



## Darwin Initiative: Final Report

To be completed with reference to the “Writing a Darwin Report” guidance: (<http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms>). It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

### Darwin Project Information

Project reference	25-021
Project title	Prosperous Mekong Communities Through Fisheries Co-management That Protects River Biodiversity (AKA: Xebanghieng Communities Fisheries Co-management)
Country(ies)	Lao PDR
Lead organisation	WWF-Laos
Partner institution(s)	<ul style="list-style-type: none"> <li>• Department of Livestock and Fisheries (DLF), Ministry of Agriculture and Forestry Laos;</li> <li>• National University of Laos</li> </ul>
Darwin grant value	£239,546
Start/end dates of project	1 July 2018 to 30 September 2020
Project leader’s name	Sarah George and Sinthone Phoumkhamouane
Project website/blog/social media	<a href="http://www.wwf.org.la/projects/xebanghieng/">http://www.wwf.org.la/projects/xebanghieng/</a>
Report author(s) and date	Sarah George (Freshwater Coordinator, WWF-Laos) October 31 <sup>st</sup> , 2020

## 1 Project Summary

The Mekong River basin is the world’s most productive inland fishery, underpinning the economies of all countries in the Greater Mekong. It is also home to 12 critically endangered species, a unique concentration of threatened endemism. It supports fisheries totalling 2.6 million tons yearly, providing 75% of the animal protein, and 35% of the total protein intake, of 60 million people. According to the Lao Agricultural Census Office (2012), in 2010-11, 71% of all farming families in Laos practiced capture fisheries. In short, wild fish biodiversity and abundance provides a poverty safety net for those who rely on fish protein for subsistence.

However, the ecology of the Mekong River and its tributaries are impacted by human population growth and overexploitation, economic development, including infrastructure and sand/gravel extraction. These have impacts on the spawning grounds of many species of fish, which become at risk due to the changes to the ecology of the deep pools. These changes affect mostly rural people dependent on fish for their subsistence and puts them at risk of falling into poverty. The poorest people are being hardest hit because fishing is their main source of protein. As a result, communities resort to overexploitation; fish stocks continue to decline and villagers spend more time fishing for smaller catches, sometimes leading to conflicts between communities. Women, who rely on fish not only for food (protein) but also income generation (product transformation) are particularly negatively affected by this situation.

These issues were relatively unknown (to people not directly impacted) until reports of fish catch declines were made by fishing communities to WWF and its partners, among other reports that species such as the Mekong giant catfish had all but disappeared. These reports continue to come to WWF Laos’ attention, including from the Xebanghieng River basin, one of the main Mekong River tributaries, where this project was implemented. This project responded to these

biodiversity and poverty challenges by improving freshwater biodiversity and promoting sustainable livelihoods that better manage natural resources, leading to reduced poverty in 10 communities. These target communities live in the Xebanghieng River basin in Savannakhet province, Lao PDR. The key activities conducted through the project included setting up fish conservation zones (FCZ) and fisheries management committees (FMC), developing women-led alternative livelihoods models and advocating with policy makers to further support the establishment of fisheries co-management structures throughout the country.

Random allocation methodology has been applied to a total sample population of 19 eligible villages resulting in 10 treatment and 9 control villages across three districts. The baseline investigation of the situation in each village was able to show how the groups differed (livelihoods activities, fishing habits, ecology) at the baseline, and this methodology will allow for the comparison of mean changes to both groups after implementation to determine the true impact of the project. This setup does not change the benefit to the villages as funding was only available for 10 villages and biases or preference was not a part of the allocation decision. Ideally, the end line survey should be made around a year to two years after the opening of the FCZs and after the livelihood groups started producing inputs to be able to measure their real impact.

*Table 1: FCZ target villages and control villages*

No	District	Target (treatment) Village	No	District	Control Village
1	Songkhone	Donkhiao	1	Songkhone	Miyiam
2	Songkhone	Naxano	2	Songkhone	Kaengdon
3	Thapangthong	Don Kao	3	Songkhone	Narthang
4	Thapangthong	Keangsangkou	4	Thapangthong	Thaphi
5	Phin	Thongmixay	5	Phin	Tang-alai
6	Phin	Gnang	6	Phin	Ke
7	Phin	Phai	7	Phin	Pasit
8	Phin	Paxia	8	Phin	Houyhoy
9	Phin	Houaysing	9	Phin	Kenglaaeng
10	Phin	Phalong			

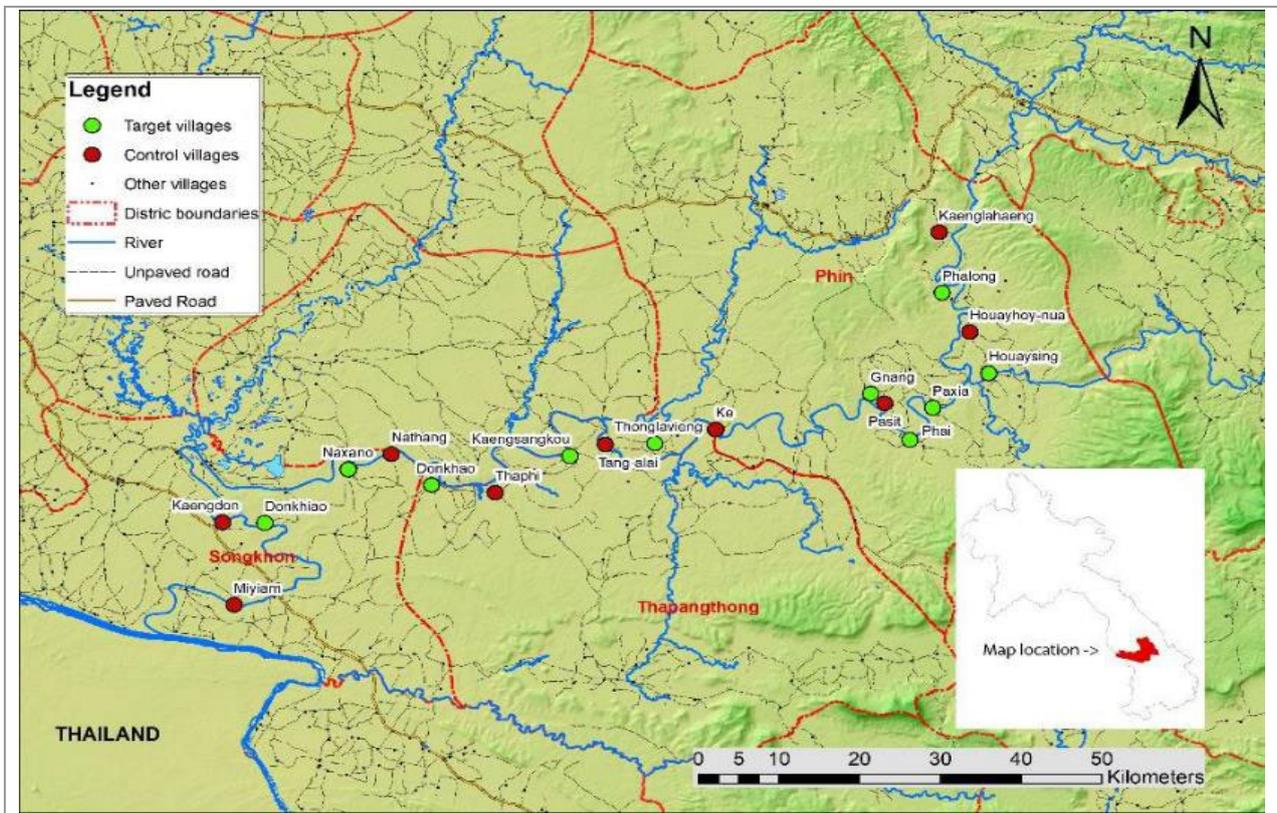


Figure 1: detailed map of target villages

## 2 Project Partnerships

The **Department of Livestock and Fisheries (DLF)** is our key partner in project implementation and with whom an MoU has been signed. This is a Lao Government requirement before activities can be implemented. The DLF was involved in project planning, monitoring and evaluation and all important decision-making. At the implementation level, the project needed to ensure that the plan is in line with those of the Provincial Agriculture and Forestry Office (PAFO) and District Agriculture and Forestry Office (DAFO) and is approved by DLF at the national level.

At the beginning of the project, difficulties arose working with the local government partners such as PAFO and DAFO, due to the fact that they have limited technical staff with the required capacity to contribute to a project of this nature. However, with close cooperation and constant guidance, we were able to help them to quickly understand the project, their role and areas of responsibility. Staff of DAFO and PAFO participated in every activity of the project. However, it has sometimes been challenging, as they are limited in their ability to assign staff to participate in project activities in a timely manner.

Apart from the aforementioned challenges, we have had a collaborative relationship with DLF, PAFO, and DAFO that has been fostered through a long partnership between our respective organizations.

One of the key partners on this project is the **National University of Laos (NUOL)**. The applied research nature of this project created a space for additional expertise to be brought in from the academia and this occurred through the National University of Laos and **Monash University in Australia**. By partnering with these institutions we have had access to academics with more specific expertise than that of WWF alone. The partnership with the National University of Laos has been formalized through the signing of a Memorandum of Agreement. In addition to support from the staff at the university, we have been able to gain access to a researcher from Australia through the **Australian Volunteers Programme**. This volunteer was assisting the NuOL and us in developing the research methodology and evaluation materials to complete the outputs laid out in the logical framework for this project, organize the multi-stakeholder workshop to disseminate the project findings and gather additional information for this report.

Additionally, a partnership with the NUOL was beneficial in Laos as they were able to visit villages and carry out interviews with easier approval than an international organization such as the WWF. This has been of great benefit to us in forging relationships with the relevant Government counterparts involved in this project.

Challenges in a partnership mainly surround administrative requirements. Our financial reporting standards differ in some areas to NUOL due to the international nature of our funding compared with their requirement to comply only with Lao government requirements. This partnership in terms of appropriating funds to the University for research costs, being one of the first we have engaged in Laos, faced teething problems in ensuring that they met our reporting requirements. By the end of the project and notwithstanding some delays detailed below, all reporting requirements have been met successfully.

Following the Government's requirements, a project end meeting was organised in September but has to be postponed to October (see details of the project-end postponed in Appendix IV). On October 21<sup>st</sup>?, all the direct project partners (village representatives, NUOL Faculty of Agriculture) and government counterparts met to monitor the project, assess the implementation of the agreed activities and share their experience from this cooperation with WWF-Laos. The cooperation forged between the different partners through this project is expected to continue even after the project end.

