

Environmental Safeguards Final Report

LAO:LOAN 2780: Nam Ngum River Basin Development Sector Project (Additional Financing)

Prepared by **Office of the National Project Management**, Department of Planning and Cooperation, Ministry of Agriculture and Forestry for the **Asian Development Bank**

NOTES

- (i) The fiscal year (FY) of the Government of LAO PDR ends in October. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2011 ends in October 2012.
- (ii) In this report, "\$" refers to US dollars, unless otherwise stated.

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I. INTRODUCTION

The Nam Ngum River Basin Development Sector Project additional Financing covers 3 provinces namely Vientiane Province, Luangprabang Province and Xiengkhoung Province. Activities are implemented through three components and one office of the national project manager such as (1) Integrated water management component assigned under the Ministry of Natural Resources and Environment (MoRE), (2) Integrated Watershed Management Component assigned under the Ministry of Agriculture and Forestry and (3) Agriculture Extension Component under the Ministry of Agriculture and Forestry.

The additional financing project was used the similar approach, methodologies and implementation arrangements. Some activities were deepened collaboration among central agencies, provinces, districts, and villages through institutional capacity development; others were continued and expanded the coverage of target villages within the NNRB. The project activities have the similar nature and magnitude with those of the previous project in terms of environmental and social safeguard impacts. The project activities have been supported: (i) institutional and human resources capacity development, (ii) disseminating developed watershed land continuum plans and improving land use planning at the district level, and (iii) consolidating and expanding sustainable agricultural extension services including Khet (village cluster) extension service center (KESC) and village development revolving fund (VDRF) operations in ongoing and additional villages.

This report has been prepared by the National Environmental Safeguard Consultant. The objective of the report is to provide results of project implementation related to environmental compliance with ADB's safeguard policy and related GoL's environmental Protection Law updated 2012 and the recommendation on the initial environmental examination process and environmental impact from the development project of the ministry of natural resources and environment 2013.

The report summaries environmental assessments from 2012-2015, It comprises of 6 sections which includes (i) introduction, (ii) summaries of environmental assessment, (iii) method of safeguard assessment (iv) output, (v) project activities sustain abilities, and (vi) conclusion and recommendations.

II. SUMMARIES OF ENVIRONMENTAL ASSESSMENT AND WORK COMPLETIONS

The assignment of environmental safeguard has been conducted at the period 2012-2015 including:

- (1) Reviewed and updated the 14 initial environmental examinations (IEEs) of sub-watershed.
- (2) Screen project activities with each target villages using an ADB's relevant Rapid Environmental Assessment (REA) checklist and categorize these activities.

- (3) Revised IEEs and updated the environmental management plan (EMP) where new project activities were implemented.
- (4) Produced 11 quarterly reports
- (5) Organized safeguard training
- (6) Follow up EMP and prepared recommendations to submit to the provincial Department of Natural Resources and Environment of each province.

III. METHOD OF ENVIRONMENTAL ASSESSMENT

Potential impacts have been assessed by means of a site visit, discussions with local authorities, group members. The most significant impacts expected to arise from the project are major improvements to the quality of life in the selected villages from the project activities (i) watershed land continuum plans and improved land used planning at the district level (ii) consolidating and expanding sustainable agricultural extension services (KESC) and village development revolving fund operations which are ongoing in the KESCs and additional villages.

The environmental assessment was conducted by the national environmental safeguard together with project counterparts of each district and province. The project activities were assessed by mean of field visit and discussion with local community, this including some construction works in 4 provinces in 10 districts: activities included i) Small scale irrigation schemes rehabilitation (ii) Gravity fed system (Nam Lin), (iii) Improvement of Access Road, and (iv) agricultural extension services Center (KESC).

The environmental impact assessment was evaluated before construction of the small infrastructures by using an ADB's relevant Rapid Environment Assessment (REA) Checklist to classify the environmental categorization and prepared Environment Management Plan (EMP). The small scale infrastructures were assessed including rehabilitation of irrigation schemes, gravity fed systems, and access road improvements. Detailed of these activities is listed in table 1 below.

