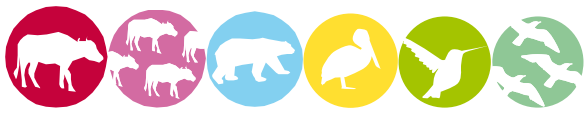
ANNEX R – PASSPORT TEMPLATE

CONTENTS



SECTION A. Project Title

Title: Nam Nga 2 Hydropower Project
Date: 28/07/2015
Version no.: 02

SECTION B. Project description

Start date of the project: Not start yet.

Nam Nga 2 Hydropower Project is located at the Nam Nga River, 70km from the Muang Sai City, Oudom Xai Province, Lao PDR. The project is a run-of -river hydropower station. The installed capacity is 14.5 MW, with annually 62.59 GWh power supplied to the power grid. The construction of the project includes intake, headrace channel, head tank, penstock, powerhouse with 2 units of turbines (2*7,250 kW).

Following the Lao PDR's electrification policy, the electricity supply falls in short compared to the increased electricity demand. The project is expected to constantly contribute clean energy to the Lao Power Grid. For the Lao Power Grid is connected with the power grid in Thailand, the power supplied by the project will not only meet domestic electricity demand, but also increase the net power export to Thailand and decrease the net power import from Thailand, where the power grid is dominated by thermal power plants. The baseline scenario of the project is continuation of the present situation, i.e. electricity supplied from the power grid. By displacing part of the power generated by thermal power plants, the project is therefore expected to reduction of CO_2 emissions by an estimated 35,019 t CO_2e per year during the first crediting period.

Power supplied to the regional grid will provide clean & cheap electricity power in this region, promote the sustainable development in this region and slowing down the increasing trend of GHG emissions.

SECTION C. Proof of project eligibility

C.1. Scale of the Project

Please tick where applicable:

Project Type	Large	Small
	☐	☑
	☐	☐
	☐	☐

	☐	☐
	☐	☐

	☐

C.2. Host Country

Lao People's Democratic Republic

C.3. Project Type

Please tick where applicable:

Project type	Yes	No
Does your project activity classify as a Renewable Energy project?	☑	☐
Does your project activity classify as an End-use Energy Efficiency Improvement project?	☐	☑
Does your project activity classify as waste handling and disposal project?	☐	☑

Please justify the eligibility of your project activity:

Project activity involves construction of a 14.5 MW hydroelectric power plant for electricity generation. Project category is included in the sectoral scope 1 “Energy Industry – Renewable Sources” according to the UNFCCC definition. The project is located in Lao PDR’s, which is an UNFCCC eligible host country site. Because the project is replacing electricity generated from the fossil fuel dominated grid, it reduces CO_2 that would have been emitted by coal fire power plant connected to the grid. CO_2 is one of the greenhouse gases eligible under the Gold Standard. The project is privately owned by a number of individual investors, no ODA is flowed into this project. To conclude, the project meets all eligible categories under the Gold Standard eligibility Assessment, it should apply for the registry of Gold Standard Renewable Energy Supply Project.

Pre Announcement	Yes	No
Was your project previously announced?	☐	☑
Explain your statement on pre announcement To overcome financial weakness, and unfavorable conditions that the project encounters, the project owner decided to seek carbon revenue assistance after the project Feasibility Study Report had been completed by independent design institute on December 2012. Carbon revenue has been taken into account by project investors in making the project decision to proceed.		

C.4. Greenhouse gas

Greenhouse Gas	
Carbon dioxide	☑
Methane	☐
Nitrous oxide	☐

C.5. Project Registration Type

Project Registration Type	
Regular	☑

Pre-feasibility assessment	Retroactive projects (T.2.5.1)	Preliminary evaluation (eg: Large Hydro or palm oil-related project) (T.2.5.2)	Rejected by UNFCCC (T2.5.3)

	☐	☐	☐

If Retroactive, please indicate Start Date of project activity dd/mm/yyyy: NA

SECTION D. Unique project identification

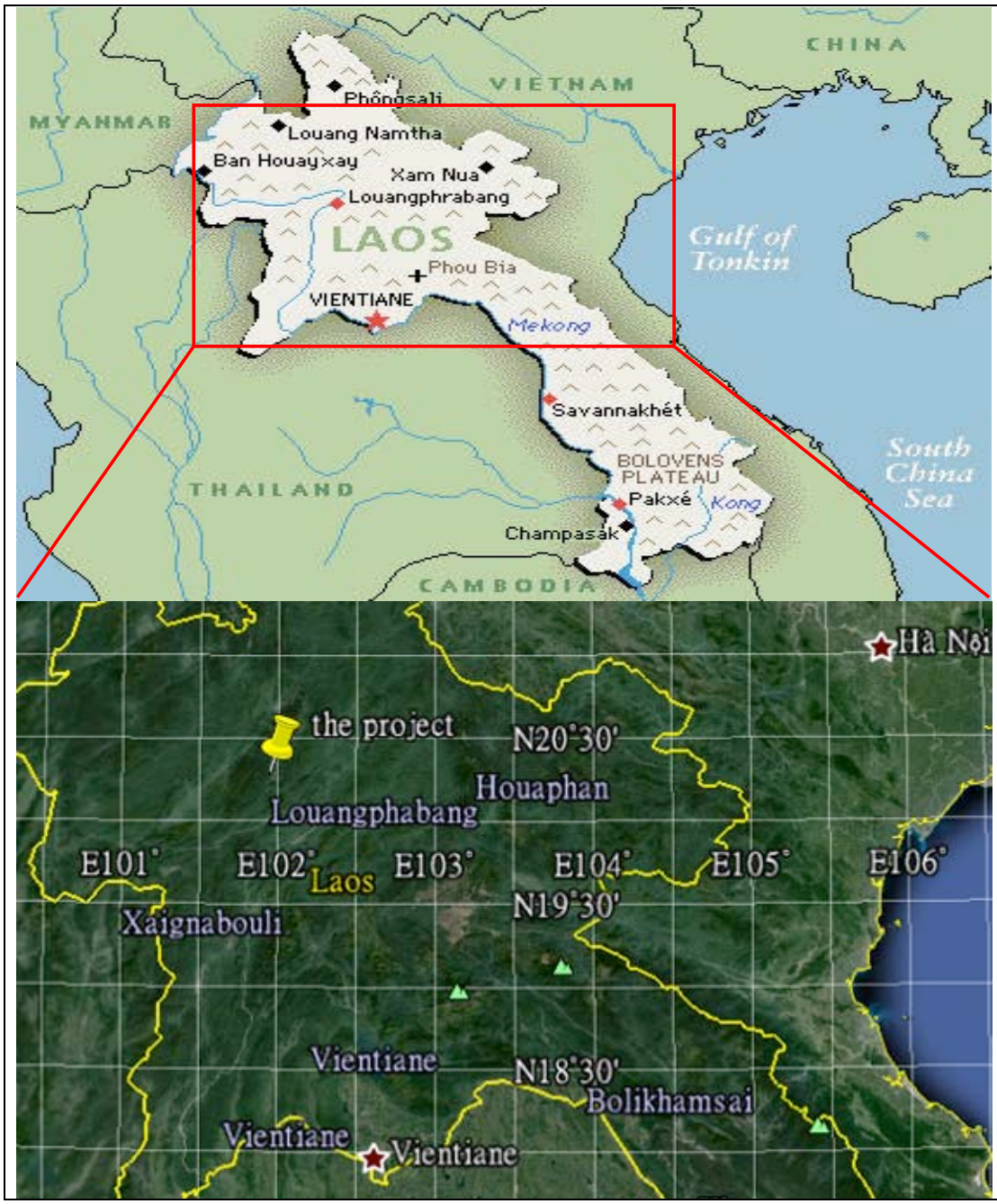
D.1. GPS-coordinates of project location