### 3 Project Achievements

#### 3.1 Outputs

##### **Output 1. Ten communities on the Xebanghieng River manage their freshwater resources through effective fisheries co-management structures**

The project supported the creation of 10 officially-recognized Fish Conservation Zones ([see map of the FCZs in Annex 7.2.a.](#)) in the Xebanghieng River basin. Each community was selected through the Free Prior and Informed Consent (FPIC) methodology, which involved the consultation each community group and the local authorities. This output was facilitated by WWF-Laos and the Province and District Agriculture and Forestry Offices (PAFO and DAFOs) during multiple inclusive discussions with the communities. The process, that involved the six steps<sup>1</sup> of the WWF/ DLF guidelines on fisheries co-management ([see full guidelines in the 2009 decree attached in Appendix V.](#)), began in April 2019. The process was completed September 2020, with the first official FCZ announcement on February 27<sup>th</sup>, 2020 in Houaysing village, Phine district and the last official announcement in Phai village (Phin district) on September 11<sup>th</sup>, 2020 ([see pictures of the official FCZ opening ceremonies in Annex 7.2.c and details of the FCZs in Annex 7.2.f.](#))

For each FCZ, a Fisheries Management Committees (FMC) including women representatives was set up from June to August 2019 and approved by the District Governors in January 2020. The 10 FMC are currently functioning in 10 villages of the Xebanghieng River basin ([see official FMC groups approval in Annex 7.2.d., pictures of the FMC in Annex 7.2.h. and details of the FMC 7.2.i.](#)). The FMC members are representatives of groups within the community and actual participants during the meetings can change (these can be men or women and one to several representatives per role) including village leadership, elder, women, youth, police, soldier, village unit and conflict resolution representatives. Each FCZ also has a Community Patrol Team (CPT) to monitor the area and report fishing in the FCZ or illegal fishing incident to the village and district authorities ([see picture of CPTs in Annex 7.2.g. and additional details regarding the CPT in Annex 7.2.i.](#)).

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<sup>1</sup> 1/ Consensus building (including site selection, situation analysis, problem identification, defining objectives, and awareness-raising sessions on the Fisheries Law, the benefits of FCZs, gender equality, prohibited species, etc. with the whole community), 2/ regulations drafting, 3/ regulations revision, 4/ village authorities' approval, 5/ signature of the decree by the District Governor to 6/ officially promulgate the new FCZ

## **Output 2. Households (and, in particular, women) in fisheries-dependent communities benefit from reduction in fishing effort and devote additional time to increase revenue and food availability derived from more diversified livelihoods**

Ten women-led production groups were successfully set up in 10 villages of the Xebanghieng River basin in order to contribute to the socioeconomic development of the villages and reduce pressure on freshwater resources through alternative livelihoods ([see details regarding the women-led livelihood groups in Annex 7.3.](#)). Output 2 was facilitated by WWF-Laos and province and district staff during multiple visits to the target villages. Ten women groups were set up (members, roles, regulations and activity) on time by June 2019 and during the discussions, they identified goat raising and traditional Lao skirt weaving as ideal options. Although all the groups were ready to produce outputs by March 2020 (the goat raising groups were ready to receive their goats as all the members were trained and goat pens were built and experienced women villager trainers were ready to train the weaving groups), field activities were interrupted with the COVID-19 outbreak. Hundred women members of livelihood groups are currently producing outputs but due to events mentioned above that affected the project, both the monitoring of the livelihood groups and the research for measuring the changes in income for these women's households could not be implemented before the project end date.

## **Output 3. Successes and constraints of fisheries co-management structures in the Middle Mekong are assessed and inform Lao fisheries policy makers**

To ensure a solid scientific evaluation of the impacts, all the surveys for the project were developed during the first year of the project. As data collection was slowed down by the September 2019 flooding in the Xebanghieng river basin, data analysis was slower than expected. WWF-Laos hired an intern to help the team with data entry on the computer due to the large amount of information collected on paper during the baseline surveys. The monitoring and evaluation of the data was conducted in partnership with NUoL's Faculty of Agriculture and Monash University who produced a report assessing the baseline of 42 fisheries co-management structures set up in Savannakhet Province ([see full research report in Appendix I.](#)).

The methodology of Output 3 to conduct the assessment was twofold: 1) rapid survey of all 42 villages; 2) thorough assessments in at least eight selected villages based on the results of the first step (create homogeneous groups in terms of linking structure (i.e. law enforcement) and performance (i.e. biodiversity), using a cluster analysis of classification trees. Unfortunately, due to the factors developed in Section 3.2, the end-line comparative research could not be implemented within the project's timeframe. Nonetheless, the results of the 42 villages survey were disseminated in a multi-stakeholder advocacy workshop on September 25<sup>th</sup>, 2020 where the Faculty of Agriculture presented the results, lessons learnt and recommendations for further policy development ([see details regarding the multi-stakeholder workshop at the FAG in Annex 7.6 and the slides of the research presentation in Appendix VII.](#)). The event covered by local media (printed newspapers) and social media (written content, pictures, movie and short clips) ([see all media releases from the project in Appendix VI.](#)).

### **3.2 Outcome**

**Project Outcome: Fish stocks and fish biodiversity have improved and poverty reduced in ten villages in the Xebanghieng River basin through effective community-based conservation of freshwater resources and alternative livelihood models.**

**Project Impact: Improved freshwater biodiversity and sustainable livelihoods that better manage natural resources lead to reduced poverty in the Middle Mekong**

Although both Output 1 and Output 2 have been successfully achieved, the project has encountered repeated external and unpredicted events including:

- The delayed signing of the Memorandum of Understanding (MoU) with the Department of Livestock and Fisheries. The MoU is an official contract between a Project and the Government of Laos (GoL) without which activities cannot be implemented in the country. Final approval was obtained in March 2019, 8 months after the project launch, and subsequently, fieldwork began in April 2019 in the 10 treatment villages ([see picture of the MoU signed and dated in Annex 7.5.a.](#)). Although the official MoU guidelines issued by the Ministry of Foreign Affairs (MOFA) ([See the official MOFA guidelines for the MoU](#)

steps in Annex 7.5.b.) stipulates that the overall signing process should be completed within 2 months, major delays is a recurrent issue for INGOs in Lao P.D.R.;

- Climate and health hazards including heavy flooding of September 2019 (see email exchanges with the Darwin Institute and hydrograph in Annex 7.5.c.) that prevented access to the target villages and heavily impacted the local communities, the subsequent drought in December and January 2019/2020 and Covid-19 pandemic that compelled WWF-Laos to suspend all field activities from March 19<sup>th</sup> to June 15<sup>th</sup>, 2020 (see Appendix III. for the timeline of how the COVID-19 affecting WWF-Laos).

As mentioned in the approved Change Request of May 2020, these events severely delayed implementation of project activities. The set of measurements of the project outcome (see Measurable Indicators of the Outcome in the Logical Framework, Annex I) have assumed timely project implementation and that the end-of-project surveys being conducted in June 2020. With the baseline data collected throughout 2019, this initial research was established and presented in summary and detailed formats by project end. However, it was not possible to conduct meaningful (i.e. that would demonstrate project impact) end-of-project surveys within the lifetime of this grant, as the surveys should be conducted after the key project structures (such as the FCZs and FMCs) have been in place for a substantial time. Nonetheless, it was demonstrated in Butorac et al. (2017) that setting up FCZs leads to increased biodiversity and fish stocks. As research is one of the main foundations of this project, a follow-up phase of the project can demonstrate the outcomes and impacts of the Xebanghieng Communities Fisheries Co-management. This essential research component has indeed been requested by the project partners (village representatives, district, provincial and national authorities and the Faculty of Agriculture of NUOL) during the project end meeting of October 21<sup>st</sup> (see the Concept Note of Phase II in Appendix II).

### 3.3 Monitoring of assumptions

***Assumption 1: No new major infrastructure developments (e.g. dam) will begin within the project lifetime in lowland areas***

No dams and no construction of any dams or other major infrastructure occurred during the project period in the lowland parts of the Xebanghieng River basin.

***Assumption 2: Fish populations can increase despite existing pressures by infrastructure construction at the Mekong Basin level.***

No major infrastructure have been built during the project length and it is therefore assumed that fish populations can increase.

***Assumption 3: No major socially disruptive event (e.g. drought, abnormal and/or non-seasonal flood, social unrest) prevents independent impartial monitoring***

Abnormal flood occurred during the whole month of September 2019 followed by drought in December 2019 and January 2020 and these delayed the monitoring. However, The balance of the treatment and control groups on geographic, biodiversity and socio-economic indicators mean we can still test the counterfactual and determine the impact of the project. However, these natural events, plus the previously mentioned COVID-19 outbreak did affect the project implementation and the possibility to conduct the end-of-project research to measure the project's impact.

***Assumption 4: People in control villages are willing to participate in survey effort***

All interviews in controlled villages were completed and villagers participated in the survey effort willingly.

**Output 1: 10 communities on the Xebanghieng River manage their freshwater resources through effective fisheries co-management structures**

***Assumption 1: FCZ locations allow efficient monitoring and law enforcement by communities***

FCZ areas were determined by the communities themselves and this allowed efficient monitoring and law enforcement.

***Assumption 2: Village leadership is stable and pushes for regulations to be enforced***

Our team worked closely with each village leadership and FMC to ensure the project continues through leadership changes. No village leadership change occurred during the project implementation. Village committees are elected every 4 years but leadership do not substantially change during these village elections.

**Output 2: Households (and, in particular, women) in fisheries-dependent communities benefit from reduction in fishing effort and devote additional time to increase revenue and food availability derived from more diversified livelihoods**

***Assumption 1: Raw materials can be obtained locally and/or purchase is affordable***

WWF-Laos team worked with the production groups to use local and affordable materials. Women weaving groups received natural dye seeds and seedlings to ensure constant availability and have the opportunity to purchase cotton from the trainers or at the local market. The goats of the animal-raising groups have been selected to ensure their good health and adaptability to the local conditions. The pens are built with cheap and easily available material and feed can be produced locally.

***Assumption 2: Access to markets is affordable***

Access to market can be difficult in these remote areas but assistance has been given to overcome any obstacles in accessing markets in a manner that makes the supply of goods cost effective. For example, livelihood activities have been thoroughly selected so that outputs can be easily and regularly sold. The goat raising groups have an easy access to local markets to sell their goats or goat meat, and the women weaving groups will have regular orders from the training group to sell their production, and have the opportunity to sell to the local markets or within their villages.