1. Small scale infrastructure improvement

Table 1 Small Infrastructure Improve Activity List

No	village	District	Activities	Status*
1.	PhouPhadang	Longxan	Gravity Fed System	O&M
	San phatong	Longxan	Borehole installation	O&M
	Na Mone	Longxan	Access road	O&M
	Nam Ying	Longxan	Irrigation rehabilitation	O&M
2.	Phanxay	Longcheng	Irrigation rehabilitation	O&M
	Muang Ome	Anouvong	Irrigation rehabilitation	O&M
	Ao Tai	Anouvong	Gravity fed system	O&M
3.	HouyHok	Kasi	Gravity Fed System,	O&M
	PhouHinLek Fai	Kasi	Gravity Fed System	O&M
4.	KornKeo-Kornkang	Hinhuep	Access road improvement	O&M

	Phabong	Hinhuep	Gravity Fed System	O&M
5.	Vangpho	Vangvieng	Irrigation rehabilitation	O&M
6.	Dandsoung	Phoukhoun	Gravity Fed System	O&M
	PhouviengNgai-Phonkham	Phoukhoun	Access road improvement	O&M
7.	Somboun	Phoukoud	Sanitation	O&M
9.	Nong	Pek	Access road improvement	O&M
	Or Anh	Pek	Access road improvement	O&M
10.	Phosay	Phaxay	Gravity Fed System	O&M

* O&M= operation and maintenance

2. Agricultural extension service center (KESCs)

Agriculture extension services center activity is implemented by the local authorities of Agriculture sector under the supervision and advice of the Department of Agriculture Extension and Cooperative and under the support of NNRBDSP-AF project. During the Additional Financing project 23 KESCs have been supported in all 10 districts in four provinces. The activities were implemented both inside and outside KESCs. Inside KESCs, 3 main activities are implemented including agriculture production, livestock rising, and capacity building activities. Agricultural productions activities included home garden, crash crops, fruit trees and industrial trees. Livestock rising included small animal, large animals, and poultry raising. Capacity building includes training, exchange lessons, study tour, hands on training. The KESCs is listed in table 2.

Table 2 the agricultural extension services Center (KESC)

No	Khet Extention Service Center	District	Province
1	Phontong	Phonhong	Vientiane
2	Phabong	Hinhuep	
3	Napho	Vangvieng	
4	Pakphor		
5	Thin On		
6	Ban Jieng	Kasi	
7	NongBouthong		
8	PhaChao		
9	Nam Pa Chat	Longxan	Xaysomboun
10	Luangphanxay	Anouvong	Luangprabang
11	PhouviengNoy	Phoukhoun	
12	Souy-Viengxay		
13	Lad Ghai		

14	Naxaithong	Phoukoud	Xiengkhouang
15	Phiengluang		
16	Phan	Pek	
17	Thonghai		
18	Ladbouk		
19	YotNgum		
20	Khangvieng		
21	Ladhouang		
22	San Ou dom	Phaxay	
23	Khangsan		

3. Update initial environment examination of sub-watersheds

In order to comply with the Environmental Assessment and Review Framework (EARF), field visit and data collections have conducted by the environmental team incorporating with district agriculture and forestry offices of 10 districts where sub-watershed are located. The detail of sub-watersheds and the initial environmental examination status are listed 3.