	Coordinates
Latitude	20.40°N
Longitude	102.017°E

Explain given coordinates

The Project site is located at the Nam Nga River, 70 km from the Muang Sai City, Nga District, Oudom Xai Province, North part of Lao PDR. The GPS coordinates are for the powerhouse.

D.2. Map



SECTION E. Outcome stakeholder consultation process

E.1. Assessment of stakeholder comments

Considering the Project is located at remote area with poor transportation condition, the Local Stakeholder Meeting for Nam Nga 2 Hydropower project was held at two different places separately. One was held in Vientiane at 2:00 pm May 30th 2014 (Friday) for government officer, NGOs, experts, etc., the other one was held in Working Camp of the project, Oudomxay Province in Lao PDR at 2:00 pm on Jun 2nd 2014 (Monday) for local residents surrounding the project site. If NGO was interested, they could attend both of the meetings. The meetings were organized in line with the Gold Standard requirements, and the meetings' agenda is the same exactly.

Category Code	Organization (if relevant)	Name of invitee	Way of invitation	Date of invitation	Confirmation received? Y/N
A	Leader& Officer of Village organization	Anonymous	Bulletin or oral notice	21/05/2014	Y
A	Leader& Officer from Council of village Elder	Anonymous	Bulletin or oral notice	21/05/2014	Y
A	Leader& Officer from village women's organization	Anonymous	Bulletin or oral notice	21/05/2014	Y
A	Monk	Anonymous	Bulletin or oral notice	21/05/2014	Y
A	Local villagers	Anonymous	Bulletin or oral notice	21/05/2014	Y
B	Officials of local government	Anonymous	Email	21/05/2014	Y
E	Gold Standard	Anonymous	Email	21/05/2014	N
F	Global Association for People and the Environment	Anonymous	Email	21/05/2014	Y
C	Lao DNA	Anonymous	Email	21/05/2014	Y
F	REEEP	Anonymous	Email	21/05/2014	N
F	Mercy Corps	Anonymous	Email	21/05/2014	N
F	WWF	Anonymous	Email	21/05/2014	N
F	Global Environmental Institute (GEI)	Anonymous	Email	21/05/2014	N
F	Green Peace	Anonymous	Email	21/05/2014	N
F	Care International	Anonymous	Email	21/05/2014	N
F	Citizens's Alliance for Saving the Atmosphere and Earth (CASA)	Anonymous	Email	21/05/2014	N
F	Clean Energy Nepal	Anonymous	Email	21/05/2014	N
F	Climate Action Network South Africa	Anonymous	Email	21/05/2014	N
F	David Suzuki Foundation	Anonymous	Email	21/05/2014	N
F	Development Alternatives	Anonymous	Email	21/05/2014	N
F	Earth Advantage, Inc.	Anonymous	Email	21/05/2014	N
F	EnerGHG India	Anonymous	Email	21/05/2014	N
F	Energy Forum	Anonymous	Email	21/05/2014	N
F	Euronatura–Center for Environmental Law and Sustainable Development	Anonymous	Email	21/05/2014	N
F	European Business Council for Sustainable Energy e5	Anonymous	Email	21/05/2014	N
F	Fair Climate Network	Anonymous	Email	21/05/2014	N

F	Forum for the Future	Anonymous	Email	21/05/2014	N
F	Fundacion Ecodiversidad Colombia	Anonymous	Email	21/05/2014	N
F	Zero: Regional Environment Organisation	Anonymous	Email	21/05/2014	N
F	The Climate Group (China)	Anonymous	Email	21/05/2014	N
F	Renewable Energy & Energy Efficiency Institute	Anonymous	Email	21/05/2014	N
F	Philippine Solar Energy Society	Anonymous	Email	21/05/2014	N
F	A World Institute for a Sustainable Humanity (A W.I.S.H)	Anonymous	Email	21/05/2014	N
F	The Whitemore Initiative Society	Anonymous	Email	21/05/2014	N
F	The Environmental Investigation Agency	Anonymous	Email	21/05/2014	N
F	SouthSouthNorth	Anonymous	Email	21/05/2014	N
F	SolarAid	Anonymous	Email	21/05/2014	N
F	SKG Sangha	Anonymous	Email	21/05/2014	N
F	Sibol ng Agham at Teknolohiya	Anonymous	Email	21/05/2014	N
F	Shanshui Conservation Center, China	Anonymous	Email	21/05/2014	N
F	PURE the Clean Planet Trust	Anonymous	Email	21/05/2014	N
F	Plantons Utile	Anonymous	Email	21/05/2014	N
F	Indonesian Climate Action Network	Anonymous	Email	21/05/2014	N
F	International Centre for Eradication of Poverty	Anonymous	Email	21/05/2014	N
F	Kangmei Institute of Community Development and Marketing	Anonymous	Email	21/05/2014	N
F	Kiko Network	Anonymous	Email	21/05/2014	N
F	KLIMA	Anonymous	Email	21/05/2014	N
F	Triangle Generation Humanitaire	Anonymous	Email	21/05/2014	N
D	Local independent consultant and expert	Anonymous	Email	21/05/2014	Y

Individual Invitation:

The invitation letter was sent out via email to the above mentioned stakeholders.

The individual invitation letter is given below:

Dear Sir/Madam,

Nam Nga 2 Hydropower Project is a Gold Standard CDM candidate project. The physical meeting is to be held to collect opinions from stakeholders regarding the impacts from the project according to the requirement of Gold standard.

This meeting will be held at Don Chan Palace Hotel & Convention at 2:00 pm May 30th (Friday), as the project participants, we humbly accept the advices, comments and suggestion of all stakeholders, looking forward to your attendance. There will be an introduction and a comments collecting section. Your presence is welcomed.

