

Initial Environmental Examination

July 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 July 2016)

Currency unit	–	Lao Kip (LAK)
LAK1.00	=	\$0.0058
\$1.00	=	LAK8,099.00

ABBREVIATIONS

EMP	–	Environmental Management Plan
IC	--	infrastructure consultant
IEE	--	Initial Environmental Examination
NPA	–	national protected areas
WUG	--	water user group

NOTE

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

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Appendix 1
Ban Tangtalang Sanitation
Initial Environmental Examination (IEE) and
Environmental Screening Checklist

ENVIRONMENTAL IMPACTS SCREENING CHECKLIST

Sub-Project No: 39

Sub-Project Name: Sanitation construction

Province : Sekong

District : Dak Chueng

Village : Tangtalang

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 will identify and collect the information required to allow the environmental impacts to be fully assessed as the sub-project design proceeds.

Description of the Environment:

Tangtalang village has a total of population of 504 of which 270 is female, there are 66 households and 91 families. Tangtalang is a targeted village listed under the GMS Biodiversity conservation corridor project output 3-Small Scale Infrastructure. It shares border with Kaluem District to the North, with Tangnong to the South, with Vietnamese border to east, and with Tangyuey to the west. Feasibility survey of proposed location showed that dimension of village is 130 meters which is stretched along the village internal road. The village elevation is 1,242 meters above sea level. Topographical feature is sloping land comprising clay soil and sandy loam. Annual precipitation of this area is 1,255.1 mm; temperature is cooler in December (data from the meteorology and hydrology sector, natural resource and environment office).

Potential Environmental Impact:

Potential environmental impacts related to project design are minor due to the materials use for construction will be ordered and imported from the district or provincial market. Most of materials are manufactured by the factories. Potential environmental impact related to the construction stage such as transport materials access and exist to the village will temporarily disturb the local community and environment, and could create dust and

noise nuisance during construction. Safety concerning during earth excavation for soak tanks may be also minor and can be mitigated through the Environmental Management Plan (EMP). Project completion, operation and maintenance will lead the need to manage wastewater discharges, and the control of odors in the vicinity of the sanitation units.

Mitigation Measures:

To avoid and mitigate potential environmental impact related to project location, design, and construction, operation and maintenance, the following measures will be implemented each stage. Location and site selection for the units will be undertaken with community members and the staff of public health office in order to apply and follow established guidelines; septic tanks must be sited away from houses and public water points. Earth excavation and septic tank installation must be avoided during rainy days. Wastewater overflow and odour issues will be controlled by diverting rainwater from the septic soak-aways and by preventing the entry of pests and design feature which deny entry to rodents and animals into the bathing and toilet units.

1. **Check List for Identification of likely Environmental Impacts** - enter [none] in not applicable or no impacts are anticipated:

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.		N
Effects on vegetation.		N
Effects on wildlife.		N
Effects on fisheries.		N
Effects on cultural property or artefacts.		N
Influence on current land uses.		N
Influence on economic activities.		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 subproject cannot be accepted. Proceed as above. No land acquisition or resettlement will be required.	
Ethnic minorities.		N
Environmental Considerations for Sub-project Design Response		
Choice of materials for construction and their sources (e.g. timber products).		N
Quarries and borrow pits for laterite and fill materials.		N
Land drainage and drainage facilities.	Wastewater drainage	Minor
Land formation, construction of bunds and flood overflows and relief.		N

Land stability.	Excavation of septic tank (soak-away) and installation	Minor
Sanitation, receiving environment, separation from households, wells and natural water bodies.		N
Environmental Considerations Related to Construction Stage		
Construction of civil works, pavements and structures.		N
Quarrying and borrow pit operation and remedial works.		N
Bricks and brick making for building construction– source of materials and fuel for brick making.		N
Likely use natural timber poles for scaffolding and the source of the poles.		N
Safety Issues.		N
Depots and construction camps.	May be a temporary requirement	Minor
Noise and noise control.	Transport material to, through and from the village	Minor
Dust nuisance.	Transport material spoil and other material over dry earthen road and track surfaces	Minor
Runoff and erosion.		N
Spillage of oils and fuels, etc.		N
Environmental Considerations Related to Sub-project Operations		
Safety Issues.		N
Effects of drainage structures.	May close water flow during repairs	Minor
Maintenance Issues.	Lacking budget for maintenance after completion	Minor
Potential Environmental Benefits		
Improved access for agricultural materials (roads and access.)		N
Improved and more efficient movement of crops to secure storage of markets (roads and access).		N
Improved cross drainage for irrigation, entrance to cropped areas (roads and access).		N
Improved access to health services, education and social services (roads, access, health clinics, school buildings and teacher's housing).		N

