Initial Environmental Examination

January 2016

LAO: Greater Mekong Subregion Biodiversity Conservation Corridors Project

Prepared by Department Of Forest Resource Management. Ministry Of Natural Resources And Environment (MONRE) for the Asian Development Bank.

CURRENCY EQUIVALENTS

(as of 31 January 2016)

Currency unit	–	Lao Kip (LAK)
LAK1.00	=	$0.0001226994
$1.00	=	LAK8,150.00

ABBREVIATIONS

BCCP	–	Biodiversity Conservation Corridors Project
EMP	--	Environmental Management Plan
IC	--	infrastructure consultant
IEE		Initial Environmental Examination
GMS	–	Greater Mekong Subregion
LAR	–	land acquisition and resettlement

NOTE

In this report, "$" refers to US dollars, unless otherwise stated

Appendix 1
Ban Thongxay Primary School Building Initial Environmental Examination (IEE) and Environmental Screening Checklist

ENVIRONMENTAL IMPACTS SCREENING CHECKLIST (IEE)

Sub-Project No:		16
Sub-Project Name:		School building
Province	:	Champasak
District	:	Phathomphone
Village	:	Thongxay

Background Explanation: The Small-scale infrastructure component of the GMS Biodiversity Conservation Corridor Project focuses on community participation in the identification, design and implementation with an inclusive strategy of making the infrastructure improvements implemented more environmentally friendly as well as being closely matched to the needs of the community. The following types of sub-projects are planned for:

i. roads (access and internal village roads)
ii. village water supply
iii. buildings which can include school, health clinics, market place, village meeting hall, school building / teachers' house, and patrolling house
iv. irrigation and irrigation repairs
v. sanitation
vi. bridge or ford (causeway)
vii. paddy field and bund development

Environmental assessment helps planners to think constructively about ways of protecting and improving the environment. The first step in the environmental assessment process determines the scope and level of analysis for the rest of the assessment and is called scoping and is important to ensure the important issues receive appropriate attention, and provides data for sub-project evaluation and design. Using the following checklists, the survey and data collection teams have identified and collected the information required to allow the environmental impacts to be fully assessed as the sub-project design proceeds.

Description of the Environment:

Thongxay village is located in Phathomphone district, Champasack province, surrounded by Saming village to the north, Nongmarek to the south, Kengnagang village to the east, and Kele to the west. Its total population is 537 of which 247 are female, and the village has a total of 86 houses and 117 households. The proposed school building is located at the existing primary school compound which is at coordinates 1634520 N, 0621253 E. The total area is 1,600 square meters that is surrounded by the road 18A to the north, and occupied land to the south, east and to the west community land areas. The topography is flat and lies around 60 m above msl and the soils consist of laterite and clay deposits with volcanic rock intrusions. Average annual precipitation was 203.95 mm in 2014. There is a distinct rainy season from May to November, followed by a dry season from December to April.

Potential Environmental Impact:

Based on the feasibility study field survey and village meeting discussion on 4 November 2015 the environmental impacts related to location of school construction will be no adverse environmental impacts due to the fact that the existing school building is to be located in space available within the existing school compound. Environmental impacts relate to the project design such as material sources for gravel, sand, brick, and timber.

This will be mitigated by purchasing from approved sources and suppliers in the nearby district market. Potential environmental impact related to construction will be minor and temporary, and most cases can be mitigated before and during the construction period. Environmental impacts are likely from dust and noise, and waste generated by construction material such as plastic bag, cement bags and others.

Mitigation Measures:

To avoid and mitigate the environmental impacts related to construction such as land levelling and excavation works will result in localized concentrations of airborne particulate matter. Where levelling and excavation works carried out during dry and windy conditions are within 50m of an occupied dwelling, excavated sites should be sprayed with water to control dust release.

1. Check List for Identification of likely Environmental Impacts

Potential Environmental Effects (Likely impacts if any, on)	What the Effect is Likely to Be	Is it Significant (Y/N)
Environmental Considerations Due to Sub-project Location		
Residential, agricultural and common property land.	None	N
Effects on vegetation.	None	N
Effects on wildlife.	None	N
Effects on fisheries.	None	N
Effects on cultural property or artefacts.	None	N
Influence on current land uses.	None	N
Influence on economic activities.	None	N
Relation to other plans (national or local development, environmental, conservation plans etc).	Note; Sub-project cannot conflict with, or be provided for in other development plans. If this conflict exists move to the sub-project which is the next village priority. There is no conflict with other plans.	
Land tenure problems or land use conflicts.	Note: If land tenure or land use problems are identified the sub-project cannot be accepted. Proceed as above. No land acquisition or resettlement is required. The social safeguards impacts are assessed as Category C and no LAR plan is required.	
Ethnic minorities.	None	N
Environmental Considerations for Sub-project Design Response		
Choice of materials for construction and their sources (e.g. timber products).	Timber may be used for the concrete work and some structure components during construction	N
Quarries and borrow pits for laterite and fill materials.	Minor land levelling works will be required to provide the building platform. No quarries or borrow pits will be required.	N
Land drainage and drainage facilities.	None	N
Land formation, construction of bunds and flood overflows and relief.	None	N
Land stability.	None	N