Please find attached the following:
01. Invitation letter_English
02. Project non-technical description_English
03. Invitation letter_Laos
04. Project non-technical description_Laos

With this invitation letter, the project participants would like to invite you to participate/witness this Gold Standard Local Stake Consultation meeting. The meeting is to be held at Don Chan Palace Hotel & Convention at 2:00 pm May 30th (Friday).

In case, physical participation is not possible, please send in your comments to the undersigned below by May 30th 2014

The contact person:

Nam Nga 2 Hydropower Co., Ltd.
Contact Person: Mr. Yaodong Lu
Mobile:00856-20-28190844

South Pole Carbon Asset Management Ltd.
Contact Person: Ms.Fang Qun
Phone: +86 10 8454 9953
Email:q.fang@southpolecarbon.com

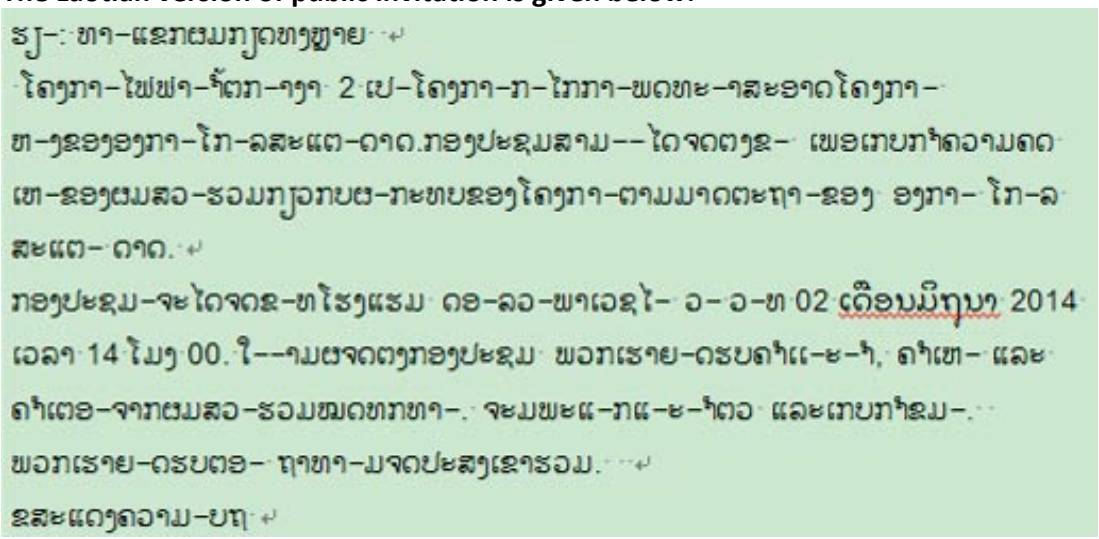
Best

Fiona

Public Invitation:

The following invitation letter was published in Laotian via village bulletins or oral notice.

The Laotian version of public invitation is given below:



The English version of public invitation letter is given below:

Dear Sir/Madam,

Nam Nga 2 Hydropower Project is a Gold Standard CDM candidate project. The physical meeting is to be held to collect opinions from stakeholders regarding the impacts from the project according to the requirement of Gold standard.

This meeting will be held at the Ban Keo village at 2:00 pm June 2nd (Monday), as the project participants, we humbly accept the advices, comments and suggestion of all stakeholders, looking forward to your attendance. There will be an introduction and a comments collecting section. Your presence is welcomed.

Kind Regards

Nam Nga 2 Hydropower Co., Ltd.
Contact Person: Mr Yaodong Lu
Mobile: 00856-20-28190844

South Pole Carbon Asset Management Ltd.
Contact Person: Ms Fang Qun
Telephone: 0086-10-84549953

Photo of the public invitation:

Until 30 May 2015, No comment from any invited NGOs or governmental officials were received. For stakeholders of the local residents and government officer, questionnaires were distributed after announcement. Local stakeholders filled in and returned the questionnaires.