**Output 3: Successes and constraints of fisheries co-management structures in the Middle Mekong are assessed and inform Lao fisheries policy makers**

***Assumption 1: Access is physically possible to all 42 villages***

All villages can be accessed but the issues posed by poor roads was problematic during the rainy season, and villages were not accessible at all during the September 2019 floods. This did cause delays in project implementation.

***Assumption 2: Villagers in communities where fisheries law enforcement has been weak are willing to participate in surveys***

The NUOL team are experienced at working with communities for data gathering and as a part of the Lao government they were able to visit areas and collaborate with the Provincial and District governments more freely than the WWF. However, their fieldwork was very delayed and WWF faced challenges to obtain detailed fieldwork reports.

***Assumption 3: Subject gathers enough attention for press releases to be published in local media***

The project did gather enough attention for press releases and television reports at the local and national level.

***Assumption 4: No major disruption (either internal or external) prevents the completion of all surveys and data can be processed on time***

The baseline surveys have been completed but with delays. The project end survey had to be cancelled. Data entry and processing also took longer than expected and a volunteer was hired to support this process. This is partly due to the major natural calamities and the MoU delay mentioned above.

***Assumption 5: Policy makers are willing to participate in dissemination meetings and take on the recommendations for follow up actions***

At present, our collaboration with DLF, PAFO and DAFO is strong. Our impact evaluation lead presented the methodology at the University to representatives from DLF and the Dean of the Faculty of Agriculture and it was well received. As DLF, PAFO, DAFO and the NUOL are closely involved in this project through its various phases, the project partners were

receptive to the dissemination workshop and to receiving the results and recommendations of the project.

### 3.4 Impact: achievement of positive impact on biodiversity and poverty alleviation

The rationale for expecting impacts was based on a large set of literature containing qualitative analysis of fisheries co-management, and some with quantitative analysis. Members of the team working on this project from the WWF, NUOL and Monash University previously published a study<sup>2</sup> that showed a tangible increase in number of fish species caught in the past 12 months in villages with the WWF Comfish III project versus those that did not receive the interventions of the project.

The research component of this project expanded on the previous work by following the methodology of including treatment and control groups from the beginning, as opposed to using matching techniques done previously with established FCZs and FMCs. This project will produce a similar biodiversity output indicated by the number of species caught in the past 12 months but will further enrich this data by comparing species richness with catch per unit effort and fish catch monitoring data. Broadening our selection of biodiversity and ecosystem health datasets provides a more complete picture on the effectiveness of projects of this type on improving biodiversity and contributing to poverty alleviation. When completed, this will provide an evidentiary foundation for further implementation of this project in other villages.

Alongside the monitoring of biodiversity, we are measuring livelihood outcomes and nutrition information. The aforementioned previous study determined an increase in nutritional outcomes for girls but not for boys. Through a rapid evaluation of the 42 villages we could determine why this was the case. We should also be able to show that this project is not only good for the environment but also acts to alleviate poverty and malnutrition in the villages that received the project interventions.

The fact that end-of-project surveys will not be conducted during the lifetime of this grant does not imply that the project will not achieve positive impact on biodiversity and poverty alleviation. While it does hinder our capacity to measure impact within the timeframe that was originally planned, it does not prevent WWF from measuring the impact at a later stage, following a period of time suitable to demonstrate the impact of the project.

Finally, through its Fisheries project across the country, WWF-Laos has had an impact on Laos' sustainable fisheries co-management in setting-up an official inclusive methodology. While working with the government, WWF-Laos has also helped to officialise and repertoriate Fish Conservation Zones all around the country.

## 4 Contribution to Darwin Initiative Programme Objectives

### 4.1 Contribution to Global Goals for Sustainable Development (SDGs)

The project is in alignment with the following SDGs:

- **SDG15 (Life on Land)** by conserving fish biodiversity (indicators 15.1, and 15.5);
- **SDG1 (No Poverty)** by offering livelihoods diversification options, the project supported livelihoods improvement, for positive impact especially in terms of food security, nutrition and overall health (indicator 1.4);
- **SDG2 (Zero Hunger)** in particular indicators 2.1 and 2.2, as fish are a key source of protein for local communities in the target area, as well as indicator 2.4 with reference to “sustainable food production systems [...] that increase productivity and production, and that help maintain ecosystems”;

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<sup>2</sup> Declan Butorac, Paulo Santos, Phousavanh Phouvin, Francois Guegan, “Freshwater fisheries conservation can increase biodiversity”, May 27, 2020, Plos One, <https://doi.org/10.1371/journal.pone.0233775>

- **SDG5 (Gender Equality)**, in particular indicators 5.5 and 5.A, as women are included and their voices promoted in the fisheries management committees;
- **SDG16 (Peaceful and Inclusive Societies for Sustainable Development)** by promoting the implementation of the Fisheries Law, the project contributes to indicator 16.3, which encourages the rule of law.

As mentioned previously in this report, since there were significant delays in getting the project started in the field, contribution of the project towards the SDGs 1 and 2 cannot yet be substantiated with scientific research results.

#### **4.2 Project support to the Conventions or Treaties (e.g. CBD, Nagoya Protocol, ITPGRFA, CITES, Ramsar, CMS, UNFCCC)**

The project proposal refers to the CBD's Aichi target as follows:

**Target 1:** Awareness-raising and active participation of communities are an essential component of each step in the setting up of the fisheries committees and conservation zones. As a result of the project, community members are more aware of the values of biodiversity and how to conserve and use it sustainably. This was reflected, per example, in the high participation of the community members (village leadership, FMC/ patrol team and livelihood groups members, pupils and youths, fishermen, women and elders) to the FCZ opening ceremonies with a total of 1,056 community members (including 596 women).

**Target 2:** WWF Laos helped develop the 2009 Fisheries Law that allowed for community fisheries to exist in Laos. An important aspect of this law is to have communities at the centre of conservation. As a result, the biodiversity value of freshwater resources has been integrated into the national development and poverty reduction strategies. This project continues this effort by supporting 10 communities while reflecting on the long term impact and sustainability of the model to inform development and poverty reduction strategies.

**Target 6:** By supporting 10 communities to better manage fish stocks and harvest them sustainably, overfishing is avoided so that the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.

**Target 11:** The importance of freshwater protected areas is often hidden by forest protected areas and marine parks and have in the past received little attention by conservationists. However, they play a vital role in supporting river biodiversity, especially since there are no other way to conserve wild fish in a tropical river system such as the Mekong, and because they are areas of unmatched importance for biodiversity and ecosystem services to the local communities.

**Target 12:** This project focuses on contributing to the achievement of this Target through improving the conservation status of threatened Mekong Megafauna. These species are chronically threatened largely through unsustainable fishing practices resulting in over-fishing. Through using science to identify conservation zones and employing a method successfully implemented for fish recovery in numerous sites, the project will contribute to improving conservation status, and thus reduced extinction risk, for endangered species that benefit from lowland seasonal flooding in Mekong tributaries such as the critically endangered Mekong giant catfish, and lesser known threatened species such as the *Wallago attu* or *Bagarius yarrelli*, both of them near-threatened and with population rapidly decreasing.

**Target 14:** In the villages of the project areas, fisheries are an essential part of livelihoods. Other livelihood options come in addition to fisheries, including paddy rice, and vegetable cultivation, etc. but fisheries are central. Hence by improving fisheries management, and eventually increasing fish stocks, the project will be restoring and safeguarding ecosystem services that sustaining the health, livelihoods and well-being of communities.

**Target 19:** The comprehensive M&E framework that this project will follow is not only focused on project delivery within the imparted timeframe, but also on previous community fisheries accomplishments, to assess their long term impact on biodiversity. By means of thorough scientific examination, the impact of existing fisheries co-management structures will be assessed and the results will be shared and transferred, with a view to improve, if necessary, the regulatory frameworks.

However, the delays mentioned earlier in this report have delayed implementation of activities in target communities, hence none of the above can yet be substantiated with evidence in this reporting period.

### 4.3 Project support to poverty alleviation

According to the Lao Agricultural Census Office (2012), in 2010-11, 71% of all farming families in Laos practiced capture fisheries. In short, wild fish biodiversity and abundance provides a poverty safety net for those who rely on fish protein for subsistence.

However, infrastructure development and illegal practices have affected the capacity of the Mekong river system to produce fish. These changes affect mostly rural people dependent on fish for their subsistence and puts them at risk of falling into (further) poverty. The poorest people are being hardest hit because fishing is their only source of protein. As a result, communities resort to overexploitation; fish stocks continue to decline and villagers spend more time fishing for smaller catches, sometimes leading to conflicts between communities.

The project, by setting up community management structures that increase fish stocks, and by offering livelihood diversification options, supported livelihoods improvement, with positive impact especially in terms of food security, nutrition and overall health. This contributes to reducing poverty.

However, as stated above, these objectives could not yet be substantiated with evidence for this specific project, as the end line research has not yet been implemented.

### 4.4 Gender equality

Through the project's outcome 1, women are represented in the fisheries committees (with between one and three women representatives and eight members present during the FMC meetings), and hence benefit from increased voice in the fisheries decision-making processes.

Through output 1, it is also expected that all members of households will benefit from reduction in fishing effort. As fishing, which is mostly done by men, becomes more regulated and harvest more predictable, women are able to plan and develop small businesses in fish products (e.g. fermented or dry fish), or agriculture extension, and increase their income. Eventually, thanks to reduced fishing time, families – both men and women – have the possibility to diversify their income. This allows them to cope better with economic stress.

In order to support this, the project has raised the awareness of target communities about gender equality in natural resources management, using material used in other projects that have demonstrated a positive impact on women's participation in the village natural resources management processes. ([See details raising details activities in Annex 7.4.](#))

Through the project's output 2, women benefit from increased income from livelihood diversification. This will in turn increase their voice in household decision making so that they have a stronger voice, among others, in natural resources management.

This project has disaggregated data by gender in all three outputs starting with baseline, and in all follow-up surveys. This allows us to monitor women's participation, representation, and how women benefit from the project ([see also project standard measures in annex 3](#)).

### 4.5 Programme indicators

- **Did the project lead to greater representation of local poor people in management structures of biodiversity?**

Yes, the project ensured participatory FPIC approach and 6 steps regulations drafting and approved (see section 3.1) to ensure that each groups of the community were included in decision-making. The populations of the target villages of this project are particularly poor and vulnerable, with a high dependency on natural resources. The livelihood activities prioritized women from the poorest local households, after consultation with the village leadership to determine the most vulnerable households.

- **Were any management plans for biodiversity developed and were these formally accepted?**

Management plans for biodiversity were developed through officially recognized FCZ regulations for each village (see Annex 7.2.d.).

