



Netherlands Commission for  
Environmental Assessment

LAOS (DRIVE)

# Advisory Review on ESIA and ESMS for the turn-key re-construction of 12 Bridges Champasak and Saravane



14 August 2020  
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## Advisory Report by the NCEA

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<b>Title</b>	<b>Advisory Review on ESIA and ESMS for the turn-key re-construction of 12 Bridges, Champasak and Saravane – Laos (DRIVE)</b>
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# 1. Introduction

## 1.1 Project description

This advisory review concerns the Environmental and Social Impact Assessment (ESIA) for a project to rehabilitate twelve bridges along route RN20 in Laos. This road runs from Pakse to Salavan and is located in Champasak and Saravane provinces. The bridges are located between km 12 and km 63, and have lengths varying between 12,2 meters and 70,1 meters. The current state of the bridges is poor and some of them are impacted by high water levels during the rainy season.

The project aims to improve transportation in the area, not only by rehabilitating the existing bridges, but also by upgrading a number of them from the current single-lane bridges to two-lane bridges. This should contribute to the government's goals on improving access to medical care, education, market facilities, and touristic attractions. In addition, the project is linked to further the progress on various SDGs.

The ESIA for this project aims to support governmental and donor decision-making on the project. An earlier environmental assessment was conducted around 2016. However, as construction activities have not yet begun, the Netherlands Enterprise Agency (RVO), who is considering co-financing the project under the DRIVE facility, has requested an update of the Environmental Assessment by the company planning to participate in a tender for the realization of this, namely Janson Bridging international (JBI).

## 1.2 NCEA's approach to the review

To help decide on whether to co-finance the project, and under what conditions, the RVO has asked the Netherlands Commission for Environmental Assessment (NCEA) to conduct an independent review of the quality of the ESIA. In its review, the NCEA has made use of the IFC Performance Standards as an international reference framework.

This advice was prepared by a working group of experts acting on behalf of the NCEA. The working group comprises of expertise in the following disciplines: environmental impacts, social impacts, and infrastructure construction.

The NCEA has reviewed the following report:

- Reviewed ESIA and ESMS for the turn-key re-construction of 12 bridges on NR 20 (Champasak & Saravane, Laos) for Janson Bridging International BV, May 2020.

In addition, the NCEA has taken note of the following documents:

- Feasibility Study for the Turn-key construction of 12 bridges on NR20, November 2018.
- Report on bridge locations, distances and travel time.
- Human Rights assessment.

Due to travel-constraints related to the Covid-19 pandemic, no field-visit was conducted. However, the NCEA consulted a local resource person on the Laos Environmental Assessment procedures and on the monitoring and enforcement capacities of the Laos Government.

The NCEA always aims to co-ordinate its advisory work with the relevant ESIA steps in the local procedure, as much as possible. However, in this case, it was not yet clear if this procedure had in fact started, and so the NCEA did not yet establish contact with the local environmental authority.

## 2. Main review conclusions

The ESIA report under review by the NCEA contains useful information on the type of impacts related to the project, and it provides direction on how those impacts can be mitigated with a series of generic management plans and tools included in the appendices of the ESIA report. The NCEA notes that for the proposed project, direct impacts are likely to be appropriately managed if the mitigation measures provided in the report annexes are implemented. The project aims to upgrade existing infrastructure; both the road and the bridges are already in place. This means that the project is unlikely to entail the conversion of new tracts of land, and resettlement and land acquisition will be relatively limited. With the implementation of the proposed mitigation measures, direct impacts from bridge construction are preventable or manageable.

However, based on the current document, the NCEA cannot confidently confirm that this is indeed the case, nor can it confirm that significant long-term impacts are unlikely. The NCEA is not certain that impacts related to construction activities in the riverbeds or temporary resettlements that might take place will in fact be sufficiently mitigated, or that indirect impacts will be managed.