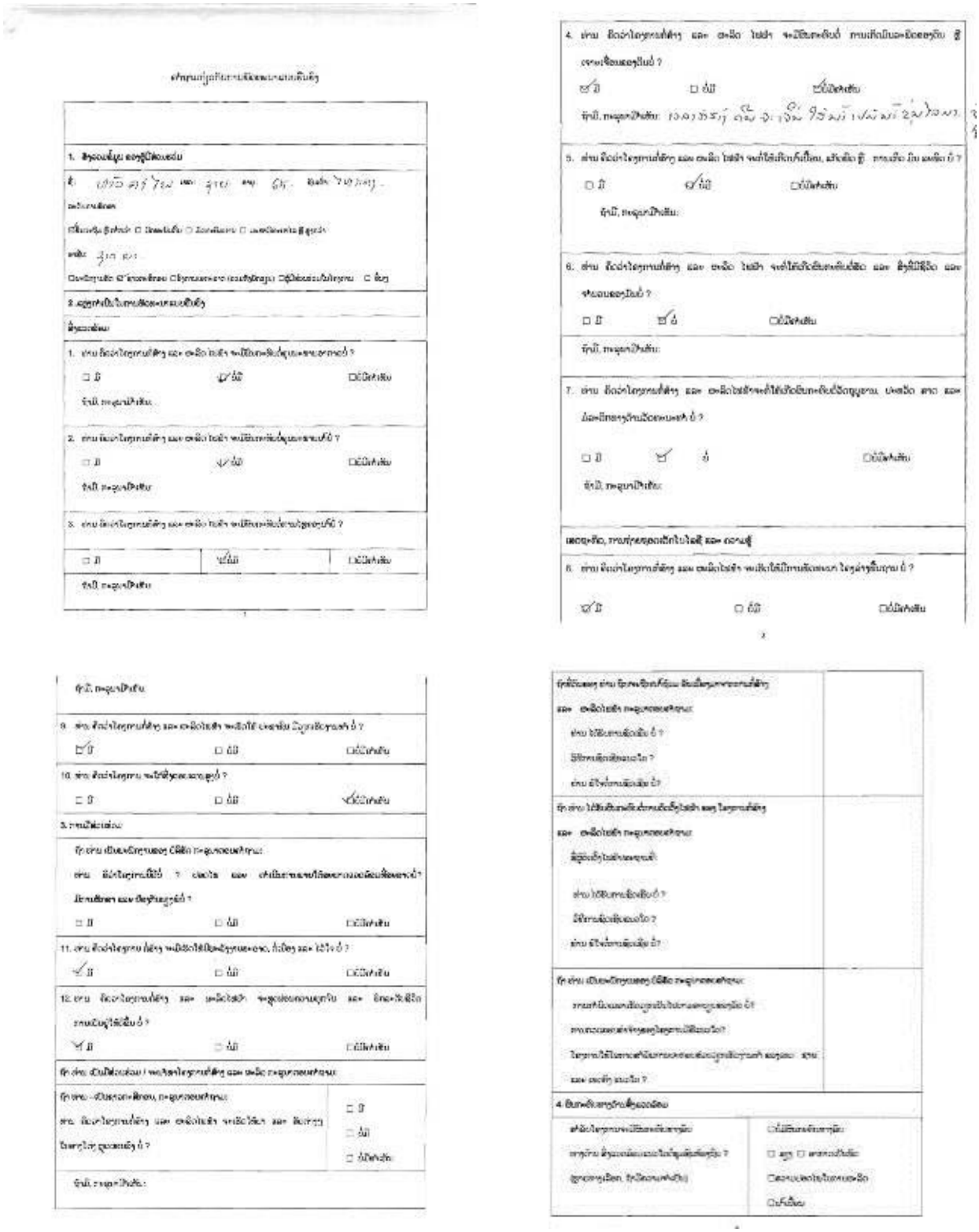
Questionnaire

The questions in the questionnaire are designed based on the Annex H of the Gold Standard Rules and Toolkit. There are eleven questions are designed for the "Do no harm assessment" and six questions are designed for the "Sustainable Matrix". In total, 53 questionnaires were sent out to stakeholders. The questionnaires were distributed on 01/05/2015, and these questionnaires were collected by the 20/05/2015. The questions are designed in a way to help stakeholder understand potential impacts on environment, social development and technological & economic development of the project with simple local language.

The questions in the questionnaires are as follow:

1. Do you think the project's construction and operation will affect the local air quality?
2. Do you think the project's construction and operation will affect the local water quality?

3. Do you think the project's construction and operation will affect the local water flow?
4. Do you think the project's construction and operation will lead to soil pollution or erosion?
5. Do you think the project's construction and operation will lead to waste water, waste gas or solid waste pollution?
6. Do you think the project's construction and operation will affect local animal and plant species and quantity?
7. Do you think the project's construction and operation will affect local archaeological, cultural, historical and spiritual heritage and sites?
8. Do you think the project's construction and operation will improve the local's basic infrastructure?
9. Do you think the project's construction and operation will provide job opportunity?
10. Do you think the project will provide a higher level of remuneration?
11. Do you think the project provide good, safe and clean working environment, adequate security and protection?
12. Do you think the project's construction and operation will alleviate local poverty and improve the living standards of the poor?
13. Do you think the project will provide continuous, reliable and clean power?
14. Do you think the project's construction and operation lead to fish decrease and the surrounding watershed wild animals' number reduce?
15. Was/will your land occupied/flooded due to the project's construction and operation, please answer:
    Did you get the compensation?
    What is the compensation standard?
    Are you satisfied with the compensation?
16. If you are the owner of other installation affected/will be affected by the project's construction and operation, please answer:
    Did you get the compensation?
    What is the compensation standard?
    Are you satisfied with the compensation?
17. If you are employee of the project, please answer:
    Was the work time arranged in line with state regulation?
    Was Minority hired by the project?
    Was the project provided equal job opportunities to male and female?
18. Which negative impact will be introduced to local environment during the project's construction and operation?
    Which positive impact to local economic will be introduced during the project's construction and operation?
19. Which positive impact will be introduced to your living during the project's construction and operation?
20. What is your attitude of the project's construction and implementation?
21. In general, what is the impact of the project' construction?
22. Other advise, suggestion to the project's construction and implementation



Sample of the questionnaire

No objection has been received from the local stakeholders. The result of the questionnaire shows the project does not incur any harmful impacts on the local environment. Respondents show that they believe the project can bring sustainable benefits to them and they are very supportive for the operation of the project. The respondents generally deemed that the project generates reliable

electricity, benefit local economy development and employment. They also think the project has no negative impact on ecology.

Stakeholder Meeting

In totally, 53 stakeholders attended the consultation meeting, in order to collect comments from minority, 14 female (accounts for 26.4%) attended the meeting.

The basic information of the stakeholders is shown below.

Item	Category	Number	Percentage (%)
Age	Below 30	16	30.2
	30~40	16	30.2
	40~50	15	28.3
	Above 50	6	11.3
Gender	Male	39	73.6
	Female	14	26.4
Education	Elementary school	16	30.2
	Junior high school	10	18.9
	Senior high school	9	17.0
	College and above	18	33.9

The meeting covered all agenda items recommended by the Gold Standard.

Agenda

Registration
Welcome remarks
Introduction of Participants
Project Overview and introduction
Break
Questions and Answers
Introduction of the Gold Standard and its procedures
Questions and Answers
Break
Open discussion (All stakeholders are invited to give their comments, critics and support concerning the project)
Declared the meeting closed

During the consultation meeting, the project owner introduced the information of the project, and the draft IEE report was provided for the participants. The stakeholders raised their comments during the meeting. The summary of assessment of all comments are listed blew:

Stakeholder comment	**Was comment taken into account (Yes/ No)?**	**Explanation (Why? How?)**
Is the water quantity affected by the project's implementation?	No	Project Owner's representative confirmed that there would be no

		negative permanent effect to locals during the project construction and operation phase, instead there might be only minor temporally impact due to waste water while the mitigation measure would be adopted. Only part of the water flow would be diverted for power generation and regarding to the river part from overflow dam to the power house, a minimum water flow would be guaranteed at no less than the average water flow in dry season thus there would be minor impact on the water utilization for nearby villages. Furthermore, the representative mentioned that a Water Supply Program would be prepared for the local people to improve their water supply system.
Does the project provide job opportunities to nearby village?	Yes	Project Owner's representative mentioned that all the construction works would be open for local construction company, and would request the company to recruit locally.
Some stakeholders expected the project owner could provide stable electricity to nearby village.	Yes	The Project Owner's representative mentioned that it is not allowed to supply electricity directly from the plant to end user, but the project owner would keep the power line(s) for construction even after the project comes into operation, thus the surrounding village can use those power lines to connect to the grid.
Some stakeholders mentioned that the nearest temple is far away from the village, and they expected the project owner to construct new temple nearby the village.	Yes	The company had program to construct a new temple nearing the village to meet the villagers' demand.
Wastewater generation during construction	No	Project Owner's representative mentioned that water is very important to the local residents, migration measures would be taken to avoid impacts on water quality, such as introduce sanitation facility to treat the human waste, collect dirty water from disturbed land and treat before release

		to the river.
Is there Land occupied by the project?	No	Project Owner's representative confirmed that none village would be directly affected by the intake weir, access road and powerhouse construction, due to the project site is far away from villages.
Is the technology used in the project reliably?	Yes	The project owner confirmed that they will choose reputable manufacturer to provide mature technology and equipment.
Does the dam's construction lead to flood?	No	The project is run-of-river hydropower project, and there is no dam to reserve water which not leads to the flood occur. Furthermore, afforestation will be taken to prevent soil erosion.
Does the project's implementation affect the irrigation?	No	The project owner explained that there's no reservoir for the project to regulate the run off of the river, thus will not affect the water for irrigation. Actually project is far away from nearby village and there is no farmland nearby.