Sanitation, receiving environment, separation from households, wells and natural water bodies.	None	N
Environmental Considerations Related to Construction Stage		
Construction of civil works, pavements and structures.	Minor earthwork and land clearance will be done before construction	N
Quarrying and borrow pit operation and remedial works.	None	N
Bricks and brick making for building construction – source of materials and fuel for brick making.	Purchase from suppliers or from producers in district or vicinity	N
Likely use natural timber poles for scaffolding and the source of the poles.	Timber may be used for the concrete work and some structure during construction. Purchase of approved materials from established suppliers	N
Safety Issues.	Accident may occur during construction	N
Depots and construction camps.	None	N
Noise and noise control.	Land clearance and levelling will generate noise	Minor
Dust nuisance.	Land clearance and levelling will generate dust	Minor
Runoff and erosion.	None	N
Spillage of oils and fuels, etc.	None	N
Environmental Considerations Related to Sub-project Operations		
Safety Issues.	None	N
Effects of drainage structures.	None	N
Maintenance Issues.	Lacking budget to maintain	N
Potential Environmental Benefits		
Improved access for agricultural materials (roads and access.)	None	N
Improved and more efficient movement of crops to secure storage of markets (roads and access).	None	N
Improved cross drainage for irrigation, entrance to cropped areas (roads and access).	None	N
Improved access to health services, education and social services (roads, access, health clinics, school buildings and teacher's housing).	None	N
Improved rural incomes and economy and lifestyles (market places).	None	N

Improved water supplies and community health and wellbeing.	None	N
Improved sanitation practices and community health and hygiene.	None	N
Introduction of improved low cost sanitation measures.	None	N
Improved community health and wellbeing (health clinics).	None	N
Improved education (school buildings and teacher's houses).	Significantly better educational facilities. There are no toilet facilities at present. Hygiene for students will be improved with the provision of new toilets.	Y
Improved food supply (less deficiency) (irrigation rehabilitation and improvements. Paddy field and bund formation).	None	N
Improved management of NPAs and natural and forest resources (patrolling houses).	None	N
Improved village cohesion and management / communication of village affairs (village meeting halls).	None	N
Other – (nominate).	Improved education for environmental management and economic development of village	Y

2. Environmental Management Plan (EMP)

The following Environmental Management Plan (EMP) has been developed from the environmental screening of the Thongxay Primary school small-scale infrastructure subproject. The EMP addresses the potential environmental impacts identified in the above checklist of potential environmental impacts.

Potential Environmental Problem Areas	Potential Environmental Problems	Possible Mitigation Measures	Responsibility for Implementation
Location (None)			
Design			
Choice of materials and their sources.	laterite sources and timber for construction may be used	Explore and survey nearest laterite source in order to avoid transport through the site. Laterite transported to project site must be covered. Spray water on stockpiles and exposed laterite construction to layer dust.	Infrastructure consultant (IC) with district officers.

		Timber and hardwood joinery will be specified for procurement from approved sources and complying suppliers (DAFO).	
Construction			
Construction of civil works, pavement and building structures	Noise and vibration nuisance.	Limit working hours and not allowing work at night time. Planning of operations so that people are less disturbed. Avoidance of noisy operations during night times and near important wildlife..	Contractor IC work's inspector
	Dust nuisance and health risk.	Wetting of surfaces during the dry season..	Contractor IC work's inspector
Quarrying	Dust, nuisance and health risks as above.	As above.	Contractor IC work's inspector
	Visual effects.	Planting trees to screen buildings, as required. This will also be an educational tool for awareness raising amongst students and the village community of local species and their protection.[4]	District and village authorities supported by BCCP
	Safety risks and damage to land if slopes of quarries or borrow pits collapse.	Proper slope angles for sides of borrow pits. Quarry and borrow pit rehabilitation Contractor's Safety Plan. Safety provisions in contract. Issuance of safety apparel.	Contractor IC work's inspector
	Damage to private and public land.	Careful siting of borrow areas within approved borrow pits.	Contractor IC work's inspector with district officers
Safety Issues	Dangers to workers and local people.	Safety provisions in contract. Issuance of safety apparel. Contractor's safety plan. Fencing and warning signs	Contractor IC works inspector
Effects on existing traffic	Disruption of traffic during construction operations.	Special measures to maintain and manage traffic flows during construction.	Contractor IC work's inspector Village authority
Depots and Construction camps	Effects on water quality. Nuisance to local people. Spread of infectious diseases from	Provisions for high standard of management in Construction camp and at all depots or temporary parking or storage sites. Control of oil and diesel spills.	Contractor IC work's inspector District officers and village authority Works camp and depot will be old school building – approved