- **Were they participatory in nature or were they ‘top-down’? How well represented are the local poor including women, in any proposed management structures?**

The project teams ensured the participatory approach to ensure that all groups of the communities were included, especially women, from the beginning of the project (FPIC village selection) and throughout the entire process (FMC, livelihood activities, surveys, FCZ opening ceremony, etc.). The communities selected for this project are particularly poor, vulnerable and vulnerable.

- **How did the project positively influence household (HH) income and how many HHs saw an increase?**

The project did positively influence the income of 10 households per village through livelihood activities. Each group received training (goat raising with basic veterinary, goat feeding, shelter building, etc. or traditional weaving including natural dyeing techniques) and material support (weaving material and seedling of natural dyes or 4 females and 1 male goat per household), easy access to market (sell goats in local villages for a high price or orders for traditional skirts through the Lahanam women group who trained the weaving groups) to ensure stable and long-term revenue.

- **How much did their HH income increase (e.g. x% above baseline, x% above national average)? How was this measured?**

To be measured during the end line research (see section 3.1).

#### 4.6 Transfer of knowledge

The main project activities and outputs (MoU signing with the details of the project, yearly and project end meetings, FCZ opening ceremonies, multi-stakeholder dissemination meeting at the Faculty of Agriculture) have been covered by local and national televisions and newspaper. Several Facebook posts have also been published on WWF-Laos' page (as mentioned previously, see all media releases related to the project in Appendix VI.). The Xebanghieng Communities Fisheries Co-Management project also has a page of its own on WWF-Laos' site<sup>3</sup>.

Each of the 10 FCZ regulations (that include the exact FCZ area, prohibited fishing gears and fishing techniques, penalties in case of violations, etc.) have been formally approved by the District Authorities and disseminated to the target and neighbouring communities and to local governments to ensure the dissemination of information. and to the government partners of the area. Finally, 3 students of Dr. Phouvin Phousavanh, the lead partner from WWF-Laos for the research component (i.e.: Output 3) of the Xebanghieng project, and professor at the Faculty of Agriculture (FAG), obtained their qualification through the project. One female student, who is working at the Department of Livestock and Fisheries, WWF-Laos' implementing partners for this project, presented a paper (Fish Population Survey in the Xebanghieng River Basin) and obtained her Master's Degree. Two other students, 1 male and 1 female, obtained their Bachelors' Degree with their paper Fish Survey and Data Collection in the Xebanghieng River Basin. Adding to this, 10 students from the FAG received a training by a researcher from the Monach University (supported by the Australian Volunteers Program), Declan Butorac, on data collection and analysis through the CSPro program. Declan also trained 2 FAG students on fish survey and data collection which led to the obtainment of their degree (see summarised information in Annex 3).

#### 4.7 Capacity building

Dr. Phouvin Phousavanh, his team and his students have had the opportunity to cooperate with researcher (Declan Butorac) and professor (Dr. Paulo Santos) from the Monach University in Australia and exchange with these international experts on various subjects, including the use of professional data collection and analysis program (CS Pro). They were also invited to participate

<sup>3</sup> <https://www.wwf.org.la/projects/xebanghieng/>

in monitoring meeting with the partners of Government of Laos (yearly meeting in January 2020 and project-end meeting in October 2020), where Dr. Phouvin and his team were able to share the results of their research and be recognised for the quality of their work.

## 5 Sustainability and Legacy

Due to delays in project implementation, the project has had limited opportunities to consider its legacy, apart from the natural questions that come with delays in project implementation, i.e. how to ensure that the project reaches the objectives set in the exit strategy. The latter is based on the idea that the project will reach a stable and sustainable end point in the 10 target communities through the creation of 10 co-management structures that will continue to manage fisheries after project end as well as diversified livelihoods that will benefit women and men in target communities in the long term.

These communities live on the Xebanghieng River, which is one of the only Mekong tributaries on which there are no large dams yet, which is likely to remain so due to its low elevation profile. This guarantees the sustainability of conservation efforts on the river as well as supporting the fish spill-over effect to the Mekong main stem.

Aside direct biodiversity sustainability, our exit strategy consisted of enhancing the capacity of villagers and setting up structures enabling communities to manage their commons. This approach aims at building the systems and knowledge base required for longevity of behaviour changes. This is reinforced through demonstrating the value of FCZs through awareness-raising efforts (sessions supported by information, education and information (IEC) material, consensus building, group discussions, etc.). Eventually, adult villagers will fish more responsibly and take an active part in fisheries co-management (e.g. be part of the management committee), making this project sustainable.

Since we were able to sign our MoU only in March 2019, project implementation was first delayed by 6 months. A request for a 3-month project extension (to September 2020) was approved in May 2019. Further events (see section 3.1) has also impacted the timeline of project implementation. As mentioned earlier in this report, while our capacity to evaluate project impact was affected by the delays in activity implementation, we foresee that the sustainability and legacy of the project will not be severely affected. Regardless, WWF will seek to continue to support target villages after the completion of this grant, to ensure the communities are accompanied with adequate support in the first years of managing fisheries co-management structures.

The project staff will continue to work on another project of WWF-Laos, the Lao-Thai Fisheries Project along the Mekong river in Xayboully and Xayphouthong districts in Savannakhet province. This project is supported by WWF-Switzerland and WWF-Singapore, who also funded the staff costs during the Xebanghieng project no-cost extension period from July to September 2020. In the meanwhile, WWF-Laos' Freshwater Coordinator will seek funding for a new phase of the Xebanghieng project to continue the research and ensure additional support to the local communities beyond the timeframe of this project.

## 6 Lessons learned

As mentioned in the previous reporting period, communities have shown strong interest in working with us, ensuring the sustainability of this project on the long term. Local wisdom, knowledge and skills were taken into account at all steps of the project's implementation.

The collaboration with the NUoL has been challenging for our team as they faced major delays in field activities implementation and did not communicate this to our team. Their activity progress reports were weak and were delayed. However, the final research report was of good quality and is very promising for the conclusion regarding the benefits of fisheries co-management. For the next phase, 6-monthly meetings between NUOL and project team will be organised to ensure regular communication and updates regarding the progress and obstacles faced in the field.

The local government (especially the PAFO and DAFO) have proved to be strong partners, and active in fieldwork preparation and implementation.

In a project with this number of partners, effective coordination is key. The time needed for coordination and allowing partners to manage their own schedules was underestimated at the time of project design. This left little room for manoeuvre in case of seriously disruptive events, which, as they happened, had major impact on project implementation.

As most of the disruptive events were out of the project's control, there is not much that can be changed in project design for the next phase. The Lao political and bureaucratic context to obtain the MoU, for example, is a recurrent issue that INGOs have to face but that usually take less time for a second phase. Natural disaster too cannot be controlled but because they happen conservation is essential to respond to climate change.

## 6.1 Monitoring and evaluation

Output 3 on its own is almost entirely dedicated to M&E. Outputs 1 and 2 also have a strong M&E component, and are key not only to ensure effective management of the project but also in producing the data necessary to publish the peer-review papers that will originate from the project.

The M&E framework has not changed since the start of the project – apart from adding another 3 months to the project as no-cost extension and changes in milestones to reflect the delays in getting the project started (all this has been approved by DEFRA). The framework has been very helpful in guiding the project at the different stages of planning and implementation.

The cumulative effect of the challenges met by the project since the start meant that we could not conduct the full set of end-of-project surveys by September 2020. This has implications with regards to our capacity to substantiate our impact assumptions. This will be the subject of a change request shortly after this report is submitted.

Importantly, a coordination meeting – which serves the purpose of monitoring and evaluation under the MoU between WWF and the DLF – was organized in Savannakhet in January 2020, including representatives from DAFO (of each district), PAFO, DLF, Ministry of Agriculture, Ministry of Foreign Affairs, NUoL and the Ministry of Natural Resources, totalling 60 participants (including 10 women). During this meeting, the project team summarized the achievements of the project. The main recommendations for the Government were as follows:

- The PAFO recommended to select Lao goat species, which are the most adapted to the local environment. Other NGOs have implemented similar projects with non-native goat species, who ended up being sick quickly because they were not fit for the local context. We followed this recommendation for the goat selection;
- The Districts requested an extension of the project to ensure its sustainability and to be able to measure accurately the impacts and effects of the activities before the Project end.

At the end of the meeting, the participants visited target villages (Houadam in Xayphouthong District, Savannakhet Province) of a previous WWF Laos (Comfish II) Project and its successful FCZ that opened in 2015 and is still functioning now. The participants discussed with the village leadership and members of the livelihood groups. In this village, 10 Households received 17 goats in 2015. From 2015 to January 2020, the total number of goats that were raised and sold in the village is 235. The group extended to 20 households and the income from this activity helped villagers in having funds to send their children to school, pay for medical bills and purchase food, besides other small expenses. The major issue these villagers are facing is weak goats that are getting sick easily, due to the fact that they are a non-Lao species.

During the project-end meeting in October 2020, all the different participants requested a second phase for the project to monitor the FCZ and livelihood outputs after the final activities were implemented and to continue the research with the post-project survey in order to measure the Outcome of the Xebanghieng project.

## 6.2 Actions taken in response to annual report reviews

*Reviews from annual report in 2019 and responses to reviews from the Annual Report in May 2020*

No.	Comment	Discuss with Darwin	Next half year report	Next Annual Report	No response needed
1	Please be aware that the rearrangement of the activity dates will put additional pressure on the team members. This needs careful management.				x
2	Please make sure that Darwin Initiative will be suitably recognised in all materials produced in the coming project years as appropriate.			x	
3	In light of the delay it may be worth revising some of the Output Indicators. For example Output Indicator 2.4 may be difficult to measure in such a short time span.			x	

**Review point 2:** Darwin is identified suitably on the WWF Laos website, on our Facebook page and in our meetings with partners (see annex 4.I.12).

**Review point 3:** yes, indicators will be reviewed and a new proposition will be made in a change request shortly after submission of this report. Overall, the point of the short time span is very well taken. The project was indeed planned ambitiously and the suite of disruptive events that have happened during the lifetime of this grant have jeopardized our capacity to deliver as initially planned, especially in terms of impact measurement. As mentioned in 3.5, WWF will seek to monitor project impact at a later stage, after enough time has passed to demonstrate the project impact and sustainability. This is currently being designed by WWF Laos together with Monash University and the National University of Laos and will take the form of a project follow-up phase fund-raising concept.