In general, a key added value of the ESIA process is to provide an integrated overview of the potential negative impacts of a project and to bring together all considerations regarding what measures can be taken to deal with these impacts. The process helps prioritize the most relevant environmental and social risks of a project, to identify early opportunities to avoid negative impacts, and to come to a tailored approach for managing the remaining risks that will work in the context of the project setting. In order to achieve this, an ESIA process should mobilize generic understanding of the management impacts associated with the type of activity under consideration, and then facilitate a process in which this understanding can be translated to the specific vulnerabilities of the project setting, in consultation with relevant stakeholders.

In this case, the ESIA does present general information on what is good practice environmental and social management for this type of activity. However, there is little indication that this information has been integrated into the detailed design of the interventions at each bridge site, nor that the mitigation measures have been tailored specifically to the project context. Instead, a generic Environmental and Social Management System (ESMS) is presented now, to be followed by detailed site assessments and further impact mitigation decision-making at a later stage. In essence, this means that the ESIA report does not yet provide sufficient basis to decide whether the level of environmental and social performance of the project is likely to be acceptable. Much depends on further development of the project design and the ESMS, as well as the implementation of this ESMS.

The ESIA report is still lacking essential elements, including a full project description, an executive summary, a baseline description, an analysis and description of site-specific impacts and site-specific mitigation measures, an adequate stakeholder engagement approach, and an integrated and cohesive Environmental and Social Management Plan. According to international good practice, as well as local national guidelines, the abovementioned items should be included before any ESIA process can be considered complete.

For the abovementioned reasons, the NCEA recommends completing the ESIA process before definitive decision making on project financing or permitting takes place. The NCEA recommends addressing the following shortcomings in the ESIA:

- Key information is missing or presented in an incomplete manner. This includes the executive summary, project description, boundaries and environmental and socio-economic baseline of the defined area of influence as well as good quality maps.
- The responsibilities for managing the ESMS are not clearly defined. Procedures to deal with impacts as they arise should be improved.
- An assessment of the indirect impacts of the project is lacking, most notably impacts of increased traffic density and increased access to rural areas. Also, a discussion on responsibilities for monitoring and management of these indirect impacts is missing.
- There are no references to key international environmental and social standards regarding the construction and operation phase that the project can be held to (air quality standards, noise standards, etc.), or if and how relevant standards will be met.
- The social baseline is not detailed enough and the site-specific assessments that will be conducted later need to be supplemented with questions on the social baseline at community level. The stakeholder engagement with the locally affected parties has not been updated since 2016.
- An assessment of the expected effects of climate change, specifically on the trends regarding the frequency and intensity of flooding, is missing.

In the next chapter, these essential shortcomings are discussed in more detail.

### 3. Detailed explanation of conclusions

#### 3.1 Overall content and structure of the ESIA

According to international standards, including the IFC Performance Standards, an ESIA should present information in a coherent and understandable manner helpful for project decision-making by authorities, including an executive summary that is understandable by non-experts. Important elements contributing to a coherent and understandable ESIA include a good executive summary, a full project description and illustrative maps.

However, the current ESIA is from time to time difficult to read and comprehend, due to the following:

1. The Executive Summary only outlines the report sections and does not provide an overview of what the project is about, including proposed activities, assessed alternatives, expected impacts and risk, mitigation measures and residual impacts.
2. The project description does not provide enough information to get a full understanding of the proposed activities. A clear description of each bridge in its socio-economic environment is needed, including the location of the old bridge, the location of the new bridge and access route, borrow pits and transport routes for construction materials, and land use and landownership of disturbed land. In addition, information is required on the roll out of the construction process (Will one bridge rehabilitated at a time? Or all bridges simultaneously?), as well as information on the supply chain and the number of workers required/labour requirement.
3. The project's area of influence is not sufficiently described, nor are useful maps provided with information on the rivers and their catchment areas, important biodiversity habitats, and land use, including ecosystem services that local communities depend on. This description should include at least two levels: the area where direct impacts take place, and the area subject to indirect impacts (see 3.3).