[4] The suggestion is for BCC to provide small specimen trees for planting by school children at schools and other village facilities such as village meeting halls. Information of the growth of the trees and their role in the environment can be provided. Children can nurture the trees and associate with the trees over their lifetime, and in turn their families and the generations that follow can also nurture memories through the trees planted by their elders.

	construction workers to local people.	Proper maintenance of equipment to prevent oil, diesel and fuel leaks	by education department and village
Operations			
Maintenance Issues	Risk to people, if maintenance and operations is not adequately budgeted and carried out.	Provision for maintenance and repair as necessary.	District education department has undertaken to adequately maintain the building. Maintenance requirements will be established by IC consultant during design.

3. Environmental Monitoring Plan

Impacts to be Monitored	Parameters	Location	Measurements	Frequency	Responsibilities
Construction Phase					
Implementation of construction mitigation measures detailed in the EMP.	Noise & vibration nuisance.	Works site.	Reasonableness and hours of work	Ongoing throughout work period.	IC works inspector.
	Dust nuisance and health risk.	Works site and exposed areas of excavation.	Dust layers by wetting or other approved measures.	Ongoing throughout work period.	IC works inspector.
	Spillage of oils and fuels, from equipment or workshop.	Equipment storage area and workshop.	No spillage and all materials stored as specified. Accidental spillage blinded and cleanup for safe disposal immediately. All equipment maintained and operating without leaks.	Ongoing throughout work period.	IC work's inspector. IC environmental specialist during frequent inspection of works.
	Quarrying dust, nuisance and health risks as above.	Quarry and borrow pit site(s).	Dust layers by wetting or other approved measures.	Ongoing throughout work period.	IC Work's inspector. IC environmental specialist during frequent inspection of works.
	Dangers to workers and local people.	Works site.	Warning signs in place. Excavations adequately barricaded.	Ongoing throughout work period.	IC works inspector.

Impacts to be Monitored	Parameters	Location	Measurements	Frequency	Responsibilities
	Depot and construction camp - Nuisance to local people. Spread of infectious diseases from construction workers to local people.	Works Depots and construct'n camp.	Workers briefed on risks of HIV AIDS and related responsibilities. Depots and camps maintained in a clean and hygienic state. Refuse and organic wastes collected in hygienic manner and removed regularly and disposed of in approved manner.	Ongoing throughout construction period. Construction camps dismantled and area cleaned and reinstated following works completion.	IC works inspector. District officers and village authority. IC environmental specialist in regular works site visits.
Complaints					IC work's inspector

4. Reporting of Environmental Monitoring Results

The IC's national Environment Specialist will report on the environmental safeguards on a three monthly basis. The reporting of EMP and monitoring results shall cover the information and the progress and results of mitigation (monitoring reports and feedback from the IC works inspector, district staff and the village authority). Issues identified will be included in the supervision report together with the steps being taken for full mitigation of the identified issues. The environmental and monitoring report formats are provided herewith.

Table A8-2-2b: Summary of Compliance with Environmental Mitigation Measures

Specific Mitigation Measures)	*Compliance Attained (Yes, No, Partial)*	*Comment on Reasons for Non-Compliance*	*Issues for Further Action*
1.			
2.			
3.			

Table A8-2-2c: Issues for Further Action

Issue	*Cause*	*Required Action*	*Responsibility*	*Timing*	*Resolution*
Old Issues from Previous Reports					
1.					
2.					
New Issues from this Report					
1.					
2.					
3.					
Report prepared by:					

Complaints (if applicable) will be reported as follows

a. Provide details of any complaints that have been raised by the local population and other stakeholders (who, what, where, when).
b. Document how the complaints were addressed or will be addressed, who are the responsible project staff, specific actions and dates.

Compliance with EMP

a. Determine if the required mitigation measures are sufficient or still appropriate considering current site conditions and on-going site works.
b. Describe any difficulties related to the implementation of the proposed mitigation measures. Indicate any changes proposed by the contractor to improve environmental protection.