*Reviews from Annual report in 2020*

No.	Comment	Discuss with Darwin	Next half year report	Next Annual Report	No response needed
1	It would be great if you could share the approved FCS and FMC regulations			x	
2	The report states that Activity 2.3 was cancelled but it is unclear for the reviewer if this decision was agreed with DI.	x?			
3	The report is expressing doubts regarding Activity 3.7 and 3.8: a planned short movie and a multi-stakeholder workshop. From the report it is not clear if this potential change has been already discussed with DI.	x			
4	The main evidence provided in the report is based on photographic documentation and this could be improved by providing additional documentation or more details regarding the contents of the provided photos				x
5	In order to support the gender equality process, the project is raising the awareness of the target communities using specific support materials. But the report provides no evidence of the used materials. It would be great to share this material in your next report with the reviewer.			x	

**Review Point 1:** See official regulations attached in [Annex 7.2.d](#) and [7.2.e](#).

**Review Point 2:** Activity 2.3 was postponed due to the COVID-19 outbreak but is now completed

**Review Point 3:** Activity 3.7 was cancelled and approved by the Darwin Initiative after the Change Request of May 26<sup>th</sup>, 2020. Activity 3.8 was successfully implemented on September 25<sup>th</sup>, 2020.

**Review Point 5:** [See awareness-raising details in Annex 7.4.](#)

## 7 Darwin identity

The project has a dedicated page on WWF Laos' website (<http://www.wwf.org.la/projects/xebanghieng/>) where the Darwin Initiative funding is fully recognised as a distinct project. The Darwin Initiative logo was displayed during the yearly coordination meeting held in Savannakhet in January 2020 (see details in [Annex 7.1.b](#), [7.1.c](#) and [7.1.d](#)), during which the WWF-Laos Conservation Director explained to the audience basic information about the Initiative. A Facebook post was published after the meeting: <https://www.facebook.com/wwflaosoffice/posts/2134646079971756>. The logo is printed on each

of the 10 FCZs panel (see Annex 7.2.b.) placed in the target villages and, during the FCZ official openings, the Savannakhet Fisheries team explained the Darwin Initiative's support to the communities and authorities present. Some of these openings were covered by local and national television and newspaper journalists. The Darwin Initiative logo was also displayed during the project-end meeting held in Savannakhet in October 2020, during which the WWF-Laos Fisheries Coordinator reminded information regarding the Initiative and the funding of the Xebanghieng Communities Fisheries Co-management project (see details in Annex 7.1.e, 7.1.f. and 7.1.g.). The local communities, government and partner are now familiar with the Darwin Initiative.

## 8 Finance and administration

### 8.1 Project expenditure

Project spend (indicative) since last annual report	2020/21 Grant (£)	2020/21 Total actual Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				-
Operating Costs				
Capital items (see below)				
Others (see below)				
Audit costs				
<b>TOTAL</b>				

Staff employed (Name and position)	Cost (£)
SOUTCHAI KHAMPHOUXAY	
VANPHENG SINGHARAD (Project Coordinator, Savannakhet Fisheries)	
SARAH GEORGE (Freshwater Coordinator)	
PHOUMIXAY PHANTHAVONGS (Project Officer)	
KONGSENG VANNACHOMCHAN (Project Officer, Biodiversity)	
KTTISACK NANTHANA (Senior Finance Officer)	
FRANCOIS GUEGAN (Conservation Director)	
SOMCHIT PHATSADA Honekeo was mentioned during a change request	
<b>TOTAL</b>	

Capital items – description	Capital items – cost (£)

Honda Wave (two motorbikes)	
Laptops	
<b>TOTAL</b>	

Other items – description	Other items – cost (£)
Communication material	
Grants to production groups	
<b>TOTAL</b>	

## 9 OPTIONAL: Outstanding achievements of your project during the (300-400 words maximum). This section may be used for publicity purposes

I agree for the Darwin Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here)

The Xebanghieng Communities Fisheries Co-Management project successfully supported the creation of 10 officially-recognized Fish Conservation Zones (FCZ) in the Xebanghieng River basin.

Each FCZ has its own Fisheries Management Committees (FMC) composed of community representatives to monitor the FCZs and Community Patrol Teams (CPT) to guard the FCZs from illegal and unauthorised activities. Each local community to engage for FMC was selected through the Free Prior and Informed Consent (FPIC) methodology which involved the prior consultation each community group and the local authorities, detailed sharing of information regarding the project, its benefits and requirements, and with facilitation from WWF-Laos to ensure that the community freely consented to the project and had the opportunity to refuse to participate. FPIC was also used during multiple inclusive discussions for key decisions related to the project (regulations of the FCZs, the selection of sustainable livelihood activities, etc.) and is essential to ensure the sustainability of the activities and to promote the empowerment of the local communities involved in conservation projects.

Ten women-led production groups (totalling to 100 members) were successfully set up in 10 villages of the Xebanghieng River basin in order to contribute to the socioeconomic development of the villages and reduce pressure on freshwater resources through diversification of livelihoods (i.e., traditional Lao cotton skirt weaving with natural dyes and goat raising).

To ensure a solid scientific evaluation of the impacts of the project, a research component was implemented through a partnership with the Natural University of Laos and the Monash University based in Australia. A baseline research report was produced after a thorough survey of the 10 target/treatment villages, nine control villages and a rapid survey of 42 villages along the Xebanghieng River basin. WWF-Laos is now preparing to fund-raise for a second phase for this project to monitor the FCZs, FMCs, CPTs and livelihood groups and provide additional support where needed. This second phase will also aim to conduct the post-project surveys and comparative research to demonstrate the project impacts.

Notwithstanding several delays due to external factors (including delays related to the local bureaucratic requirements and natural disasters – flooding, drought and COVID-19), the project was a success that drew the attention of local and national media.

### 9.1 Outcome

**Project Outcome: Fish stocks and fish biodiversity have improved and poverty reduced in ten villages in the Xebanghieng River basin through effective community-based conservation of freshwater resources and alternative livelihood models and Project**

**Impact: Improved freshwater biodiversity and sustainable livelihoods that better manage natural resources lead to reduced poverty in the Middle Mekong**

Although both Output 1 and Output 2 have been successfully achieved, the project had encountered repeated external and unforeseen events including:

- The delayed signing of the Memorandum of Understanding (MoU) with the Department of Livestock and Fisheries. The MoU is an official contract between a Project and the Government of Laos (GoL) without which activities cannot be implemented in the country. Final approval was obtained in March 2019, 8 months after the project launch. Soon after, the fieldwork was begun in April 2019 in the 10 treatment villages ([see picture of the MoU signed and dated in Annex 7.5.a.](#)). Although the official MoU guidelines issued by the Ministry of Foreign Affairs (MOFA) ([See the official MOFA guidelines for the MoU steps in Annex 7.5.b.](#)) stipulates that the overall signing process should be completed within 2 months, major delays is a recurrent issue for INGOs in Lao P.D.R.;
- Natural calamities including heavy flooding of September 2019 ([see email exchanges with the Darwin Institute and hydrograph in Annex 7.5.c.](#)) that prevented access to the target villages and heavily impacted the local communities, the subsequent drought in December 2019 and January 2020 and the Covid-19 pandemic that compelled WWF-Laos to suspend all field activities from March 19<sup>th</sup> to June 15<sup>th</sup>, 2020 ([see Appendix III. for the timeline of how the COVID-19 affecting WWF-Laos.](#)).

As mentioned in the approved Change Request of May 2020, these events substantially delayed implementation of the project activities. The set of measurements of the project outcomes ([see Measurable Indicators of the Outcome in the Logical Framework, Annex I](#)) assumed timely project implementation and end-of-project surveys being conducted in June 2020. With baseline data collected throughout 2019, this initial research was established and presented in summary and detailed formats by the project end date. However, it was not possible to conduct meaningful (i.e. that would demonstrate project impact) end-of-project surveys within the lifetime of this grant, as the surveys should be conducted after the key project structures (such as the FCZs and FMCs) have been in place for a suitable period of time. Nonetheless, it was demonstrated in Butorac et al. (2017) that setting up FCZs leads to increased biodiversity and fish stocks and as research is one of the main focus of this project, a follow-up phase will support demonstration of the impacts of the Xebanghieng Communities Fisheries Co-management. This essential research component has been requested from WWF-Laos by the project partners (village representatives, district/ provincial and national authorities and the Faculty of Agriculture of NUOL.

## Annex 1 Project's original (or most recently approved) logframe, including indicators, means of verification and assumptions.

Note: Insert your full logframe. If your logframe was changed since your Stage 2 application and was approved by a Change Request the newest approved version should be inserted here, otherwise insert the Stage 2 logframe.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p><b>Impact:</b> (Max 30 words)</p> <p>Improved freshwater biodiversity and sustainable livelihoods that better manage natural resources lead to reduced poverty in the Middle Mekong.</p>			
<p><b>Outcome:</b> (Max 30 words)</p> <p>Fish stocks and fish biodiversity have improved and poverty reduced in ten villages in the Xebanghien River basin through effective community-based conservation of freshwater resources and alternative livelihood models</p>	<p>0.1 → By June 2020, an average of 10% decrease in fishing effort for the same yield (catch per unit effort) is observed by all fishing households in 10 villages (<b>baseline</b> to be determined during pre-project surveys)</p> <p>0.2 Time freed from fishing is reallocated to other livelihood options in at least 50% of fishing households in 10 villages (<b>baseline</b> to be determined during pre-project surveys)</p> <p>0.3 → By June 2020, mean last capture dates for 2 selected endangered endemic species show a decrease from project start in 10 villages (<b>baseline</b> to be determined during pre-project surveys)</p> <p>0.4 → By June 2020, the knowledge, attitude and practice (enforcement) of the Fisheries Law in 10 villages has increased by at least 50% (<b>baseline</b> to be determined during pre-project surveys)</p>	<p>0.1 → Time use module surveys pre and post-project with selected households</p> <p>0.2 → Time use module surveys pre and post-project with selected households</p> <p>0.3 → Local ecological knowledge surveys (last sighting date interviews) pre and post project with selected households</p> <p>0.4 → Knowledge, attitude and practice surveys pre and post-project with selected households</p>	<ul style="list-style-type: none"> <li>- No new major infrastructure developments (e.g. dam) will begin within the project lifetime in lowland areas</li> <li>- Fish populations can increase despite existing pressures by infrastructure construction at the Mekong Basin level</li> <li>- No major socially disruptive event (e.g. drought, abnormal and/or non-seasonal flood, social unrest) prevents independent impartial monitoring</li> <li>- People in control villages are willing to participate in survey effort</li> </ul>