All comments from stakeholders are taken into account and promptly responded. For the minutes of the meeting and other details regarding the consultation meeting, please refer to the Local Stakeholder Consultation report.


Attendance List of Stakeholder Feedback Round Meeting for Nam Nga Hydropower GS-CDM Project

Date:
Location:


Attendance List of GS Stakeholder Meeting for Nam Nga 2 Hydropower Project

Date:

Photos of first stakeholder consultation meeting


Photos of second stakeholder consultation meeting


E.2. Stakeholder Feedback Round

Please describe report how the feedback round was organized, what the outcomes were and how you followed up on the feedback.

During the consultation meeting, the stakeholders were informed that they are invited for the feedback round. The relevant content will be added after the Stakeholder Feedback Round is completed. And the outcome of the Stakeholder Feedback Round will be summarized in the final version of the GS-passport.

E. 3. Discussion on continuous input / grievance mechanism

Discuss the Continuous input / grievance mechanism expression method and details, as discussed with local stakeholders.

During the consultation meeting, the stakeholders were informed that they are invited for the feedback round, the continuous input methods were discussed, and finally the following methods were determined:

	Method Chosen (include all known details e.g. location of book, phone, number,	Justification

	identity of mediator)	
Continuous Input / Grievance Expression Process Book	Grievance expression book in Villages	Kept by the leader of the villages
Telephone access	+00856-20-28190844	Project manager
Internet/email access	Yaodong.lu@gmail.com	Project manager

All issues identified during the crediting period through any of the Methods shall have a mitigation measure in place. The identified issue should be discussed in the revised Passport and the corresponding mitigation measure should be added to sustainability monitoring plan in section G.

SECTION F. Outcome Sustainability assessment

F.1. 'Do no harm' Assessment

Project activities have been analyzed against questions in table 2.6 and in annex H of GS toolkit. Project is not complicit in corruption and fully respects human rights. Also, there exist no identified species under protection in the project area that will be affected negatively by the project.

Project is a run-off-river type project and does not involve use or generation of any hazardous waste. All of the project activity is implemented considering related environmental and safety precautions. Based on the analysis, only relevant areas related to project activity are determined as labor standards and environmental protection which are assessed as given in table below.

Safeguarding principles	Description of relevance to my project	Assessment of my project risks breaching it (low/medium/high)	Mitigation measure
Human Rights			
1. The project respects internationally proclaimed human rights including dignity, cultural property and uniqueness of indigenous people. The project is not complicit in Human Rights abuses.	The project respects internationally proclaimed human rights, including personal and political freedom, economic, social and culture freedoms, etc. and none of the project participate is arms producer /distributor or land mines producer/ distributor. Lao PDR (host country) has ratified two core UN human rights treaties, including the UN International Covenant on Civil and Political Rights (ICCPR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR)[1]. The project will have no negative impact on the lifestyles of local and indigenous people. The people in the surrounding area will benefit from	Low	No mitigation measure is required for this indicator. Project will be implemented in compliance with regulations.

[1] http://www1.umn.edu/humanrts/research/ratification-laos.html

	the electricity they will get from the new hydropower station. The electricity for the neighbors is distributed by a local grid and is part of the internal electricity use.		
2. The project does not involve and is not complicit in involuntary resettlement.	The project does not involve and is not complicit involuntary resettlement. As expected in the Initial Environment Examination (IEE) report by the designer during the preparation stage, the project is far away from villages, and there is no village impacted by the project. Also, there is no any private land affected or expropriation due to the implementation of the project.	Low	No mitigation measure is required for this indicator
3. The project does not involve and is not complicit in the alteration, damage or removal of any critical cultural heritage.	The Project does not involve and is not complicity in the alteration, damage or removal of any critical cultural heritage. There is no protected area, national park or archaeological site within the project boundaries.	Low	No mitigation measure is required for this indicator
Labour Standards			
4. The project respects the employees' freedom of association and their right to collective bargaining and is not complicit in restrictions of these freedoms and rights.	The project activity does not interfere with legal rights regarding employees' freedom of association or their right to collective bargaining. The project fully respects the employee's freedom and rights and all related laws endorsed by Lao government. Ref: Labour Law[2], Article 5	Low	No mitigation measure is required for this indicator
5. The Project does not involve and is not complicit in any form of forced or compulsory labour.	All employees are engaged in the project implementation on a voluntary basis. The project fully respects the employee's rights in accordance with all labour related laws. The host country has ratified a total of eight ILO	Low	No mitigation measure is required for this indicator

[2] http://www.na.gov.la/docs/eng/laws/soc_cult/Labour%20%282006%29%20Eng.pdf

	Conventions, including five of the eight ILO core Conventions[3] (covering forced labour, equal, discrimination and child labour). Ref: Labour Law, Article 3		
6. The project does not employ and is not complicit in any form of child labour.	The project does not involve the employment and complicit of child labour. The Host country has its own credible legislation in place prohibiting child labour. The proposed project requires a limited number of skilled employees to operate, maintain and manage the plant. Therefore, it does not employ and is not complicit in any form of child labour. Ref: Labour Law, Article 41	Low	No mitigation measure is required for this indicator
7. The project does not involve and is not complicit in any form of discrimination based on gender, race, religion, sexual orientation or any other basis.	In Laos PDR(host country), labour legislation forbid any form of discriminate based on gender, race, religion, sexual orientation or on any other basis. According to the interview with the project owner, there is strong solidarity existing among people from different minority groups in the project site. Ref: Labour Law, Chapter 5&Chapter 7	Low	No mitigation measure is required for this indicator
8. The project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments.	The construction of the project requires intensive labour for construction and machinery operation. Workers may be exposed to risk on the construction, e.g. occupational hazard and accidents. A hydro project in general does not expose workers to unsafe or unhealthy work environments in terms of toxins or chemicals.	Medium	The workers are trained in respect to construction safety. The project owners will provide safe and healthy environment in line with the labour law. Ref: Labour Law, Chapter 6
Environmental Protection			
9. The project takes a	The project activity is only a hydropower	Low	The project will implemented according

