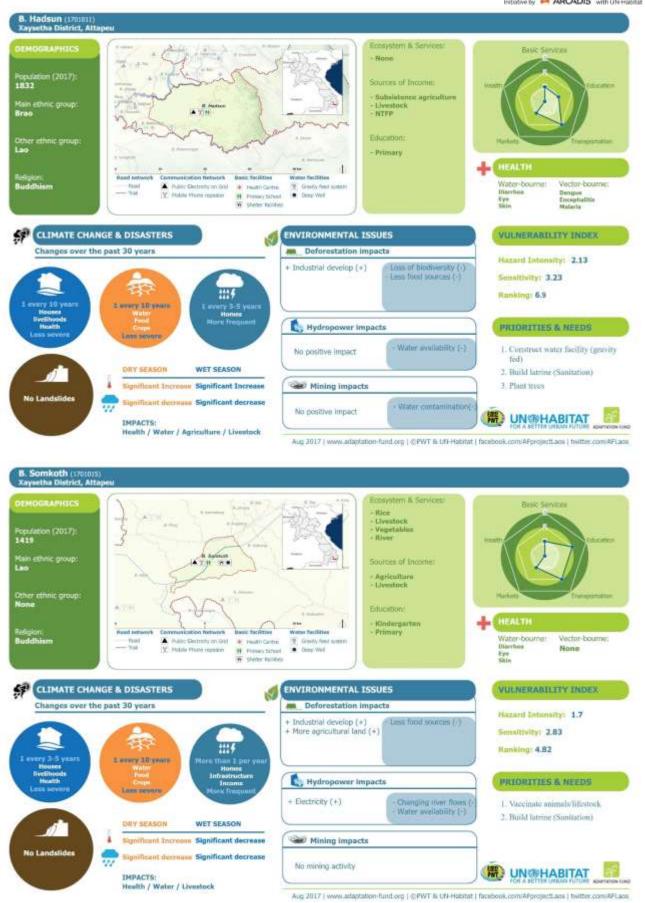
















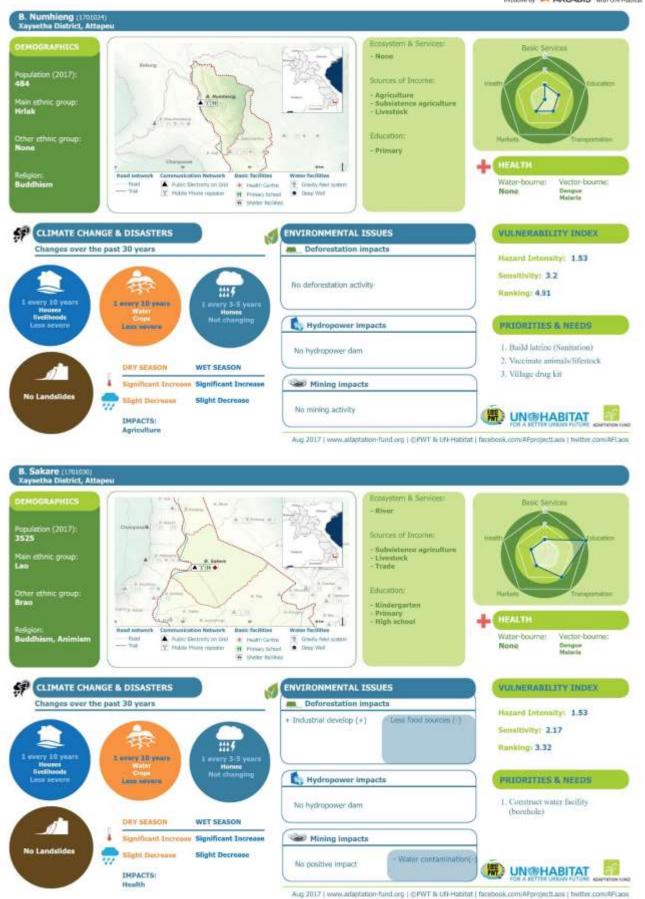












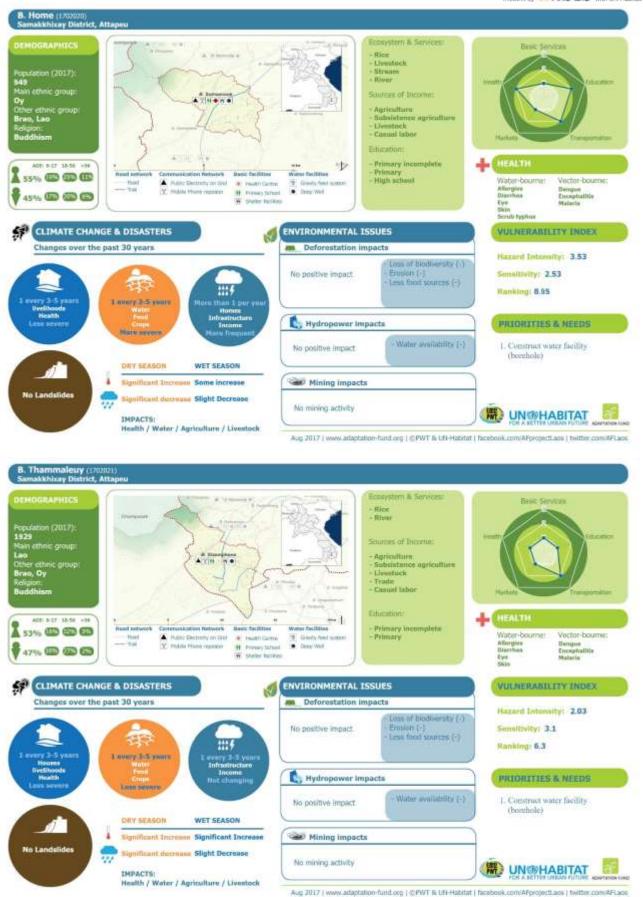




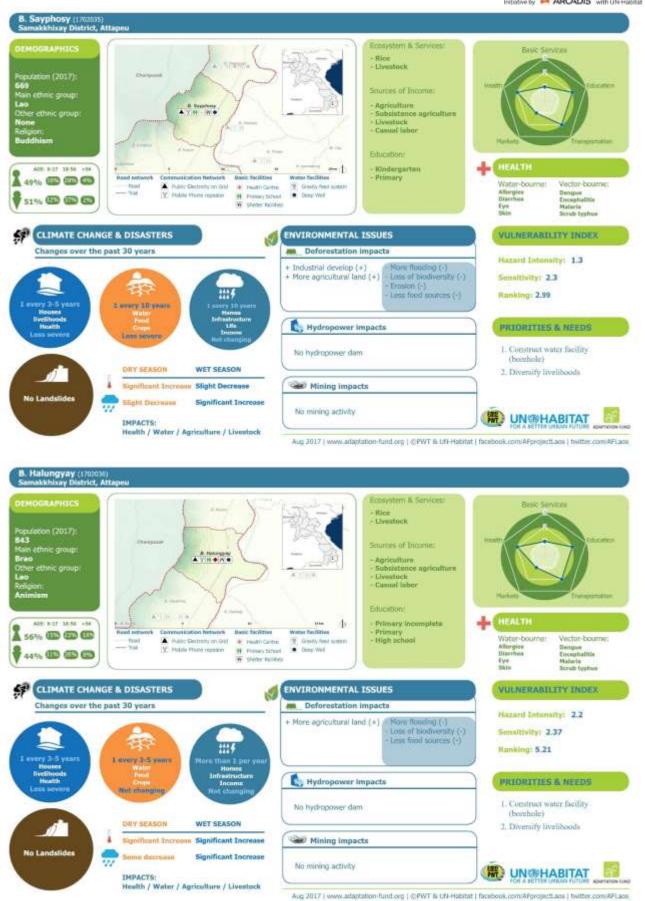








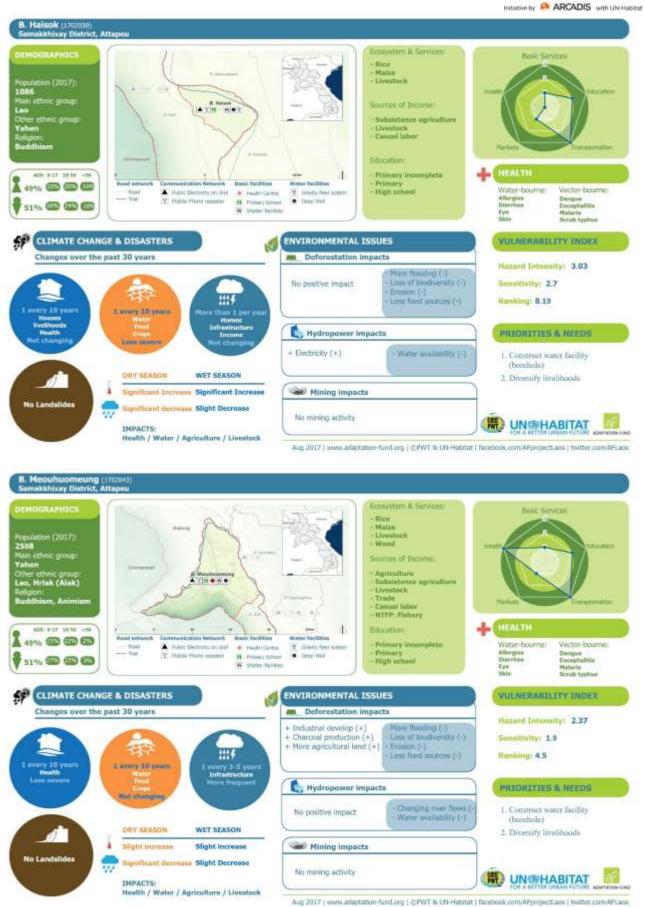


































































































## **COLOPHON**

## MIDTERM EVALUATION ENHANCING THE CLIMATE AND DISASTER RESILIENCE OF THE MOST VULNERABLE RURAL AND EMERGING HUMAN SETTLEMENTS IN LAO PDR A SHELTER MISSION TO LAO PDR, INCLUDING FIELD VISIT

## CLIENT UN-Habitat

AUTHOR Bram Masseur

OUR REFERENCE

DATE 3 May 2019

STATUS Final

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