The NCEA notes that paragraph 16.2.2 in the ESIA report describes the area to be analysed in the site-specific assessments. However, the reasoning behind the demarcation of the study area is not explained, including a discussion on different areas of influence depending on what type of impact is described (see 3.3).

In order to complete the ESIA, the following additions to the report are necessary (apart from the site-specific impact assessments, potential impacts and their mitigation measures, which are discussed in subsequent paragraphs):

- Include a better Executive summary, containing a short overview of the essential information necessary for decision-making and for stakeholders.
- Include a better (technical) description of the project, including preliminary designs, source of materials, information on camps, number of workers and equipment. Also, include an indication of the construction planning and temporary structures to be built, and information on what will happen with the old bridges.
- Define and describe the area of influence of the project and provide clear map(s) with the road, bridge locations, rivers and their downstream catchment areas, protected areas, important habitats and land cover/use including ecosystem services.



## 3.2 ESIA process

### 3.2.1 ESMS approach

In the current approach, the ESIA includes an overall baseline description of social and environmental factors for Laos as a whole, and to a certain extent for the provinces where the bridges are located. According to the ESIA report, site-specific assessments will be conducted at a later stage, making use of a site assessment framework that is included in the annex of the ESIA report. This means that impacts that might arise during project construction and operation will be assessed later, and that mitigation measures will be based on the ESMS and the generic protocols included in the ESIA report's annex.

However, this approach entails the risk that impacts are not clearly understood, foreseen, or anticipated upon at this stage of the project. First, mitigation costs are not known upfront and it may be too late to consider and analyse alternatives if unexpected risks or impacts are encountered. Alternatives that could be considered include redesigning the project in terms of size or location. Second, this approach relies on the availability of skilled experts, able to make appropriate assessments on site and execute measures as needed, as well as checks and balances to make sure environmental and social performance is sufficient. However, in the ESMS as described in the current report, there is not enough detail on who is responsible for monitoring and managing impacts during the design, the construction and operational phases of the project.

There are a number of problems that could arise if the ESMS is not sufficiently elaborated and agreed at this stage. For instance, capacity and resources available within project implementation to monitor environmental and social performance, and to take additional measures where necessary may be limited. In the current set-up, the contractor is expected to ensure compliance with the protocols listed in the ESIA. However, the NCEA notes that the Project Management Unit (PMU) of JBI is responsible for project monitoring and compliance. It is not clear how the PMU will assure a sufficient capacity, nor a credible level of oversight necessary to conduct monitoring and take corrective action. The ESIA should give confidence to those affected that impacts will be monitored independently and be treated in an adequate manner.

The Laos Government also carries some of the responsibility for monitoring and compliance enforcement according to the national ESIA requirements. However, governmental compliance monitoring and enforcement may be sub-optimal. Governmental agencies may not be able to enforce policies and regulations and permitting conditions, partly because the agencies that have the power to enforce compliance may lack capacity and capability. In addition, it is not clear whether a relatively small project such as this one, in a location far from the capital, will be awarded the level of attention needed by authorities.

The authorities involved could be supported in order to assure that resources to monitor and enforce compliance in a deliberate and thorough manner are available. For example, the Asian Development Bank (ADB) often requires the involvement of a Law Implementation Consultant, whose task it is to monitor the construction phase and to assess grievances, as expressed by project affected peoples.

The NCEA expects an ESIA process to deliver an adequate Environmental and Social Management Plan (ESMP), which includes a description of commitments and responsibilities. This ESMP needs to be tailored to the specific risks and impacts of the project, and it should be realistic in terms of local context and capacities available. The ESIA report should provide assurance on how relevant impacts will be managed, including a budget and allocation of responsibilities.

The NCEA recommends to seriously consider engaging an independent expert body to assist the PMU by conducting independent monitoring of project implementation and ESMP adherence.

The proponent must also be clear about when the project will be adapted in response to new facts and findings and how improve upon the existing management of impacts when necessary. It is recommended to include in the ESMP details of who is responsible for each aspect of monitoring, and who can be held responsible for resolving issues that are identified during monitoring.