<p><b>Outputs:</b></p> <p>1. 10 communities on the Xebanghieng River manage their freshwater resources through effective fisheries co-management structures</p>	<p>1.1 → 10 fish conservation zones (FCZ) officially announced by District authorities in the Xebanghieng River basin by May 2020 (<b>June 2019 milestone:</b> FCZ process in 10 villages 30% complete on average)</p> <p>1.2 → 10 fisheries management committees (FMC) officially set up, each including women representatives, approved by District authorities and functioning in 10 villages in the Xebanghieng River basin by May 2020 (<b>June 2019 milestone:</b> all FMC members are selected in at least 5 villages)</p>	<p>1.1.1 → Publication of FCZ District decrees</p> <p>1.1.1 → Project monitoring records</p> <p>1.2.1 → FMC official members lists</p> <p>1.2.2 → Project monitoring records</p>	<ul style="list-style-type: none"> <li>- FCZ locations allow efficient monitoring and law enforcement by communities</li> <li>- Village leadership is stable and pushes for regulations to be enforced</li> <li>- No new major infrastructure developments (e.g. dam) will begin within the project lifetime in target villages or directly upstream</li> </ul>
<p>2. Households (and, in particular, women) in fisheries-dependent communities benefit from reduction in fishing effort and devote additional time to increase revenue and food availability derived from more diversified livelihoods</p>	<p>2.1 → 10 women-led production groups set up in 10 villages in the Xebanghieng River basin by June 2019</p> <p>2.2 → Livelihood diversification options identified by 10 women-led production groups in 10 villages in the Xebanghieng River basin by August 2019</p> <p>2.3 → 10 women-led production groups in 10 villages in the Xebanghieng River producing outputs by March 2020</p> <p>2.4 → Time spent by women to diversify both food availability and income increased by 20% in 100 target households in 10 villages in the Xebanghieng River basin by June 2020</p>	<p>2.1 → Production groups registration</p> <p>2.2 → Groups meeting minutes</p> <p>2.3 → Products for sale or consumption</p> <p>2.4 → Time use surveys pre and post-project</p>	<ul style="list-style-type: none"> <li>- Raw materials can be obtained locally and/or purchase is affordable</li> <li>- Access to markets is affordable</li> <li>- No major socially disruptive event (e.g. drought, abnormal and/or non-seasonal flood, social unrest) prevents people from investing in new livelihoods activities</li> </ul>

<p><b>3. Successes and constraints of fisheries co-management structures in the Middle Mekong are assessed and inform Lao fisheries policy makers</b></p>	<p>3.1 → Rapid evaluation report of 42 fisheries co-management structures in Savannakhet Province, completed by June 2019</p> <p>3.2 → Evaluation report of at least 8 fisheries co-management structures in which change can be attributed to previous WWF/DLF interventions, including recommendations, completed by August 2019.</p> <p>3.3 → Publication of results and recommendations through local media (local newspapers), written material (policy brief), and social media (articles, movie, clips), by March 2020 (<b>milestones:</b> first news items published before March 2019; short movie completed by December 2019)</p> <p>3.4 → Commitment made by Fisheries authorities to promote fisheries co-management nationwide and the project's research recommendations during multi-stakeholder advocacy workshop presenting the results of both surveys and previous research, conducted before March 2020.</p>	<p>3.1.1 → Law enforcement practice and perception surveys</p> <p>3.1.2 → Rapid biodiversity surveys using local ecological knowledge</p> <p>3.2 → Evaluation report and recommendations</p> <p>3.3.1 → At least 2 press releases and newspaper articles, one policy brief and at least 10 social media content</p> <p>3.3.2 → One short movie and 2 short clips promoting fisheries co-management</p> <p>3.4 → Participants list and minutes of meeting, recommendations, public statement by fisheries authorities</p>	<ul style="list-style-type: none"> <li>- Access is physically possible to all 42 villages</li> <li>- Villagers in communities where fisheries law enforcement has been weak are willing to participate in surveys</li> <li>- Subject gathers enough attention for press releases to be published in local media</li> <li>- No major disruption (either internal or external) prevents the completion of all surveys and data can be processed on time</li> <li>- Policy makers are willing to participate in dissemination meetings and take on the recommendations for follow up actions</li> </ul>
<p>1.1 → Desk review and GIS mapping of potential new target villages on the Xebanghieng river and its tributaries, included 10 target villages and 10 control villages</p> <p>1.2 → Selection of 10 target villages and 10 control villages and seek FPIC (Free Prior and Informed Consent)</p> <p>1.3 → Survey 10 target villages and 10 control villages pre-project (surveys including: law enforcement KAP, time use module, food consumption and anthropometric measurements from local health centres) with village authorities and randomly selected household representatives</p> <p>1.4 → Conduct last sighting date interviews in 10 target villages and 10 control villages pre-project</p> <p>1.5 → Start process of setting up Fish Conservation Zones (FCZs) and Fisheries Management Committees (FMC) in 10 target villages: Consensus Building, with awareness raising sessions on the benefits of FCZs, prohibited fish species, Fisheries Law and gender equality</p>			

- 1.6 → Continue process: Draft Regulations, including demarcation of FCZ and creation of FMC
- 1.7 → Continue process: Revisions and Update of Regulations of village fisheries
- 1.8 → Continue process: Village Approval of regulations
- 1.9 → Continue process: District Approval (decree) of regulations
- 1.10 → Finalize process: Announcement and Dissemination of regulations
- 1.11 → Survey 10 target villages and 10 control villages post-project (surveys including: law enforcement KAP, time use module, food consumption and anthropometric measurements from local health centres) with village authorities and randomly selected household representatives
- 1.12 → Conduct final last sighting date interviews in 10 target villages and 10 control villages post-project
  
- 2.1 → Survey 10 target villages and select pilot households to develop women-led production groups; seek FPIC
- 2.2 → Form 10 women production groups (one in each village)
- 2.3 → Survey group members pre-project (combine with activity 1.3)
- 2.4 → Select livelihoods diversification activities to be supported and funded through the project
- 2.5 → Disburse funds to production groups
- 2.6 → Organize vocational trainings based on the needs identified by the members of the production groups
- 2.7 → Provide equipment to support the starting of community enterprises (handicraft, agriculture, tourism enhancement, marketing and sales, etc.)
- 2.8 → Organize marketing trainings based on the vocational skills acquired
- 2.9 → Survey group members post-project (combine with activity 1.11)
  
- 3.1 → Desk review of 42 fisheries management structures set up in Savannakhet province (mapping, current infrastructure development, confirmation of village location and metadata, etc.)
- 3.2 → Field visit of all 42 villages and survey of their fisheries management structures and biodiversity (surveys of 1/ village authorities eliciting which rules are in place and perceptions of how they are implemented (law enforcement) and 2/ local ecological knowledge on river biodiversity)
- 3.3 → Data treatment: create homogeneous groups in terms of linking structure (i.e. law enforcement) and performance (i.e. biodiversity), using a cluster analysis of classification trees
- 3.4 → Publish preliminary report and disseminate of lessons learnt through press releases, policy brief and online content
- 3.5 → Conduct a qualitative survey of at least 8 villages (final number to be determined during activity 3.3) to understand why some rules were changed or not (focus group discussions) and how did they change lives (most significant change methodology)
- 3.6 → Writing of evaluation report
- 3.7 → Production of a short movie presenting the concept of fisheries co-management and its benefits for conservation and local people's livelihoods
- 3.8 → Organize a multi-stakeholder advocacy workshop presenting the results of both surveys and previous research

## Annex 2 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements
<p><b>Impact</b></p> <p>Improved freshwater biodiversity and sustainable livelihoods that better manage natural resources lead to reduced poverty in the Middle Mekong</p>		<p>Ten Fish Conservation Zones (FCZ), totalling to 302.26 hectares of protected freshwater habitats have been set up and legalized in the Xebanghieng River basin. To ensure the sustainability of these FCZs, 10 Fisheries Management Committees and 10 patrol teams are managing and monitoring the protected areas. Official regulations have been produced for each of the FCZ, including penalties in case of fishing in the FCZ area, detailing prohibited fishing gears and techniques according the Lao Fisheries Law, and the roles and responsibilities of the communities and local partners.</p> <p>To ensure that no loss of livelihood arises from this protected area and to reduce poverty, women-led sustainable livelihood groups (goat raising and traditional Lao skirt weaving) have been set up and are contributing the economies of these 10 communities (10 groups, totally to a 100 members) of the Xebanghieng River basin.</p>
<p><b>Outcome</b></p> <p>Fish stocks and fish biodiversity have improved and poverty reduced in ten villages in the Xebanghieng River basin through effective community-based conservation of freshwater resources and alternative livelihood models</p>	<p>0.1 → By June 2020, an average of 10% decrease in fishing effort for the same yield (catch per unit effort) is observed by all fishing households in 10 villages (<b>baseline</b> to be determined during pre-project surveys)</p> <p>0.2 Time freed from fishing is reallocated to other livelihood options in at least 50% of fishing households in 10 villages (<b>baseline</b> to be determined during pre-project surveys)</p>	<p>0.1 The baseline report was completed in September 2020 but the post-project survey will be conducted during a proposed second phase of the project to measure the indicators to demonstrate the Outcomes. External factors (detailed in section 3.2) have delayed project implementation and because results should be measured after a suitable period of the completion of the activities, the end-line survey could not be implemented yet. The schedule for the next phase will be determined when funding is confirmed (more details in section 3.2. of this report).</p> <p>0.2 Same as above.</p>

Project summary	Measurable Indicators	Progress and Achievements
	<p>0.3 → By June 2020, mean last capture dates for 2 selected endangered endemic species show a decrease from project start in 10 villages (<b>baseline</b> to be determined during pre-project surveys)</p> <p>0.4 → By June 2020, the knowledge, attitude and practice (enforcement) of the Fisheries Law in 10 villages has increased by at least 50% (<b>baseline</b> to be determined during pre-project surveys)</p>	<p>0.3 Same as above.</p> <p>0.4 Same as above.</p>
<p><b>Output 1.</b> 10 communities on the Xebanghieng River manage their freshwater resources through effective fisheries co-management structures</p>	<p>1.1 → 10 fish conservation zones (FCZ) officially announced by District authorities in the Xebanghieng River basin by May 2020 (<b>June 2019 milestone:</b> FCZ process in 10 villages 30% complete on average)</p> <p>1.2 → 10 fisheries management committees (FMC) officially set up, each including women representatives, approved by District authorities and functioning in 10 villages in the Xebanghieng River basin by May 2020 (<b>June 2019 milestone:</b> all FMC members are selected in at least 5 villages)</p>	<p>1.1. Completed: 10 FCZs officially announced in the Xebanghieng river basin by District Governors from February 2020 to September 2020 (more details in section 3.1 of this report).</p> <p>1.2 Completed: there are 10 FMC officially set up and functioning in 10 villages in the Xebanghieng River basin in June-August 2019 and approved by District Governor in January 2020. Each groups comprises 1 to 2 women representatives (more details in section 3.1 of this report).</p>
<p>Activity 1.1 Desk review and GIS mapping of potential new target villages on the Xebanghieng river and its tributaries, included 10 target villages and 10 control villages</p>		<p>Completed. However, only 9 control villages have been selected. NUoL and Monash University assure that it does not pose a problem in terms of statistical analysis (see map in section 1 “Project Summary” of this report).</p>