Improved rural incomes and economy and lifestyles (market places).		N
Improved water supplies and community health and wellbeing.	Improve community health and prevent transmitted disease	Y
Improved sanitation practices and community health and hygiene.	Prevent outbreak of diseases	Y
Introduction of improved low cost sanitation measures.	Improved household health and reduced odours. Avoidance of the nuisances created by open air defecation	N
Improved community health and wellbeing (health clinics).		N
Improved education (school buildings and teacher's houses).		N
Improved food supply (less deficiency) (irrigation rehabilitation and improvements. Paddy field and bund formation).		N
Improved management of NPAs and natural and forest resources (patrolling houses).		N
Improved village cohesion and management / communication of village affairs (village meeting halls).		N

2. Environmental Management Plan (EMP)

The following Environmental Management Plan (EMP) has been developed from the environmental screening of the Tangtalang sanitation 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			
Residential, agricultural and common property land.	Land leveling and waste water drainage	Consultation with landowners to identify appropriate action. Ask permission from landowners before implement	Infrastructure consultant (IC) with district officers.

Design			
Adequacy of drainage facilities.	Damage to land, disruption road traffic, nuisance to villagers and risk of damage to property.	Provision of adequately designed drainage.	IC Consultant and district officers
Land and site stability, erosion, and inundation.	Unstable land as a result of the subproject design. Unmanaged overland storm flows and erosion. Flooding of site and/or adjacent land as a consequence of the subproject design and implementation.	Provision of adequately designed drainage. Low-cost bio-engineering works to ensure land stability and control erosion and sediment. Design and provision of drainage channels and outlets to prevent/ relieve potential flooding.	IC Consultant with district officers and village authority.
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 works inspector.
	Dust nuisance and health risk.	Wetting of surfaces during the dry season.	Contractor. IC works inspector.
	Spillage of oils and fuels, from equipment or workshop.	Cover in specification. Store in bunded and covered area. Check and repair oil, fuel and hydraulic fluid leakages for equipment. Prevent flow to water courses. Have absorbent material (sand or sawdust) available to absorb spillages for safe removal.	Contractor. IC works inspector.
Safety Issues	Dangers to workers and local people.	Contractor's Safety Plan. Safety provisions in contract. Issuance of safety apparel.	Contractor. IC works inspector.
Depots and Construction camps	Nuisance to local people. Spread of infectious diseases from construction workers to local people.	Provisions for high standard of management in Construction camp and at all depots or temporary parking or storage sites. Dumping, stockpiling and spreading of road construction materials in safe locations.	Contractor. IC works inspector.

Operations			
Safety issue	Accident may occur after completion of project.	Install warning sign and speed limit within village environs.	Contractor. IC works inspector.
Maintenance Issues	Overload trucks or vehicle dafter construction may cause damage. Lacking budget for maintenance.	Limit load of construction vehicles travelling to and through the works site. Provision for maintenance and repair as necessary.	Contractor. IC works inspector with district officers.

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.
	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
	Depots and construction camps - 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					
Operation Phase	Tap stands not managed by others. Taps left running.	Tap stands	Taps maintained Village agreement on operation and use of the tap stands.	Regular inspection. Routine maintenance.	Villagers organised by village chief Village committee
Drainage maintained in effective operating condition.	Drainage in and around the soak always maintained and cleaned.	Outlets from tap stands and drainage.	Clearance of drains. Clearance of weeds blocking drainage	Regular inspection. Routine maintenance	Villagers organised by village chief Village committee.

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

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

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

<i>Issue</i>	<i>Cause</i>	<i>Required Action</i>	<i>Responsibility</i>	<i>Timing</i>	<i>Resolution</i>
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

Provide details of any complaints that have been raised by the local population and other stakeholders (who, what, where, when).

Document how the complaints were addressed or will be addressed, who are the responsible project staff, specific actions and dates.

Compliance with EMP

Determine if the required mitigation measures are sufficient or still appropriate considering current site conditions and on-going site works.

Describe any difficulties related to the implementation of the proposed mitigation measures. Indicate any changes proposed by the contractor to improve environmental protection.

5. Check List for Guidelines for the Identification of Mitigation Measures

The following table gives examples of environmental problems that may apply to the small-scale infrastructure sub-projects. This list can be expanded to cover the full range of environmental considerations and possible mitigation measures.

Safety Issues	Dangers to workers and local people.	Safety provisions in contract. Issuance of safety apparel. Contractor's safety plan.
Effects on existing traffic	Disruption of traffic during construction operations.	Special measures to maintain traffic flows during construction.
Depots and Construction camps	Effects on water quality. Nuisance to local people. Spread of infectious diseases from construction workers to local people.	Provisions for high standard of management in Construction camp and at all depots or temporary parking or storage sites.
Operation		
Maintenance Issues	Wastewater generation and odor issues	Advise community to do drainage facility Fences and screens to prevent entry of rodents and pests and animals in order to prevent odor issues, and prevent spread of fecal matter.