### 3.2.2 Local ESIA process

It is not clear how the national ESIA procedure and environmental permitting process has been taken into consideration in the development of this project. In the introduction, the 2020 ESIA report makes reference to an earlier ESIA that was completed for the process (no date, presumably 2016). However, the summary of the public consultations held in 2016 states that they were held in the context of an Initial Environmental Examination, rather than a full ESIA.

RVO has requested an update of the old report. However, it is not clear an environmental certificate has been awarded following the Laos EIA procedure, and if so, what conditions apply and if the permit is still valid.

The NCEA recommends clarifying this situation, and any consequences for the current ESIA.

If the local EIA procedure still has to be conducted, then the NCEA recommends that this process is utilized to address the essential shortcomings that have been identified in this advisory report.

### 3.3 Indirect impacts

In this context, the NCEA understands indirect impacts to be those impacts that arise indirectly through increased human activity, made possible by the infrastructural improvements created by this project. (The ESIA itself in section 4.3.11 uses the term “cumulative impacts” for the same type of impacts).

The project will significantly increase the capacity of the road (as stated in the feasibility study), by expanding capacity of bridges from one lane to two lanes, and by constructing all-season bridges. This is likely to increase traffic which, in combination with roadside development, can lead to significant indirect impacts. These indirect impacts could include

social and environmental impacts such as reduced road safety and reduced air quality, increased noise levels and potential loss of agricultural land, increase in illicit trafficking, increase in deforestation and loss of ecosystem services. In other words, the upgrading of the existing infrastructure along route NR20 may lead to impacts on the local communities, and on habitats with high biodiversity value.

In general, indirect impacts are always part of a project, so the ESIA should address these. IFC Performance Standard 6 asks that particular attention is paid to indirect impacts on biodiversity or on ecosystem services upon which Affected Communities' livelihoods are dependent. Whether, and to what degree, the mitigation of indirect impacts is also the responsibility of the project proponent should be discussed further with the decision-making authorities, and RVO. The manner in which this is resolved will depend on the relevant authority's policy framework. For example, the impacts of increased traffic and access may have already been addressed in a regional infrastructural plan. Nonetheless ESIA should include a discussion on what the indirect impacts in the project's area of influence are, and what possibilities there are to mitigate these. This description should make an explicit differentiation between mitigation measures that are within control of the bridge replacement project during the construction phase, and those that have to be delegated to authorities.

The current description of the project baseline and area of influence of the project is insufficient to be able to assess the potential consequences. The area of influence of the project has not been defined; consequently, the relevance of the provided baseline information is unclear. Note that the area of influence can be different for different impacts, e.g. potential water quality impacts extend over a different area than impacts related to noise.

The NCEA recommends providing quantified information on expected growth in traffic in the ESIA report, and to assess consequences for local population, biodiversity and ecosystem services and propose mitigation/compensation measures.

The NCEA recommends to clearly identify the area of influence of the project where indirect impacts can take place. Subsequently the indirect impacts should be identified and the responsibility for managing these impacts should be clearly established in the ESIA.

### 3.4 Impacts related to construction activities

The institutional framework of the ESIA does not refer to project standards, neither local nor international. The report should provide an overview of both and indicate which will be used during the construction period of the project. For example, the report should indicate what the national noise standards are along with the IFC guideline limits and which are more stringent and will therefore be used during the construction phase. Other standards to consider are those relating to ambient air quality, wastewater effluent discharge and vibration. The report should also indicate what occupational health and safety standards will be followed.

The NCEA recommends including a discussion of national and international standards and which ones will be applicable to the project, and their implications for the project.

As stated in the introduction, in the case of this project the direct environmental consequences during construction may be temporary and manageable, if the environmental and construction procedures from the annexes are fully implemented. However, the project description of the ESIA does not provide sufficient technical details on the project design to be sure about the types of impacts expected and their significance. For example, some of the longer bridges (70m) will be double spans, but there is no information on bridge pier types and whether they will be placed in the river (as seems to be indicated by some of the photos of existing bridges).