Project summary	Measurable Indicators	Progress and Achievements
Activity 1.2 Selection of 10 target villages and 10 control villages and seek FPIC (Free Prior and Informed Consent)		Completed. 10 target villages and 9 control villages. FPIC was sought through consultations with local authorities and villagers.
Activity 1.3 Survey 10 target villages and 10 control villages pre-project (surveys including: law enforcement KAP, time use module, food consumption and anthropometric measurements from local health centres) with village authorities and randomly selected household representatives		Completed. 10 target villages and 9 control villages. The activity was led by NUoL.
Activity 1.4 Conduct last sighting date interviews in 10 target villages and 10 control villages pre-project		Completed last sighting date interviews in 10 target villages and 9 control villages pre-project in July 2019.
Activity 1.5 Start process of setting up Fish Conservation Zones (FCZs) and Fisheries Management Committees (FMC) in 10 target villages: Consensus Building, with awareness raising sessions on the benefits of FCZs, prohibited fish species, Fisheries Law and gender equality		Completed set up 10 fisheries management committees (FMC), each including women representatives and functioning in 10 villages in the Xebanghieng River basin in June-August 2019 and approved by District Governor in January 2020.
Activity 1.6 Continue process: Draft Regulations, including demarcation of FCZ and creation of FMC		Completed draft regulations, including demarcation of FCZ in May-June 2019.
Activity 1.7 Continue process: Revisions and Update of Regulations of village fisheries		Completed revisions and update of Regulations of village fisheries in June 2019.
Activity 1.8 Continue process: Village Approval of regulations		Completed Village Approval of regulations in November 2019.
Activity 1.9 Continue process: District Approval (decree) of regulations		Completed District Approval (decree) of regulations in January 2020 (see approved regulations attached annex 7.2.d. of this report).
Activity 1.10 Finalize process: Announcement and Dissemination of regulations		Completed: 1 official FCZ announcement (100m x 600m) at Ban Houaysing village, Phin district in February 2020 and 9 official FCZ announcements in September 2020 (more details in annex 7.2.f.).
Activity 1.11 Survey 10 target villages and 10 control villages post-project (surveys including: law enforcement KAP, time use module, food consumption and anthropometric measurements from local health centres) with village authorities and randomly selected household representatives		Delayed: The post-project survey will be conducted during the second phase of this project. The schedule will be determined when funding is confirmed (see concept note for phase II attached in Appendix II and refer to approved change request from May 2020).
Activity 1.12 Conduct final last sighting date interviews in 10 target villages and 10 control villages post-project		Delayed (see above).

Project summary	Measurable Indicators	Progress and Achievements
<p><b>Output 2.</b> Households (and, in particular, women) in fisheries-dependent communities benefit from reduction in fishing effort and devote additional time to increase revenue and food availability derived from more diversified livelihoods</p>	<p>2.1 → 10 women-led production groups set up in 10 villages in the Xebanghieng River basin by June 2019</p> <p>2.2 → Livelihood diversification options identified by 10 women-led production groups in 10 villages in the Xebanghieng River basin by August 2019</p> <p>2.3 → 10 women-led production groups in 10 villages in the Xebanghieng River producing outputs by March 2020</p> <p>2.4 → Time spent by women to diversify both food availability and income increased by 20% in 100 target households in 10 villages in the Xebanghieng River basin by June 2020</p>	<p>2.1 Completed: One women-led production group was set up in each of the 10 target villages in June 2019 (total = 10 groups) (more details in section 3.1 of this report).</p> <p>2.2 Completed: There are livelihood diversification options identified for 10 women-led production groups in August 2019 (more details in section 3.1 of this report).</p> <p>2.3 Completed: 10 women-led production groups in 10 villages produced outputs since July 2020 (more details in section 3.1 of this report, see in annex 7.3).</p> <p>2.4 Completed: survey design to establish baseline and post project situation completed.</p>
<p>Activity 2.1. Survey 10 target villages and select pilot households to develop women-led production groups; seek FPIC</p>		<p>Completed in May 2019.</p>
<p>Activity 2.2. Form 10 women production groups (one in each village)</p>		<p>Completed in June 2019.</p>
<p>Activity 2.3. Survey group members pre-project (combine with activity 1.3)</p>		<p>Delayed: This indicator to determine changes in time use will be measured through the project-end survey during the second phase of this project to allow sometime between project implementation and the monitoring of result.</p>
<p>Activity 2.4. Select livelihoods diversification activities to be supported and funded through the project</p>		<p>Completed in August 2019.</p>
<p>Activity 2.5. Disburse funds to production group</p>		<p>Completed by July 2020.</p>
<p>Activity 2.6. Organize vocational trainings based on the needs identified by the members of the production groups</p>		<p>Completed by July 2020</p>

Project summary	Measurable Indicators	Progress and Achievements
Activity 2.7. Provide equipment to support the starting of community enterprises (handicraft agriculture tourism enhancement, marketing and sales, etc.)		Completed by July 2020
Activity 2.8. Organize marketing trainings based on the vocational skills acquired		Completed in July 2020
Activity 2.9. Survey group members post-project (combine with activity 1.11)		Delayed: Post-project survey will be conducted during the second phase of this project to measure this indicator to ensure enough time has passed to effectively measure the results of this output.
<b>Output 3. Successes and constraints of fisheries co-management structures in the Middle Mekong are assessed and inform Lao fisheries policy makers</b>	<p>3.1 → Rapid evaluation report of 42 fisheries co-management structures in Savannakhet Province, completed by June 2019</p> <p>3.2 → Evaluation report of at least 8 fisheries co-management structures in which change can be attributed to previous WWF/DLF interventions, including recommendations, completed by August 2019.</p> <p>3.3 → Publication of results and recommendations through local media (local newspapers), written material (policy brief), and social media (articles, movie, clips), by March 2020 (<b>milestones</b>: first news items published before March 2019; short movie completed by December 2019)</p> <p>3.4 → Commitment made by Fisheries authorities to promote fisheries co-management nationwide and the project's research recommendations during multi-stakeholder advocacy workshop presenting the results of both surveys and previous research, conducted before March 2020.</p>	<p>3.1 Completed in September 2020 (see details in section 3.1.).</p> <p>3.2 Postponed to second phase (see details in section 3.2.).</p> <p>3.3. Completed but short clip cancelled (refer to approved change request from May 2020). Publications include English and Lao covering MoU signing ceremony, FCZ openings, important meeting, multi-stakeholder workshops, provincial and district television reports and WWF-Laos Facebook posts (see Appendix VI.).</p> <p>3.4 Completed with some delays on September 25<sup>th</sup> for baseline research at the Faculty of Agriculture of the National University of Laos (see details in section 7.6).</p>
Activity 3.1 Desk review of 42 fisheries management structures set up in Savannakhet province (mapping, current infrastructure development confirmation of village location and metadata, etc.)		Mapping done. Surveys prepared.

Project summary	Measurable Indicators	Progress and Achievements
Activity 3.2 Field visit of all 42 villages and survey of their fisheries management structures and biodiversity (surveys of 1/ village authorities eliciting which rules are in place and perceptions of how they are implemented (law enforcement) and 2/ local ecological knowledge on river biodiversity)		Completed.
Activity 3.3 Data treatment: create homogeneous groups in terms of linking structure (i.e. law enforcement) and performance (i.e. biodiversity), using a cluster analysis of classification trees		Completed.
Activity 3.4 Publish preliminary report and disseminate of lessons learnt through press releases policy brief and online content		Completed (see appendix I ).
Activity 3.5 Conduct a qualitative survey of at least 8 villages (final number to be determined during activity 3.3) to understand why some rules were changed or not (focus group discussions) and how did they change lives (most significant change methodology)		Delayed: The post-project survey will be conducted during the second phase of this project. The schedule will be determined when funding is confirmed
Activity 3.6 Writing of evaluation report		Completed in September 2020
Activity 3.7 Production of a short movie presenting the concept of fisheries co-management and its benefits for conservation and local people's livelihoods		Cancelled: see 3.3
Activity 3.8 Organize a multi-stakeholder advocacy workshop presenting the results of both surveys and previous research		Completed: the Faculty of Agriculture of the National University to presented the results of the pre-project survey and baseline report during a multi-stakeholder workshop on September 25 <sup>th</sup> , 2020 (20 participants)

## Annex 3 Standard Measures

Code	Description	Total	Nationality	Gender	Title or Focus	Language	Comments
<b>Training Measures</b>							
2	Number of Masters qualifications obtained	1	Lao	F=1	Fish population survey in the Xebanghieng River basin	Lao	A student of Dr. Phouvin Phousavanh from the Faculty of Agriculture (FAG) and employee from the Department of Fisheries at the national level Lao government obtained her qualification in 2019 with the “Fish population survey in the Xebanghieng River basin” research.
3	Number of other qualifications obtained	2	Lao	F=1 M=1	Fish survey and data collection in the Xebanghieng River basin	Lao	2 bachelor’s degrees were delivered by the FAG to students of Dr. Phouvin Phousavanh following their research on “Fish survey and data collection in the Xebanghieng River basin” from the Communities Fisheries Co-Management project in 2019
4b	Number of training weeks provided to undergraduate students	10	Lao	F=6 M=4	CSPro program use for data collection	Lao and English	A total of 10 undergraduate students joined the training

4c	Number of postgraduate students receiving training (not 1-3 above)	2	Lao	F=1 M=1	Fish survey and data collection	Lao and English	
6a	Number of people receiving other forms of short-term education/training (e.g., not categories 1-5 above)	886 total	<b>Lao</b>				
	Consensus building and awareness raising during FCZ set up process (villagers)	372	Lao	M = 302 F = 70			
	River patrolling training (respect of human rights, patrolling methods, negotiation techniques, first aid , and “Guard, Protect and Prevent” skills) (villagers)	80	Lao	M= 80			
	Fisheries Committee management (villagers)	80	Lao	M = 60 F = 20			
	Fish catch monitoring (fishermen)	95	Lao	M = 95			
	Conducting of field survey (Government staff)	12	Lao	M= 6 F= 6			
	Governance survey (NUoL staff)	6	Lao	M = 5 F = 1			
	Household survey (NUoL staff)	10	Lao	M= 5 F = 5			
	Qualitative survey in 42 villages (NUoL staff)	7	Lao	M = 5 F = 2			
	Goat rearing (villagers)	224	Lao	M= 144 F= 80			
6b	Number of training weeks not leading to formal qualification		<b>Lao</b>				
	Consensus building and awareness raising during FCZ set up process		Lao				