Table 3 the initial environment examination of sub-watersheds

No	Sub-watershed list	Province	Status	certificate
1.	Num Song	Vientiane	completed	received
2.	Num YotLik	Vientiane	completed	received
3.	Num Thum-Kha-Phieng	Xiengkhouang	completed	received
4.	Num Kho	Xiengkhouang	completed	received
5.	Num Chat-Phae	Xiengkhouang	completed	received
6.	Num Ting	Luangprabang	completed	received
7.	Num Xan	Xaysomboun	completed	Under consideration
8.	Num Mo	Xaysomboun	completed	Under consideration
9.	Num Hin Nam Nor	Xaysomboun	completed	Under consideration
10.	Num Pha-Yen	Xaysomboun	completed	Under consideration
11.	Num Phay-Khamang	Xaysomboun	completed	Under consideration
12.	Nam Chai-Oaw	Xaysomboun	completed	Under consideration
13.	Nam Pad	Xaysomboun	completed	Under consideration
14.	Nam Muay	Xaysomboun	completed	Under consideration

IV. OUTCOME

1. Small scale Infrastructure Improvement

Small Scale infrastructures implemented by the Nam Ngum River Basin Development Sector Project-Additional Financing have been significant positive environmental and social impact in kind of improvement of livelihood, increase productivity, and reduce poverty in the target villages. These activities were focused on the living improvement of ethnic minority group and vulnerable people as well as gender equality in target villages of ten districts in four provinces e.g gravity water supply could reduce the burden of women and children in terms of fetching water. All target villages enjoyed with good drinking water and have better sanitation. The access road also benefited them in terms of carrying their products to their houses as well as to the local market which can travel throughout the year. Therefore these activities have not been led to significant negative environment impacts as they are categorized in environmental categorization B of ADB' safeguard policy statement 2009.

2. The Agricultural Extension Services Center.

Agriculture extension services center activity is implemented by the local authorities of Agriculture sector under the supervision and advice of the Department of Agriculture Extension and Cooperative and under the support of NNRBDSP-AF project. The activities were implemented both inside and outside KESCs. Inside KESCs, 3 main activities are implemented including agriculture production, livestock rising, and capacity building activities. Agricultural productions activities included home garden, cash crops, fruit trees and industrial trees. Livestock rising included small animal, large animals, and poultry raising. Capacity building includes training, exchange lessons, study tour, hands on training. These activities are small in size of area, small number of animals, as well as locate product. Thus there is no negative impact to the environment in those areas. In general, it almost has positive impacts to the local people to help them increase their agriculture products, thus increase their income resulting in livelihood improvement particularly ethnic groups and vulnerable people in the target villages.

3. Initial Environmental Examination of Sub-watershed

Generally, project activities implemented in sub-watershed areas have not been harmful to the environment and ecosystem due to most project activities are small in size of area, small number of animals and no intensive use of local resources, and also were implemented through the agricultural extension at KESCs and the selected villages. Only minor environmental impacts come from small scale infrastructure operation such as road operation which generates dust during the dry season and mud during rainy season. These impacts were mitigated through the EMP prepared and updated in the IEEs of each sub-watershed where it is located.

Most environmental impacts were influenced by the development projects such as road construction, hydropower projects, mining exploration and operation in some sub-watershed.

V. PROJECT ACTIVITY SUSTAINABILITY

To ensure the project activities are sustained and in line with the safeguard statement after the project ends, the environmental assessment has been conducted and investigated the current situations at the KESCs. The results show that each KESCs has implemented the existing project activities and prepared short and long term plans in order to sustain project activities while project ends. The possibility to achieve sustainability, the KESCs has to be the ownership and take role as specified in the KESCs' regulation in order to proceed and extent the existing activities.

VI. CONCLUSION AND RECOMMENDATION

1. Conclusion

In conclusion, it is obviously seen that the project activities both agriculture extension activities and infrastructure activities have very limited negative impacts on the environment and society as they are classified as Category B according to the ADB's classification system. In most case it has positive impacts to society especially gravity fed system, access road, and small scale irrigation scheme. In addition, the agriculture extension activities which are implemented both inside and outside KESCs have not caused any significant negative environmental impacts.

2. Recommendations

Following recommendations should be done during project suspension:

1. Existing and planned activities must be proceed and extended by KESCs both within the KESCs and target villages.
2. Follow up activities including agriculture extension activities and infrastructure activities must be done by the KESCs regularly in cooperation with districts and villagers for its sustainability.
3. Income generation must be identified by KESCs based on the potential activities in the KESCs and target villages.

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