[3] http://www.ilo.org/asia/countries/lao-peoples-democratic-republic/lang--en/index.htm

precautionary approach in regard to environmental challenges and is not complicit in practices contrary to the precautionary principle.	project which not includes any planting, agriculture or similar activities. The project activity does not threaten human health or the environment. The project will be constructed and operated in an environmental friendly way. All the release (i.e. waste water, solid waste,excavation waste) and hazard waste (i.e. waste oil) will be handled according to the national legislation. Adequate hearing protection will be provided during the blasting time.		to national regulations including "Environmental Protection Law", "National Policy on Environmental and Social Sustainability of the Hydropower Sector in Lao PDR". Precautionary principles have been taken to avoid negative impacts to the local environment prior to the project starting to operation. In order to minimize impact on environment, mitigation measures will be issued which includes; -Releasing minimal flow to ensure the biodiversity in the downstream of the river; -Proper disposal of wastes; Solid waste(such as excavation waste) can be collected regularly and transported to the site waste management facility for segregation prior to reuse or to sending off-site for recycling; - Restricted working hour in construction area and times for ground blasting; - Provide adequate hearing protection to Construction workers when noise levels of 70-80 dB or above due to the blasting; - Buffer zones of vegetation shall be left along stream banks to maintain riparian habitats and prevent sedimentation; -Rehabilitation of land after construction works are completed including tree planting and topsoil

			restoration.
Social impacts			
10. The project does not involve and is not complicit in significant conversion or degradation of critical natural habitats, including those that are (a) legally protected, (b) Officially proposed for protection, (c) Identified by authoritative sources for their high conservation value, or (d) Recognized as protected by traditional local communities.	The project does not involve and is not complicit in significant conversion or degradation of critical natural habitats. The project is located in an isolated area and there are no critical natural habitats located at or close to the project site. As a hydropower project, the project will not lead to invasive species introduction or activity displacement.	Low	Company will comply with all national regulations.
Anti-Corruption			
11. The project does not involve and is not complicit in corruption.	Lao PDR has published relevant law[4] to against corruption. Furthermore, Lao PDR ratified the UN Convention against Corruption[5] on Sep. 25, 2009, Lao PDR will have the right to ask for assistance from other member countries in investigating and dealing with corruption cases with foreign elements. The project is a private-owned, the project owner does not condone or support corruption. Ref: Penal Law, Article 157	Low	No mitigation measure is required for this indicator.

[4] http://www.na.gov.la/docs/eng/laws/pub_adm/Penal%20%282005%29%20Eng.pdf

[5] http://www.unlao.org/Blog/post/Lao-PDR-joins-international-fight-against-corruption.aspx

F.2. Sustainable Development matrix

Insert table as in section D3 from your Stakeholder Consultation report (Sustainable Development matrix).

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
Air quality	Dust due to project construction and emission due to construction equipment according to the IEE report. The mitigation methods for dust suppression has been employed, including -Topsoil removal land cleaning and rehabilitation will be undertaken progressively -Spraying water on the roads, spoil sumps, topsoil stockpiles and disturbed areas -Combustion engines be inspected and adjusted to minimize the air pollution - Workers wearing masks to prevent respiration discomfort and the dust screens are applied	Related to MDG Goal 7: Ensure environmental sustainability Target 7.a Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources	**Parameter:** air quality indicators Dust emission occurs due to the excavation process, however the emission can be mitigated using appropriate measures. On the other hand, the project will reduce NOx, SOx emissions due to combustion of fossil fuel for electricity generation in the baseline scenario. Thus, this sustainable indicator scores a "0".	0
Water quality and quantity	During the construction and operation, the following measures will be taken to minimize impacts on water quality: -Introduce sanitation facility to treat the human waste - Collected dirty water from disturbed land and treat before release to the environment -Store the hydrocarbons(e.g. fuel and lubricants) and chemical reagents in safe place away from any water courses, the container of reagents and	Related to MDG Goal 7: Ensure environmental sustainability Target 7.b Reduce biodiversity loss.	**Parameter:** Flow rate of water released & The water quality indicators During the project construction period, washing wastewater and wastewater with oil from machinery were produced. During the project operation period, domestic wastewater and sanitary wastewater is generated. The project owner applies treatment to	0

	drums of used oil or grease are stored under cover at all times. The project is a run-of -river project, so it will discharge all of the water that is used for electricity generation. Conservation of locally adapted species and ecosystems are done via ensuring minimum water flow. As the IEE assessed, the project is a run of river type hydro project and has no reservoir to store water and regulate river runoff, thus the impact on the groundwater level is so minor that could be ignored. As well due to ecological flow, the vegetation and the associated biodiversity near streams will not be affected according to the assessment in the IEE. Thus, it does not change water balance and the level of the underground water is not affected.		discharged wastewater to make sure it is complied with the local regulation. Quantity of water released will be monitored to ensure the minimum flow by environment monitoring department is achieved. Thus, this indicator therefore scores "0".	
Soil condition	The potential soil erosion from construction such as removal of vegetation, catchment areas converted to other land uses, road construction and excavation works at the intake weir, penstock and powerhouse. To prevent soil erosion, the following measures will be undertaken: • The sediment yield remain at the current low level to long-term protection of watershed area.	Related to MDG Goal 7: Ensure environmental sustainability	**Parameter:** Replantation Proper measures have been adopted to prevent negative impact on soil condition due to the project. The projects have to recover the plantation, which is affect during the construction period. The condition of the replantation will	0

	• The banks and bed of the excavated at the intake weir, powerhouse and non-plant slopes will be protected with trees and grass. • Only areas intended for immediate construction will be cleared of vegetation and topsoil. Any disturbed areas will be received a temporary seeding in combination with straw or a suitable material, and sprinkling with water until the surface is sufficiently wetted to suppress dust. • Soil and spoil removed during the construction process will be stockpiled separately and stabilization measures implemented. The stockpiles will be constructed with stable batters and grassed to prevent erosion. Ridges created on topsoil stockpiles to provide for moisture retention to assist regrowth and slow run off to avoid the areas of drainage lines should be control drainage and erosion from the stockpiles. • The roads will have sufficient drainage and where necessary the steep gradient drain be lined with rock or concrete in order to ensure the minimization of the soil erosion.		be monitored. Given the appropriate mitigation measures, this indicator scores "0".	
Other pollutants	To reduce/avoid the noise impacts, following measures will be taken: -The drilling machines should be	Related to MDG Goal 7: Ensure environmental sustainability	**Parameter:** Level of noise	0

	equipped with noise control devises such as mufflers. -Construction workers exposed to noise levels of 80 dB or more should be provided with adequate hearing protection. -Restrict working hours, Making no operation of noisy machinery during the rest time of local residents		As the main construction sites are not adjacent to the local communities, the impact of noise is limited. And the project site is far away from the village and mitigation measures implemented during construction work. This indicator scores "0".	
Biodiversity	Conversation of locally adapted species and ecosystems are done via ensuring minimum flow and recovery of vegetation after construction. The dissolved oxygen level and water depth is enough for the fish to swim for immigration. According to the IEE, there is no migration fish was observed. Also since the project is run of river type hydro with no reservoir blocking water flow while minimum water flow is maintained, no impacts will be expected on fishes. The project has no reservoir to store water and regulate river runoff, thus the impact on the groundwater level is so minor that could be ignored. The sluice gate is large enough for the incoming sediment load.	Related to MDG Goal 7: Ensure environmental sustainability	**Parameter:** Recovery of the vegetation The project owner will recovery the vegetation after construction. There is no endangered species in the project on-site. Fish fry will be bred into the river if necessary. The underground water is not affected. Thus, given the appropriate mitigation measures, this indicator scores "0".	0
Quality of employment	-	MDG Target 1.A: Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day.	**Parameter:** Training plan Staffs to be employed for the project are most local people having poor education background.	+