	River patrolling training (respect of human rights, patrolling methods, negotiation techniques, first aid , and “Guard, Protect and Prevent” skills) (villagers)		Lao				
	Fisheries Committee management (villagers)		Lao				
	Fish catch monitoring (fishermen)		Lao				
	Conducting of field survey (Government staff)		Lao				
	Governance survey (NUoL staff)		Lao				
	Household survey (NUoL staff)		Lao				
	Qualitative survey in 42 villages (NUoL staff)		Lao				
	Goat rearing (villagers)		Lao				
7	Number of types of training materials produced for use by host country(s) (describe training materials)						
Research Measures		Total	Nationality	Gender	Title	Language	Comments/ Weblink if available
9	Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other implementing agencies in the host country	10					Participatory process?
10	Number of formal documents produced to assist work related to species identification, classification and recording.	50	Lao and English		Fish picture poster with details	Lao and English	Used for Last-sighting and data collection
11a	Number of papers published or accepted for publication in peer reviewed journals	1	Lao/French/Australian				
11b	Number of papers published or accepted for publication elsewhere	>1	Lao/French/Australian				Location?
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country						

12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country						
13a	Number of species reference collections established and handed over to host country(s)	30 set	Lao and English		Fish picture poster with details	Lao and English	Used for Last-sighting and data collection
13b	Number of species reference collections enhanced and handed over to host country(s)	30 set	Lao and English		Fish picture poster with details	Lao and English	Used for Last-sighting and data collection

Dissemination Measures		Total	Nationality	Gender	Theme	Language	Comments
14b	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/disseminated.	2	Lao/ French/ Australian/ Belgian	45 participant, ( 6 female)	Mid-project review meeting with government partners, WWF-Laos and National University of Laos	Lao	
				9 females (29 participants)	Multi-stakeholder workshop to present the results of the Baseline survey of the Xebanghieng River project		
				14 females (49participants)	Project-end meeting with government partners, WWF-Laos and the National University to monitor and evaluate the project after implementation		

<b>Physical Measures</b>		<b>Total</b>	<b>Comments</b>
20	Estimated value (£s) of physical assets handed over to host country(s)		
21	Number of permanent educational, training, research facilities or organisation established		
22	Number of permanent field plots established <ul style="list-style-type: none"> <li>• 10 FCZ establishment</li> </ul>		

<b>Financial Measures</b>		<b>Total</b>	<b>Nationality</b>	<b>Gender</b>	<b>Theme</b>	<b>Language</b>	<b>Comments</b>
23	Value of additional resources raised from other sources (e.g., in addition to Darwin funding) for project work						

## Annex 4 Aichi Targets

	Aichi Target	Tick if applicable to your project
1	People are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.	√
2	Biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.	√
3	Incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.	
4	Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.	
5	The rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.	
6	All fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.	√
7	Areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	
8	Pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.	
9	Invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.	
10	The multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.	
11	At least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.	√
12	The extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.	√
13	The genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.	
14	Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded,	√

	taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	
15	Ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	
16	The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.	
17	Each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.	
18	The traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.	
19	Knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	√
20	The mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.	

## Annex 5 Publications

Provide full details of all publications and material that can be publicly accessed, e.g. title, name of publisher, contact details. Mark (\*) all publications and other material that you have included with this report

Type *	Detail (title, author, year)	Nationality of lead author	Nationality of institution of lead author	Gender of lead author	Publishers (name, city)	Available from (e.g. web link, contact address etc)
Baseline Survey Report of the Project	“Fishes Biodiversity and Fisheries Management in Xe Banghieng River Basin: Evaluation of the Impact of Establishing Fish Conservation Zones in the Xe Banghieng River Basin: an experimental approach”, Declan Butorac, Phouvin Phousavanh, Paulo Santos, 2020 *	Lao	Lao	Male	Faculty of Agriculture (National University of Laos), Vientiane, Laos	
Online Research Article	“Freshwater fisheries conservation can increase biodiversity”, Declan Butorac, Paulo Santos, Phousavanh Phouvin, Francois Guegan, 2020	Australian	Australian	Male	Online Plos One Publication	<a href="https://doi.org/10.1371/journal.pone.0233775">https://doi.org/10.1371/journal.pone.0233775</a>
Newspaper	“MOU paves way for fishery community co-management in Savannakhet”, Phouthong Sivongsa, Tuesday March 19 <sup>th</sup> , 2019 *	Lao	Lao	Male	Vientiane Times	
Newspaper	“How will local communities benefit from a scheme to manage river fish stocks in Savannakhet?”, Phouthong Sivongsa, March 19 <sup>th</sup> , 2020 *	Lao	Lao	Male	Vientiane Times	

Newspaper	“Photo News”, Phouthong Sivongsa, Monday March 18 <sup>th</sup> , 2019 *	Lao	Lao	Male	Vientiane Times	
Newspaper	“ຄຸ້ມຄອງການປະມົງຊຸມຊົນແບບມີສ່ວນຮ່ວມ າຍນໄເຊບັງຫຽງ” (Fisheries co-management in the Xebanghien River in English), unknown reporter, March 15 <sup>th</sup> , 2019 *	Lao	Lao	Unknown	Vientiane Mai	
Newspaper	“fisheries dept. announce community co-management for aquatic reserves”, Times Reporters, Friday September 11 <sup>th</sup> , 2020 *	Lao	Lao	Unknown	Vientiane Times	
Newspaper	“ປະກາດນຳ ໃຊ້ກົດລະບຽບຄຸ້ມຄອງວັງສະຫງວນ” (“Fish Conservation Zone official regulations implementation ceremony” in English), Unknown author, September 10 <sup>th</sup> , 2020 *	Lao	Lao	Unknown	Vientiane Mai	
Television news report	* Provincial of Savannakhet Television announcement for FCZ ceremony opening. Click link below	Lao	Lao	Female	Savannakhet Television	<a href="https://www.facebook.com/wwflao/soffice/videos/349886586423613">https://www.facebook.com/wwflao/soffice/videos/349886586423613</a>
Television news report	* Multi-stakeholder technical workshop at faculty of agriculture, National University of Laos (NUOL).	Lao	Lao	Unknown	WWF-Lao	<a href="https://www.facebook.com/wwflao/soffice/posts/2778724975563860">https://www.facebook.com/wwflao/soffice/posts/2778724975563860</a>
Facebook post from WWF-Laos	* Installation of FCZ sign post at Ban Thongmexay, Phine District, Savannakhet province	Lao	Lao	Unknown	WWF-Lao	<a href="https://www.facebook.com/wwflao/soffice/photos/pcb.2654653294637696/2654646404638385/">https://www.facebook.com/wwflao/soffice/photos/pcb.2654653294637696/2654646404638385/</a>
Facebook post from WWF-Laos	* Fish Release and FCZ regulation dissemination at Ban Tongmixay, Phine District, Savannakhet province	Lao	Lao	Unknown	WWF-Lao	<a href="https://www.facebook.com/wwflao/soffice/photos/pcb.2652242518212107/2652237041545988/">https://www.facebook.com/wwflao/soffice/photos/pcb.2652242518212107/2652237041545988/</a>

Facebook post from WWF-Laos	FCZ and Patrolling Team Announcement for Xebanghieng freshwater co-management at Ban Paxia, Phine District, Savannakhet province	Lao	Lao	Unknown	WWF-Lao	<a href="https://www.facebook.com/wwflaosooffice/photos/pcb.2649293985173627/2649236285179397/">https://www.facebook.com/wwflaosooffice/photos/pcb.2649293985173627/2649236285179397/</a>
Facebook post from WWF-Laos	Project review: Achievement and completion meeting Savannakhet PAFO on 21/10/2020	Lao	Lao	Unknown	WWF-Lao	<a href="https://www.facebook.com/wwflaosooffice/posts/2778724975563860">https://www.facebook.com/wwflaosooffice/posts/2778724975563860</a>
Facebook post from WWF-Laos	Completed FCZ broad installation in 10 target villages	Lao	Lao	Unknown	WWF-Lao	<a href="https://www.facebook.com/wwflaosooffice/photos/pcb.2654653294637696/2654646404638385/">https://www.facebook.com/wwflaosooffice/photos/pcb.2654653294637696/2654646404638385/</a>

## Annex 6 Darwin Contacts

To assist us with future evaluation work and feedback on your report, please provide details for the main project contacts below. If you are providing personal details on behalf of someone else, please ensure that they have agreed to sharing their information with us.

Please add new sections to the table if you are able to provide contact information for more people than there are sections below.

Please see our Privacy Notice on how contact details will be used and stored:

<https://www.gov.uk/government/groups/the-darwin-initiative#privacy-notice>.

<b>Ref No</b>	25-021
<b>Project Title</b>	Xebanghieng Communities Fisheries Co-management Project
<b>Project Leader Details</b>	
Name	Sarah George
Role within Darwin Project	Fisheries Coordinator for WWF-Laos and project lead
Address	
Phone	
Fax/Skype	
Email	
<b>Partner 1</b>	
Name	Mr. Bounthanome, Chansene
Organisation	Department of Livestock and Fisheries from the Ministry of Agriculture and Forestry Laos (Government of Laos)
Role within Darwin Project	Implementing partner and project monitoring
Address	
Fax/Skype	
Email	
<b>Partner 2 etc.</b>	
Name	Dr. Phouvin Phousavanh, Email:
Organisation	Faculty of Agroculture from the National University of Laos
Role within Darwin Project	Lead professor for the research component of the project
Address	
Fax/Skype	
Phone	

## Checklist for submission

	Check
<b>Is the report less than 10MB?</b> If so, please email to <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> putting the project number in the Subject line.	
<b>Is your report more than 10MB?</b> If so, please discuss with <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> about the best way to deliver the report, putting the project number in the Subject line.	XX
<b>Have you included means of verification?</b> You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	
<b>Do you have hard copies of material you want to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	X
Have you involved your partners in preparation of the report and named the main contributors	X
Have you completed the Project Expenditure table fully?	X
Do not include claim forms or other communications with this report.	