It is recommended to provide clear details of the bridge design and construction, especially bridge piers and if any will be located in the riverbed, and to provide further information on the impacts that might arise from the construction and operation of these piers and how these will be mitigated. Additional details relating to the construction schedule, access routes and requirement for any temporary diversion should also be provided (see also 3.1).

In addition, there is a lack of detail relating to bridge-specific safety issues, including working at height and working in and around water. Given that this is a bridge project, the ESIA should be clear about how these issues can be managed and should take guidance from IFC Environmental Health and Safety Guidelines.

The NCEA recommends ensuring that proper implementation of environmental procedures is verified. This includes an independent review/audit of the project monitoring results during the construction phase (see also ESMS approach, 3.1.1). It is also recommended that further information is provided regarding how the contractor intends to manage construction in and around water.

In the site-specific assessments proposed in the ESIA's annex, questions on the environmental baseline (16.2.7) as well as potential impacts and possible mitigations measures (16.2.8) are included. However, the assessment form contains several shortcomings including the type of noise level generated, air quality and vibration risks.

Note that for all of these issues the relevant sensitive receptors should be identified. For example, dust could be a big issue around one specific bridge, but if there are no residential receptors, the impacts are not going to be significant.

The NCEA recommends completing the site assessment form with more detailed questions on air quality and vibration. Specifically, the following information is required:

- On whether piling will be necessary and if it will generate significant levels of vibration.
- On the presence of air quality issues, as dust can be a problem along some of the roads in Laos.

### 3.5 Social impacts

The social baseline as currently formulated in the ESIA report is limited and should be made more specific. In the current ESIA report, the social baseline is limited to a global description at provincial level or higher. As stated before, the current ESIA report proposes that social

impacts will be identified and managed based on site-specific assessments. The site assessment, as included in annex 16 (environmental and social survey forms), does provide some useful questions, especially on the components regarding labour. However, the site assessment should be complemented in order to gain a better understanding of the what impacts might occur and the receptive social environment.

It is recommended to develop a site-specific baseline for each site. This may be based on the site-assessment forms in the annex of the ESIA report, supplemented with questions on village demographics, main health issues, land tenure regimes, and security risks. Data for the baseline can be obtained through interviews with the village leadership and /or focus groups with men and with women.

The NCEA notes that in a previous version of the ESIA, a series of stakeholder meetings has been conducted. Although the ESIA does refer to these consultations, the information provided is very limited. Lacking are, for example, documentation of the stakeholder consultation and reports on what has been done with concerns expressed.

It is recommended to document stakeholder consultations in the final ESIA and explain what has been done with concerns raised.

Although the project description is not clear about this, it is likely that small-scale, and for the most part temporary land acquisition will be necessary for the project. It seems unlikely that a full Resettlement Action Plan is required, but based on the current ESIA report this cannot be stated with certainty. Instead, a light version of a Resettlement Action Plan may be sufficient. The ESIA report should outline the direct impacts affecting the population (impact on livelihoods, displacements etc.) based on an adequate identification of the project's areas of impact, and explain how these impacts will be managed.

It is recommended that a plan dealing with (temporary) displacements and livelihood restoration is developed. The plan should contain all information required to establish a correct budget calculation and assignment of roles and responsibilities for managing it.

### 3.6 Climate Change adaptation

The potential impact of Climate Change-induced weather patterns increasing flood events is potentially significant. It is understood some bridges are impacted by high water levels during the rainy season. It is unclear whether bridge heights will accommodate these risks, or if more frequent or severe floods would affect the bridge piers. The present ESIA contains no information on climate change and expected changes in rainfall and river flood levels.

It is recommended to provide information on climate change scenarios in relation to water levels, pier construction and bridge heights, and flood risks during construction and actual use for the lifetime of the bridges and propose measures to counteract unacceptable risks.