		MDG Target 1.B: Achieve full and productive employment and decent work for all, including women and young people	Compared to the baseline scenario, trainings provided by the project owner will improve the employees' qualifications which might help them to find job more easily in future. Staff will be trained for the positions created during construction& operation phases. All Health and Safety measurements will be applied according to local regulations. The project will provide long-term jobs. Thus, this sustainable indicator scores a "+".	
Livelihood of the poor	-	MDG Target 1.A: Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day. MDG Target 1.B: Achieve full and productive employment and decent work for all, including women and young people	**Parameter:** Number of the installed pumps on-site Water supply program is prepared for the local people to improve their water supply system. Thus, this sustainable indicator scores a "+".	+
Access to affordable and clean energy services	-	Target 8.B and 8.c Address the special needs of the least developed countries, landlocked developing countries and small island developing States	**Parameter:** the net electricity generated to the local grid Before the construction of the project, the local residents adopt firewood as the main energy source. The construction of the	+

			project will change the energy use and promote local electrification. The construction of the project will improve local electricity transmission system, promote the electrification progress. The project increases the renewable energy. Thus, this sustainable indicator scores a "+".	
Human and institutional capacity	-	-	The project enables of local female, as there is no gender barrier for employment of the project. Stakeholder comments are collected during the GS-CDM project development through a series of ground survey, village profile and household survey with the use of questionnaires and interviews. Through the stakeholder meeting, local residents participated in the decision-making of the project design. There is no significant impact on this indicator resulting from the project development. Thus this indictor scores "0".	0
Quantitative employment and income	-	MDG Target 1.A: Halve, between 1990 and 2015, the proportion of people whose income is	**Parameter:** Number of jobs created During the construction period,	+

generation		less than one dollar a day. MDG Target 1.B: Achieve full and productive employment and decent work for all, including women and young people	plenty of job opportunities were provided to local residents, and the newcomers surged in the area will bring local people especially the poor and disadvantaged groups lots of employment chances. As a result the employment rate and income level have increased. And the average salary for the project employee is higher than the local level. So this indicator scores "+".	
Balance of payments and investment	The construction of the project will lead domestic investment to the project site area, where the most under developed area in a least developed country.	Target 8.B and 8.c Address the special needs of the least developed countries, landlocked developing countries and small island developing States	The construction of the project will lead millions of investment to the local area. The power generated by the project activity will displace electricity supplied by the grid. Given the fact that coal resources are abundant, the renewable energy generation by the project will have a substantial impact on the balance of payments. Hence, compared with the baseline scenario there is no significant difference in terms of the balance of payments. Thus this indicator scores "0".	0
Technology transfer and technological self-reliance	-	Target 8.F In cooperation with the private sector, make available the benefits of	The turbine and generator of the project will adopt the mature technology from a foreign manufacturer, which has been well experience. The foreign engineers	0

		new technologies, especially information and communications	will transfer the technology on turbine and generator to local staffs on the equipment's installation and operation. And relevant training will be offered. While there is no significant impact on this indicator resulting from the project development. Thus, this sustainable indicator scores a "0".	

Justification choices, data source and provision of references	
Air quality	In the IEE Report, it states that mitigation measures are applied to control the expected dust emission. Source: Chapter , IEE
Water quality and quantity	In the IEE Report, it states that all the wastewater in project activities is treated before discharging to the river. Source: Chapter , IEE
Soil condition	In the IEE Report, it states that project does not significantly impacts on the soil condition. Mitigation measures are applied to project short term soil degradation: rehabilitation of vegetation in the affected places is conducted right after the completion of the construction work. Source: Chapter , IEE
Other pollutants	There is not any disturbing noise at residential areas because of the project location is far from local village. Source: Chapter , IEE
Biodiversity	The ecosystem surround the project area is not endangered, the impacts deriving from the project activity is not significant on the biodiversity. Source: Chapter , IEE
Quality of employment	Source: Training documents provided by project owner
Livelihood of the poor	Source: Materials provided by the project owner
Access to affordable and clean energy services	The project may diversify the grid to toward more green level. However, given the amount of electricity produced by the project, it still plays small

	part in the local grid. Source: Chapter , FSR
Human and institutional capacity	Source: Chapter of IEE and the on-site stakeholder materials
Quantitative employment and income generation	The project provides job opportunities to the local people and increase income generation in the region. Source: Chapter , FSR
Balance of payments and investment	Source: Concession Agreement provided by Project owner
Technology transfer and technological self-reliance	Source: Chapter , FSR

SECTION G. Sustainability Monitoring Plan

No		1
Indicator		Air Quality
Mitigation measure		The project caused dust emission due to the construction work. The level of emission was complied with the legal dust emission limits. The project owner used wet damping, sprinklers to minimize the dust emission during the construction period.
Repeat for each parameter		
Chosen parameter		The air quality indicators
Current situation of parameter		N/A
Estimation of baseline situation of parameter		N/A
Future target for parameter		To meet with local regulation and rules
Way of monitoring	How	On-site examination
	When	During construction
	By who	Project owner

No		2
Indicator		Water Quality and quantity
Mitigation measure		The minimum flow will be released to maintain the eco-system and meet demand for irrigation in the downstream. On-site treatment of construction wastewater prior to discharge.
Repeat for each parameter		
Chosen parameter		• Flow rate of water released from the weir • The water quality indicators
Current situation of parameter		N/A
Estimation of baseline situation of parameter		N/A
Future target for parameter		To meet with local standard and regulation
Way of monitoring	How	Examination by the environment monitoring department according to the relevant standards and regulations
	When	Annually
	By who	The Local environment monitoring department

No	3
Indicator	Soil condition
Mitigation measure	To prevent soil erosion, trees and grass will be planted in the non-plant slopes. Drain system will be established in the quarry area and slag yard will be covered during rainy season. Thus, the construction of the project will not lead to observable change in soil quality.
Repeat for each parameter	

Chosen parameter		Replantation
Current situation of parameter		Soil naturally covered by plants or stones
Estimation of baseline situation of parameter		N/A
Future target for parameter		The bared soil due to the project construction should be covered during rainy season in construction period, and trees and grass should be covered after project construction.
Way of monitoring	How	Observations during site visits and continuous monitoring during construction
	When	Annually
	By who	Project Owner

No		4
Indicator		Other pollution
Mitigation measure		To prevent noise impact, the drilling machines should be equipped with noise control devises such as mufflers. Construction workers exposed to noise levels of 80 dB or more should be provided with adequate hearing protection.
Repeat for each parameter		
Chosen parameter		Noise
Current situation of parameter		N/A
Estimation of baseline situation of parameter		N/A
Future target for parameter		Minimize the impact of noise to the around residents and construction workers according to the local regulations
Way of monitoring	How	Examine by the environment monitoring department
	When	Annually
	By who	Local environment monitoring department

No		5
Indicator		Biodiversity
Mitigation measure		The project owner will enforce soil conservation actions during and after the construction period according to relevant local regulation
Repeat for each parameter		The recovery of vegetations.
Chosen parameter		
Current situation of parameter		Natural situation
Estimation of baseline situation of parameter		-
Future target for parameter		Recovery of vegetation after construction
Way of monitoring	How	Site visits and interviews with locals
	When	Annually
	By who	Project Owner

No		6
Indicator		Quality of employment
Mitigation measure		Staff will be trained for the positions created during construction& operation phases. All Heath and Safety measurements will be applied according to local regulations.
Repeat for each parameter		
Chosen parameter		Training Plan&Records
Current situation of parameter		
Estimation of baseline situation of parameter		-
Future target for parameter		All relevant staff to be trained for Health and Safety and relevant staff should be certified for working at high voltage environment.
Way of monitoring	How	Check employment records and training documents/certificates
	When	Annually
	By who	Project Owner

No		7
Indicator		Livelihood of the poor
Mitigation measure		Water supply program was prepared for the local people to improve their water supply system.
Repeat for each parameter		
Chosen parameter		Number of the installed pumps on-site.
Current situation of parameter		Local residents lack the basic water supply system
Estimation of baseline situation of parameter		-
Future target for parameter		Implement the water supply program, assist local residents got clean water conveniently, thus improve the sanitation and livelihood of the poor.
Way of monitoring	How	Site visit to the water supply program.
	When	Annually after the program is completed.
	By who	Project Owner

No		8
Indicator		Access to affordable and clean energy services
Mitigation measure		N/A
Repeat for each parameter		
Chosen parameter		Net electricity generation by project activity.
Current situation of parameter		Local residents adopt firewood as the main energy source, which may lead damage to forest and biodiversity.
Estimation of baseline situation of parameter		62.59 GWh
Future target for parameter		The future target for the annual net electricity generation by the project is available for the local residents.
Way of monitoring	How	Project owner will monitor the net electricity generation according to the electricity generation meter

	When	Continuous
	By who	DOE

No		9
Indicator		Quantitative employment and income generation
Mitigation measure		During the construction period, job opportunities were provided to local residents, and the existence of the project in the area will bring local people especially the poor and disadvantaged groups lots of employment chances
Repeat for each parameter		
Chosen parameter		Number of jobs created
Current situation of parameter		In rural area of Lao PDR, local residents do not have any employment opportunities.
Estimation of baseline situation of parameter		No employment opportunities.
Future target for parameter		Provide jobs and training opportunities for local residents, reduce poverty.
Way of monitoring	How	Through checking materials of employment and wage payment.
	When	Annually
	By who	Project Owner

Additional remarks monitoring

N/A

SECTION H. Additionality and conservativeness

This section is only applicable if the section on additionality and/or your choice of baseline does not follow Gold Standard guidance

H.1. Additionality

Additionality assessment is performed according to the "Tool for the demonstration and assessment of additionality" approved by UNFCCC.

Benchmark analysis is applied to demonstrate the additionality of the project. The benchmark value at the decision-making is 15.56%. The analysis shows that without the revenue of CERs, the IRR of the project will be 10.91%, much lower than the benchmark. The sensitive analysis shows that even if the ± 10% variation range of the key parameters adopted, the IRR of the project still can't surpass the benchmark. The project is not financial attractive. However, the CDM revenue is able to help project overcome the investment barriers.

Details are available in the Project Design Document.

H.2. Conservativeness

A conservative approach has been followed in calculating the baseline emission factors and investment analysis sections as detailed in the PDD.

ANNEX 1 ODA declaration

Project financing for this project activity will not use Official Development Assistance (ODA) Funds. There are no loans or grants being provided by International Finance Institutions, which include ODA.

ANNEX D - OFFICIAL DEVELOPMENT ASSISTANCE DECLARATION

Date: [2014-09-04]

The Gold Standard Foundation

79 Avenue Louis Casai

Geneva Cointrin, CH-1216

Switzerland

RE: Declaration of Non-Use of Official Development Assistance by Project Owner of [Nam Ngo 2 Hydropower Project (GS 3373)]

[Nam Ngo 2 Hydropower Co., Ltd.]

As Project Owner of the above-referenced project, and acting on behalf of all Project Participants, I now make the following representations:

[Lakhamdy HEUANGPASEUTH]

I hereby declare that I am duly and fully authorized by the Project Owner of the above-referenced project to act on behalf of all Project Participants and make the following representations:

I. **The Gold Standard Documentation**

I am familiar with the provisions of The Gold Standard Documentation relevant to Official Development Assistance (ODA). I understand that the above-referenced project is not eligible for Gold Standard registration if the project receives or benefits from Official Development Assistance with the condition that some, or all, of the carbon credits [CERs] coming out of the project are transferred to the ODA donor country. I hereby expressly declare that no financing provided in connection with the above-referenced project has come from or will come from ODA that has been or will be provided under the condition, whether express of implied, that any or all of the carbon credits issued as a result of the project's operation will be transferred directly or indirectly to the country of origin of the ODA.

II. **Duty to Notify Upon Discovery**

If I learn or if I am given any reason to believe at any stage of project design or implementation that ODA has been used to support the development or implementation of the project, or that an entity providing ODA to the host country may at some point in the future benefit directly or indirectly from the carbon credits generated from the project as a condition of investment, I will notify The Gold Standard immediately using the Amended ODA Declaration Form provided below.

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III. **Investigation**

The Gold Standard reserves the right to conduct an investigation into any project it reasonably believes may be receiving ODA with the condition that some or all of the carbon credits from the project will be transferred to the ODA donor country.

IV. **Sanctions**

I am fully aware that the sanctions identified in The Gold Standard Terms and Conditions may be applied to me or the above-referenced project in the event that any of the information provided above is false or I fail to notify The Gold Standard of any changes to ODA in a timely manner.

I swear that all of the statements contained herein are true to the best of my knowledge.

Signed:

Name: Lakhamdy HEUANGPASEUTH

Title: Director

On behalf of: Nam Ngo 2 Hydropower Co., Ltd

Place: Vientiane, Laos

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